

* UMass/AMHERST *



312066 0331 3124 5

11

Coll. Funds
No 12465

LIBRARY
OF THE



MASSACHUSETTS
AGRICULTURAL
COLLEGE

No. 12465 DATE 10-1892

SOURCE College funds

Per
[Redacted]

Jan-Je
1892

1111 1111 1111
1111 1111 1111
1111 1111 1111
1111 1111 1111

THE

GARDENERS' CHRONICLE

A Weekly Illustrated Journal

OF

HORTICULTURE AND ALLIED SUBJECTS.

(*ESTABLISHED IN 1841.*)

VOL. XI.—THIRD SERIES.

JANUARY TO JUNE, 1892. .

LONDON:

41, WELLINGTON STREET, COVENT GARDEN. W.C.

1892.

C
Per
G 166

Jan-Je
1892

LONDON :

BRADBURY, AGNEW, & CO. LIND, PRINTERS, WHITEFRIARS.

INDEX OF CONTENTS.

JANUARY TO JUNE, 1892.

A

ABERDEEN, 147; University Natural History Museum, 311
 Acacias, hardness of, 108
 Acreage of fruit in Great Britain, 242; of nursery grounds in 1890 and 1891 in Great Britain, 274
 Action of some soil constituents on fruit and vegetables, 466
 Adelside, 331
Æschynanthus pulcher, 143
 Africa, West, plants from, 146
 Agaves, 146; American, flowering, 54
 Agricultural statistics, 18, 498
 Albury, 147
 Algeria, 115
 Alkaloid from *Chrysanthemum* flowers, a new, 338
 Allotment ground at Clewer, high rental for, 407
 Alnwick Castle, 662
 Aloe aristata, 730
 Alpines at Newick Park, 749
 Amateurs' experience with Orchids, an, 307
 Amateurs' garden, the, 144, 212, 244, 268; notes, 211
 American blight, 245; and kerosene, 281
 American nursery, a large, 436
 Analogue of Spanish Grape soil, 76
Ancistrolobus carneus, 158
Anemone Fannini, 761; *A. hortensis*, St. Bridgid's variety, 760
Angraecum Chaillanum, 45; *A. Leonis*, 593; *A. sesquipedale*, 84
 Anonas, are they evergreen? 469
 Anthracite coal, 247; as fuel, 310
 Anthurium, hybrid, 434; Novelty, 658; *A. Scherzerianum* Wardii, 559
 Apiary, The, 47, 111, 175, 270, 431, 495, 559, 685, 755, 811
 Apple, Ashmead's Kernel Improved, 374; Cockle's Pippin, 430, 466; Newtown Pippin, 491, 596; Norfolk Beauty, 491, 597; Northern Spy, 491, 552, 564, 597; Reinette pomologue Hage, 143; Sturmer Pippin, 469
 Apple bushes, forming, 458
 Apple crops, onr, 177, 246, 278
 Apple grafts, 211
 Apple orchard, a natural, 344
 Apple trees, thinning and cleaning, 148
 Apples, arsenic in American, 84, 439
 Apples, Canadian, 118
 Apples, alleged disappearance of English, 212
 Apples and Pears, in suburban gardens, 20
 Apples, &c., from Tasmania, 243, 765
 Apples, home grown, 211
 Apples, little known, 469
 Apples, multiplicity of varieties of, 330, 406
 Apricots attacked by caterpillars, 600; late-flowering of, 466
 Araliad, a new, 50
 Aralias, 82
Arbutus Andrachne, 405

Aristolochia clypeata, 435
 Arsenic and weeds, 314; in American Apples, 84, 439
 Artichoke, the Jerusalem, 434
 Ash as a timber tree, the common, 237
 Asparagus, 729; French, 790
Aspidistra elatior bearing seed, 22
 Aspleniums, some useful, 109
 Association on Railway and Canal Traffic, the Mansion House, 244
 Aster, China, farm at Erfurt, Mr. T. C. Heinemann's, 172
 Auricula, the, 565, 589, 629, 666; the show, 108; A. white, 694
 Australia, fruit from, 628; perfume-plants in, 73
 Avondale Park, opening of, 759

B

BACTERIA in soil, 370
 Balsams in small pots, 532, 684
Bambusa Metake, 523
 Bananas v. Plantains as food, 338
 Bartram House and garden, 493
 Baskets for *Odontoglossums*, 277
 Battersea Park in summer, 683
 Bean culture, 74; weevil, 345
 Beans, Haricot, 237
Beaufortia sparsa, 466
 Beet, cultivated, origin of, 626, 695; diseases of, 726
 Beets for sugar, 594
 Begonia Princess Beatrice, 734; *B. octopetala-Lemoine* Fleur d'Autonne, 145
 Belgium, 211; Parcel-post tariff, 594
 Bequests to domestic [gardeners], 406, 438
 Berberis Darwinii and *B. stenophylla* x, 728
 Berlin Public Park, 758
 Berry-bearing covert shrub, 461
 Biarritz, 436
Bignonia venusta, 212; at Syon, and others, 157
 Birds, British, 137; of commons and woodlands, 14, 75; and the past summer, British, 54
 Birmingham Rose show, 625
 Black Currant and Gooseberry caterpillar, 473
 Blenheim Palace Gardens, 693
 Blinds for greenhouse, 565
Bocconia cordata, 23, 149
 Bocking Place, Orchids at, 429
 Bodorgan, Anglesey, 75
 Bomarea sororia, 338
 Bones, how to dissolve, 314

BOOKS, NOTICES OF:—Africa, Flora of (*Durant and Schinz*), 18; Annals of Scottish Natural History, the, 50; Annals of the Royal Botanic Garden, Calcutta, 468; Book of Choice Ferns for the Garden, Conservatory, and Greenhouse (*Geo. Schneider*), 760; Botanical Magazine, 50, 240, 496; Conspectus Floræ Africæ (*Durant and Schinz*), 18; Dictionnaire de

Botanique (*Baillon*), 338; Die Natürlichen Pflanzen Familien (*Engler*), 466; Die Veredelungen für die Verschiedenen Bäume und Sträucher (*Von Nicholas Gaucher*), 23; Disease in Forest Trees (*C. E. Curtis*), 564; Elements of Agriculture (*W. Fream*), 244; Fruit Growers' Guide, the (*Jno. Wright*), 499; Fruktuset nied Dertil Horande Kulturer (*M. P. Andersen*), 18; Grasses of the South West (*Dr. Geo. Vasey*), 338; Grevillea (*Dr. Geo. Vasey*), 371; Grasses of the United States, 402; Handbook of Destructive Insects of Victoria, 683; Handbuch der Laubholzkunde (*Dr. Dippel*), 19; Handbuch für Pflanzen-sammler (*Dr. Udo Dammer*), 403; Hooker's Icones Plantarum, 240, 594; Horticultural Exhibitor's Handbook (*W. Williamson*), 659; How to be Comfortable with one Servant (*Mrs. J. E. Baker*), 19; Indische lleil und Nutz Pflanzen und der Cultur (*Von A. Tchirk*), 177; Jamin, life of (*Samuel Smiles*), 18; Journal of the Scottish Meteorological Society, 371; Journal of the Royal Horticultural Societv, 464; Kew Bulletin, 113, 210, 240, 369, 402, 691; La Rose (*M. J. Bel*), 20; Les Fleurs à Paris, Culture et Commerce (*M. Philippe de Vilmorin*), 684; Les Maladies des Céréales (*Jean Loverdo*), 564; Letters from a Country House (*Anderton*), 23; Manual of Orchidaceous Plants, Part VIII. (*J. H. Veitch*), 628; Miniature Fruit Garden, the (*T. F. Rivers*), 20; Natural Science, 242; Orchid Album, the, 18; Orchidienbuch (*Stein*), 530; Orchid Hunter, Travels and Adventures of an (*Albert Millican*), 48; Pflanzen Biologische Schilderungen (*Prof. Goebel*), 274; Philosophical Notes on Botanical Subjects (*E. M. Bonavia*), 684; Poultry for the Table and Market (*W. B. Tegetmeier*), 628; Revision der Arten von Trollius (*Dr. Rath*), 727; Rosarian's Year-Book, the (*Rev. H. H. D'Ombrian*), 115; Seven Dreamers (*Annie Trumbull Slosson*), 23; *Sargent's* Silva of North America, vol. iii., 564; The Book of Choice Ferns (*George Schneider*), 75; The Apodide: a Morphological Study (*H. M. Bernard*), 684; The Carnation (*Dodwell*), 243; The Formal Garden in England (*Reginald Blomfield and F. Inigo Thomas*), 276; The Garden Oracle, 338; The Oak: a Popular Introduction to Forest Botany (*H. Marshall Ward*), 596; Traité de Chimie Agricole (*P. P. Dherain*), 727; Traité d'Horticulture Pratique (*Georges Bellair*), 564; Xenia Orchidacea (*Dr. Krinzlin*), 371.

Bordeaux Mixture as a Preventive to the Potato Blight, 106

Botanic Garden, Brussels, 242; Glasgow, 532; Institutions in the United Kingdom, India, and the Colonies, 56; Cape Town, 76; Montpellier, 530; Natal, 464; Saharunpur, 76; Trinidad, 172
 Botanical Congress, International, at Genoa, 466; Study in Glasgow, 532
 Bouvardias, 719
 Brebner, Mr. George, 19
 Briar stocks, 149; for standard Roses, 82
 Brighton and Sussex Horticultural and Mutual Improvement Society, 657
 Bright winter shrub, a, 342
 British Guiana, 461
 Brittle timber, 211
 Broccoli and Cauliflower, 633; late, 792; notes on, 473
 Brown spots, 467
 Brussels Botanic Garden, 242; Orchids at, 211
 Brussels Sprouts, 84, 237; club in, 696; B. Paris Market, 405
 Bryngwyn, 103
 Buddleia Colvillei, 788
 Buildings erected by tenants, 314
 Bulb garden, the, 312
 Burleigh House by Stamford Town, 105
 Burness Vanilla, 692
 Butter-nuts, 146

C

CADBAIGES, Ellam's Esly and others, 631
Cassipouia japonica, 143
 Caffeine, new use for, 692
Calandrinia umbellata, 469
 Calceolarias, potting, 438
 Calceolarias, hardness of herbaceous, 247, 278
 California as a home, 236, 310, 556
 California, plants in, 108
 Calceolorti, hardness of, 181, 238; in the open air, 138, 180
Calophaca Wolgarica, 730
 Camellia, a venerable, 242; grafting, 461
 Camellias, 342, 438
 Camphor in Formosa, the production of, 81
 Canary Islands, the, 692
 Cannes, a garden at, 487; Winter ram-bles round, 265
 Canterbury Bells, 694
 Cape fruit, 628
 Cape Town Botanic gardens, the, 76
Carex variegata, 54
 Carnation, an emerald-green, 115
 Carnation and Picotee Union, Oxford, 462
 Carnation, Winter Cheer, 277, 342
 Carnations at Canford Manor, 761
 Carnations, tree, 86
 Carnations and Picotees from seed, 308

- Carrot grub, the, 500, 564, 597, 661
 Castor-oil Plant, the, 236
 Cattleya Alexandra, 340, 406; C. granulosa var. Schofieldiana, 171; C. labiata, 74, 307; and the Gardeners' Orphan Fund, 115; C. l. var. Lud-demaniana, 171; C. Percivaliana, 107; C. E. Southgate var. 180; C. Trianae Cobbii, 220
 Cattleyas, disease in, 275, 279
 Caucasus, and its flora, 685, 686
 Cauliflower, Walcheren, 631
 Cedar of Goa (*Cupressus glauca*), 22, 180
 Celery culture, 140
 Celery, dwarf v. tall, 180; in May, 631; Ivery's Nonsuch, 491; old and new varieties of, 237; Sulham Prize Pink, 333; varieties of, 278
 Celsia arcturus, 373
 Centropogon Luevanus, 238
 Ceylon, 172, 233; Peradeniya Gardens, 268
 Charing Cross Embankment Garden, 210
 Charred refuse, 83
 Cherries, the changes which ripening undergo, 434
 Chester, new park at, 531
 Chestnuts, sweet, 762
 Chicago Exhibition, 146, 370, 530, 563, 625, 658, 789; horticultural building at, 107; monster tree for, 498
 Chimonanthus fragrans, 213, 407
 China, plants of Western, 146
 Chinese economic products, 492; Primrose, the aboriginal, 12
 Chiswick Gardens, 151
 Chloisa ternata, 335
 Chorozenia cordatum var. splendens, 305
 Chou de Burghley, 149, 151
 Chrysanthemum, colours of the, in Japan, 306
 Chrysanthemum Exhibition at Vienna, the first, 18
 Chrysanthemum flowers, a new alkaloid from, 338
 Chrysanthemum Golden Gem, 309; groups, 53; C. Louis Bohmer, 55; C. Mrs. Robinson King, 22; leaves in salad, 403; C. sports in Australia, 312
 Chrysanthemums in February, 238; foreign opinion of some new, 274; show-stands for Japanese, 182; for show and usefulness, 84
 Chysis bracteata, 652
 Cinerarias, 475; at Farnham Royal, 594; crossing and raising, 475; white, 374
 Cirrhopetalum americanum, 364
 Citron culture in Corsica, 149, 182
 Clematis from seed, 729; in pots, the, 305; indivisa lobata, 530, 662
 Clewer, high rental of allotments, at, 407
 Clivanthus Dampieri, 281, 341; C. puniceus, 345
 Climbers for conservatory, 398
 Clove Tree at Zanzibar, the, 81
 Club, Horticultural, 50, 113, 178, 244, 370, 570, 724, 758
 Club in Brussels Sprouts, 459
 Coco-Nut, double, at Kew, 562
 Cocoa leaves and Eucalyptus oil, 403
 Coco-de-Mer, Barré, and the discovery of, the, 649
 Colognye lentiginosa, 490
 Coffee in East Central Africa, 526
 Coke, watering, 117, 180, 277, 311
 Colonial fruit trade, 695
 Colonial notes, 24, 76, 108, 172, 312, 331, 474
 Coloration of flowers, the artificial, 306, 329; of leaves, 691
 Colour of fruits, 663
 Committee of Nomenclature, a hint to, 497
 Conus, forest of, 617
 Conifer garden at Chiswick, 360
 Conifers, introduction of, 52, 74
 Conservatory climbers, 398
 Cooke, Mr., presentation to, 371
 Cooks and gardeners, 118
 Copper salts, for the prevention and palliation of the Potato disease, 403; solution, 505 (see Potato disease); sulphate, and Potato disease, 50
 Cork pavement, 692
 Cornus sanguinea, 342
 Correspondence, foreign (see Foreign)
 Corsica, Citron culture in, 149, 182
 Corsican Pine, the, 174
 Cottager's Kale, 374
 County Council instructor, a case for the, 338
 "Covent-garden lifeboat," 273
 Covert shrubs, berry-bearing, 461
 Creepers for a wall, 475
 Crichtel, Lord Allington's garden at, 810
 Cronberg, hothouse at, 234
 Crosses and crossings of plants, 235, 266, 298
 Crotons in winter, 54
 Crown Imperial, the, for pot culture, 590
 Cryptophoranthus Dayanus, 338
 Cucumbers, 663; for exhibition, 790; Blue Glow, 760
 Cultural analogies, 306, 341
 Cultural notes, 341
 Culture v. Nature, 786, 815
 Curled Kalea, notes on, 469
 Currants, green, 406
 Cyclamen, a well-bloomed, 301
 Cyclamens at Greenlands, 342; at Hanwell, 640
 Cyclone in Mauritius, 759
 Cynoches glanduliferum, 204
 Cymbidium eburneum, 588; C. grandiflorum, 267; C. pendulum, 45
 Cyphomandra betacea, 23
 Cyripedium Bocheianum x, 11; C. calceolus, 760; C. Chamberlainianum, 496; C. x chrysocomea, 781; C. insignis, 107; C. Lawrebek x, 561; C. Nioke, 45; C. ornatum, 428; C. Youngianum x, 74
 Cyripediums, hybrid, 11; in hanging baskets, 781
 Cytisus Ardonii, 632; C. scoparius var. Andreanus, 594
- D**
- Daffodil bulbs, analysis of, 593; disease of, 18; pallidus præcox, 490
 Daffodils in Ireland, 556
 Dablias, Tom Thumb, wanted information about, 54, 118; pompon, 685
 Daisy eradicator, 532
 Daphne Bagayana, 493
 Daphnes, deciduous, 729
 Datura suaveolens, 593, 694
 Davenham Bank, Chrysanthemums and Orchids at, 23
 Decimal system, the, 656
 Decoration-house, 406
 Dendrobium atro-violaceum, 490; D. crystallinum, 490; D. infundibulum, 652; D. nobile, 728
 Dendrobiums at Mr. James Cypher's, 307
 Dendrobiums, pruning, 247, 309, 342, 407, 469, 565, 652
 Deutzia gracilis, 460
 Devon fruit farm, a, 178
 Dew, and its action on plants, 753, 815
 Diagrams of wild flowers, 307
 Dianthus Freynii, 692
 Dickson, Mr. George, made J.P., 19
 Diervilla hortensis, 174
 Diosma uniflora, 538
 Directory, American Florists' Company's, 530
 Disa incarnata, 619
 Disas, &c., at the Cape, 341
 Diseases of plants, 245; of the reproductive organs of plants caused by fungi, 301, 331, 373, 397, 472, 490, 524; of Cattleyas, 275, 279; of Gooseberries, 815; of Melons, 530; of Potatoes, report of Board of Agriculture, 789 (see Potato, copper-salts); of Figs, 663, 666
 Dogwood, 374
 Doronicum, 685
 Dryopteris and Pteris, 523
 Drought Castle, 747
 Dry Glazing, Messrs. Sam Deards & Co., 403
 Dublin, Tercentenary of Trinity College, 273
 Dulwich Park, 807
 Dutch Potato crop, 401
 Dyer, Thistleton, Mr. W. T., 434; and the honour of C. I. E., 693
- E**
- EARLY Peas, 212
 Eaton Hall gardens, 625
 Edinburgh public parks, 18; school of art and science, 594; University, forestry lectures at, 504
 Education of Gardeners, the, 83, 141, 147, 148, 179, 212; in gardening and spade industry, technical, 9, 51, 82, 113, 116, 240, 246, 304, 300, 342, 681; in the counties, 148; in the villages, 178; Question, the, 80
 Egg plants, 22
 Egypt, rural industries of, 733
 Elæagnus, evergreen, 308; E. japonica variegata, 342
 Elders, scarlet-berried and other for subtropical bedding, 439
 Electric lighting from windmills, 434
 Electro-culture, 42
 Elm Lodge, Beckenham 395
 Embankment garden, 210
 Emigrants, hints to, 724
 Emenanthe penduliflora, 339
 Eodlicher, Stephen, monument to, 211
 Epidendrum macrochilum album, 107
 Erica bymalis, 498, 532
 Eridge Castle, 720
 Euadenia eminea, 434
 Eucalyptus farming, 18; fruiting, 463; globulus flowering, 180, 212, 247
 Eucalyptus Gunnii, 787; oil, 203; trees flowering, 469
 Eucharis Bakeri, 563; culture, 766
 Euphorbia hiberna, 20
 Eurybia Gunniana, 780
 Exhibiting, methods of, 630
- F**
- FASTENING wall trees, new method, 629
 Feeding London, 272
 Fern, a new, 434; stealing, 502; Moonwort, 790
 Fernery at Nant-y-Glyn, 336
 Ferns, British, of the future, 756; exhibitions of, 560; multiple parentage of, 87, 428; rare and new, 813
 Fertilisation of Wheat, 475
 Figs, capriciousness of, 562; diseased, 663; fungus on, 666
 Florists' flowers, 55, 86, 139, 238, 308; by seeds, improvement of, 176; hardy, 752; vagaries of, 336
 Flower distillation at Grasse, 779
 Flower garden, the, 15, 46, 79, 110, 143, 175, 207, 239, 270, 302, 335, 367, 399, 430, 463, 494, 526, 558, 591, 625, 655, 689, 723, 754, 785, 810
 Flower trade, Scilly, the, 273
 Flowers, formation of, period of, 627
 Flowers, artificial coloration of, 329; transpiration from, 691; writing on, 658
 Flowering of Apricots, late, 466
 Fog-eliminating plant-house, 242
 Foliage plants, for rooms, 497
 Foreign correspondence, 24, 77, 141, 258, 307, 727
 Forestry, 142, 206, 237, 367, 559, 653, 721, 785, 811; in 1891, 86; for deer, 85; lectures, University of Edinburgh, 242
 Forget-me-not, the, 523, 630
 France, prohibition of American Vines into, 693
 Free gardeners, order of, 789
 Freesias, culture of, 205; in New Zealand, 108
 French Asparagus, 790
- G**
- GALANTHUS caucasicus, 312; G. Fosteri, 312
 Gambia, cultural industries at, 628
 Gambir, 659
 Garden, Embankment, Charing Cross, 210
 Gardens, Lal Bagh, the, 114; Royal Botanic, Manchester, 52, 375, 758
 Garden produce and parcel post, 468
 Garden pupils, 20
 Gardener, a royal, 652
 Gardeners and their employers, 247; associations, 691
 Gardeners' Magazine, the 2000th weekly number of, the, 306
 Gardeners' Orphan Fund, 50, 208, 214, 306, 371, 656, 659, 692, 695, 729, 758, 790; sale of Cattleyas for, 50; bequests to, 69
 Gardeners' position, 281
 Gardeners' Royal Benevolent, the, 51, 112, 120, 393, 788
 Gardeners' training, 278
 Gardeners, two famous, London and Geneva, 361, 621; unlucky, 54
 Gardinia disease, 376; G. florabunda, 565
 Gardening as a profession, 304, 242; instruction in, 681. (See, under Education)
 Gardening notes, 312, 730
 Gardening periodicals, list of, 119
 Genoa International Botanical Congress, 466, 693
 Geographical names, spelling of, 51
 Gent, horticultural meeting at, 115, 242, 531; quinquennial, the thirtieth, 210, 243, 402; Orchids at, 658
 Ginger, 562
 Ginger-beer plant, the, 19
 Gladiolus brechenleyensis, 438; in Rose beds, 438, 565
 Glanusk Park, 521
 Glazing, clip, 473; dry, 403
 Gooseberry caterpillar, 473, 532
 Gooseberry without spines, 594

Gourd garden, a, 49
 Grafting, 46; Rhododendrons, 735
 Grafts, Apple, 211
 Grape, new, Marchioness of Downshire, 247
 Grape soils, 138; Vine, treatment of, 118, 149
 Grasse, flower distillation at, 777
 Greenhouse blinds, 437
 Greening of plants, 726
 Grimston Plant Protector, 436
 Gueldees Rose, &c., 490
 Guiana, British, 361

H

HAMPTON Court, spring bedding at, 691
 Hardy florist's flowers, 752
 Haws, &c., sowing, 238
 Hawthorns, planting, 237
 Heating by steam, 504; by hot water, 277
 Hedges for woods and plantations, 341
 Hedychium Gardnerianum, 178
 Helianthus, 238
 Hellebores (Lent Roses), 564; of the ancients, the, 13
 Herbarium pest, 20, 54
 Heredity, 724
 Heriot-Watt College, Edinburgh Horticultural class in, 439
 Highbury, near Birmingham, 525
 Hinge for glass-house lights, 119; new garden, 311
 Hippeastrum, the, 489
 Holly hedges, manuring, 374
 Hollyhock rust, a new, 19
 Holmes Memorial Fund, 371; challenge cups, 691
 Horticulture at the Columbian Exposition, 788
 Horticultural building at the Chicago exhibition, 107 (see, under Chicago)
 Horticulture, lectures on, 82, 277; practical teaching of, 788 (see, under Education)
 Horticultural Club (see Club)
 Horticultural College at Swanley, the, 402; Exhibition, International, 145, 369, 464, 562, 624, 651
 Hot-beds, how to make and use them, 44
 Hothouse of the Empress Frederic at Cronberg, 294
 House decoration, 406
 Hyacinth Monsieur Krelage, 273
 Hyacinth and Tulip show at Haarlem, 176
 Hyacinths at Haarlem, 505
 Hyde Park, spring bedding in, 588
 Hydrastis canadensis, 662
 Hyères, 409
 Hylurgus piniperda, 469
 Hypericum Buckleii, 143

I

ILEX cornuta, 405
 Importation of plants, &c., to Mexico, 307; see plants, &c.
 International Fruit Show, 273
 International Horticultural Exhibition, 369, 464, 624, 651
 Ireland, Willow growing in, 53
 Islands, Mascarene, 717
 Isle of Man, exhibition at, 338
 Isles of Scilly flower trade, the, 273

J

JACQUINIA aristata, 108
 Jamaica, 172
 Japan, flora of, illustrations of, 178
 Jardin des Plantes, the, 50
 Jasminum nudiflorum, 182
 Jerusalem Artichokes, seeding of, 211
 Juddell laboratory at Kew, 631
 Jubilee year of the Royal Gardens, Kew, 16

K

Kew Gardens, 691; history of, 297, 393, 435, 458
 Kew, Jubilee year of the royal gardens, 16, 240
 Kew notes, 525; plants in flower at, 780; rock-garden at, 435; scene at, 656; temperate-house at, 18; theft of Cactuses from, 726; Water-Lily house at, 751
 Kingston gardeners at Claremont, 788
 Kitchen garden, the, 15, 47, 79, 110, 143, 174, 217, 238, 271, 303, 334, 369, 399, 430, 462, 495, 527, 557, 590, 634, 688, 722, 754, 785, 810
 Kniphofias at home, 554

L

LAEKEN, conservatories at, 555
 Lælia anceps, a fine, 74; L. var. tenebrosa, 171
 Lælio-Cattleya × Phoebe, 791
 Lagenaria virginiana, 85
 Lal Bagh Gardens, the, 114
 Land cleaning, 692
 Larch fungus, 729, 761, 790, 815
 LAW:—Chard v. Corry & Co., Ltd., 765; Fern stealing, 502; Hamill v. Reid & Bornemann, 183; Lady gardeners, 248; Parker v. Freeman, a claim for wages by a gardener, 344; Sale of "weed-killers" by seedsmen, 280; Wholesale Fern pilfering, 473

Leaves, acquisition of green colour by, 691; effect of exposure on the size of, 659; from Vines, removal of, 52; removal of the, 467, 500
 Lectures on horticulture, 82, 277 (see Education)
 Léve, new, and rare plants at, 682
 Lilac, forced, 341, 406
 Lilium auratum, price of, 342
 Lime, on heavy soil, 659
 Literary gardening, 216
 Lithospermum fruticosum, 632
 Livistona, the Australian species of, 179
 London and Wise, two famous gardeners, 361, 621
 London, feeding, 272; new market in, 789; public gardens association, 813
 Longleat gardens, 626
 Lycaste lasioglossa, 364; L. Skinneri, second flowering of, 149

M

MADRAS, forest department, 627
 Maidenhair Ferns, 11, 57, 77
 Manchester Royal Botanic Gardens, 52, 375, 758
 Manganeses in place of iron, 371
 Mangroves from Colombo, 370
 Manioba, 498
 Manure, depreciation of, by exposure to wet and fermentation, 275
 Maréchal Niel Roses, early, 460
 Market gardens in Paris, 658
 Market, new, in London, 789
 Mascarene Islands, the, 717
 Mauritius, cyclone in, 759
 Meehan, Professor, 789
 Melbourne, 474
 Melon growing, modern, 300
 Melons, as cordons, 490; diseases of, 530
 Mesua ferrea, 138
 Metropolitan Public Gardens Association, 273
 Mexican plants, 146
 Mexico, importation of plants to, 307
 Mignonette Golden Queen, 460
 Mildew in vineries, 406
 Miltovia hybrida Bleuana, 74; vexillaria, 75, 171
 Mistletoe, 116, 179; on fruit and other trees, 246

Moles and wireworms, 406
 Monte Carlo, public gardens at, 77
 Moonwort Fern, 790
 Moore Fern herbarium, the, 149
 Moorea irrora, 489
 Mormodes Kolfeanum, 203
 Moss, what it is, 314
 Movements of plants, photographic representation of, 628
 Mowing machines, an improvement in, 662
 Mulberry, the, 41, 117, 149; as a weather gauge, the, 118
 Mushroom culture, 278
 Mushrooms, outdoor, 686

N

NAMES, length of, 403; popular, 562
 Narcissi, repeated hybrids and reciprocal hybridism in, 331
 Narcissus, basal rot in, 695
 Natal Botanic Garden, 464
 Nebraska, 692
 Nectarine and Peach trees, experiments with, 83
 Nectarines, early, 814
 Nepenthes stenophylla, 401
 New Guinea, 268
 New Zealand, Freesias in, 108
 Newick Park, alpine at, 749
 Nicotine fumigator, 729, 761
 Niphetes, climbing, 22
 Nitrate in soils, the formation of, 338
 Nitrification, 691
 Nitrifying ferments of the soil, the, 50
 Nitrogen, how do plants obtain their, 50; of our leguminous crops, the source of, 432; the loss of, during the decomposition of manures, and how to prevent it, 307; sources of, 434, 592, 694
 Nomenclature committee, a hint to, 497
 Nomenclature of plants, the, 368, 400, 493, 562; question, 531
 Normanhurst Court, notes from, 344
 Notes of the day, 178
 Novelties of 1891, 10, 43
 Nursery, American, an, 436
 Nursery at Christmas, a market, 55; gardening, then and now, 687; grounds in Great Britain, acreage of, in 1890 and 1891, 274; J. Veitch & Sons', flowers at, 404
 Nursery notes, 55, 77, 269, 307, 340, 404, 436, 469, 470, 500, 566, 567, 596, 631, 663, 761
 Nymphæa Daubeniana, 691

O

OAK 1100 years old, burning of, 657
 Oaks, West American, 18
 Oakwood, Wisley, Mr. G. F. Wilson's garden at, 810
 OBITUARY:—Acton, W. T., 25; Bowman, Sir William, 440; Brown, W., 440; Brunt, G., 816; Butters, C., 154; Caird, Sir James, 215; Cole, Edmund, 702; Combe, B., 89; Cooper, Edward, 599; Cowburn, Thomas Brett, 440; Davies, William, 599; Fairbairn, Edward Frederick, 154; Fitch, W. H., 120; Grant, Colonel, 215; Grant, Mrs., 57; Henderson, Montgomery, 247; H.R.H. the Duke of Clarence, 80; Mitchell, R., 632; Moir, F., 120; Morgan, Benjamin, 474; Parker, Robert J., 152; Rawlings, Mrs., 215; Roberts, J., 215; Smith, James, 594; Statter, Thomas, 25; Taplin, James, 315; Tibbaut, L., 120; Thomson, R. E., 215; Watson, Sereno, 499; Williams, James, 25; Williams, James, 53; Woodman, Dr. W. R., 25
 Odontoglossum coronarium, 171; O. crispum, 300; O. c. var. nobilior, 235; O. Halli cristatum, 587; O.

Pescatorei, a fine, 364; O. Phalaenopsis, 171; O. Rossi from Cheltenham, 235; O. Ruckertianum, 429; O. vexillarium, 75, 171
 Odontoglossums, a group of, 210; baskets for, 277; culture of, 211
 Olea fragrans, 524, 630
 Oncidium laxense, 45; O. Phalaenopsis, 107
 Onion-fly, the, 597; remedy for, 629
 Onion seed, costly, 114
 Onions, the trade in, 150
 Open spaces in towns, 626
 Opiloglossum pendulum, 656
 Oranges, Jaffa, 658
 Orchid, an economic, 19; culture, 459
 Orchid houses, the, 15, 46, 79, 110, 142, 175, 206, 239, 270, 303, 334, 366, 398, 431, 463, 494, 527, 558, 591, 622, 655, 689, 723, 755, 784, 810
 Orchid hunting, 48
 Orchid notes and gleanings, 11, 45, 74, 107, 171, 202, 235, 341, 364, 397, 428, 460, 490, 587, 625, 781; sale, great, 338; treatment, 364
 Orchids, an amateur's experience with, 307; and Lilies, at Twickenham, 307; at Avenue House, Southgate, 588; as cut flowers, 11; at Bocking Place, Braintree, 429; at Bowden Hill House, 235; Broomfield, sale of, 364; at Brussels, 211, 530; at Camford Lodge, Dorking, 782; at Cambridge Lodge, 587; at Earlscliffe, Bowdon, 365; at The Grange, Hackbridge, 588; at Rochester, New York, 75; at the Hon. J. J. C. Abbott's, Montreal, 782; at Warnham Court, Horsham, 397; at Mr. Malcolm Cooke's, 595; at Mr. A. F. van Imshout's, 464; at Messrs. B. S. Williams & Son's, 269; at Messrs. Hugh Low & Co.'s, 77; at M. Lemoine's at Lille, 562; at Messrs. Seeger & Tropp's, 307
 Orchids, Australian, 74; in the United States of America, 460; list of cultivated, 434
 Ornithology in relation to horticulture, 597
 Orpium frutescens, 372
 Oxford Carnation and Picotee Union, 462

P

PALMS at Kew, 562; fan, of Australia, 619, 652
 Pansies in pots, 55
 Papaver rupitragum, 790
 Parcel Post and garden produce, 463
 Paris market gardens, 658
 Park, Avondale, opening of, 759
 Pavement, cork, 692
 Pea Criterion, 278; P. Superabundant, 438
 Peach, scale insect on, 704; yellows, 402
 Pear Beurré Baltet père, 310; new, Ghelincel de Walle, 24; Louise Bonne, tall tree of, 84; Pimston Duchesse, 54
 Pears, cracks and spots on, 117, 180
 Peas and their growth, 52; a trio of, 181; Criterion and other, 237; Champion of England and Success, 342; early, 212, 615; selected, 333; sweet, 304, 510
 Pelargonium, Rollison's Unique, 694
 Pelargoniums at Bowood, 84
 Pentstemons and Antirrhinums, 473
 Perfume plants in South Australia, 73, 759
 Periodicals, list of gardening, 119
 Philadelphia microphyllus, 86
 Phippen's flower show at Reading, 369
 Phlox, herbaceous, 341
 Pholidocarpus Ihur, 565
 Phosphata of lime, 410
 Picea nigra, 81
 Pine beetle, the, 469
 Pine, Corsican, the, 174
 Pine disease, 736

Pinus clausa, 594; *P. laricio*, 246; *P. sylvestris aurea*, 405
Pithecolobium Saman, 556
 Plant names, pronunciation of, 597
 Plants for rooms, 109

PLANTS, NEW OR NOTEWORTHY.

DESCENDERS.—*Aglanema costatum*, 426; *Aloe aurantiaca*, 682; *Aquilegia transylvanica*, 650; *Calanthe vestita* Fournier, 488; *Caltha alpina*, 650; *Carnation*, Mrs. A. Hensley, 682; *Catseum Lichtensteinii*, 171; *Cattleya Alexandra*, 522; *C. Victoria Regina*, 586; *Clematis brevis-caudata*, 488; *Cologynne emprea*, 619; *Crinum firmifolium*, 362; *Curcuma Bakeriana*, 682; *Cypripedium Baconis*, 171; *C. calceolus* \times *macranthus*, 394; *C. Chamberlainianum*, 234; *C. Cleopatra*, 458; *C. Cowleyanum*, 72; *C. Ensign* (Harrison \times *barbatum* *bifidum*) (Crossi), 73; *C. exul*, 522; *C. Harrisonianum roseum*, 136; *C. insignis*, *Le Dux's* var., 363; *C. x Huybrechtsianum*, 554; *C. Leda*, 202; *C. Swinburnei*, \times , 136; *Cyrtanthus Galpinii*, 682; *Dendrobium barbatulo-chlorops*, 298; *D. chlorops*, 136; *D. densiflorum clavatum*, 394; *D. O'Brienianum*, 266; *D. x Nestor*, 71; *D. Rolfeae* \times , 522; *Epidendrum Godeffianum*, 136; *Eria Lauchiana*, 803; *Gentiana pyrenaica*, 650; *Huerna Penzigi*, 719; *Dieffenbachia* (?) *olbia*, 522; *Dipicadi serotina*, 748; *Kniphofia Nelsoni*, 554; *Leptotes bicolor* var. *brevis*, 42; *Lissocilus Graefei*, 749; *Lycaste Skinneri* var. *Mr. F. L. Ames*, 398; *L. S. var. Mrs. F. L. Ames*, 396; *Maedevallia x Cassiope*, 73; *Odontoglossum Andersonianum pulcherrimum*, 586; *O. platycheilum*, 587; *Oncidium Gravesianum*, 587; *Oreopanax Gandavianum*, 718; *Pelexia Travassosii*, 350; *P. Wendlandiana*, 426; *Phajus hybridus*, 619; *Phalenopsis Amphitrite*, 618; *P. Schilleriana purpurea*, 105; *Podocarpus Mannii*, 113; *P. pectinata*, 113; *Sempervivum Thomeyeri*, 104; *Stapelia Ulodi*, 554; *Thrinax Morrisii*, 104; *Tradescantia regina*, 522; *Vanda Arbutanthus*, 522; *Viola declinata*, 650; *Yucca Hanburii*, 749

Plant pests, 597

PLANT PORTRAITS: Abelia rupestris,

371; *Acer carpinifolium*, 596; *A. palmatum* var. *Aokii*, 207; *Aschynanthus pulcher*, 143; *Angulosa uniflora* var. *Treyerani*, 207; *Apple Antonooka*, 207; *A. Reinette Pomologue Hage*, 143; *A. Suprême de Peck*, 596; *Anturium hybridum*, 468; *Azalea nudiflora*, 371; *Bilbergia Franz Antoine*, 24; *Bomarea frondea*, 693; *Brassavola glauca*, 596; *Brownea macrocephala*, 623; *Casalpinia japonica*, 143; *Calliophora papaver*, 24; *Calochortus flavus*, 371; *Carnation Ketton Rose*, 207; *Cattleya velutina*, 633; *C. Varocqueana*, 596; *Cereus nycalaeus*, 371; *Chamocorus humilis* (fruits), 371; *Chrysanthemum Madame E. Fierens*, 24; *C. Mr. Georges Neyt*, 207; *Cochlidora Noeziana*, 371; *Cologynne lentiginosa*, 468; *Chysis bracteescens*, 693; *Cypripedium Fairrianum*, 24; *C. Godeffianum*, 468, 596; *C. insignis Mooreanum*, 633; *C. Lucie*, 371; *C. Niobe*, 596; *C. vexillarium*, 207, 693; *Dendrobium atro-viola-ceum*, 468; *D. bigibbium*, 468; *D. infundibulum*, 693; *Desmodium audiflorum*, 726; *Doryanthea Palmeri*, 24; *Elaeagnus parvifolia*, 596; *Epidendrum Mantinianum*, 623; *Fuchsia triphylla*, 207; *Gladiolus Marceau*, 371; *G. Dr. Walcot*, 371; *Houlletia odoratissima*, 526; *Hype-*

ricum Buckleii, 143; *Iris atropurpurea*, 24; *I. reticulata*, 371; *Kempferia Kirkii*, 371; *Lilial grandia* var. *tenebrosa*, 207; *Lilac Madame F. Morel*, 371; *Lonicera Halliana*, 24; *Maedevallia Reichenbachiana*, 371; *Mormodes bucinator* var. *aurantiaca*, 207; *Odontoglossum crispum* var. *xanthodes*, 207; *O. Orgiesianum*, 24; *O. praestans*, 596; *Oncidium splendens*, 24; *Orthoglossum pyramidale*, 596; *Pancratium fragrans*, 596; *Paulownia imperialis*, 596; *Pear Legipont*, 596; *Phyllocaetus* hybr. *Ami Broquet*, 371; *Ranunculus fascicularis*, 143; *Rhododendron Ceres*, 371; *R. Hexe*, 596; *Rhododendron*, 726; *Romneya Coulteri*, 24; *Rosa trigintipetala*, 596; *R. Wichuriana*, 24; *Rose La Vierzonnaise*, 372; *Rubus casius* var. *Turkestanica*, 372; *Sarracenia purpurea*, 24; *Saxifraga Fortunei*, 727; *Selenipodium caudatum*, 596; *Senecio sagittifolius*, 372; *S. pulcher*, 24; *Solanum macrocarpum*, 596; *Spiraea multiflora arguta*, 596; *Streptocarpus*, hybrid varieties, 372; *Templetonia retusa*, 372; *Tigridia pavonia*, 25; *Trichocentrum triquetrum*, 372; *Trillium erectum*, 727; *Vanda cerulea*, 25; *V. cerulescens*, 372; *Viburnum tomentosum*, 143; *Vriesia hybrid* (Barillet \times *splendens*), 143; *Vriesia hybrida Codicensis*, 143; *Vriesia obliqua \times , 596; *Zygopetalum cerinum*, 596.*

Plants, importation of, to Mexico, 307

Plants, influence of sugar on, 466

Plants, new and rare, at Liffes, 682

Plants of Western China, 146

Plants, the greening of, 726

Plants under glass, 15, 46, 78 (see

Plants and their culture), 111, 143,

174, 208, 239, 271, 302, 335, 366,

398, 431, 463, 494, 526, 558, 591,

623, 654, 689, 723, 754, 784, 811

Podocarpus pectinatus, 562, 662

Podocarpus, two new, 113

Poinciana regia, 108

Pollen, what it is made of, 726

Polyanthus, 694; reverted forms of, 662

Polyanthuses, garden, 500

Postal facilities, 400

Potato crop of the world, the, 300

Potato culture, experiments in, 403

Potato disease, prevention of, 50, 553,

758; and the copper treatment, 178,

403, 505; scab, 267; Gentleman,

the, 473; report of the Board of

Agriculture, 789

Potatoes in Ireland, last century's, 210,

342; Irish, 247; judging, 342; plant-

ing, 438; preservation of, 243; Ring-

leader and White Kidney, 702;

Round and Kidney, 374, 405

Pot-herbs and flavourings, 268

Pot plants for cut flowers, 175

Presentation to Mr. David Syme, 726

Price, good, for a tree, 463

Primrose, the wild Chinese, 12

Primula, Chinese, 139; P. Forbesii,

498; P. obconica, stinging the skin

by, 469; P. sinensis, culture of, 172;

P. acares from Chelsea, 307

Prospect House, Woodford Green, 594

Pruning, and canker in fruit trees, 83

Pruning fruit trees, 53

Prunus Davidiana, 530

Pteris and Doryopteris, 523

Public Gardens Association, London,

813

Q

QUEENSLAND, a gardening paper fr,
307

R

RAILWAY and canal traffic, 244

Rain as a source of nitrogen for vegetation, 434

Ranunculus cortusifolius, 464; *R. fascicularis*, 143
 Raspberry shoots, infested with caterpillars, 633
 Rats and mice: prevention better than cure, 407
 Regel, Edward von, the late, 595
 Rhododendron, 247; *R. campanulatum*, 695; *R. eximium*, 596; *R. Falconeri*, 695, 790
 Rhododendrons, &c., at Crichel, 810;
 in the Park, 789; Himalayan, at Penllergare, 488
 Ricinus, the, 256
 Rivers and soil, temperature of, 627
 Rock garden, the, 620
 Rock plants in flower, 729
 Rodriguezia pubescens, 427, 469
 Roelz, Benedict, 52
 Room plants, 109
 Root-hairs, 467
 Root-grafting, experiments in, 659
 Rosa gigantea, 658, 724
 Rosarian's year book, the, 115
 Rose Bank, Malvern, 496
 Rose, climbing Niphetos, 22; *R. climbing Souvenir de la Malmaison*, 24; garden in March, work in, 340; *R. La Vierzonnaise*, 538; prospects, 750; show fixtures, dates of, in 1892, 306, 464, 628, 724, 812
 Rosery, the, 82, 150, 276, 340, 395, 460, 480, 619, 750, 783
 Roses, a house of, 150; among the, 457; stocks for, 753; Briar stocks for standard Roses, 82; cuttings of, 271; for walls, 489; hard pruning of, 500; hybrid Tea, 393; in pots, 596; *M. Niel*, early, 490; pruning, 276; Tea, in the flower garden, 460; Tea-scented, propagation of, 619; Weevils on, 666
 Rot, basal, in Narcissus, 695
 Royal Institution, 20
 Rural Industries of Egypt, 733
 Russian grain export prohibition, 691

S

SACCOLARIUM cœlestes, 75; *S. Hender-*
sonianum, 264
 Saharunpur Botanical Gardens, 76
 Salix caprea, 564
 Saltpetre as a remedy against caterpillars, 114
 Saxifraga granulata, fl.-pl., 734; *S. muscoidea rubra*, 734
 School of horticulture, a, 338

SCIENTIFIC COMMITTEE: Angraecum

sesquipedale, monstrous, 535; Azalea

sport, 631; basal rot of bulbs, 631,

701; Birch bark, 440; Carnations

attacked by Anthomyia, 534;

Carnations, diseased, 631; Cattleya

Mendeli, monstrous, 792; Cephalo-

taxus, 701; China silk, 701; Coni-

fères, growth of, 631; Cypripedium

caudatum reversed, 701; C. Day-

anum, 374; Daffodils, basal disease

of, 631, 440; Dissocochroma viridi-

flora, 375; dyeing of flowers, the,

375; Endogones, branching of, 534;

Ficus elastica, fruiting, 701; Fuchsia,

monstrous, 701; galls on Ribes, 534;

Hellebore with curled leaves, 701;

Hellebores, 374; Helleborus

quatus, 375; Iris florentina, 792;

larva destructive to grass in Hong-

Kong, 374; Lettuce mildew, 534;

Mistletoe from Pyrus malus, 375;

Mountain Ash, disease of, 375;

Narcissus bulbs attacked by Acari,

534; N. bulbocodium, fasciated,

534; Narcissi, hybrid, 374, 440;

Odontoglossum citrosum, mon-

strous, 631; O. crispum, 701;

Orchids attacked by beetles, 631,

701; Pine-apple, monstrous, 631;

Plants exhibited, 375; Primula For-

besii, 535; Ribes, adventitious buds

on, 374; swellings on, 440; Rasp-

berries attacked by Dithidea, 534,

631; scale insects on Palms in West India, 534; Schizocodon soldanelloidea, 535; Sugar-cane attacked by boring insect, 440; Tea plant, diseased, 701; Telima grandiflora rubra, 375; Teuga Mertensiana, 701; Tulip, fasciated, 701; leaf, monstrous, 631; Tulip, two-coloured, 374

Scillas, 469

Scilly Isles, flower trade of, 273

Scotland, 24, 245, 311, 339, 404, 439,

503, 532, 701, 791

Seakale, Lily White, 630

Seed, of Wallflowers, 83

Seed-trade, the, 492, 633

Senecio sagittifolius, 243

Sheffield Botanic Gardens, 216

Shobdon Court, 425

Shrubs, berry-bearing covert, 461, 493

Siam, 147

Sisal-grass, 692

Small holdings, 274; in Tuscany, 337

Smith, Martin R., Esq.'s garden at

Hayes, Kent, 783

Snowdrops and Snowflakes, 374; in

Charbore' Park, 403

Snow in the streets, melting, 148

SOCIETIES:—Aberdeen Gardeners'

Protective Union, 404; Amateur

Gardeners Association, 530; Becken-

ham Horticultural, 463; Benet and

Provident Society, 439; Birming-

ham Chrysanthemum, 537; Birming-

ham Gardeners' Association, 242,

274; Birmingham Pansy show,

789; Birmingham spring show, 503;

Botanical Society of Edinburgh,

311; Brighton and Sussex, 471;

Brighton and Sussex New Horticul-

tural, 471; British Fruit Growers'

Association, 147, 531, 566; Brixton,

Streatham and Clapham, 210; But-

ley Tulip Show, 739; Cardiff, 499;

Carnation and Picotee Union,

Oxford, 462; Cheltenham, 658;

Chislehurst Gardeners' Mutual Im-

provement Association, 273; Crystal

Palace, 470; Devon and Exeter

Gardeners' Association, 211, 273,

339; Devon and Exeter Mutual

Improvement, 52; Dutch Horticul-

tural and Botanical, 538, 594, 513;

Dundee Horticultural, 171; Eccles

and Patriotic Chrysanthemum,

215; Edinburgh Botanical, 245, 404,

537, 701; Falkirk, 503; Fre-

mantle and District Protec-

tion, 530; Ghent, 530, 658, 812;

Hertford Horticultural, 215; Inter-

improvement, 178, 370; International

Fruit Exhibition, 466, 497, 731; Kent

County Chrysanthemum, 146, 307;

Leeds Paxton, 339; Linnean, 177,

210, 273, 306, 370, 402, 434, 496,

499, 563, 624, 691, 788; Liverpool

Amateur Gardening Association,

339; Liverpool Horticultural Asso-

ciation, 153, 470; Lynn Horticul-

tural, 530; Midland Carnation and

Picotee, 244; Moseley Rose Show,

Birmingham, 499; National Auric-

ula and Primula, 463; National

Auricula (S. section), 535; National

- Scottish Horticultural, 791; Shrewsbury Horticultural, 242; Shropshire Horticultural, 306; Southampton, 434; Southern California Horticultural, 402; Tunbridge Wells Gardeners' Association, 116; United Horticultural Benefit and Provident, 339; Windsor, Eton, and District, 339; York Florists', 339, 563, 759; York Gala, 793
- Soil, Bacteria in, 370; constituents of, action on fruits and vegetables, 466
Soil for Vines, analysis of, 76
Soils, Grape, 138; Spanish Grape analysis, 76
South African fruits, 210
Spain, notes from, 814
Sparrows and fruit-buds, 309
Spiraea confusa, 405
Spots, brown, 467
Spraying fruit trees, mixture for, 330; to destroy insects and fungi, 403
Spring growth of trees, 336
Spring, hieing to meet the, 504
Spring Grove House, Isleworth, 686
Sprout, Early's Curled, 525
St. Andrews, 273
St. Vincent, 632
Stachys tuberosa, 662
Stands for Japanese Chrysanthemums, 246
Stanhopea Wardii, 364
Stanropsia Warocqueana, 428
Steam heating in horticulture, 501, 729, 761
Stinging the skin by *Primula obconica*, 469
Stocks, East Lothian, 565
Stocks and soil for Roses, 783
Stock-taking, 114, 243, 370, 563, 625, 813
Strawberry, culture in Cornwall, 115; Jno. Ruskin, 439, 630
Strawberry-leaf tea, 370
Strawberries, fine early, 407; in pots, wintering, 630; in wet weather, 22; plants to rear, 634
Stray Lea, Harrogate, 695
Streptocarpus Galpinii, 139
Streptosolen (Browallia) Jamesonii, 685
Substitutes, tea and coffee, 374
Sugar beets, 594
Sugar on plants, influence of, 466
Sulphate of copper and Potato disease, 50 (see Bordeaux mixture, Potato disease, copper salts)
- Surveyors' Institution, the, 273
Swailey, Horticultural College at, 402
Sweden, the winter in, 24
Sweet Briar, a pest, 658
Sweet Chestnuts, 720, 762
Sweet Peas, 310; growing, 204
Sydney Botanic Garden, 632
Syme, D., presentation to, 726
Syon House gardens, 628
- T
- TABERNEMONTANA coronaria, 341, 761
Taccasias, 533
Tamarind, the, 108
Tasmanian Apples, 765; fruit, 339
Tea and Coffee substitutes, 374
Tea Roses in the flower garden, 460
Technical education, 9, 51
Technical horticulture, lectures on, 240, 246 (see education)
Tecoma capensis, 275; in Florida, 310
Temperate-house, Kew, 18
Temple show, R.H.S., 624
Thalictrum rhynchocarpum, 722
Theophrastus, Jussieu, 759
Thuia gigantea, 212
Thyrasacanthus rutilans,
Tilia tomentosa, 730
Timber, brittle, 182
Tin-can, a widely-travelled and useful, 310
Tits, 374
Tomato in Great Britain, the, 759; the Tree, 22
Torquay Fruit Farm Co., 562
Trade notices: Clay & Sons, 151; Dickson & Robinson, Manchester, 21; Hale Farm Nurseries, 215; Milford & J. Sharpe & Son, 57; Morris & Griffin, 765; Jongkindt Coninck, A. M. C., 121
Traffic, Railway and Canal, the Mansion House Association on, 244
Traveller's notes, a (Mr. James H. Veitch), 332, 372, 426, 555, 660, 621, 752
Tree, a good price for, 468
Tree pruning, 657
Tree Tomato, the, 22
Tree, value of a, 115
Trees and shrubs, 17, 213, 308, 335, 405; newly planted, 702; on lawns, ornamental, 149
Trees for marsh and mountain, 142
Trees, spring growth of, 336, 491, 557
- Tregulow, 342
Trent Park, New Barnet, Herts, 55
Trichodesma physaloides, 363
Trillium grandifolium, 635
Trinidad, Royal Botanic Gardens, 172
Tropaeolum, 725, 790
Typing material, a new, 81
Tulip tree, how raised, 475
Tulipa, Old English, 814
Tunbridge Wells gardeners' association, 658
Turner Memorial prizes, 465
Tuscany, Small holdings in, 337
- U
- UNITED Horticultural Benefit and Provident, 369
United States, floriculture in, 725
Ustilagineae as parasites, the, 429
- V
- VANDA Amesiana, and V. Kimballiana, 279; V. coccinea, 272; V. Denisoniana, 496; V. teres, treatment of, 475
Vanilla, Burmese, 692
Van Imschoot's, Mr., Orchids, 464
Vegetable perfumes, 692
Vegetables, 405, 683; earthing up, 405; in Scotland, 339; thorough culture for, 203; winter, 80
Veitch medallists, W. Watson and J. Heal, 813
Veitch, Mr. J. H. (see a Traveller's Notes)
Viburnum tomentosum, 143
Victoria regia, 310
Vine borders, heat for, 83; lateral shoots on the, 633
Vines, 634; prohibition into France of American, 693
Vines, removal of leaves from, 52
Violet Frau Hof-Gartendirektor von Jülke, 303
Vriesia hybrida (B. Barilletti \times splendens), 143; V. Leodensis, 143; V. tessellata var., 658
- W
- WALLFLOWER seeds, 83
Wallflowers, 54, 635; double, 565
- Wall trees, new method of fastening, 629
Warnham Court, 760; Orchids at, 397
Warwick Castle, 71, 180
Watering of casks, 311; of crops, a method of underground, 307
Watsonia iridifolia var. O'Brieni, 304
Watson, Sereno, 409, 434
Weather, 216; extraordinary, 790; in France, severe, 530; in South Devon, 532; in the Midlands, 242; severe, 275; the, for twenty-five years, 114; unseasonable, 565; winter, 277
Weeds, 468
Weevils on Roses, 666
Week's work, the, 14, 46, 78, 110, 142, 174, 206, 238, 270, 302, 334, 398, 430, 462, 494, 526, 557, 590, 622, 653, 688, 722, 754, 784
Weights and measures, our, 50
Westonbirt, 298
Wet weather and Strawberries, 22
Wheat, fertilisation of, 475
Whitfern, the, 201
Williams, James, 53
Williams Memorial Medals, 595
Willows for underwood, 118; in Ireland, 53
Window plants, 374
Wineberry, 311
Winter and the Roses, the, 436; frost during the past, 597; in Sweden, the, 24; rambles round Cannes, 265; vegetables, 80
Wireworms, 278, 626; remedies for, 240
Wise and London, two famous gardeners, 361
Wistaria sinensis, 729
World's fair, horticulture at, 307, 788
Worms, earth, 434
Worms in pots, prevention of, 374
- X
- XANTHOCERAS sorbifolia, 532
- Z
- ZANZIBAR, 562; Clove trade of, 702; Clove tree in, 81
Zygopetalum Lindense, 172

LIST OF ILLUSTRATIONS.

- A**
ALBURY, terrace walk and view in the grounds at, 137, 145
Alowick Castle, 661
American blight, 245
Apple, double horizontal cordon, 458; single cordon, 459
Apples, Cellini, Cox's Orange Pippin, Cox's Pomona, Emperor Alexander, Golden Noble, 21; diamond fence of, 458
Aristolochia clypeata, 433
Aster farm at Erfurt, 173
- B**
BASKETS, *Odontoglossum*, 277
Battersea Park, carpet bed in, 683
Bean weevil (*Bruchus granarius*), 345
Bees, new self-river for, 685
Begonia socotrana, tubers of, 274
Bignonia magnifica, 151
Bladder Plum, 373
Bouvardia, a specimen, 719
Burleigh House, 105
- C**
CARPET bed, Battersea Park, 683
Cattleya Victoria regina, 808, 809
Chicago exhibition, horticultural building at, 107
Chinese Primrose, native specimen of, 12
Chimonanthus fragrans, 213
Cyclamen, a finely flowered, 301
Cymbidium grandiflorum, 267
Cypripedium Chamberlainianum, 234; *C. exul*, 523; *C. Lawrebel* x, 560
- D**
DAPHNE Blagayana, 491
Datura suaveolens, 503
Dendrobium nobile, 725
Diss incarnata, 618
Disease of Gooseberries, 397
Distillation of perfumes at Grasse, 781
- E**
EEL-WORMS in Gardenias, 376
Elm Lodge, Beckenham, 395
Emmenanthe penduliflora, 339
Eucalyptus Gunni, 787
Exhibition ground, Earl's Court, plan of, 467
- F**
FERNS at Nant-y-Glyn, Colwyn Bay, 337
Foster, Prof. Michael, 693
- G**
GARDENIAS, eel-worm disease of, 376
Glazing clip, 473
Gooseberries, disease of, 397
Gourd-lined walk at Kew, 49
Grafting, saddle, 461; side, 461; whip, 461
Grimston plant protector, 437
Gymnogramma decomposita, 365
- H**
HEAL, J., 813
Henderson, Mr. Montgomery, portrait of, 247
Hinge for glasshouse lights, a, 119
Hyères, avenue of Palms at, 408
- I**
INDIAN garden, plan of, 653
Isosoma orchidearum, 755
- J**
JASMINUM nudiflorum, 181
- K**
KEW, Water Lily-house at, 751; temperate-house at, 17, 19
Kniphofia Nelsoni, 561
- L**
LÆLIO-CATTLEYA x Phœbe, 791
Lagenaria virginalis, 85
Lily of the Valley, basket of, 589
- M**
MAGDALENA River, view on the, 43
Marshall, Wm. Esq., portrait of, 695
Maze, plan of, 312
Münner, Mr. H. E., portrait of, 627
Moorea irrorata, 489
Mormodes Rolfeanum, 203
- N**
NANT-Y-GLYN, Ferns at, 337
Narcissus, hybrid, 331, 333
Nepenthes stenophylla, 401
- O**
ODONTOGLOSSUM baskets, 277; *O. crispum*, var. *nobilior*, 235; *O. platycheilum*, 587
Odontoglossum, a group of, at Westminster, Glasgow, 209
Ophiglossum pendulum, 657
Ocidium Graesianum, 651
Onion-fly, 629
Orphium frutescens, 372
- P**
PALMS, avenue at Hyères, 408
Peridermium pini, 736
Phoenix Rebellini, 731
Philadelphus microphyllus, 87
Pithecolobium Suman, 557
Plant protector, Grimston, 437
Plum, double Cordon, 459
Primrose, Chinese, native specimen of, 12
Primula sinensis, 13
Prunus Davidiana, 529
- R**
RANUNCULUS cortusifolius, 465
Regel, the late E. von, 595
Rhododendron campylocarpum, 501
Rockwork, right and wrong way of making, 620, 621
Rodriguezia pubescens, 427
Ruehl, Benedict, statue of, 45
Rosebush Garden, Malvern, 497
Rabus phœnicolasius, 269
- S**
SADDLE grafting, 461
Side grafting, 461
Sprout, early, bardy curled, 525
Streptocarpus Galpini, 139
- T**
TECOMA capensis, 275
Temperate-house, Kew, 17, 19
Thrinax Morrisii, 112, 113
Tortworth Court, Chestnut at, 763
Tradescantia regina, 699
Trichodesma physaloides, 363
Tying trees with straw-bands, method of, 335
- W**
WARNHAM Court, 757
Warwick Castle, 73
Water Lily-house, Kew, 751
Watson, W., 813
Watsonia iridifolia var. O'Brieni, 305
Weevil of *Caloglyphes*, 755
Westonbirt, Gloucestershire, 299
Whip grafting, 461
Williams, James, portrait of, 53
Woodman, Dr. W. R., portrait of, 42
- X**
XANTHOCERAS sorbifolia, 533
- Z**
ZYGOPETALUM Lindenberg, 172

SUPPLEMENTARY ILLUSTRATIONS.

ALSOPIA CRINITA, May 14.
CONIFER GROUND AT THE CONIFER CONFERENCE, March 19.
COUNCIL OF THE ROYAL HORTICULTURAL SOCIETY, FIFTEEN PORTRAITS OF MEMBERS OF, May 28.

HEDYCHUM GARDNERIANUM, February 6.
PICEA NIGRA, GROUP OF, January 16.
VANDA CÆRULEA, GROWN IN LORD ROTHSCHILD'S GARDEN, February

The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2662.

No. 262.—VOL. XI. {THIRD SERIES}

SATURDAY, JANUARY 2, 1892.

{Regt. as a Newspaper. {PRICE 3d.
WITH SUPPLEMENT. {Post-FREE, 3d.

CONTENTS.

Agricultural statistics ... 18	Edinburgh public parks ... 18
Apples and Pears in sub- urban gardens ... 20	Egg plants ... 22
Aspidistra elatior bearing seed ... 22	Foreign correspondence ... 24
Australian fungi ... 23	Frost in Wiltshire ... 23
Birds of Commons ... 18	Garden Papias ... 20
Woodlands ... 14	Ginger-beer plants ... 19
Baccharis cordata ... 23	Harly fruit garden ... 14
Books:—	Hellebores of the ancients, the ... 13
Die Veredelungen für die Verschiedenen Baume und Sträucher Conspectus Floræ Africæ Fruhst, nied Dertil F&nde Kultur ... 23	Herbarium notes ... 20
Handbuch der Laub- holzkunde ... 19	Hollyhock rest, a new ... 19
How to be Comfortable with One Servant ... 18	Jubilee year of the Royal Gardens, Kew ... 16
Jasmin ... 18	Kitchen garden ... 15
La Rose ... 20	Maidenhair Ferns ... 11
Letters from a Country House ... 23	Novelties of 1891 ... 10
Miniature Fruit Garden, the ... 20	Obituary ... 25
How to be Comfortable with One Servant ... 18	Acton, W. T. ... 25
Jasmin ... 18	Statter, Thomas ... 25
La Rose ... 20	Williams, James ... 25
Letters from a Country House ... 23	Woodman, Dr. W. R. ... 25
Miniature Fruit Garden, the ... 20	Orchid houses ... 15
How to be Comfortable with One Servant ... 18	Orchids and glenings ... 24
Jasmin ... 18	Pear, new, a ... 24
La Rose ... 20	Plant portraits ... 14
Letters from a Country House ... 23	Plants and their culture ... 24
Miniature Fruit Garden, the ... 20	Rhus verniciens ... 23
How to be Comfortable with One Servant ... 18	Royal Institution of Great Britain ... 20
Jasmin ... 18	Scotland ... 24
La Rose ... 20	Technical education ... 8
Letters from a Country House ... 23	Temperate house, Kew, the ... 18
Miniature Fruit Garden, the ... 20	Tree Tomato, the ... 23
How to be Comfortable with One Servant ... 18	West American Oaks ... 18
Jasmin ... 18	West weather and Straw- berries, the ... 22
La Rose ... 20	

ILLUSTRATIONS.

Apples: Cellini, Cox's Orange Pippin, Cox's Pomona, Empress Alexander, Golden Noble ... 21
Chrysanthemums, new specimen ... 12
Primula sinensis ... 13
Temperate House, Kew ... 17, 19

"The Gardeners' Chronicle" in America. The Subscription to America, including Postage, is \$4.50 for 12 months. Agent for America, E. H. LIBBY, Manager, The Rural Publishing Co., Times Building, New York, to whom American orders may be sent.

GARDENERS' CHRONICLE.

FOR SALE.

Vols. I. to XVIII. (1841-58). Half calf. Good condition.

WHAT OFFERS?

E. COOLING, DERRY.

Myatt's Prolific Kidney Potatoes.

W. JOHNSON AND SON, SEED
GROWERS AND MERCHANTS, Boston, offer the above
in quantity. Price on application.

150,000.—Special Offer of Kentias.
ICE-TON has a large quantity of the
above to offer, very reasonable, at from 27 10s. per
1000. Tubs, well-established, 210 per 1000; in 60's, well-
established, at 230 per 1000.
W. ICE-TON, Putney, S.W.

VALUABLE SILVER MEDALS offered to
Exhibitors during 1892. All Amateurs and Gardeners
should see KELWAYS' MANUAL for 1892 for particulars: 1d.
post-free. Gratis to customers. For details see larger
advertisement.—Larigot, Somerset.

CHRYSANTHEMUMS.—Proved NOVEL-
TIES in EARLY, JAPANESE, INCURVED, and other
Select Varieties. New LISTS free. Gave great satisfaction
last year.
A. J. A. BRUCE, The Nurseries, Chorlton-cum-Hardy,
Manchester.

Trade Notice.

FRANCIS ROBINSON, Sole Proprietor of
the Firm of DICKSON and ROBINSON, SEED MERCHANTS, 12, Old Milgate, Manchester, begs to intimate that
he has this day ADDED into PARTNERSHIP Mr. ALBERT
WALTER WHALE and Mr. HENRY HICKS. The Business
will still be carried on under the title of
DICKSON and ROBINSON.
January 1, 1892.

To the Trade.

A COPY of our Wholesale LIST of AGRI-
CULTURAL, GARDEN, and FLOWER SEEDS for
1892, has now been posted to all our Customers.
In case of mis-carriage, another copy will be promptly sent
on application to
JACOB WRENCH and SONS, Limited, 39, King William
Street, London Bridge, London, E.C. Established 1750.

B. S. WILLIAMS AND SON

HAVE POSTED THEIR
ILLUSTRATED SEED CATALOGUE for 1892,
to all their Customers. Another copy will be forwarded, on
application, to any who may not have yet received one.
Victoria and Paradise Nurseries, Upper Holloway, London, N.

To the Trade.

NUTTING and SONS have posted their Fifty-
first Annual Trade CATALOGUE of Garden and
Flower Seeds to all their Friends; if not received, another
Copy will be sent on application.
Seed Warehouses, 108, Southwark Street, London, S.E.

To the Trade.

COOPER TABER & CO., Limited, have
posted their GENERAL WHOLESALE CATALOGUE
to all their customers. If not received, another copy will be
sent on application.—90, Southwark Street, London, S.E.

DOBBI'S CATALOGUE AND COMPETI-
TORS' GUIDE for 1892.—25th Annual Edition, 160 pages,
illustrated. Described by one of the greatest authorities in
England as "the most useful list published in the trade."
Will be ready on January 1, and will be sent gratis to all who
apply for it and enclose 3d. to cover postage.—DOBBI AND
CO., Seed Growers and Florists, Rothewald, Scotland.

ORCHIDS A SPECIALITY.

Please write for New Illustrated Price LIST of well-
established, healthy, and easily-grown plants.
W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate,
London, N. Nursery, Orchard Road.

10,000 EUONYMUS (Green), bushy, well-
grown, 18 inches to 3½ inches, 6s. to 15s. per
dozen. Less by the 1000. Cash with Order.
J. J. CLARK, Goldstone, West Brighton.

SUPERB ORCHIDS, CHEAP.—Thousands
to select from. Write for List, free.—P. MCARTHUR,
The London Nursery, 4, Maid Vale, London, W.

W. D. BUNDAY, of Covent Garden Market,
and 37, Exeter Street, W.C., having commenced
to SELL on COMMISSION, is OPEN to RECEIVE
TOMATOES, GRAPES, &c. Good references.

A. G. WATSON,

FRUIT AND FLOWER SALESMAN, ABERDEEN.

CONSIGNMENTS SOLICITED OF POT PLANTS and
CUT FLOWERS.

CHOICE GERMAN

FLOWER and VEGETABLE SEEDS.

CATALOGUES free on application.

FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

WANTED, FARLEYENSE FERNS, in
8-inch pots; well furnished; good plants. Quote
lowest price to WM. WATT, Seed Merchant, Cupar.

WANTED, small CONSIGNMENTS periodi-
cally of CHOICE FRUIT, CUT FLOWERS, and
POT PLANTS for prompt cash. Particulars and prices to—
G. J. STEPHEN, 117, Granby Street, Liverpool.

WANTED, several LARGE PALMS; also
TREE FERNS. State varieties, sizes, and prices.
S. DAVIES, Weybridge Park Gardens, Surrey.

SUTTON'S "AMATEURS' GUIDE IN
HORTICULTURE FOR 1892,"
NOW READY.

SUTTON'S "AMATEURS' GUIDE IN
HORTICULTURE FOR 1892,"
NOW READY.

SUTTON'S "AMATEURS' GUIDE IN
HORTICULTURE FOR 1892,"
NOW READY.

Price 1s., Post-free; Gratis to Customers ordering Goods
value 30s. and upwards, from

SUTTON AND SONS,
THE QUEEN'S SEEDSMEN, READING.

CARTERS' "VADE MECUM FOR 1892"
has now been posted to Messrs. CARTERS' Customers. It
contains seven elegant coloured illustrations, and will
be found a most thorough book of reference by all who
desire to cultivate successfully the choicest vegetables
and the prettiest flowers.

Price 1s., Post-free, to unknown correspondents.
CARTERS', SEEDSMEN, by Royal Warrants, to H.M. The
Queen and H.R.H. the Prince of Wales,
237 and 238, High Holborn, London, W.C.

ROSES! ROSES! ROSES!—Plant now
100 strong dwarf, H.P. Roses for 30s.
The finest in the Trade.

Send for Sample Dozen, 5s. Cash with Order.
CATALOGUES, free on application.
C. H. GORRINGE, Rowlands Nursery, Eastbourne.

Cheaper than Ever.

ROSES! ROSES!—A Specialty. Plant at
once. 30,000 Dwarf H.P.'s, in all the best exhibition
varieties, true to name, grand bushy plants, well-rooted. Send
for sample dozen, 6s. Carriage paid. 50 in 50 varieties, 21s.,
or 30s. per 100, our selection.—Descriptive Catalogue, with full
cultural directions, free on application. Trade supplied.
A. J. AND C. ALLEN, Rose Growers, Heigham, Norwich.

Price Cob Filbert Trees.

MR. COOPER, F.R.H.S., of Western Elms,
Reading (late of Calcot Gardens), is the Largest Grower of
PRIZE COB FILBERT TREES for SALE, in the Kingdom.
20,000 good trees now ready for distribution.
Descriptive Price LIST, &c., on application.

BEGONIA SEED.—Sow now.—Box's strain
is best and cheapest. Single 1s., 2s. 6d. and 5s.; Double,
1s. 6d., 2s. 6d., and 5s. per packet. TUBERs also, special
List and Pamphlet gratis.
JOHN K. FOX (for 10 years Laing's sole Partner), Begonia
Grower, Croydon.

Raspberry Canes and Currant Trees.

BAUMFORTH SEEDLING, 40s. per 1000;
SEMPER FIDELIS, 30s. per 1000. Sample 100 of
either sent 6s. RED CURRANT TREES, 8s. per 100.
Cash with order. Free on rail. Apply—
R. H. BATH, Wisbech.

Seeds! Seeds!! Seeds!!!

VEGETABLE and FLOWER SEEDS,

saved from

CHOICE SELECTED STOCKS.

Everyone with a Garden, and every Market Gardener, should
send for a CATALOGUE before purchasing elsewhere.

SPECIAL LOW QUOTATIONS to Large Buyers.

B. L. COLEMAN,

Seed Merchant and Grower, Sandwich, Kent.

J. WEEKS and CO., HORTICULTURAL

ENGINEERS to Her Majesty, H.R.H. the Prince of
Wales, H.M. Government Acquirity Department, War De-
partment, Royal Horticultural Society, Royal Botanic Society,
Parks, and Public Buildings. Patentes of the Duplex
Upright Tubular Boilers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT

MANURE.—This valuable Manure is made only by us.
Every bag and tin has our name on it. To be had of all Nursery
and Seedsmen, and direct from us. 1 cwt. and over carriage
paid. London Agent: Mr. GEORGE W. VICTORIA ROAD, PUTNEY.
WM. THOMSON and SONS, Clonsilla, Galashiels, N.B.

SALES BY AUCTION.

Wednesday Next.

33 Cases of ARAUACARIA EXCELSA, from the Azores, in Cases as received, and in splendid condition.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, on WEDNESDAY NEXT, January 6.

On view morning of Sale, and Catalogues had.

Wednesday and Saturday Next.

LILIUUM AURATUM and L. LONGIFOLIUM from Japan, the Collection of BORDER PLANTS, Standard and Dwarf ROSES, FRUIT TREES, LAURELS, CONFERS, &c., LILY OF THE VALLEY, Clumps and Crowns, SPIRÆA, AMARYLLIS and TUBEROSES, AZALEA, NOLLA, GLADIOLI, and a large quantity of DUTCH BULBS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY and SATURDAY NEXT, January 6 and 9, at half past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Tuesday Next.—Great Sale of Lilies.

20,500 LILIUUM AURATUM.

1,500 LILIUUM SPECIOSUM ALBUM.

500 LILIUUM LONGIFOLIUM.

600 LILIUUM SPECIOSUM RUBRUM.

800 LILIUUM ELEGANS, best red variety.

Being the whole consignment of 320 cases just to hand, 400 LILIES of BELGIAN, BRITISH, and other varieties; Double AFRICAN TUBEROSES, together with a splendid collection of HARDY LILIES, embracing all the principal and most popular varieties in cultivation; a large number of CACTUS, PALMS, FERNARIAS, FICOIDES, PEONIES, PYRETHRUMS, IRIS, HOLLYHOCKS, BERLIN CROWNS of LILY OF THE VALLEY, PERENNIALS in great variety, HELLEBORUS, thousand of HARDY BULBS, DAFFODILS, ANEMONES, BEGONIAS, GLOXINIAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, January 5, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

96 AZALEA PONTICA, 1 lot of GREENHOUSE and STOVE FERNS, PALMS in variety; DOUBLE and SINGLE BEGONIAS; 330 STANDARD, HALF-STANDARD, and DWARF ROSES; 50 KALIA LATIFOLIA, all extra fine well-branched plants; a quantity of English-grown LILIES in variety; 70 CRINUM ASIATICUM received direct; 200 lots of HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other Dutch BULBS; 50,000 CROCUS WEDDING BELL SEEDS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 6, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next.

LINDEN'S
GRANDEST DISCOVERY:
CATTLEYA REX,

JAMES O'BRIEN.

THE MOST FAMOUS ORCHID EVER INTRODUCED. J. LINDEN, the discoverer and first introducer of nearly all the finest CATTLEYS in cultivation, viz., CATTLEYA AUREA, AMETHYSTOGLOSSA, GIGAS, ELDOBRADO, TRIANÆ, WAROUQUEANA (LARIATA AUTUMNALIS), &c., confidently recommends—

CATTLEYA REX

as the

FINEST OF THE GENUS.

CATTLEYA REX FLOWERS in DECEMBER and JANUARY. Some amateurs have stated CATTLEYA REX to be a grand form of Cattæya aurea, with white sepals and petals, but it is a QUITE NEW TYPE.

CATTLEYA REX is described by JAMES O'BRIEN in the *Gardener's Chronicle*, D. number 13, 1890. Sepals and petals are creamy-white. The labellum is of the richest crimson, of various shades—from the rose hue to the purple tint—resembling with a very slight yellow, all worked in to form a richly-colouring marbling. "It is a Wonderful Piece of Colouring."

Mr. R. JOHNSON, Stand Hall Gardens, Whitefield, Manchester, writes to Messrs. LINDEN:—"The CATTLEYA REX has flowered with us, and a grand thing it is. We have had some of the principal importers of Orchids here to see it: they think your plate in *Lindens* (English edition, Part I., 1891) a true representation of the flower, but the lip of our flower is FINER than your Plate."

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from Messrs. LINDEN, L.Horticulture Intercontinental, Brussels, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, January 8, at half-past 12 o'clock, the whole of the above importation, just to hand in capital condition.

The plants have been collected by Messrs. Linden's intrepid collector, M. C. Eiler, with the greatest difficulties, who has searched with hundreds of natives for two years after this grandest CATTLEYA, and only succeeded in discovering those offered.

He states that "it is impossible to find any more."

A portrait made from a plant flowered in Monsieur Warouque's collection will be on sale of the day of Sale.

On view morning of Sale, and Catalogues had.

Cypripedium Hybrid.

"MURIEL HOLLINGTON."

One of the only Two Plants extant.

MESSRS. PROTHEROE AND MORRIS will include One Plant of this rare and beautiful Cypripedium in NEXT FRIDAY'S SALE, January 8, 1892.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 19, Bull Ring, Birmingham, of BULBS, PLANTS, NURSERY STOCK, &c., every WEDNESDAY and FRIDAY, at 4.30 P.M. Sales of choice Cut Flowers. Fresh Entries invited. Account Sales and cheques daily. Empties and labels found.

WANTED, a NURSERY.—Six Greenhouses 1 acre of Land; price about £100, or a little more. Must be genuine. Midland town preferred. Particulars to A. J. Gardener's Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, to RENT, near a good town, 600 to 1000 feet run of good GLASS, and about an acre of land. Particulars to J. R., 2, Wavne Hill, Hull.

WANTED, a FLORIST BUSINESS, in a thriving provincial town. Terms moderate. R. W. J. Gardener's Chronicle Office, 41, Wellington Street, Strand, W.C.

FOR SALE.—FREEHOLD DETACHED HOUSE, and 3 ACRES, suitable for Glass. Nine miles from Reading, on Rye, Rotherham. Cost £2,000, will sell for £950, of which £425 is ready money. RIMINTON, Alexandra Gardens, Folkestone.

FOR SALE, a small NURSERY; just suit a jobbing gardener. Two houses, well-stocked pits and frames, &c., at a low price. Apply GARDENER, 12, Perry Hill, Catford, S.E.

TO BE DISPOSED OF, a good FLORIST'S BUSINESS, in large Provincial Town. Capable of doing a large trade. Particulars of M. A., Knight's Library, Chichester.

FOR DISPOSAL, a good paying BUSINESS, in FLORIST, FRUIT, &c. Stock and Furniture at valuation to an immediate purchaser, all in grand condition. This is a genuine thing to one wishing to go into business. About £200. Apply to—W.M. KNIGHT, 7, Holdenhurst Road, Bournemouth.

Tooling.

TO BE LET, about 12 ACRES of MARKET-GARDEN GROUND, in good condition. Near two stations. Rent, £70 per annum. Crops and Tenants-right at a valuation. Particulars of PROTHEROE and MORRIS, 67 and 68, Cheapside, E.C.

TO BE LET, 14 miles from London, on the Bath Road, HEATHROW FARM, Harmondsworth, Middlesex, from Michaelmas next; contains 438 acres of good Arable and 44 of Meadow Land. Let as a whole, or divided into three or four Market Gardens. The Houses and Buildings are 2 miles from West Drayton and Hayes Stations (G.W.R.), also Feltham and Asford Stations (S.W.R.). No Agents need apply.

For particulars, apply to WALTER C. RICHMOND, Wrotham Park Estate Office, Barnet, Herts.

TO LET, a MARKET GARDEN and DAIRY, within ten minutes' walk of Eton College, twenty to Windsor, where a large Business in Fruit and Flowers has been done; containing Dwelling House, Mashroom and Forcing Houses, Show House, and two large Green Houses, stocked with Vines and Fruit Trees, a large Range of Pits, Stable, Barn, Dairy, Poultry House, and Piggeries.

A Lease would be given to a Gentleman for extensions to make it a larger residence, if required.

Enquire of Mr. MARTIN, Castle View, Ragstone Road, Slough.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; on terms of two or three years' Credit, without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to BE DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

ARTHUR L. BULLEN, WHOLESALE FLOWER SALESMAN AND GROWER, 33, EXETER STREET, COVENT GARDEN, W.C. Stands Nos. 271 and 272, Flower Market, Covent Garden, and Highland Nursery, Bromley Common, Kent.

Having been established nearly twenty years in Covent Garden Market, A. L. B. has daily demand for Choice Flowers, and giving personal attention to all consignments, he is thus enabled to command full market prices for same.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferries, Water Gardens, Alpines, &c., as in hundreds of places, &c., at the Gardens, including at Albion House, Elstree, so faithfully illustrated in this journal of November 21, executed by PULHAM and SON, 50, Finsbury Square, London, E.C., and Newbourne, Herts. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

The Gardeners' Royal Benevolent Institution.

NOTICE is HEREBY GIVEN, that the ANNUAL GENERAL MEETING of the Members of this Institution will be held at Simpson's, 101, Strand, on FRIDAY, January 15 next, to receive the report of the Committee of Management, to elect the usual Officers, to transact General Business, and to place THIRTEEN PENSIONERS on the Funds, SEVEN of whom will be elected by Ballot. The Chair will be taken at 3 o'clock, and the Ballot will close at 5 o'clock precisely.

The Voting Papers have all been issued, but should any subscriber not have sent a copy, early intimation is requested to the Secretary.

GEORGE J. INGRAM, Secretary. Offices, 50, Parliament Street, S.W.

New Chrysanthemums. CARTERS' LIST of the BEST SORTS for 1892.

Now ready, gratis and post-free, on application to the Queen's Seedsmen, 237 and 238, High Holborn, London, W.C.

CHRYSAETHUMS.—Our new Illustrated LIST, now ready, includes every novelty really worth having. J. A. PEARSON and SONS, Chilwell Nurseries, Notts.

CHOICE FRUIT—CHOICE FRUIT. Highest Market Prices guaranteed. Prompt cash. Address—HENRY RIDES, Crompton Avenue, late 38, Hart Street, Covent Garden, W.C.

CHRYSAETHUMS, true to name. This collection includes the very best varieties only. Several silver cups, and hundreds of 1st prizes, were taken by my catalogues last year. For price of cuttings and plants see CATALOGUE of W. T. BIRKINGHAM, Swancombe, Kent.

Thousands. Good and Cheap. STANDARD PLUMS, Victoria, Czar, Early Profic, &c.

STANDARD CHERRIES: Morello, &c. STRAWBERRIES: Noble, Paxton, &c. GRAPE VINES, SEAKALE, MAIDEN CHERRIES, FRACHES, NEW PEARL, &c. See full Catalogue. WILL TAYLOR, O-born Nursery, Hampton, Middlesex.

2000 GLOXINIA BULBS and SEED.—A special offer of a choice early variety. Splendid flowers of all shades. Stock limited. Orders booked in rotation. Good bulbs, 5s. and 7s. 6d. per dozen; seed, per packet, 1s. and 2s. 6d. A remittance with order. E. WAINFORD, 54, Streatham Hill.

OLD CRIMSON CLOVE CARNATION, strong rooted layers, 4d per 100; CALADIVM ARGYRITES, 2s. per 100; £10 per 1000. Strong tubers. JOHNSON and CO., The Nurseries, Hampton.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Descriptive CATALOGUES, post-free, on application. FLETCHER BROS., Otterdown Nurseries, Chertsey, Surrey.

The Best Present for a Gardener. VINES and VINE CULTURE. The most complete and exhaustive Treatise on Grapes and the Culture ever published. New Edition.

Price 5s., post-free, 5s. 6d. A. F. BARRON, Royal Horticultural Society, Chiswick.

VINES.—VINES.—VINES. We hold a fine Stock of the above, both Fruiting and Planting Canes. Names and prices sent on application. JOHN PEED and SONS, Russell Park Nurseries, Norwood Road, London, S.E.

SHORTIA GALACIFOLIA.—Per 100 Strong Plants, 40s.

See *Gardener's Chronicle*, March 30, 1889; *Garden*, Aug. 30, 1890; and *Dial May*, tab. 7082.

This is one of the prettiest and most interesting of American plants; it is a dwarf, hardy herbaceous plant, with bell-shaped, pure white flowers, and roundish, leathery leaves, which turn a deep red in the autumn.

C. G. VAN TUBERGEN, JUNR., Haarlem, Holland.

Fruit Trees a Specialty. APPLES, PEARS, PLUMS, STRAWBERRIES, and all sorts of Small and Hardy Fruits grown in immense quantities. The best of the Old and New Varieties either to Grow for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most complete issued, ed. Ordinary LIST free. JOHN WATKINS, Pomona Farm Nurseries, Withington, Hereford.

To Noblemen and Gentlemen Planting. FOR IMMEDIATE DISPOSAL, large LAURELS, of sorts, bushy, from 4 ft. high and upwards; SCOTCH FIR, from 2 1/2 to 6 inches to 8 feet; SPICE, PINUS AUSTRIACA, PINUS LARICIN, Red-twisted LIMES, CHESTNUTS, OAK, ASH, SYCAMORE, WALNUT, YEW, &c., fine stuff for instant effect. As the ground must be cleared this season, no reasonable offer refused. All goods free on rail. C. F. MILLAR, The Nurseries, London Road, Chippenham.

Many Acres of Lilies of the Valley! T. JANNACH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application. T. JANNACH, Lilies of the Valley Grower by special appointment to H.R.H. the Prince of Wales, Dersingham, King's Lynn, Norfolk.

FOR ORCHIDS, and GARDENERS
to Grow Them, apply to SANDER'S, St. Albans. The finest
stock of Orchids in the World.—30 minutes from St. Pancras.

Special Cheap Offer to the Trade and large Planters.
ISAAC MATTHEWS and SON
have large quantities of the under-mentioned trees to
offer cheap:—101,000 RHODODENDRONS, Early, White,
Scarlet, Pink, and other varieties, fine plants; and
500,000 Potentum and Seedling Hybrids, various sizes, from
1 to 4 feet, by the 100 or 1000; 500,000 THORN QUICK, four
and six-year old, extra strong; COMMON ASH, 3 to 4 feet
and upwards; MOUNTAIN ASH, 6 to 12 feet; BIRCH, 8 to 9,
9 to 10, and 10 to 12 feet; HORSE CHESTNUTS, from 2 to 10
feet; also a large quantity of Horse Chestnuts, 12 to 15 feet,
and specimen trees for avenue-planting. ENGLISH YEW,
ELMS, and HORNBEAMS, 8 to 10 feet; AUSTRIAN PINES,
fine trees, 3 to 8 feet; recently-transplanted POPLARS, vari-
eties, 6 to 12 feet; SPRUCE, for Christmas Trees, also for
Forest Planting; AUCUBAS, HOLLIES, BOX, CUPRESSUS,
IVIES, LAURELS, &c.

CATALOGUES on application.
The Nurseries, Milton, Stoke-on-Trent.

LILIUM AURATUM.

New Arrival, second part of January; only First-class Bulbs
sent out at the following sizes and prices:—

6 to 7 inches in circumference,	£4 6s. per 1000.
7½ to 8½ " " " "	£5 10s. " "
9 to 9½ " " " "	£9 10s. " "
10 to 11 " " " "	£11 0s. " "
11½ to 13 " " " "	£15 0s. " "

F. W. O. SCHMITZ & CO. 18, Fuller Building, Jersey
City, N.Y., America.
Wholesale Importers and Exporters of American, Japanese,
and other Bulbs, Cycas, Palms, &c. Lowest quotation by cor-
respondence. References required of unknown customers.

CHRYSANTHEMUMS,

And How to Grow Them. By C. E. SHEA, Esq.
A Practical and Scientific Treatise, that will be of great
service, both to the oldest and most successful exhibitor and
the youngest grower of the Autumn Queen. Mr. Shea has, by
the treatment explained in his treatise, had a long series of
triumphs, to which this season he has added, in keen com-
petition with our most noted growers, at the Keet Conny,
Watford, and Crystal Palace, finishing with the difficult test of
1st in the 48 Japanese, at the Royal Aquarium Show, Nov. 10.
In addition to the above, a paper by Mr. H. Sheo-smith is
included in my new Chrysanthemum Catalogue, which also
contains the most complete List of New Varieties ever brought
together, and embraces selections from all the known Chrysan-
themum world.

This valuable work is now ready, post free, seven stamps.
H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham.

Flower Roots.—Carriage Paid.
DICKSON and ROBINSON
offer the undermentioned in first-size bulbs, and in
excellent condition, at moderate prices, viz:—
HYACINTHS, named vars. for pots, at 3s., 4s., and 6s. per doz.
POLYANTHUS YAKUSUSU, best vars., at 2s. and 3s. per doz.
LILIUM LANCIFOLIUM ALBUM, 9s. doz.; RUBRUM, 6s. doz.
GLADIOLUS BRECHLEYENSIS, 4s. 6d. to 6s. per 100.
GLADIOLUS, Lemolae's New Hybr. s. in mixture, 20s. p. 100.
TUBEROSE "THE PEARL," Double, 25s. per 100; 3s. per doz.
Seed Warehouse, 12, Old Millgate, Manchester.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

THE VINEYARD AND NURSERIES,
GARSTON, NEAR LIVERPOOL.

Have just received large and fine importations of
the following

ORCHIDS,

CATTLEYA AUREA,

CATTLEYA CIGAS SANDERIANA

(including C. AUREA and C. HARDYANA),

CATTLEYA TRIANÆ of the finest type
(including some of the pure white forms),

ODONTOGLOSSUM VEXILLARIUM,

ODONTOGLOSSUM MIRANDUM,

ODONTOGLOSSUM WALLISH,

ODONTOGLOSSUM LUTEO-PURPUREUM.

The Company have also secured a fine lot of
the NEW and BEAUTIFUL

COCHLIODA NOETZLIANA.

Full Particulars on Application to the Company.

FRIDAY NEXT, JANUARY 8, 1892.

A SENSATIONAL SALE,

By Order of

MESSRS. LINDEN, BRUSSELS,

Of most extraordinary fine NEW CATTLEYAS, including the
ne plus ultra of the genus,

LINDEN'S GRANDEST DISCOVERY:

CATTLEYA REX,

JAMES O'BRIEN.

 **THE HANDSOMEST ORCHID EVER INTRODUCED.** 

THE ENTIRE STOCK and THE ONLY SALE of this CATTLEYA.

Also some fine plants of the new form of Labiata :

CATTLEYA MAJESTICA, L. LIND.

Also 500 lots of just imported plants, in magnificent condition, of

CATTLEYA WAROCQUEANA

(Linden's famous true Cattleya labiata vera),

Collected far in the interior, where no Collector of another firm has exploited
till now. Also some new grand varieties of

CATTLEYA GRANULOSA,

including CATTLEYA DU BUYSSONIANA and others.

Also a few plants of the new and fine

EPIDENDRUM CLEASIANUM, L. Lind.

Also 100 lots of the soon popular and favourite

ODONTOGLOSSUM (COCHLIODA) NOETZLIANA, &c.,

Which will be SOLD by AUCTION by

Messrs. Protheroe & Morris

At their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.,

On FRIDAY, January 8, at half-past 12 o'Clock.

GEORGE JACKMAN & SON,

WOKING NURSERY, SURREY,

INVITE INSPECTION OF THE FOLLOWING WELL-GROWN STUFF:—

FRUIT TREES.—A fine stock of Apples, Pears, Plums, and Quinces, in Standard, Pyramid, and Dwarf-trained trees; also Dwarf-trained Apricots, Peaches, and Nectarines.

ROSES.—A large Collection of Dwarf and Standard Hybrid Perpetual and Tea Roses, in all the leading varieties; also Tea Roses, in pot, for forcing.

RHODODENDRONS.—Choice named varieties set with flower-buds; also Hybrid Seedlings and Ponicums.

CONIFERS.—Fine stuff, in various Sorts, for Lawn and Shrubbery planting.

SHRUBS.—Ornamental and Flowering, adapted for Belts, Shrubberies, Screens, &c.

CLIMBERS.—Including their celebrated Clematis, suitable for Walls, Trellis-work, Rockwork, &c.

ORNAMENTAL TREES.—For Parks, Avenues Streets, and Private Gardens.

FOREST TREES.—In large quantities, for Coverts, Woods, &c.

CATALOGUES FREE ON APPLICATION.

LANDSCAPE GARDENING.—A leading Feature. Plans designed, and Advice given as to Laying-out, Planting, or Renovating Parks, Cemeteries, Recreation Grounds, and Private Gardens.

PALM SEEDS.

SEASON 1892.

I have much pleasure in offering the following Palm Seeds, a large proportion of which are guaranteed to germinate. Purchasers will find these of a very different result to the cheap cougism-nts sent by inexperienced speculators to the London and Continental Markets:—

KENTIA BELMOREANA (Lord Howe Island) ...	20s. per 1000.
" FOSTERIANA " " " " " " "	" 20s. "
" CANTHERBURYANA " " " " " "	" 40s. "
" MOOREII " " " " " "	" 40s. "
ARECA BAUERII (Norfolk Island) ...	10s. "
CORYPHA AUSTRALIS (New South Wales) ...	6s. "
SEA FORTHIA ELEGANS " " " " " "	6s. "
PHYCOSPERMA ALEXANDRE (Queensland), 20s.	" "

As these seeds ripen at different times, and all require immediate despatch, orders should reach here for Kentias and Areca, in February; Seaforthia, in April; Corypha, in August; and Ptychosperma, in November.

All orders accompanied by remittances in full, for not less than £10 worth in one shipment, will be delivered free at Marseilles, Antwerp, Bremen, or London. Consul's Fees to be added to American Orders for free delivery at San Francisco. Also SEEDS and PLANTS of all our NATIVE TREES and SHRUBS.

F. J. FERGUSON,

NURSERYMAN,

DOUBLE BAY, SYDNEY, N.S.W.

CHARLES NOBLE

HAS FINE BUDDED

RHODODENDRONS, named kinds.

ANDROMEDA FLORIBUNDA.

AZALEA, finest Ghent kinds.

Ditto, Seedlings.

Ditto, MOLLIS, 10 to 8 buds.

Ditto OCCIDENTALIS.

DWARF ROSE*, H. P., B., and TEAS.

THUIA BOREALIS

THUIA LOBBII } 3 to 6 feet.

Ditto AMERICANA

CUPRESSUS LAWSONIANA

HYPERICUM CALYCEINUM

PORTUGAL LAURELS, 2 to 3 feet.

HARDY HEATHS.

CLEMATIS, 3 and 4 years old.

The General Assortment of NURSERY STOCK will be found superior in every way.

BAGSHOT, January, 1892.

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,

THE NURSERIES,

SAWRIDGEWORTH, HERTS.



CANNELL'S Kentish Perfect Golden Seeds

ARE CERTAINLY THE BEST SAVED AND SOLD IN ENGLAND.

Why? All our own growing, therefore true! All of a superior character from the best spot in Europe, and by the most careful and expert hands, who have a real interest in the business. They are consequently cheaper; and many of our strains not equalled by any other firm. As an instance—

THE "COUNTY GENTLEMAN," February 14, 1891, says of our PRIMULAS shown at a meeting of the Royal Horticultural Society:—

"They were so luxurious in their growth and blooming, that it was difficult to believe they have relationship with those we are so accustomed to see. They received the highest Award."

It is monstrous waste, in fact the time is past for having Seeds otherwise than direct from the actual and largest growers. All are loud in their praises of our Seeds: see the splendid character, by the greatest experts, in our CATALOGUE, sent post-free, and which will at once confirm the above, and prove of immense value even in the smallest Gardens.

CANNELL'S SEEDS

NONE PERFECT ONLY FROM CANNELL, KENT

BARR'S SURPLUS CLEARANCE SALE OF DAFFODILS

Prices greatly reduced. Bulbs in prime condition for Potting, Bedding, and Naturalisation. Detailed Priced LIST on application.

Per 1000, 15s., 25s., 42s., 63s., 84s., and 105s.

BARR'S CLEARANCE SALE OF
HYACINTHS, TULIPS, POLYANTHUS-NARCISSUS, CROCUS, SNOWDROPS,
CHIONODOXA, SCILLAS, SNOWFLAKES, and other Spring-flowering Bulbs,
ALL in PRIME CONDITION. PRICES GREATLY REDUCED. LIST on APPLICATION.

Important Descriptive LISTS now ready, free on application:—

CONFERENCE MICHAELMAS DAISIES, and PERENNIAL SUNFLOWERS.

GLADIOLUS, CARNATIONS, PICOTEEES, PINKS, HELLEBORES, and LILIES.

SINGLE PÆONIES, DOUBLE PÆONIES, HELLEBORES, and IRIS.

BARR & SON, 12, King St., Covent Garden, London.

KELWAY'S MANUAL.

Ready January 1, 1892, 130 pages quarto. 1s., post-free. Gratis to Customers

Handsome volume for presentation. Practical for use. Thirty-second Edition, still further improved and enlarged. Phototype and Wood Engravings. Cultural articles and full descriptive matter. For Contents see *Gardeners' Chronicle*, December 26, p. 755.

INCLUDES the CHOICEST SEEDS, ESPECIALLY for EXHIBITION.

Indispensable to every Amateur. Tables useful to the Gardener and Farmer are included.

Fifty-seven Gold and Silver Medals, London and Paris, awarded to the Produce of our

SEEDS, PLANTS, AND BULBS.

KELWAY & SON, Langport, Somerset.

150 FLOWERS ANGRÆCUM SESQUIPEDALE.

700 FLOWER-SPIKES PHALÆNOPSIS, VARIOUS

250 FLOWER-SPIKES VANDA AMESIANA
(deliciously scented).

INSPECTION CORDIALLY INVITED.

HUGH LOW & CO.,
CLAPTON NURSERY,
LONDON, N.E.

F. C. HEINEMANN,
SEED GROWER,
ERFURT, GERMANY.



BEGONIA ODORATISSIMA (BAUMANNI).

*The First Sweet-scented, Large-flowered
BEGONIA.*

Per Packet, 1s. 6d.

Engraved from a photograph lent by Mr. VICTOR LEMOINE

MY
ILLUSTRATED
CATALOGUE
OF
FRESH & SELF-GROWN SEEDS.
ENGLISH EDITION, is
NOW READY!

Includes all the FINEST NOVELTIES of the Season,
and may be had post-free on application (id. post-card).
Please quote *Gardners' Chronicle*.

My business is the Oldest and Largest of Erfurt that
supplies private Gardeners and Amateurs only. More
than 60,000 parcels are sent yearly to all parts of the
World.

I OFFER MY
SEEDS
AT MUCH LOWER PRICES

than any English or Continental Seed House of good
repute, and guarantee, besides, self-grown, genuine,
and fresh Seeds only.

It is an established fact that the greater
part of all Seeds Sold in England or America
is grown in Germany, especially in and near
Erfurt, the Garden Town of Germany.

Furnishing you with my Catalogue, I place my
stores at your very door, and enable customers thou-
sands of miles away to obtain their supplies as safely
and cheaply as if they had called in person at my
establishment.

Ordered Seeds will arrive in Great Britain within a
few days, and are offered and sent **Package and
Postage Free.**

DIRECT CORRESPONDENCE. NO AGENTS.

F. C. HEINEMANN,
SEED GROWER,
ERFURT, GERMANY,

FRIDAY, JANUARY 15.

Great Cattleya
Sale,

INCLUDING SEVERAL NOVELTIES

AND

2000

Fine Plants of

CATTELEYA LABIATA

*We cordially Invite Inspection of our
Plants in Flower at St. Albans,*

THEY are SPECIALLY GRAND.

SPECIALLY FINE IMPORTATIONS

OF

DENDROBIUM NOBILE
(our strain),

CYPRIPEDIUM INSIGNE,
Burmah var.

Some of the Cattleyas are just to
hand per steamer *Atrato*, and among
them is a species in habit of aurea, and
from the district of the white aurea,
C. *Imshoottiana*.

Also another NEW CATTELEYA,
sepals and petals white, lip red.

The above will be SOLD by, ¹

MESSRS. PROTHEROE & MORRIS

67, CHEAPSIDE, E.C.,

On the 15th of January,

By Order of

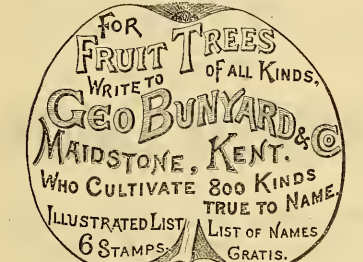
MR. F. SANDER,

GARDEN. BULBS, ROSES, &c.

FOR WHATEVER IS WANTED, mentioned or not in these columns, please to write immediately to **H. CANNELL & SONS**, whose SEED and NURSERY STOCK is very complete and extensive, and where nearly everything for the Garden is grown and supplied in large quantities, in the finest possible condition, at the lowest prices consistent with correctness and superior character. Never has there been such a complete Autumn Catalogue issued of everything required for the garden as the one we are now sending post free; neither has there ever been such a splendid stock of best varieties of the many families of plants necessary to keep the garden in the highest state of perfection as we are now soliciting orders for. Our climate, soil, and facilities give us and purchasers many advantages, and we ask all to send for a Catalogue, and then



H. CANNELL & SONS,
SWANLEY, KENT.



BUYERS SHOULD COME AND VIEW THE STOCK.

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standard, Pyramids, and Wall-trained), Apples, Pears, Cherries, Peaches, Filberts, and Plums: 20,000 noble tall Standard Victoria Plums and Damsons, six years old. The trees are without blemish, twice transplanted, splendidly rooted, and intended for the tenants and hedgeowners on the Estate. Guaranteed true to name. The superb Rhododendrons, specimen shrubs, and Hollies, secured but recently regardless of cost: 2000 Maiden, Standard, and Dwarf Roses; 40,000 Black and Red Currants, four years old; and forty kinds of Gooseberries. 6000 Raspberries. Price, half their value. See Catalogues, Removing.—**LAND STEWARD, Hon. GERTRUDE JONES**, Churchfield, Cradley, near Malvern.

TRADE OFFER OF PALMS.
COCOS Weddelliana, in thumbs ... at 20s. per 100, in 60's, ... at 55s. per 100.
KENTIA Fosteriana and Bismoreana, in thumbs, at 20s. per 100, in 60's, ... at 50s. per 100.
" " " in 48's, ... at 34s. per doz.
" " " in 32's, ... at 48s. per doz.
SEAFORTHIA Elegans, in 60's, ... at 32s. per 100, in 48's, ... at 25 per 100.
W. Icton has a fine Stock of Asparagus plumosus nanus, in 48's and 60's; Pandanus Veitchii, Dracaena Lindenii, and Ficus elastica.—**W. ICTON**, Putney, S.W.

To Florists.

FRENCH FLOWERS, direct from the Gardens.—An enormous saving. **ROSES, MIMOSA, MIGNONETTE, MARGUERITE, ORANGE BLOSSOM**, &c. Sample basket, carriage paid to London, for 10s. Postal Order. **THE RIVIERA FLORAL SUPPLY, Nice.**



For Market and Private Growers.

ORNAMENTAL TREES, SHRUBS, ETC.

Descriptive CATALOGUES Post-free.

J. CHEAL & SONS
Crawley, Sussex.

VEITCH'S GENUINE SEEDS.



J. VEITCH & SON'S Seed Catalogue

For 1892,

CONTAINING THE

BEST FLORAL NOVELTIES,

AND THE

BEST VEGETABLE NOVELTIES

OF THE SEASON,

Has now been Posted to all their Customers.
Anyone not having received the same, a Duplicate
Copy will immediately be forwarded, post-free,
on application.

Royal Exotic Nursery, CHELSEA, LONDON, S.W.

IMPORTANT LISTS ON APPLICATION.
Surplus Clearance DAFFODIL BULBS, in prime condition for Pots, Beds, and to Naturalise, at greatly reduced prices.
Conference Michaelmas Daisies and Sunflowers.
Choice Single and Double Peonies.
Choice Iris, Tall and Dwarf.
Choice Heliochloas and Lilies.
Choice Gladioli, Carantons, Picotees, and Pinks.
BARR AND SON,
12, King Street, Covent Garden, London, W.C.

WEBBS' SPRING CATALOGUE FOR 1892.

Beautifully Illustrated with Six Coloured Plates (illustrating Tomatoes, Lettuce, Beans, Peas, Radish, Broccoli, Asters, Stocks, Gaillardias, Cinerarias, and Primulas), and hundreds of Engravings. Also containing complete Cultural Instructions, List of Novelties, &c., &c.

NOW READY, POST FREE, 1s.,
which may be deducted off subsequent Orders.

Abridged Edition, ready on Feb. 1, Gratis and Post Free.

Seedsmen by Royal Warrants,
WORDSLEY, STOURBRIDGE.

FRUIT TREES—FRUIT TREES.

HUGH LOW & CO.

Offer, of good quality, and will esteem the favour of Orders:—
APPLES—Dwarf Maidens, Dwarf Trained, 2-yr. Untrimmed, Pyramids, Standards.
APRICOTS—Standard, and Standard Trained.
CHERRIES—Dwarf Maidens, Dwarf Trained, 2-yr. Untrimmed, Pyramids, Standards.
PEARS—Dwarf Maidens, Dwarf Trained, Pyramids, Standards.
PLUMS—Dwarf Maidens, Dwarf Trained, 2-yr. Untrimmed, Pyramids, Standards.
DAMSONS, FARLEIGH PROLIFIC—Dwarf Maidens, Pyramids, Standards.
PEACHES AND NECTARINES—Dwarf Maidens, Dwarf Trained, Standards, Standard Trained.
Quantity Large—Quality Good—Prices Moderate.

INSPECTION INVITED.

Bush Hill Park Nursery, ENFIELD.

PLANTING SEASON.
HARDILY-GROWN
FOREST, FRUIT,
& ALL OTHER
TREES & PLANTS,
EVERGREENS, ROSES, &c.
NURSERIES 400 ACRES:
VERY EXTENSIVE STOCK. Inspection invited.
Priced Catalogues Gratia & Post Free.
DICKSONS THE NURSERIES
(LIMITED) **CHESTER.**

WHOLESALE SEED CATALOGUE.

We have now published our Wholesale Catalogue of
VEGETABLE & FLOWER SEEDS

Containing also the best NOVELTIES of the SEASON, and LIST of over 150 varieties of choice Fern spores. MAY BE HAD ON APPLICATION. Any of our customers not having received one by post will oblige by letting us know, when another shall at once be posted.

WATKINS & SIMPSON,

BULB and SEED MERCHANTS,

EXETER ST., STRAND, LONDON, W.C.
Seed and Trial Orders—Feltham and Twickenham, Middlesex.

ESTABLISHED
OVER A CENTURY OF
ALL KINDS OF
NURSERY STOCK.
SEEDS and BULBS
(GROWN and IMPORTED).
ALPINE and HERBACEOUS PLANTS.
J. BACKHOUSE & SON,
YORK.
CHOICE INDOOR PLANTS.
PALMS, ORCHIDS, FERNS, &c.
IN GREAT VARIETY.
PARK, ROCKWORTH & ESTATE
PLANTING.
OVER 100 ACRES
OF NURSERY.

CLIMBING DELICATESS CUCUMBER.

TO THE TRADE.

100 packets, of tea seeds ... 25s.
50 packets ... 15s.
10 packets ... 4s.
1 packet ... 6d.

For description, see my Wholesale CATALOGUE, which can be obtained on application. Electrotype will also be sent, if desired.

J. C. SCHMIDT
ERFURT,
GERMANY.



CHRYSAANTHEMUM SEED, carefully hybridised from the choicest varieties. The best in the world. One packet, 5s.; three packets, 12s. Remit by International Money Order.

T. H. SPAULDING, Orange, N. J., U.S.A.

ANTHONY WATERER invites an inspection from intending Planters to the following well-grown TREES, having stout, clean stems, with handsomely-furnished, well-balanced heads, and from frequently transplanting are splendidly noted, the girth of the stem is taken at 4 feet from the ground.

ACACIA BRESSONIANA, 10 to 14 feet, girth 3 to 4 inches.
ACER DASYCARPUM, 14 to 20 feet, girth 4 to 8 inches.
" **WIERIA LACINATUM**, 10 to 14 feet, girth 3 to 5 inches.
ROGNER V. VIRGATA, Standards, 5 to 10 feet.
" **REITENBACHII**, 12 to 14 feet, girth 4 to 5 inches.
" **SCHWEDLERII**, 12 to 15 feet, girth 4 to 5 inches.
" **WOLLEYII**, 12 to 14 feet, girth 3 to 5 inches.

ASH, Mountain, 12 to 14 feet, girth 4 to 5 inches.
BEECH, Purple, Pyramids, and Standards, 10 to 20 feet, girth 4 to 9 inches.

BIRCH, Silver, 12 to 14 feet, girth 3 to 5 inches.
ORASTUS SEROTINA (American Bird Cherry), 12 to 15 feet, girth 4 to 7 inches.

CHESTNUTS, Horse, 14 to 20 feet, girth 6 to 11 inches.
" Double White, 14 to 16 feet, girth 6 to 8 inches.
" Scarlet, 12 to 15 feet, girth 4 to 10 inches.
" Spanish, 12 to 14 feet, girth 4 to 5 inches.

ELMS, English, 10 to 12 feet, girth 3 to 6 inches.
" Guernsey, 16 to 18 feet, girth 7 to 9 inches.

LIMES, 12, 16, and 20 feet, girth 3 to 9 inches.
" **EUCHLORA** or **DASYSTYLIA**, 12 to 14 feet, girth 4 to 6 inches.

" Silver-leaved (*Tilia argentea*), 12 to 14 feet, girth 5 to 6 inches.

LIQUIDAMBAR, 6 to 10 feet.
MAPLE, Norway, 12 to 16 feet.

OAK, English, 12 to 14 feet, girth 4 to 5 inches.
" Scarlet American, 12 to 14 feet, girth 4 to 5 inches.

PLANES (English-grown), 12 to 16 feet, girth 4 to 6 inches.
POPLAR CANADENSIS NOVA (the true variety), 12 to 16 feet, girth 6 to 7 inches.

SYCAMORE, Common, 12 to 17 feet, girth 4 to 7 inches.
" Purple, 14 to 16 feet, girth 6 to 7 inches.

THORN, Double Pink, 8 to 10 feet.
" Scarlet, 8 to 10 feet.
" White, 8 to 10 feet.

TULIP TREES, 8 to 10 feet.
WALNUT, Common, 10 to 12 feet.

WEeping TREES.

BEECH, Weeping, Pyramids, and Standards, 8 to 12 feet.
" Weeping, Purple, Pyramids and Standards, 7 to 12 feet.

BIRCH, Young's Weeping, Pyramids and Standards, 5 to 14 feet.
" Out-leaved Weeping, Pyramids and Standards, 10 to 12 feet.

ELMS, Weeping, Pyramids and Standards, 7 to 14 feet.
LARCH, Weeping, Pyramids, 8 to 10 feet.

POPLAR, Weeping, Pyramids and Standards, 10 to 12 feet.
Knap Hill Nursery, Woking, Surrey.

FRANK CANT'S ROSES. CHEAP AND GOOD.

Standards, from 21s. per dozen.
Dwarfs, from 6s. per doz., or 40s. per 100.
SEND FOR CATALOGUE.

BRAISWICK NURSERY, COLCHESTER.

For PLEASURE and PROFIT.

FRUIT.

Nothing so Profitable and Easy to Grow.
74 ACRES IN STOCK.

See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Soils.

ROSES.

Hundreds of Thousands.

BUSHES. Packing and Carriage Free for Cash with Order.
8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.
ORNAMENTAL TREES, 91 ACRES.
4 ACRES of GLASS.

CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS { VEGETABLE, FLOWER, and FARM.

DESCRIPTIVE LIST, FREE.
RICHARD SMITH & CO., WORCESTER.

Over 100 Acres, Nursery Stock.
NOW is the Time to Order.

ROSES—ROSES—ROSES, FRUIT TREES,

Ornamental Trees and Shrubs,
FOREST TREES,
And HEDGE PLANTS.

RHODODENDRONS, and Other AMERICAN PLANTS.

CLEMATIS, IVIES, and
HARDY CLIMBING PLANTS.

NEW ILLUSTRATED CATALOGUE
Of all above, may be had POST-FREE.

WM. CLIBRAN & SON,
Oldfield Nurseries, Altrincham;
Also, 10 and 12, MARKET STREET, MANCHESTER.

ELEY'S SPECIAL OFFERS.
25,000 CHINESE SACRED LILIES,
or Flower of the Gods.

These have just arrived from China. Extra fine, selected bulbs, 8 for 2s. 6d., 9s. doz. Cultural directions enclosed to purchasers.

50,000 LILUM AURATUM.
Received from Japan in splendid condition. Warranted all good, sound, and reliable bulbs. 6 for 1s. 6d.; selected, 7s. 6d. doz.; extra large, 10s. per doz. All carriage paid.

ALBERT G. ELEY, Bulb Importer,
84, Drakefield Rd., Hatcham, London, S.E.

RASPBERRY CANES.—Norwich Wonder, Carter's Prolific, also Eastof, strong and well rooted.
ALBERT BATH, Vine Court, Sevenoaks, Kent.

KELWAY'S ILLUSTRATED MANUAL of Horticulture and Ariculture for 1892. See larger advertisement for details.—KELWAY, Loughport, Somerset.

Sharpe's Victor Potatos.
W. W. JOHNSON & SON, SEED GROWERS and MERCHANTS, London, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

Trade Offer of Large Palms.
W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application.

CHRYSAANTHEMUM CUTTINGS of best show varieties.—For Sale, or in Exchange for Bourdains, Ferns, or Double White Primulas.—Address, W. GOLD, Broochfield, Henfield, Sussex.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large A. cuneatum, in 48s. 6s. per doz. Large Ferns, 10 saleable sorts, Aralia Sieboldii, Primulas, Solanums, superior stuff, all in 48s. 5s. 6d. per doz. Ferns, Erica bymala, and Cyclamen, in 48s. 12s. per dozen, for bloom and fine foliage cannot be better. P. tremula, and A. cuneatum, selected bushy, for potting on, 16s. per 100. Packed free, Cash with Order. J. SMITH, London Fern Nurseries, Loughport Junction, S.W.

BEGONIAS A SPECIALITY.—Awarded Four Gold Medals, and Gold Cup, and all First Prizes. Seed saved from Prize plants. Our Begonia Seed and Bulbs eclipse all previous years. Choicest mixed, single or double varieties, 1s. 2s. 6d. and 5s. per packet. Collections (Seed)—single, 12 named varieties, separate, 5s. 6d.; 6 ditto, 3s. 6d.; named single, 12 to 25s. per doz.; named mixed, 12s. to 25s. per doz.; bedding, choicest, 4s. 5s. 6s. and 9s. per dozen; choicest named doubles, from 42s. per doz.; unnamed, choicest, 18s. to 30s. per dozen; choicest mixed, for bedding, 8s. and 12s. per dozen. Catalogue gratis.

JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill, London.

1892—NEW SEED CATALOGUE—1892

DICKSON, BROWN & TAIT,
Seed Merchants to H.R.H. the Prince of Wales, 1 CORPORATION STREET, MANCHESTER.

Reg to announce that their DESCRIPTIVE CATALOGUE of Choice VEGETABLE and FLOWER SEEDS for 1892 is now published, and may be had post-free on application.

CHRYSAANTHEMUMS.

OWEN'S Descriptive and Priced CATALOGUE.

Giving full Descriptions and Results after Flowering of English Seedlings, carefully selected from thousands; also Sports, American and Continental Novelties, all carefully selected after Blooming, only the very best in each section described; all inferior varieties discarded.

The following Grand Novelties will be distributed (March)—
Mrs. Robinson King, new golden yellow sport from Golden Empress, 5s.; six Petals—Certificated, 1891. Nine Trefoil, or Striped Empress of India, 3s. 6d. Prelude, or Striped Alfred Lyne, 3s. 6d. Miss Lillian Cook, or White Etoile de Lyon, 5s. Orders booked for name, and all other Novelties, and dispatched in strict rotation. CATALOGUE free.

R. OWEN, Floral Nursery, Maidenhead.

ASPARAGUS, of fine quality—for forcing. **ASPARGUS**, of fine quality—for forcing. 2-yr. old, 2s. 3d. per 100; 3-yr. old, good roots, 3s. per 100; ditto, selected, 4s. per 100; 6d. per 100 less for quantities of 1000 and upwards. For forcing, 4-yr. old, 5s. per 100; 8-yr. old, splendid roots, 10s. per 100; ditto selected, 12s. 6d. per 100; 6-yr. old, extra fine, 15s. per 100. Cash with order. My Asparagus always makes top price at Croydon Garden.

Read the following unsolicited testimonial!—"Please send me another 200 of 5-yr. old Asparagus Roots I may say that the last 200 were the best lot of forcing root I ever bought, and my employer says the quality is excellent."—C. H. PERKINS, The Gardens, Milton Abbey, Bradford.

J. J. CLARK, Market Gardener, Goldstone, Brighton.

WINTER and SPRING PRUNING, TRIMMING, and THINNING OUT can be better and quicker done by the STANDARD MANUFACTURED COMBANY'S Celebrated TOOLS, including the "STANDARD" and "GIANT" TREE PRUNERS, the "MYTICUTTAH", and other useful appliances, than by any means. They were shown in actual use at the recent International Exhibition, Crystal Palace, and at the great Agricultural Shows at Bath and Doncaster; thousands of visitors being astonished at their wonderful power and scientific efficiency, coupled with great saving of time and labour, and the risk to life and limb reduced. After Stormy Weather, these Tools will be found invaluable for cutting off fractured branches, leaving the ends severed in a vital condition.

Sold by the principal Ironmongers and Seedsmen, the leading Stores, and kindred Trades throughout the world, of whom ILLUSTRATED CATALOGUES may be had; or of the PATENTERS and MAKERS, at their works and depot, ST. ALKMUDE'S CHURCHYARD, DEBRY.

SIX CABINET PORTRAITS, 3s.; three for 1s. 6d. Twelve Carte Portraits, 2s. 2d.; six for 1s. 6d. Eighteen Enlargements, 3s.; three for 1s. 6d. Postage 2d. for 1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—FRANCIS AND CO., 29, Ludgate Hill, London.

Select **VEGETABLE**,
Choice **FLOWER**,
The best qualities at
Moderate Prices.

Delivered Free by Rail or Parcel Post. The Best SEED POTATOS, Garden Tools, Sundries, &c., &c.

Illustrated Descriptive Catalogue, No. 403 POST FREE ON APPLICATION.

Dicksons Seed, Chester.
(Limited) Seed Growers, Chester.

WILLIAMS' WORLD-RENOWNED SEEDS.

THE BEST AND FINEST STOCKS CAREFULLY SELECTED.

Vegetable Seeds,
POTATOS,
&c.



Flower Seeds,
IMPLEMENTS,
&c.

B. S. WILLIAMS & SON

Beg to announce that their *ILLUSTRATED SEED CATALOGUE* for 1892 is now ready, and will be forwarded, *Gratis and Post-free*, to all Applicants.

VICTORIA & PARADISE NURSERIES, UPPER HOLLOWAY, LONDON, N.

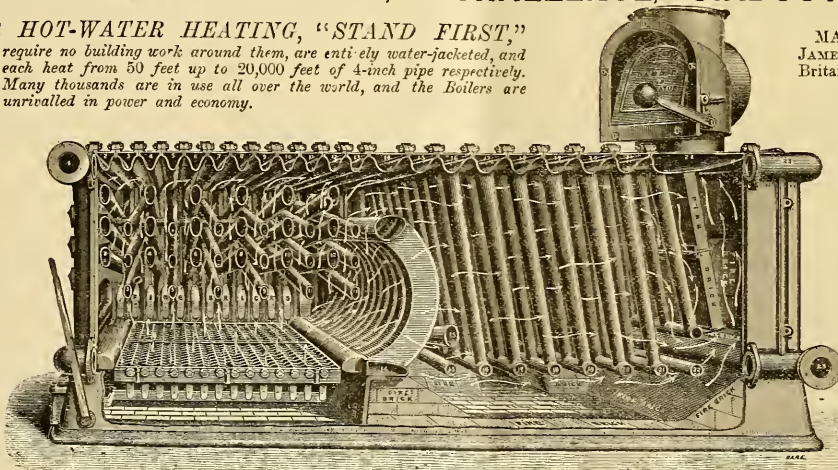
AWARDED TWENTY PRIZE MEDALS

AT INTERNATIONAL EXHIBITIONS AT HOME AND ABROAD.

KEITH'S PATENT BOILERS, THE "CHALLENGE," "VIADUCT," "PYTHON," &c.,

FOR HOT-WATER HEATING, "STAND FIRST,"
require no building work around them, are entirely water-jacketed, and
each heat from 50 feet up to 20,000 feet of 4-inch pipe respectively.
Many thousands are in use all over the world, and the Boilers are
unrivalled in power and economy.

MANUFACTURED under 30
JAMES KEITH PATENTS, in Great
Britain, United States, and Canada.



KEITH'S "PYTHON" BOILER, as illustrated, has 1,000 square feet of effective heating-surface, with $17\frac{1}{2}$ square feet of fire-grate area, heats about 20,000 feet of 4-inch pipe, and is the Most Powerful and Complete Sectional "Special" Hot-water Heating Boiler in the World.

JAMES KEITH, C.E., Assoc. M.Inst.C.E., Gas, Hydraulic, Heating, Ventilating, and Consulting Engineer.
Established 1823. Contractor to Her Majesty's Government.

57, HOLBORN VIADUCT, LONDON, E.C., ALSO AT EDINBURGH AND ARBROATH.

THE MARKET GARDENERS, NURSERYMEN, AND FARMERS' ASSOCIATION.

Founded, 1829.

Incorporated, 1889.

INVESTED FUNDS £3741 6s. 11d.

ANNUAL SUBSCRIPTION ONE GUINEA.
LIFE MEMBERSHIP TEN GUINEAS.

REGISTERED OFFICE:

32, KING STREET, COVENT GARDEN, LONDON, W.C.

Officers for the Year 1891-92:—

President.

Mr. W. POUFART, Marsh Farm, Twickenham.

Vice-President.

Mr. W. J. LOBJOIT, Little Woodcote Farm, Wallington.

Treasurer.

Mr. W. G. LOBJOIT, Woodland Farm, Putney.

Auditors.

Mr. M. POUFART, Willows Farm, Mitcham.

Mr. E. ROCHEFORD, Mill Lane Nursery, Cheshunt.

Committee.

Mr. R. J. STEEL, Boston Gardens, Brentford.

Mr. E. SMITH, Coombe Farm, East Greenwich.

" H. TITE, The Nurseries, Hampton.

" H. HAWKINS, Lily Gardens, Twickenham.

" P. E. KAYE, Claiemar Vineyards, Finchley.

" J. LANCASTER, Plaistow.

" GEORGE MONRO, Covent Garden, London.

" H. MEYERS, Whittow Road, Twickenham.

" J. MASON, East Greenwich.

" J. POUFART, West Park Farm, Mortlake.

Secretary.

Mr. HERBERT B. BELL, Solicitor, 32, King Street, Covent Garden, London, W.C.

THE MARKET GARDENERS, NURSERYMEN, AND FARMERS' ASSOCIATION was founded in 1829. It was in 1889 incorporated under the Companies Act, 1863 to 1886, with limited liability.

The general objects of the Association may be shortly stated as follows:—

- (A) To consider questions affecting Members of the Association and the Trade in which they are engaged, and to take such action thereon as may be found desirable for the protection and promotion of the rights, privileges, and general interests of Growers and their Trade.
- (B) To assist from the funds of the Association persons requiring charitable aid who are or have been Members, or their families.

With reference to (A), it may be pointed out that the Association has, from its foundation, rendered valuable service by prosecuting and defending, and assisting, with grants from its funds, individual Members and local societies in prosecuting and defending legal proceedings, resisting improper rating, carriers' charges, market rents and tolls; opposing bills in Parliament; giving evidence before Parliamentary Committees and Royal Commissions—and in numerous other ways protecting and promoting the interests of Growers and their Trade in matters in which combined action or support was necessary or desirable.

As regards (B), the Association has given material assistance by grants from its funds and otherwise to many, who, through misfortune, have stood in need of help.

In this connection it may be stated that, the Association has recently adopted a scheme establishing two annual payments of £25 each, out of its income. One being a pension for aged persons, who are or have been Members of the Association, and the other a provision for maintaining and educating a child of any such person. It is proposed to proceed to the first election of recipients of these benefits in February next.

As to the qualifications for Membership, all persons and firms engaged or interested in growing trees, shrubs, plants, fruit, flowers, vegetables, roots, herbs, or other produce for the London or other markets or otherwise, are eligible.

The work of the Association is not confined to the Home Counties or any other district, but, on the contrary, the object has always been to make it as comprehensive as possible, it being felt that the more Members it enrolls, and the wider the field of its labours, the more effectually will its aims be achieved, as the Representative Association of the Growers and their Trade.

The liability of each Member is limited to the subscription, with such calls (previously sanctioned by the Association in General Meeting) as may be required for the purposes of the Association, not exceeding, however, in any year £1 1s. 6d., and in the event of the Association being wound up, a contribution, if required, not exceeding £1. But having regard to the objects of the Association, its well treated and unencumbered funds, and its established position, it may fairly be assumed that the liability is limited to the subscription.

Although the Association now numbers many Members, including leading representatives of the Trade, it is felt that there are many other gentlemen and firms who may properly be asked to become Members, not only in view of the advantages offered to them in their own business, but also of the support which is afforded to the Trade generally, and the charitable assistance which it may be the means of giving to Members who may have fallen on evil times.

All Growers who are not Members are therefore respectfully urged to join the Association, and such as are already Members are begged to use their influence with their friends and neighbours, with a view to securing their co-operation in aid of the Association and its useful and benevolent objects.

A copy of the Memorandum and Articles of Association can be inspected, and all particulars regarding the Association and the Benevolent Scheme referred to, with forms of application for Membership can be obtained on application to the Secretary.

32, King Street, Covent Garden, W.C.—December, 1891.



THE

Gardeners' Chronicle.

SATURDAY, JANUARY 2, 1892.

TECHNICAL EDUCATION.

WE have been favoured with copies of a correspondence on this subject, between the Vice-chairman of the Middlesex County Council and the Director of the Royal Gardens, Kew. The Director, in his reply to the Vice-chairman, who had sought his opinion on the subject of instruction in horticulture, writes as follows:—

"I am sorry to say that I feel great difficulty in seeing my way with regard to the general problem of technical education, and horticulture seems to me to present peculiar difficulties. The cultivation of plants is an art which can only be acquired by practice, and therefore, it appears to me, cannot be taught in the lecture-room any more than painting or shoe-making. I know of no royal or theoretical road to the acquisition of a competent or even useful knowledge of the gardener's art except by beginning at the bottom and going through every operation, from the most elementary to the most difficult and refined. If an intelligent young man does that, and keeps his eyes open, he may become a successful gardener. But the mere reading of books and attendance on lectures will never, in my judgment, make anyone even a moderately competent gardener.

"If you will look at the *Gardeners' Chronicle* for December 12, 1891, you will see a letter of Professor Huxley's which I reprinted. It expresses in a very clear and forcible way with regard to agriculture the same views which, in substance, I entertain with regard to horticulture.

"In the Royal Gardens at Kew, from the necessities of our organisation, we are unable to teach young men the rudiments of their profession. Those we expect them to have acquired before they come to us. What they gain at Kew is the opportunity of seeing a larger range of different kinds of cultivation than they can see in any private establishment. Besides this, we give them the use of a fairly-equipped horticultural library, and lectures on various branches of botany, and on such elementary physics and chemistry as more or less directly bear on horticulture. I very much doubt, however, whether these advantages add very much to the capacity of our men as gardeners. That they must gain for themselves by working in the houses under the skilled direction of able foremen. But I do not doubt for a

moment that the time and pains our men bestow on self-improvement is of incalculable benefit to them, by stimulating and developing their general intelligence. The youthful years of most human beings is a period of receptivity. Knowledge is acquired often almost mechanically, like the multiplication table, or a colloquial knowledge of a language. When man's estate is approached or reached, the judgment comes into play. Most persons, unless they are congenital idiots, begin more or less to inquire and speculate as to the reasons of things. This prompts to study and inquiry as to the causes which bring about effects. It is this temper which we try to encourage at Kew. A man may know the rudiments of his art, and never be anything better than a journeyman. But if he begins to ask the why and the wherefore, then he is on the high-road to become a first-rate workman. And I know no art which affords a larger scope for the exercise of a lively intelligence than horticulture. A gardener tries to grow a plant, with the habits of which he is unfamiliar. He fails. He then, if he is a good man, begins to reflect. He brings to bear upon its culture the experience gained in treating similar "subjects." He tries different methods, and watches their effect: resting, watering, different kinds of soil, exposure to light, &c. The plant responds, and by seizing upon each indication of improvement which such a method of interrogation educes, the gardener ultimately finds the clue to success. The whole method is essentially scientific without making any profession of being so. If, however, a gardener, abandoning the experimental method, yields to intellectual indolence and is content to subject the plant to such physical conditions as he learns from a book exist in the plant's native country, then it may be pretty confidently predicted that he will be saved all further trouble by killing it.

"I am afraid I have treated you to rather a long essay. But this was perhaps necessary to enforce my conclusion that I do not think the County Council can do any good by giving lecture-room instruction in the art of horticulture. I have made inquiries, but I cannot find out that there is any class of persons in this neighbourhood that can be profitably reached by such an enterprise.

"The labourers in market gardens are hardly likely to be induced to attend; and the scattered gardeners in the district would in all probability be, in all practical matters, better equipped than the lecturer.

"In my opinion, the only course the County Council can take is to drop the idea of devoting the funds at its disposal to technical and to apply them to secondary education. Lectures on such subjects as elementary physics, chemistry, botany, and vegetable physiology would aim at nothing more than carrying on general education on subjects not taught, or scarcely taught, in the primary schools. They would be good as far as they go; would do no harm, and if the teachers were moderately competent, would almost certainly do some good.

"(Signed) W. T. THISELTON-DYER,
"Director, Royal Gardens, Kew, Dec. 15, 1891.

"P.S.—I should add, that our Kew system, as a school, is to this extent defective, that it makes no provision for high-class instruction in fruit and vegetable cultivation; this, however, can be obtained at the gardens of the Royal Horticultural Society at Chiswick. There is a useful work open to the County Council in obtaining facilities for passing young gardeners through Chiswick on much the same lines as obtain at Kew."

NOVELTIES OF 1891.

ORCHIDS.—The beautiful *Dendrobium Phalenopsis Schroderianum*, already so prolific in handsome new varieties, flowering out of Messrs. F. Sander & Co.'s importation, must be regarded as the leading introduction of the year. Well it is for a first importation of a good thing in bulk to have such an *avant-coureur* as that which this grand introduction had in the matter of the plants already in cultivation in Baron Schroder's collection. Much was expected of the importation, and the confidence was not misplaced, for now we have varieties of the Elephant Moth Dendrobe with white, blush, pink, and every shade and combination of colours up to rich purple in their elegant sprays of flowers, whose beauties will never pall so long as Orchid growing continues. Probably more satisfaction resulted from the expenditure of the £2000, which the lots of this plant realised at Protheroe and Morris's, than from any like sum spent in Orchids before.

Another great importation of Messrs. F. Sander & Co.'s, embracing new things, is their re-introduction of *Cattleya labiata vera*, which is distinct from other forms of *C. labiata* by its greater breadth of petal; and, singularly enough, the third plant, which flowered in December, produced the magnificent *C. labiata virginialis*, the best of the white-petalled *Cattleyas*, with a glowing violet-crimson lip.

Dendrobium Leeanum also, which flowered as a single specimen out of the importation of D. Phalenopsis Schroderianum, and D. Phalenopsis Lee's variety, are two introductions of the highest order of merit, and the pretty *Thunia Mastersiana*, whose Palm-like foliage and elegant flowers form such a charming object in the Orchid Trophy presented by Messrs. F. Sander & Co. to the German Empress, a valuable addition to a pretty and easily-grown genus. Other fine things, introduced or first brought into notice by the same firm during the year, are the new white *Cecelyne Micholitziana*, the large yellow *Spathoglottis Ericsonii*, the noble *Aërides Lawrencei* var. *Amesiana*, the perfection of a stately *Aërides*; the rosy-crimson *Schomburgkia Sanderiana*, *Dendrobium Richardii* and D. O'Brienianum, the singular *Cattleya granulosa Dijanecana*, the discovery of the faithful but ill-fated collector, Dijanec; *Masdevallia Rolfeana*, a rich dark purple and yellow species; *M. Nilssonii*, *Miltonia vexillaria Sanderiana*, and *M. v. Mrs. H. Ballantine*, both fine and distinct; *Maxillaria Amesiana* and *M. Mooreana*, the profuse-flowering *Lycaste Mastersiana*, with golden-yellow flowers, freckled with orange on the petals; four new and distinct forms of *Odontoglossum excellens*, the beautiful *O. Godseffianum*, which may be a new combination in natural hybrids; the noble *O. crispum Amesianum*, and that most æsthetic and unique *O. luteo-purpureum Amesianum*, whose fine flowers are wholly of a clear citron yellow. With the enumeration of the pretty *Lælia anceps Ballantini*, the charming *Cypripedium insigne Bohnholianum*, and a number of other Orchids of great botanical interest, with—late in the season—the handsome white and crimson *Cymbidium pulcherrimum*, an elegant plant and unique, it will be seen that the St. Albans firm have not been idle as importers; while in the matter of home-raised hybrids, their *Lælia Arnoldiana* ×, which took the Royal Horticultural Society's Silver-gilt Medal, open to all comers, and a First-class Certificate; their *Cattleya Behrensiana* ×, *C. Prince of Wales* ×, *C. Lowryana* ×, *Masdevallia Mundyana* ×, and a

long list of beautiful hybrid *Cypripediums* and other things tell plainly that this active firm have been equally diligent in the home industry of the hybridist.

To Messrs. James Veitch & Son, of the Royal Exotic Nursery, King's Road, Chelsea, as usual, belongs the honour of introducing to our gardens during the past year a number of hybrid Orchids of sterling merit. Foremost among these, ranks their *Disa Veitchii* × (*racemosa* × *grandiflora*), which gained an award of a Silver Floral Medal and a First-class Certificate at the Royal Horticultural Society on June 9. It is what is called the first break in *Disas*, no other cross having previously been effected. Like *D. racemosa*, it is a very free grower, and the profuse manner in which it produces its tall spikes of large rich rosy-crimson flowers will make it a general favourite. In *Phaius maculato-grandifolius* ×, we have another handsome hybrid, of stately habit, and of a colour much wanted in Orchids. Its name expresses its parentage, and the habit of the plants is fairly intermediate between the parents; the tall spikes bear flowers as large as those of *P. grandifolius*, of a clear soft yellow, with a pleasing copper-coloured tinge, the front of the infolded labellum being chestnut-red.

Yet another grand hybrid raised by Messrs. Jas. Veitch & Son is *Cypripedium macrochilum* (*longifolium* × *Lindeni*), and which, by the fact of the pollen-parent having only a small labellum, caused much wonder by the unusually large development of the lip in the progeny. The plant constitutes one of the most striking of the *Selenipedium* hybrids, and its features were well depicted in the *Gardeners' Chronicle* for September 19, 1891. The ranks of the *Cypripediums* also have been further augmented by Messrs. James Veitch & Sons, by *C. Antigone* (*niveum* × *Lawrenceanum*), which, although good when first flowered by Messrs. Veitch, was pronounced the best of its class when exhibited later in the year by Baron Schroder, who had grown it excellently well. *Cypripedium Creon*, also a Chelsea hybrid, may be said to be the first rival of the old favourite, *C. canthum superbum*, which, with *C. Harrisonianum superbum*, were used in its production. The bright mauve and white of the dorsal sepal, and the polished surface of *C. canthum superbum*, are to be found in *C. Creon*, but the flowers are larger. During the year also Messrs. Veitch have produced *C. Niobe superbum*; and the uniform good quality of all their hybrids which are brought out, points to the fact that they have been selected from a goodly number flowered in their trial-houses, and from which none not improvements on other known varieties are distributed—a method of selection which other raisers might imitate with advantage. Among other good services of scientific as well as general interest to be recorded to the credit of Messrs. Jas. Veitch & Son during the year, is the fact that they have flowered home-raised *Odontoglossum excellens* (*Pescatorei* × *triumphans*), and thus proved the correctness of the conjecture that the plants of it already in cultivation are natural hybrids.

During the past year, as in former years, the meetings of the Royal Horticultural Society have been graced by many new or extremely rare and beautiful Orchids from the gardens of Baron Schroder and from those of Sir Trevor Lawrence, Bart., M.P., the President of the Society. Among the most remarkable of Baron Schroder's exhibits may be mentioned the large snow-white *Lælia Perrinii* alba, and the equally clear white *Sobralia macrantha Kienastiana*. From the same ardent

orchidist also came a grand form of *Miltunia Bluntii* Lubbersiana, the fine *Odontoglossum Dellense*, *Cattleya linschootiana*, and new varieties of other known species; while that the all-engrossing interest of hybridising is not forgotten at the Dell, is evidenced by the pretty scarlet and yellow *Epidendrum Dellense* x, raised in Baron Schroder's gardens.

Sir Trevor Lawrence at the December meeting of the Royal Horticultural Society well displayed the excellence of the beautiful Burford Lodge Hybrid *Calanthes*, and several new ones were exhibited, the most distinct of which is *C. versicolor*, a noble variety of the vestita section, and *C. rosea*, a delicately-tinted form of the Veitchii class. Early in the year, his beautiful *Dendrobium melanoticum* x produced two superb forms, viz., the light D. m. pallens, and the richly-coloured D. m. Rainbow; while of imported natural hybrids, or fine forms, there flowered at Burford Lodge the rich yellow *Odontoglossum Pescatorei* Prince of Orange, several new forms of *O. excellens*, the fine *O. crispum*, Burford variety, the rich scarlet, yellow-centred *Masdevallia Harryana* luteo-oculata, *Megacelinium leucorachis*, *Cirrhopetalum*, *Bulbophyllum*, and many other new botanical Orchids. The large-flowered *Cattleyas* have been worthily augmented during the year by *Cattleya Mossie Lawrenceana*, which is like the best white-petalled form of *C. Wagneri*, but with a few dark crimson lines on the lip. The same genus also receives two or three new forms flowered by Joseph Broome, Esq., at Llandudno, of which *C. Mossie Broomeana* and *C. M. Sunning Hill* var., are two noble flowers, and so also is Mr. Broome's *C. Mendelii rubicunda*. Of *C. Mendelii*, however, R. Brooman White, Esq., who has a surprising collection of them, flowered some six or eight new forms, ranging from white to the darkest type, and including a new section, with wholly pearly-white and lavender flowers. Whilst on the subject of the large-flowered *Cattleyas* and *Lælias*, it will be well to mention a few of the leading novelties which these favourite genera have acquired. First the splendid forms of *Lælia grandis tenebrosa*, which have flowered in the gardens of the Right Hon. Lord Rothschild, Geo. C. Raphael, Esq., and Geo. Hardy, Esq., and *Lælia Gottoiana*. Then come the darkest and richest-coloured of its class, *Cattleya Hardyana*, Hamar Bass' variety; *C. Schroderæ*, Temple variety; and *C. Gaskelliana speciosa*, of Messrs. Seeger & Tropp. Among *Lælia anceps*, the largest and most gorgeously-coloured is *L. a. grandiflora*, Chamberlain's variety; and the most curious, *L. a. holocheila*, both imported by the Liverpool Horticultural Company in their fine importation, to which the term "grandiflora" was first applied. *Lælia elegans* has a distinct novelty in the *L. elegans Cullimorei* variety of Malcolm S. Cooke, Esq.; and in the collection of the late Thos. Statter, Esq., at Stand Hall, Whitefield, Manchester, several other new forms of *L. elegans* have bloomed, as also the pretty and distinct *Dendrobium Statterianum*, and the clear white *Cattleya intermedia alba*.

But one of the most beautiful of Orchids yet introduced has to be credited to M. Linden, of l'Horticulture Internationale, Brussels, viz., *Cattleya Rex*, and which will doubtless make a pleasant start for the new year. A beautiful illustration before us shows that this Orchid is even finer than was first stated. M. Linden, too, has during the past year introduced or flowered for the first time a host of fine Orchids, of which *Zygopetalum Lindenianum* is one of the handsomest.

Messrs. Hugh Low & Co., of Clapton, as large

importers, always secure a number of novelties, and among those of 1891 are the very distinct and lovely *Phalenopsis Schilleriana* Curnowiana, the white *Dendrobium Parishii* albens, *Mormodes buccinator aurea*, the charming crimson-lipped *Epidendrum Mooreanum*, *Restrepia striata*, first flowered by Mr. F. W. Moore at Glasnevin, Dublin; *Luisia Amesiana*, a very striking plant; *Cypripedium villosum* Caseyana, a grand flower, well worthy to bear the name of the pleasant and much-respected foreman and traveller of the establishment, the late Mr. Frank Casey. Messrs. Low also imported and flowered *Cattleya intermedia punctatissima*, also imported by Messrs. F. Sander & Co., and figured in the *Reichenbachia*; and the pure white *Cypripedium niveum album*, and the yellow *C. Godefroyæ luteum*. The firm of Messrs. B. S. Williams & Son shine most in their introduction of fine forms of well-known rare and showy species, and in hybrid *Cypripediums*, of which their *C. Adonis* x is pretty, and *C. Pitcherianum superbum* very fine.

In the Orchid-houses of Mr. William Bull also many showy varieties have appeared, and a new dwarf form of *Ansellia africana*, named *A. a. humilis*, which has also produced a variety named *A. h. pallida*, has been introduced. Messrs. Charlesworth, Shuttleworth & Co. introduced the curious and distinct *Odontoglossum Hennisii*, and what is purported to be a fine form of *Oncidium macranthum*, whose flower-spikes are not rambling, as in the type.

Messrs. Pitcher & Manda, of the United States Nurseries, Hextable, Swanley, Kent, have the grand violet-purple spotted *Cypripedium Leeanaum* Maserechanum x, *C. Arthurianum superbum* x, and three very distinct forms of *C. insigne*, viz., *C. i. Amesianum*, *C. i. corrugatum*, and *C. i. Eyermannianum*, with other novelties in *Cypripediums*, which form a leading feature in their collection. With Malcolm S. Cook, Esq., another new and handsome natural hybrid *Odontoglossum*—*O. Cookianum*—originates; appearing from several sources, the distinct *Ada Lehmanni* gets described in 1891. In *Masdevallia falcata* x, Drewett O. Drewett, Esq., raises another worthy addition to the hybrid *Masdevallias*; and the universal provider, Mr. William Whiteley, from his great nurseries at Hillingdon, beats the record for beauty in *Odontoglossum* triumphans with *O. t. Whiteley's* variety.

Messrs. Heath & Son have distributed their *Cypripedium Leeanaum giganteum*, the most massive and stately of its class, and also secured a certificate for their fine *C. Stonei* magnificentum.

At the Royal Gardens, Kew, a number of new Orchids flower every year, and last year the rare event of one of a new genus and species appeared there, which was named *Neobenthamia gracilis*; there flowered here also several other new Orchids, and especially noteworthy are *Bulbophyllum inflatum*, *Cirrhopetalum Colletti*, and the true *Cirrhopetalum Thouarsii*, which latter two (like many other things we record as new), although not unknown previously, are of sufficient merit to chronicle with novelties.

In other places, among other new plants of botanical interest which lack not favour with some persons, and which are admired by all when well flowered, newly described, are *Megacelinium Clarkei*, *Bulbophyllum nigripetalum*, *B. denticulatum*, *Cirrhopetalum O'Brienianum*, *C. elegantulum*, *Habenaria carnea*, *Rodriguezia anomala*, *Pholidota repens*, and *Polystachya bulbophyllioides*.

The following novelties in Orchids have been

illustrated in the *Gardeners' Chronicle* in the past year:—

Cattleya Rex, February 28, p. 273.
Cymbidium Tracyanum, January 31, p. 137.
Rodriguezia anomala, June 13, p. 729.
Habenaria carnea, December 19, p. 729.
Cypripedium insigne Sanderae, December 5, p. 669.
Dendrobium Leeanaum, November 28, p. 641.
Phalenopsis Schroderiana vars., flowers and plant, November 28, pp. 642, 643.
Cypripedium macrochilum, September 19, p. 343.
Neobenthamia gracilis, September 5, p. 273.
Epidendrum vitellinum, Mr. Geo. C. Raphael's double-flowered. August 1, p. 141.

(To be continued.)

ORCHID NOTES AND GLEANINGS.

ORCHIDS AS CUT FLOWERS.

In the *Journal des Orchidées*, a vote has been taken to ascertain the opinions of the majority as to the best Orchids to grow on a large scale for cut flowers. The list given by our contemporary as the final outcome of the voting is as follows:—

1. *Odontoglossum Alexandræ*.
2. *Cattleya Warocqueana* (labiata).
3. *Cypripedium insigne*.
4. *Coleogyne cristata*.
5. *Cattleya Trianae* and *C. Mendelii*, equal.
6. *Cochlidia Noetzeliana*.
7. *Cattleya Mossie*.
8. *Lycaste Skinneri*.
9. *Dendrobium nobile*.
10. " bigibulum.
11. *Odontoglossum grande*.
12. *Cypripedium Lawrenceanum*.

HYBRID CYPRIPEDIUMS—C. BOSSCHERIANUM x.

This *Cypripedium* is a seedling raised by M. Ch. Vuylsteke, of Locchristy, and is a hybrid between *C. Spicerianum* and *C. barbatum superbum*. The upper sepal is very large, orbicular, and bent round at the back. In appearance it resembles *C. Spicerianum*; the background is white, deeply flushed with purplish-pink and bordered with white, with a central line of blackish purple-red, clear red at the base. The lower sepal is very small, yellowish-white striped with dark green. The petals are of medium breadth, very wavy, with black hairs, olive yellow, and much spotted with small sepia dots. The lip is much developed, clear blood red, here and there shaded with yellow above and greenish-yellow below. The staminoide is very large, reddish-mauve, marked with two small green spots, and yellow in the centre. The foliage is very pale green, shaded with deep green. This excellent hybrid was awarded a certificate of merit at the meeting of the Société Royale d'Agriculture et de Botanique, and the Chambre Syndicale des Horticulteurs Belges, on December 6.

Cypripedium decorum is a hybrid between *C. Salieri* hyeanum and *C. Lawrenceanum*. The upper sepal is well developed, very flat, deep brown shading into dark green towards the base, the upper part is pinkish-magenta round the border, edged with milk-white; the inferior sepal is greenish-white, much streaked with deep green, the lip brown with a metallic shade over the upper part, clearer underneath. The staminoide is garnet flushed with mauve, the base bearing a pink dot. The peculiar foliage is clear green, much flecked with very dark blackish-green. This hybrid was raised by M. Jules Hye-Leyen, of Ghent, who was awarded a certificate of merit at the meeting (Dec 6) of the Société Royale d'Agriculture et de Botanique, and of the Chambre Syndicale des Horticulteurs Belges, at Ghent.

MAIDENHAIR-FERNS.

THE beautiful genus *Adiantum* includes a large number of distinct species, besides which there are now many very pretty garden varieties. Although

usually the *Adiantums* may be raised from spores, and will come true to the character of the species, and, in most cases, the garden varieties do not vary much. There are some exceptions, however; for instance, I have not been able to obtain *A. Veitchii*. I have raised batches of seedlings, which have appeared to be true while in a young state, but as the plants advanced in growth they proved to be distinct, not only distinct from the parent, but different to any other sort grown, being somewhat intermediate between *A. decorum* and *A. concinnum latum*. Among seedlings of other sorts we often find slight variations. In one instance I found at least six distinct varieties in one little batch of seedlings, which were raised from spores obtained from a single frond of the variety known as *Waltoni diffusum*. Among the seedlings referred to, were some which might be identified with *A. æmulum*, of which *Waltoni* is probably a seedling. *A. Ghiesbreghtii* (generally known as *A. scutum*) is another species from which we have obtained some useful and distinct varieties.

In the following selection I have divided them into groups, and I believe the list will be found to include all the most useful species and varieties:—

CUNEATUM GROUP.

This includes all the most useful Maidenhair Ferns. Either for cutting from, or as plants for decoration, these take first place among all Ferns. The old form of *A. cuneatum*, although there are now many varieties of it, still holds first place, and is grown more extensively than any other Fern. *A. elegans*, with larger and more spreading fronds, is more useful for some purposes, and is extensively grown for market work. *A. gracillimum*: this elegant variety should be grown three or four plants together in a pot. These will make compact masses, and do not drop about so much as when single plants are grown. *A. mundulum*, a very pretty compact-growing variety, the small fronds are useful for small bouquets or button-holes. *A. Pacottii*: sometimes called the double Maidenhair, on account of the pinnules over-lapping each other; of a rich deep green—makes a compact plant. Of the small-growing sorts, this is one of the best. *A. Lambertianum*, very slender drooping fronds, small wedge-shaped pinnules, on fine thread-like rachises. *A. grandiceps* (the tasselled Maidenhair): this makes a beautiful plant when suspended; the long drooping fronds terminate in a tuft of multifid growth, which can only develop properly when raised up. *A. Versaillense* is another pretty crested variety, the erect fronds terminate in a perfect corymb of multifid growths. *A. fragrantissimum* must be included; it is a beautiful Fern, with large spreading fronds—the pinnules are deep wedge-shaped, and lobed, the ultimate ones much larger. It is slightly fragrant in the spring, when the fronds are quite young, but hardly sufficient to merit the name. *A. æmulum*, with the varieties *Waltoni* and *Waltoni diffusum*, are all desirable, the latter especially; it might be considered intermediate between *æmulum* and *fragrantissimum*, but the fronds are lighter, and of a more drooping habit than *fragrantissimum*; it makes a beautiful specimen. *A. Le Grande*, a congested form of *gracillimum*; distinct and pretty.

TENERUM GROUP.

This includes the lovely *A. Farleyense*, which is generally accepted as the queen of Ferns; although most authorities agree that it is a variety of *tenerum*, I think there must still be some doubt about its identity with that species. *A. scutum* (*Ghiesbreghtii*) is undoubtedly closely allied to *tenerum*, and we have many intermediate forms. *A. Lathamii* is one of the prettiest, the fronds are gracefully recurved, and of a soft pale green; *A. Victoria*, dwarf and compact, pinnules large; *A. rhodophyllum* differs in having a deep rosy tint in the young fronds, changing to deep green with age. *A. regina* is a fine variety, with the large pinnules of *Victoria*, and the large spreading fronds of *scutum*. In *A. scutum* we have two varieties, one with pale fronds, and the other rose-tinted when young, and changing to deep green with age. *A. Bausei*, a variety of *tenerum*, in which the pinnules are drooping or deflexed, the fronds

growing erect. Among seedlings here we have this curious deflexed form in *Victoria*, *regina*, and other *Adiantums*. *A. Colliis* is another desirable variety belonging to this group. In this the fronds are large and much branched, but the pinnules are smaller than in any of the others referred to in this group.

DECORUM GROUP.

A. decorum is a most useful Fern, making a good pot-plant. When well exposed, the young fronds have a pretty delicate pink tint. It is one which finds some favour as a commercial plant. *A. Veitchii*, rather narrow, erect fronds, broad pinnules, young fronds richly tinted with red. It is one of the brightest of the tinted Ferns. I have previously referred to this as not being obtained from spores, and, as it has a close tufted caudex, it is slow to increase by division, and consequently is very scarce. *A. rubellum*, another tinted variety, with smaller fronds and a spreading caudex. *A. cyclosorum* is also a good tinted variety with drooping fronds, broad rather distant pinnules, the ultimate ones larger and drooping. *A. concinnum*, a very pretty Fern, but rather delicate. *A. concinnum latum*, a much more vigorous variety, with large erect fronds. This is sometimes grown for market, but is much damaged if exposed to the cold. *A. Weigandi*, a very distinct and pretty Maidenhair, erect in growth, the



FIG. 1.—THE CHINESE PRIMROSE: NATIVE SPECIMEN.
A and B, leaves of two forms; C petal; D E F, various forms of the calyx.

irregular pinnules overlap each other, and are of a rich deep green. It may be recommended as one of the prettiest for decoration, and, being of good substance, it stands exposure better than most of the Maidenhairs.

CAPILLUS-VENERIS GROUP.

Of *A. Capillus-veneris* we have several very distinct and beautiful varieties, some of which might be regarded as distinct species. *A. Mariæ* is one of the most useful; this has the spreading caudex, and the peculiar bluish tint to the stipes, which are characteristic of the species, otherwise, it is very distinct; the fronds grow nearly erect, triangular in shape, and have broad, wedge-shaped pinnules, of a bright fresh green. *O'Brieni* closely resembles the above, but the pinnules are smaller and more distant; both have large spore-cases, the coverings being almost black. *A. imbricatum*, a very fine variety, with spreading fronds; the pinnules are almost as large as in *A. Farleyense*, and deeply cut round the margin. I have not seen this since it was exhibited at a meeting of the Royal Horticultural Society about two years ago, nor do I know if it is distributed. The next in order is *A. grande*: this a fine variety, similar in habit to the species, but having broad, wavy pinnules. *A. cornubiense* and *A. daphnites* are distinct. The variety *fissum* has small erect fronds, the pinnules are cut down into narrow segments; it is

a curious, if not a beautiful variety. The normal form of *A. Capillus-veneris* is also a desirable Fern. Among seedlings, I have found many variations. Of other species which may be included in this group, *A. bellum* and *A. glaucophyllum* are very pretty, with slender, erect fronds, growing only a few inches high—the latter of a pale glaucous-green, and the former of a deeper shade, with a bluish tint to the rachis. *A. Fergussonii* is a most desirable species; the caudex does not spread so widely as in the above-named, but it has some of the characteristics of the *Capillus-veneris*. The long narrow erect fronds have irregular-shaped pinnules, some overlapping each other; the ultimate ones are broad, and deeply lobed. Of other sorts with spreading rhizomes, *A. Williamsii* is one of the most beautiful, and may be particularly recommended, as it succeeds well under cool treatment. *A. æthiopicum*: of this there are two distinct forms—the dwarf form is often grown under the name of *venustum*, but the true *venustum* is quite distinct; the tall-growing variety, *æthiopicum alatum*, of some authorities, is a very fine Fern, growing 2 to 3 feet high. I have also seen this labelled *A. digitatum*, but the true *digitatum* is synonymous with *speciosum*, a very distinct species, with large spreading fronds of a pale soft green; this species is deciduous. Although one of the most beautiful of the genus, it is rarely seen in collections. *A. palmatum* is another beautiful deciduous species, having long slender fronds; the pretty palmate pinnules are borne on slender rachises, and at some distance apart. *A. Moorei* and *A. assimile*, both fine basket Ferns, will complete this group.

MACROPHYLLUM GROUP.

A. macrophyllum is a grand Fern; the erect pinnate fronds have a beautiful rosy tint when young, which, with age, changes to a deep green. *A. m. bipinnatum* differs in the lower portion of the fronds, being bipinnate; it also has a more bronzy tint in the young fronds. *A. Seemaani* is a choice species with large, deep green pinnules. *A. peruvianum*, a beautiful Fern with large drooping fronds; the large broad pinnules are borne on long, slender, thread-like rachises, and when well treated, it makes a noble plant. All of this group require stove treatment, and a position where the damp does not settle on the fronds. *Pteris*.

(To be continued.)

THE ABORIGINAL CHINESE PRIMROSE.

On various occasions we have mentioned the interesting discovery of the aboriginal Chinese Primrose by Dr. Henry and by the French missionaries, in the mountains of I-Chang. We have also noted how, at Appleby Towers, near Ryde, Mr. Myles, the gardener, last year showed us some seedling plants from the same locality, which we at once recognised as belonging to the same species.

Now we have the pleasure to give an illustration (p. 13) of a flowering specimen, grown by Mr. Jones in the garden of Edmund Hyde, Esq., of Ealing. The conditions under which it grows in nature are very different from those under which it is cultivated here, and anyone who will compare our fig. 1, taken from the wild plant, will be interested in seeing how great a change has been effected in one season only, and without any cross-fertilisation. It is such changes as these which bear witness to the process of evolution. There are many mysteries yet to be solved, and one of them is the reason why some plants are so much more variable than others. Not many plants would respond so soon to the attention of the cultivator as this Chinese Primrose. We must refer for further details to our previous articles, on January 26, 1889, p. 115, and November 15, 1890, p. 564, and to Mr. A. W. Sutton's paper on Chinese Primulas in the *Journal of the Royal Horticultural Society* for March, 1891, vol. xiii., p. 99.

The stock of this interesting progenitor of the race of Chinese Primroses is in the hands of Messrs. Sutton & Sons, Reading.

THE HELLEBORES OF THE ANCIENTS.

Drugs prepared from Hellebore were so famous amongst the ancients as a remedy for madness, and, indeed, for many other ailments—Pliny gives a list of them quite worth the notice of advisers of patent medicines—that the plant has acquired for

infer that it was formerly used here. At Constantinople, a popular drug, called Zoptane, is made from *H. orientalis*, which is common on the mountains of Eastern Turkey. In Gerard's time, our native *H. foetidus*, the rankest of all the genus, was employed medicinally, though known to require great caution in using, and it is still retained in veterinary practice for outward application.

they came; and were priced and trusted accordingly. Hellebore was of two kinds, distinguished as black and white. The best black came from Mount Helicon, and the best white from Mount Ceta. The town most famous for its preparation was called Anticyra, but this name was ambiguous.

There is a well-known passage in *The Art of Poetry*, written by the Roman poet Horace, in



FIG. 2.—THE WILD FORM OF *PRIMULA SINENSIS*, AFTER ONE YEAR'S CULTIVATION: FLOWERS, PALE ROSY-LILAC; POLLEN, MAGN. 300 DIAM. (SEE P. 12.)

itself a literary as well as a botanical interest. We know that different species have been used in different countries for their medicinal properties, which are, perhaps, essentially the same in them all, though varying in strength. The Hellebore of the modern English *Pharmacopæia* is the root of *Helleborus niger*, the common Christmas Rose. In Germany, *H. viridis*, the green Hellebore, is said to be preferred, and from its frequent occurrence in England in the neighbourhood of old ruins, we may

The physicians of ancient Greece, who for some centuries before and after the Christian era were famous throughout the civilised world for their skill, were very fanciful about the locality from which the herbs used by them were collected. The kind of herb might be the same, but when gathered on a particular mountain or in a particular forest, it was thought to have additional virtue. Drugs of the same name were classified as first, second, third, or fourth quality, according to the source from which

which he says, that to gain a reputation as a poet, a man must be so mad that three Anticyras cannot cure him, and must never have his hair cut. Multiplying by three was a common superlative figure of speech in Latin, as in other languages, and perhaps Horace meant no more than this; but, on the other hand, he may have known that there were in Greece three towns named Anticyra, and possibly they were all places where the drug hellebore was prepared. One Anticyra was on a narrow strip of the land of the

Locrians, between Ætolia and the sea. Strabo, an ancient writer on geography, and Livy, a Roman historian, both mention it. It was taken by the Romans in the second Punic war, and given over to their allies, the Ætolians. We know nothing of it as connected with Hellebore, though Pliny tells us that Ætolian Hellebore, which was of bad quality, was used to adulterate the better Parnassian kind. There was another Anticyra in the south-eastern corner of Thessaly, 3 or 4 miles from the sea, near the base of Mount Æta and the famous pass of Thermopylae, but we do not hear of this town as producing Hellebore except on the slight authority of the lexicographer, Stephanus of Byzantium, who lived in the sixth century of our era. The third Anticyra, the only one which we know to have been famous in classical times for the manufacture of this drug, was situated on the southern coast of Phocis, not far from the base of Mount Parnassus, and within a few miles of Mount Helicon. The position of it is well known, and it is now named Aspra Spitia; it was not an island, as Pliny and others have wrongly said, and never can have been so in historic times; but it stood on a peninsula, and had a good harbour. In Horace's day, it was a place of resort for insane or epileptic patients, who went there to take a course of Hellebore under resident physicians. Hence, to say "You should go to Anticyra," was a polite way of telling a man he was a fool. Amongst others who had gone through this medical course there, Pliny mentions the philosopher Carneades, who went there for intellectual training before publicly declaiming against the dogmas of the Stoics, apparently supposing that a medicine which could make madmen sane, would make sane men still wiser. Also, Drusus, a famous popular leader of the Romans, was cured there of epilepsy. The same writer adds that this drug, which retained its virtue for thirty years, and once was thought so formidable, had now become so "promiscuous" in its use, that students often took a dose of it to sharpen their intellect, when they were puzzled by difficult passages in their reading—a valuable hint, by the way, for candidates before a competitive examination! I recollect a virtuous freshman at Cambridge who, with a similar object, laid in a large stock of "Reading biscuits," which he saw advertised in a window!

The next question is, what were the kinds of Hellebore called black and white, and found respectively on Mount Helicon and Mount Æta? We ought to be able to answer this, because Edmond Boissier has told us, in the preface to *Flora Orientalis*, that, thanks to the labours of the botanists, Orphanides and Heldreich, the flora of Greece is now better known than that of any other country within the scope of his work. The Hellebore which is found to prevail on Mount Helicon, Mount Parnassus, and the neighbouring country, is one to which E. Boissier gives the name of *H. cyclophyllus*. It is intermediate between *H. viridis* and *H. orientalis*, having been confused with the latter both by Sibthorp and by Heldreich. Perhaps it is not in cultivation in England, but it is described as being taller, and having larger flowers, and broader segments to the leaves, than the green Hellebore, which in other characters it resembles.

As for the white Hellebore, it is evident from the vague descriptions of Theophrastus and Pliny, that neither of them knew a living Hellebore by sight, but Pliny says that he had been told that the leaf of the black Hellebore was of the shape of a Plane leaf, but divided into several segments, and that the white Hellebore had leaves resembling those of the Beet, and deeply channelled at the back. He attributes to it a bulbous root like that of an Onion, with fibrous tunics. Ancient and modern botanists have generally identified this with *Veratrum album*, which is figured in Gerard's *Herbal* as the White Hellebore; but perhaps the best evidence is that of Heldreich, who explored Mount Æta in 1879, and found *V. album* growing there in abundance, confirming his previous opinion that this was the White Hellebore of Theophrastus. The different effects of the two kinds of Hellebore taken

medicinally, as recorded by ancient authorities, corresponds with modern experience; the black is a powerful cathartic and the white a strong emetic. This is a summary of all that is known or likely ever to be known of the famous Hellebores of the ancients. *C. Wolley Dod, Ridge Hall, Malpas.*

BIRDS OF THE COMMONS AND WOODLANDS.

(Continued from p. 758, vol. x.)

PIPITS.

Towards the middle of April it is not an uncommon thing to hear a song which reminds you of the canary. If you look at the singer you will see that he rises from one of the highest boughs of the tree on which he is perched, hovers in the air for a moment, and then descends on to the branch from which he started, singing all the while. He is a small brown bird, in colour like the lark; but in many respects you will notice that he resembles the wagtail, to whom he is much more closely related. This bird is the tree pipit, a very characteristic woodland species, and fairly plentiful from April to September throughout England wherever the country is well supplied with trees. The meadow pipit, or titlark as it is commonly called, closely resembles the tree pipit, but is far less particular in the localities which it frequents. It seems to be most at home on moorlands and low-lying damp ground, although it may also be found on heaths and in cultivated districts. Unlike the tree pipit, the titlark is resident with us throughout the year, but in cold weather there is a general movement to warmer localities.

WOODLANDERS.

The members of the crow tribe possess between them as much intellect as all the other birds put together. They are most of them bated by gamekeepers, especially the magpie and jay. Everybody knows these two birds by sight; both are beautiful, which is to many men in itself a good reason for killing them, and both sometimes destroy the eggs and young of other species; therefore they are shot and trapped everywhere. The jay, in addition to being considered an ornamental bird for a hat, has a further attraction in the fact, that the brightly coloured blue feathers on its wings are valued by fishermen for making flies. It manages, however, to hold its own fairly well, for it is extremely wary, uttering its hideous scream long before an intruder has time to get anywhere near it. As a matter of fact, it is probably not as destructive as the magpie or crow, though its reputation is about as bad. This species is handicapped in the race for life by being so conspicuous. Many conspicuous birds protect their eggs from destruction by building their nests in places which are inaccessible or hard to find, but the magpie's nest is a great structure of sticks, with a dome, so that it is about as conspicuous as it is possible for a nest to be. The only other two birds of the crow tribe are the jackdaw and the rook, both very sociable, not only among themselves, but also towards mankind. The jackdaw can hardly be said to be a real bird of the woodlands, but it does occasionally nest in hollow trees. They prefer cliffs and old buildings, where they may be seen flying about in large flocks, sometimes performing the most wonderful evolutions in the air, especially on windy days, when they always appear to be most thoroughly happy. *A. H. Macpherson.*

(To be concluded.)

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

MANURING APPLES AND PEARS.—The manner in which manure is applied to the roots of fruit trees may be thought by some growers of very small importance, but, to my mind, after several years' experience, the method adopted has much to do with the production of good fruit. One has often heard it remarked, "Get the manure into the ground, the roots are sure to find it." This may be quite true, but the very fact of having to dig it into the ground, and then the roots to search for it, is a great drawback to the production of large fruits. Why not place the manure in such a position that the rootlets do not have to search much for it, and so save them the time (if I may use such an expression), that so soon as the fibres begin to work, and consequently need

nutriment in some form, they may have it close at hand; nothing remaining for them to do but root away, to nourish bloom-bud, bloom, and fruits, and which eventually (all other points being right, such as plenty of space between the branches and spurs) may become fine specimens. The best way to apply manure is to take a three-pronged Canterbury hoe, draw the soil away from the stem of the tree, say a distance of from 2 to 3 feet all the way round, until the fibres are seen. If the tree is on the Paradise stock, and not planted too deeply, these will be found close to the surface, and here let me say that I lay great stress upon the importance of keeping the roots close to the surface. In the basin thus formed place the manure, or manure and soil mixed. Throw the soil back on to the top of the manure, and, finally, give all a good treading. If artificial manure is to be used, it should be mixed with a little fresh soil, and not applied till later in the season. The above remarks are only intended to apply to such trees as annually carry heavy crops of poor fruit, or trees that may have become straggled, either by want of proper nourishment or by constant digging around the roots. The intervening spaces between the trees should be slightly forked over, just sufficiently to make a crumb for flat hoes. Bush fruits may be improved in the same manner; in fact, all trees that are in any way benefited by manure. Farm-yard manure we find to be the best, and if this be mixed with burnt refuse, it not only makes the manure go further, but helps to give colour to the fruits, especially Apples.

CORDON APPLES AND PEARS.—These are usually planted as edgings to garden walks, making a nice finish to the quarters, and affording good returns when properly managed. The trees can be procured as maidens, and cut back to the required height; or what is better, purchased already formed either as double or single cordons.

A very good distance to plant cordons from the edge of the walk is about 2 feet, and the height of stem about 12 to 15 inches. If double cordons are to be planted, these should not be placed nearer than 20 feet apart, which allow 10 feet on each side for the extension of the branches. Single cordons should be planted at not less than 14 feet. The training can very well be done on the old-fashioned system of driving short stakes into the ground at suitable distances apart, but as these often need to be renewed, the better plan—one that is really cheaper in the end—is to place iron supports firmly in the soil, making the two end ones very secure, and then stretching a wire from end to end, much in the same way as an ordinary iron-wire fence is made. It must be borne in mind that this method of growing trees only allows a very limited growth above ground, consequently occasional root-pruning will be required. Some sorts are better adapted than others for cordons, the following are amongst some of the best: Cox's Orange does remarkably well, so do Emperor Alexander, Belle Dubois, Peasgood's Nonsuch, The Queen, Lord Grosvenor, Lord Suffield, Grenadier, Lane's Prince Albert, Prince Bismarck, Reineette de Caux, and many others. The last-named variety and Prince Albert are very desirable fruits, being heavy croppers, and keeping well to a late period, and requiring but little root-pruning. *G. Woodward, Barkham Court, Maidstone.*

PLANTS AND THEIR CULTURE.

WATERING AND TEMPERATURE.—During the late severe frosts, it became necessary to keep the fire going brisker. In doing this it is always well to avoid as much as possible a too high night temperature, 58° to 65°, with a rise of 5° to 10° by day, according to the outside temperature, being sufficient for the stove; and, indeed, it is prudent to let the warmth decline a few degrees below these figures rather than keep up a dry parching heat by forcing the fires. All watering of plants should be done early in the day, and those plants which are situated nearer to the hot-water pipes than others carefully looked after, as these will necessarily become much dried up. Avoid moistening the foliage overmuch, the syringing and damping-down being performed with care.

FORCING PITS.—Fresh plants should be introduced from time to time in adequate numbers; these may consist of Roman Hyacinths, Paper-white Narcissus, early Tulips, Lily of the Valley, *Richardia athiopica*, *Dielytra spectabilis*, Persian Lilac, a few *Azalea indica*—*Deutsche Perle*, and *Flieder's White*. Continue to lift and pot up clumps of *Helleborus niger*, placing them in a vinery which is just being started, or other place with similar

heat. Here the plants will soon throw off a quantity of blooms, and where a good stock of this species is at hand, some spare lights may be placed over them where they stand, so as to protect them. These roughly-protected plants will afford a succession of blooms to those that were lifted and taken indoors.

CALADIUMS AND GLOXINIAS.—These should be looked over and examined, and if found to be too dry, or inclined to shrivel, a small quantity of water may be afforded them. They should afterwards be returned to their winter quarters for another fortnight, when, should any be required to bloom early, the first portion may be started in gentle warmth.

CHRYSANTHEMUMS.—Cuttings of these plants may now be taken, not delaying any longer to do so; put them in a compost of two parts loam, and one of leaf-soil, and sufficient sand to keep the whole open, passing it through a sieve with a half-inch mesh, filling the cutting-pots to within three-quarters of an inch of the top with the compost, and finish off with a layer of sharp silver-sand.

In taking the cuttings, give preference to those thrown up from the roots of old plants, for, if the cuttings are taken from the stems, they often give trouble by continually showing for bloom throughout the summer. If it can be done, it is best to strike each cutting separately in pots, as by so doing the young plant does not receive any check when re-potted. The best place for the cuttings to root is a cold frame, or hand-light placed in a cool vinery or Peach-house, having the frame filled up to within 8 inches of the glass with coal-ashes. The cuttings must be kept free of decaying leaves, and the glass dried with a cloth every morning, allowing the frame to be ventilated for about an hour daily, which will dry the soil, &c.

CALCEOLARIAS.—Plants in 4-inch pots, with their roots touching the sides of the pots, should be shifted into 6 or 7-inch pots without delay, it being one of the secrets of success in growing these plants not to allow them to receive any check whatever from the time of sowing the seeds till the blooming period. A good compost for the herbaceous Calceolaria may consist of two parts fibrous loam and one each of leaf-soil and dried cow manure, the latter being run through a sieve, and sufficient sharp sand put with the whole to give porosity. Grow the plants in a low pit, or on a shelf in a cool greenhouse from which frost is excluded, and keep them free from greenfly—to which they are very subject—by fumigating with tobacco-paper about once in three weeks. *R. Milner, Penrice Castle, Swansea.*

THE ORCHID HOUSES.

With the new year it is well to review the work done in this department in the year just passed, as each year has its lessons, and every Orchid grower will have added something new to his experience. When Orchids are growing satisfactorily, that is sufficient proof that the conditions under which they are grown are suitable. Sickly plants are to be found in every collection, few or more, and the cause of their unhealthiness invariably is, that some simple want is not attended to, or is not understood. As to the latter I would say, find the right place and the proper treatment for the plants; and the unhealthy plant, if it be not too far gone, may recover. Thrips and other pests find it difficult to increase when plants are doing well. The suitable place for a plant will vary according to the season, and it is a far more important matter than is generally thought, but it is the only way in which Orchids can be readily grown. In addition to remarks on the cultivation of Orchids in general, I will endeavour week by week to show the conditions under which we at Highbury find generally bad growers to succeed. At the present time, there being little or no potting to do, attention is given to cleanliness and ventilation. I would advise amateurs to be cautious in making alterations, and nourish their plants as much as possible on pure air, avoiding any approach to a stuffy atmosphere. I question if the old-fashioned closed stage, with moisture-retaining material kept thereon, is good for Orchids. I say that it obstructs the freedom of air-circulation, and is in that way a mistake, and should be removed in favour of the ordinary greenhouse stage. If stagnant air is detrimental to Orchids, equally so are close stages, and I say, try the others with nothing more than a row of roof-tiles laid just over the pipes, raised from them about 3 inches, and on which some half-decayed leaves are placed. When a plant is doing well, it dries up quickly with proper ventilation, as everyone knows, and there is less fear of over-watering a plant,

or injury from damp. Open the bottom ventilator more or less, and other ventilators according to the state of the wind and weather. I prefer to admit air at the ends of the house by means of the doors or otherwise, in cold weather opening that to leeward only. Fire-heat should be used to temper the fresh air, maintaining the warmth at this season from 60° to 70°.

THE ODONTOGLOSSUMS.—The house containing these plants now in bloom is brightened by having some plants of *Sophranitis grandiflora* and roses put here and there on the stage. Do not let the temperature fall below 45°, and in mild weather 50°, 60° being the highest day warmth with fire-heat and abundance of air.

THE CATTLEYA OR INTERMEDIATE-HOUSE will now be gay with the *Laelia anceps*, of which *L. a. grandiflora* (true) is by far the largest and most substantial form. Where fogs are common, I would advise that in foggy weather, a moist atmosphere be kept, and no evergreen Orchid be allowed to remain very dry at the root, or both leaves and flowers will suffer. Temperature from 55° to 65°, with air, and the house and plants kept much drier than the *Odontoglossums*.

THE EAST INDIA-HOUSE.—If the *Phalenopsis* are grown in this house the warmth must not fall below 65°, otherwise the majority of the plants will not be hurt if 60° is the lowest reading, rising by day from 60° to 70°, and with sun-heat 5° higher. *H. A. Burberry, Highbury, Birmingham.*

THE KITCHEN GARDEN.

At this period the work will greatly depend upon the weather; if it be mild, digging should be pushed on, and when frost prevents this, the wheeling of manure on to the quarters can always be done expeditiously. In selecting ground for certain crops, as for instance, Beetroot, Salsify, Scorzoneria, Carrots, Parsnips, and Onions, heavy manuring, early digging or trenching, turning the soil up roughly are essential to good roots. Onions will often follow Celery, and if the latter can be cleared off in good time, the ground can be got into prime condition for sowing seed by moving the surface with digging-forks several times. By attention to a system of rotation of crops, and choosing the right kind of soil—and in most gardens there is some variety of soils, clabbing and other evils are, to some extent, prevented, and good crops obtained. In some gardens, long under the spade, cabbaging of the roots of Cabbages, Cauliflowers, &c., is often troublesome, and the present time is the best to apply remedies for this evil. The best remedy is the free use of gas-lime used early in the winter, spreading it evenly on the surface some days before digging the land, taking care to powder the lime, as large lumps are apt to be injurious to the roots of plants. When only a light dressing of gas-lime is afforded, it may be dug-in at once without exposure to the air.

ARTIFICIAL MANURES.—By the use of these, much good may be effected in gardens which have for long periods received much animal manure and the soil has become too rich in nitrogen, and I would advise the use of quicklime on land of this kind as an aid to decomposition of the excess of manure in the soil. Wood-ashes should also be made use of in lieu of animal manure for a season or two. Light soils are benefited by the addition of marl, clay, or heavy loam; and old mortar or plaster, charcoal waste, and fine coal ashes are good to mix with heavy soil. For Seakale and Asparagus, I have found that fish-manure produces much better results than salt alone, and may be afforded to other crops with good effect. Peruvian guano mixed with marl or like soils would often give a better return, if used for a season, than farmyard manure. Some gardeners have a difficulty in getting sufficient manure for the garden, and the above-mentioned substances will afford valuable help in its absence, together with deep cultivation of the soil.

EARLY VEGETABLES.—Peas sown in the autumn in the open ground are frequently a loss, whilst those sown in mild heat give good returns. The present is a good time to sow larger kinds of Peas in 5-inch pots thinly, placing the pots in a cold frame, affording no water, if the soil is damp, till they have germinated. Chelsea Gem and Duke of Albany are good varieties to grow in pots, the latter requiring pinching of the points to induce bushiness of growth, and it follows the first-named, and has large pods. Sow Broad Beans shortly for planting out, as advised for Peas. Cauliflowers should be sown if there is any de-

ficiency of plants, the Pearl being an excellent one to sow for early produce. Seed of Onions may be sown in a cold frame, if very large bulbs are required, or when the autumn sowing has failed. Should the supply of salad have run short, seeds of Lettuce may be sown at fortnightly intervals, to be used in a young state for salads; only early kinds should be sown. Seakale, Rhubarb, and Asparagus roots should be lifted and planted in heat, as required; and fresh leaves and stable-litter got in readiness for hotbeds for Radishes and Carrots, and a sowing of Brussels Sprouts, Cabbage, and Cauliflowers. *G. Wythes, Syon House, Brentford.*

THE FLOWER GARDEN.

SUMMER ARRANGEMENT OF BEDS, ETC.—Where the arrangement of beds and borders (on paper) for next summer did not receive attention as was recommended in these columns last autumn, it should be looked to now, in order that the plants necessary for filling the beds may be propagated in sufficient numbers. First determine the number of beds to be filled exclusively with flowering plants in distinct colours—such as scarlet, pink, and white Pelargoniums, blue Lobelia, and Tom Thumb (mauve) and other varieties of Ageratum, and with plants of various heights, and varying in colour of leaf and flower, for what are called the mixed beds, as well as carpet beds, and the sub-tropical plants. As a guide to the species and varieties suitable for use in mixed and sub-tropical bedding, a brief list may with advantage be given here, inasmuch as there is no time to lose in the matter of working up a stock of both descriptions of plants.

MIXED BEDS.—(Oblong or circular beds planted thinly with light and dark-flowered Fuchsias, carpeted with blue or yellow Viola, and edged with a good band of the variegated-leaved pink-flowered Pelargonium Manglesii, are effective; as also the same filled with pyramids of Madame Crousse, Ivy-leaved Pelargonium, Lilium candidum (common white garden Lily), L. auratum, L. tigrinum splendens, Carnations, and Calceolaria amplexicaulis disposed thickly in a groundwork of yellow Viola, with a broad band of *Colerus Verchaffeltii*, or *Iresine Lindenii*, and edged with blue Lobelia. Beds thinly sown with Garaway's White Mignonette and interspersed with plants of scarlet and pink flowered Pelargoniums and variegated Japanese Maize, and edged with Pelargonium Manglesii, are sure to find favour, as also are beds carpeted with *P. Manglesii* and dotted with *Love-lies-bleeding*, the fern-like *Accacia lophantha*, *Abutilon Thomsonii* variegatum, with beautifully marbled leaves, *Nicotiana affinis*, and pyramids of *Heliotrope*, *Campanula pyramidalis*, blue and white, and Eckford's Sweet Peas, Countess of Radnor (mauve), Empress of India (rosy-pink), and Prince of Orange (orange), and edged with blue Lobelia or scarlet Pelargonium. Blue-flowered Violas planted among variegated-leaved Pelargoniums with scarlet flowers, such as Bijon, are very telling in effect, and yellow-flowered Violas intermixed with Pelargonium Manglesii make a quiet and pleasing combination of colours. There are many other easily-raised plants besides those enumerated above which could with advantage be used in this manner.

SUB-TROPICAL PLANTS.—In addition to the harder kinds of Palms, Dracenas, Yuccas, and American Aloes, *Portulacium tenax*, *Funkia Sieboldii*, *F. albo-marginata*, *F. aureo-maculata*, and *Ficus elastica*, a good semi-tropical effect may be produced by the undermentioned plants raised from seeds and planted in well-drained beds, in somewhat sheltered positions as in bays, formed by tall trees or shrubs, namely:—*Solanum laciniatum*, *S. marginatum*, *S. robustum*, *S. pyracanthum*, *S. argenteum*, *Cannas* in variety; *Aralia Sieboldii*, *Arundo conspicua*, *Melanthus major*, *Wigandias*, *Ferula communis*, *Accacia lophantha*, and *Grevillea robusta*. The above being slow growers should be sown at once in strong heat. But seeds of the following subjects need not be sown before the end of February, viz., *Cannabis gigantea*, Japanese Maize, *Nicotiana atropurpurea grandiflora*, *N. macrophylla gigantea* and *Kichius hybridus*, *R. Gibsonii*, *R. glaucus*, *R. Duchess of Edinburgh*, *R. Cambodgensis*, *R. sanguineus tricolor*, and *R. macrocarpus*. *Ficus elastica* and *Abutilon Thomsonii* are increased by cuttings, and the Funkias (which are hardy herbaceous plants) by division of the roots. The same kind of plants recommended as a groundwork and edging for mixed beds, may also be similarly and effectively employed for the sub-tropical plants, the disposition of which will be referred to in due time. *H. W. Ward, Longford Castle, Salisbury.*

EDITORIAL NOTICE.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

SATURDAY, JAN. 2.—Wakefield Paxton Society.
FRIDAY, JAN. 8.—Duoode Horticultural Association.

SALES.

TUESDAY, JAN. 5.—Great Sale of Lilies, at Protheroe & Morris' Rooms.
WEDNESDAY, JAN. 6.—Plants, Ferns, Roses, &c., at Protheroe & Morris' Rooms.
FRIDAY, JAN. 8.—Imported Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36°.4.

It is a fact, not without significance, that the re-organisation of the Royal Gardens, Kew, and the establishment of the *Gardeners' Chronicle* were contemporaneous. The Jubilee Year for the two institutions is the same. When it is remembered that the re-organisation of the garden begun in 1841 was largely due to the recommendation and counsel of our first Editor, Dr. LINDLEY, and of Mr., afterwards Sir Joseph, PAXTON, who was also one of the founders of this Journal, it will be seen that the connection between the two events is not so purely fortuitous as it might appear to be.

LINDLEY, in his report to the Government of the day in 1838, said:—"A national garden ought to be the centre round which all minor establishments of the same nature should be arranged; they should all be under the control of the chief of that garden, acting in concert with him, and through him with one another, reporting constantly their proceedings, explaining their wants, receiving their supplies, and aiding the mother country in everything that is useful in the vegetable kingdom. Medicine, commerce, agriculture, horticulture, and many valuable branches of manufacture, would derive benefit from the adoption of such a system. From a garden of this kind Government would be able to obtain authentic and official information on points connected with the founding of new colonies; it would afford the plants there required without its being necessary, as now, to apply to the officers of private establishments for advice and assistance."

At p. 179 of our first volume (1841), we find an announcement that Sir W. J. HOOKER, till that time Professor of Botany in the University of Glasgow, had been appointed to the charge of the Royal Gardens, Kew. "We trust that this wise step will be accompanied by such other changes and improvements in this important establishment as will ensure its efficiency, and prove that the ill-advised plan of destroying it last year entertained by certain gentlemen connected with Government, was never approved by Her Majesty's responsible advisers. Previous to that, it appears the plants at Kew had been offered to the Horticultural Society for their garden at Chiswick! Public attention was, however, called to the matter in the newspapers

of the day by the late Mr. HERWARD, and by Mr. W. LILLY, a surgeon of Walworth much interested in natural history.

Sir W. HOOKER's appointment dated from April 1, 1841. By his energy, knowledge, and courtesy, he speedily effected much-needed reforms. His large correspondence with all quarters of the globe, and which had been formerly turned to good account when in Glasgow, were even more fruitful at Kew. On August 9, 1841, the sub-editor of this journal visited the garden, and his remarks at p. 535 of our volume for that year are of an interesting character. It is therein recorded that persons, provided they did not touch the plants, were permitted to walk through the grounds without attendance! that there had been a large increase of "respectable company," and that neither plants nor flowers had been injured by the visitors.

Other details are given as to the changes in progress, and especially as to the unrivalled collection of Proteaceæ—a group of plants, by the way, better represented fifty years ago than now. The changes effected by Sir W. HOOKER were again adverted to at p. 123 of our volume for 1842, where it is recorded that "the well-directed energy of Sir W. HOOKER, assisted by a judicious liberality on the part of the Commissioners of Woods and Forests, will speedily place Kew where it ought to be, and once was—at the head of the botanical establishments of Europe." At that time the kitchen garden was still maintained, and our pages 175 and 523 for 1842 give details of a character we do not now have to record from Kew.

It is not our intention on this occasion to advert in detail to the further progress of Kew, its great extension, the gradual improvements in general cultivation, and in all departments, under the direction of Sir WILLIAM and of Sir JOSEPH HOOKER, and latterly of Mr. THISELTON-DYER; the new houses constructed, the museums built, the herbaria and libraries formed, the laboratory and picture-gallery established; nor need we do more in passing than allude to the extraordinary literary and scientific activity evinced in the numerous substantial volumes that have emanated from Kew. The Colonial Floras, for instance, were projected by Sir WILLIAM HOOKER. Some are completed, others, like the tropical and extra-tropical African floras, will, we trust, speedily be resumed; whilst the unrivalled experience, and the undaunted energy of Sir JOSEPH HOOKER have brought the flora of British India nearly to completion.

To the general public Kew is a pleasure-garden merely. It is that, of course; but it is far more. It is, and has been, for half a century, what LINDLEY wished it to be, the centre of botanical activity—activity not only in purely scientific botany, but in garden botany in particular. It has been a main agency in the collection and diffusion of knowledge of all kinds relating to botany, and has ensured the cultivation and dispersal of economic plants of all kinds in our colonies. We have often had occasion to record, with patriotic pride, the great things for humanity which have been effected, some entirely, others very largely, through the medium of Kew. Commercial men and practical statesmen are not very likely to feel much enthusiasm about botany as a science—they look upon it, if at all, as a harmless pastime; but when they see—as they may at Kew—what it is capable of, and what it has done for the benefit of mankind, they naturally look upon the garden as an institution worthy of their support. The cultivation of Cinchona, Tea, India-rubber, Liberian Coffee,

represents only a few of the industries which have been established and fostered in India and our colonies chiefly through the agency of Kew.

All that has been done at Kew in the way of gardening, systematic study, physiology, or economic botany, has been done in accordance with the letter and the spirit of the recommendations made by LINDLEY, but modified and extended by successive directors; and the latest advances—that of federating the several colonial botanic gardens, and that of establishing botanical departments in the several presidencies of India and in the colonies—are in strict accordance with the general plan. Kew has thus long been the centre of botanical energy in almost all departments. Its steady progress and its present condition are matters which excite the admiration of the most competent judges. We have lately had an illustration of this in the glowing testimony as to the condition of and the work at Kew afforded to us in conversation with the directors of two of the most important gardens in the world—that of Paris and the Harvard Arboretum.

In some points Kew still needs extension and improvement. The subject of the diseases of plants, for instance, is vast enough and important enough to demand a separate staff of microscopists and entomologists with a small space set apart as an experimental area. The laboratory and library would be invaluable adjuncts to such a department. Systematic and comparative study of the minute anatomy of plants is also a need of the times that might be largely supplied at Kew. Anatomists would not only find there what they want in the way of material, but they might also profit by imitating the systematic orderly procedures, and comparative methods of those who devote themselves to herbarium botany, as it is called. The co-operation of the two classes of workers is a thing much to be desired, and we do not know where it could be better carried out than at Kew.

In the garden itself it is recognised that the cultivation, as perfectly as circumstances will allow, of specimens illustrative of botanical structure and affinities, and of such as are of horticultural and economic importance, is preferable to the accumulation of so-called complete collections of specimens which cannot be properly grown or displayed. Such plants would be more appropriately housed in the herbarium, while their portraits might find a place in the picture-galleries. For strictly horticultural purposes, numerous and varied trials should be made of new plants, to ascertain their value; and not only of new plants, but also of some at least of the vast number at present left unutilised by the gardener. Ordinary bedding-stuff cannot, of course, be dispensed with in a public garden, but we do not want to see at Kew what we can see in any of the parks or in the back-garden of any suburban villa residence. What we see at Kew should be—and to a large extent it already is—of educational value, as well as agreeable to the eye.

One of the chief wants of Kew at present is suitable provision for plants requiring an intermediate temperature, between that of the stove and that of the ordinary greenhouse or conservatory, one wherein specimens of many of the economic plants of subtropical lands may be grown. Much of this kind of material is already to be found in the smaller houses, chiefly in the T-range; but the plants, owing to the smallness of the houses, and to their growth in pots of no great size, do not convey to the minds of those seeking information, their true characteristics, and persons interested in commerce go away from their inspection with feelings of disappointment.

PUBLISHED by BRADBURY, AGNEW, & CO., Limited, LONDON.

THE SPORTSMAN'S COMPLETE LIBRARY OF READING.

THIS inimitable series of volumes is absolutely unique, there being nothing approaching to them in all the wide range of modern or ancient literature. Written by Mr. Sturtess, a well-known country gentleman, who was passionately devoted to the healthy sport of fox-hunting, and gifted with a keen spirit of manly humour of a Rabelaisian tinge, they abound with incidents redolent of mirth and jollity. The artist, Mr. Leech, was himself also an enthusiast in the sport, and has reflected in his illustrations, with instinctive appreciation, the rollicking abandon of the author's stories.

"HANDLEY CROSS" SERIES OF SPORTING NOVELS

Embellished with nearly 1000 of JOHN LEECH's best Sketches on Wood, and 88 Hand-coloured Steel Engravings. By JOHN LEECH and H. K. BROWNE. 6 medium 8vo volumes, large margin, cloth extra, price £4 4s.; and in half morocco, with panelled hunting adornments, gilt and finished, price £5 12s. 6d.

These Volumes can be had separately as under:—

HANDLEY CROSS; or, Mr. Jorrocks's Hunt. Many Sketches on Wood, and 17 Steel Engravings. Price 16s.
ASK MAMMA; or, The Richest Commoner in England. Many Sketches on Wood, and 13 Steel Engravings. Price 14s.
SPONGE'S SPORTING TOUR. Many Sketches on Wood, and 13 Steel Engravings. Price 14s.
PLAIN OR RINGLETS? Many Sketches on Wood and 13 Steel Engravings. Price 14s.
MR. FACEY ROMFORD'S HOUNDS. 24 Steel Engravings. Price 14s.
HAWBUCK GRANGE; or, the Sporting Adventures of Thomas Scott, Esquire. With 8 Steel Engravings by H. K. BROWNE (Phiz). Price 12s. 6d.

A NEW, CHEAPER, and HANDY EDITION, to be KNOWN AS THE "JORROCKS' EDITION," of these famous novels is now in course of publication, and will be completed during the season. Each Volume will be complete in itself, and will have a selection of the ORIGINAL WOODCUT ILLUSTRATIONS, by JOHN LEECH, to embellish the text, as well as several Toned-Paper Page Illustrations; and, as a Frontispiece, a Hand-Coloured Steel Engraving. Bound, after an effective design, in cloth, price 6s.

The First Volume in the Issue is—

MR. SPONGE'S SPORTING TOUR.

With 70 of John Leech's Illustrations, and a Hand-Coloured Steel Engraving as Frontispiece.

"Persons unacquainted with Mr. 'Spongy Sponge' will have the advantage of making his acquaintance under highly favourable conditions, since the new edition is handsomely got-up, clearly printed, and illustrated by the inimitable drawings of the late John Leech."—*County Gentleman*.

COMPLETION of "SOCIETY PICTURES" from "PUNCH."

In a handsome and sumptuous half-leather binding, in 2 vols., price 12s. each; also in 4 parts, bound in fine cloth, gilt edges, price 5s. 6d. each.

SOCIETY PICTURES. FROM "PUNCH."

By GEORGE DU MAURIER.

"As one turns page after page of this wonderful collection, admiration is almost lost in amazement that a single brain should have conceived all these truly typical and representative figures, illustrated them with such copious, varied, and unflinching wit, and given them a scenic and circumstantial setting, which brings out all their most salient and characteristic points."—*County Gentleman*.

In three handsome royal quarto volumes, price 10s. 6d. each; also in 1 vol., price 28s.

JOHN LEECH'S PICTURES.

Containing more than 2000 Pictures of Life and Character from the Collection of "Mr. Punch."

"This book is better than plum-cake at Christmas. It is an enduring plum-cake, which you may eat, and which you may slice and deliver to your friends, and to which, having cut it, you may come again, and welcome from year's end to year's end."—*Quarterly Review*.

In three fine royal quarto volumes, handsomely bound, price 2 guineas.

MR. PUNCH'S VICTORIAN ERA.

Fifty Years of the Queen's Reign. Illustrated with 1000 Cartoons selected from "Punch." Drawn by DOYLE, LEECH, TENNIEL, &c.

"A pictorial key to the history of the Queen's reign. It is a never-failing source of instruction and amusement."—*Pall Mall Gazette*.

In royal quarto, finely printed and handsomely bound, price 21s.

CHARLES KEENE'S PICTURES.

Being 400 Sketches selected from "Punch," as illustrating the variety of the Artist's humour.

"A gallery of pictures of English life. They have enlivened the surface of English life for a whole generation."—*Times*.

In large crown 8vo, top edge gilt, price 5s. each. Illustrated. Volumes Now Ready.

F. C. BURNAND'S PUNCH WRITINGS.

VERY MUCH ABROAD. 160 Illustrations.
RATHER at SEA. 116 Illustrations.

QUITE at HOME. 108 Illustrations.
HAPPY THOUGHTS. (Complete). 110 Illustrations.

"Mr. Burnand's writings are well worth collecting. There is a perpetual airiness and gaiety about his work which makes it always pleasant to dip into, and few humourists have the power of making their readers laugh so agreeably."—*Athenaeum*.

In 13 Volumes, 32mo size, printed on toned paper, and enclosed in a case,

THE HANDY VOLUME SHAKSPEARE.

STYLES OF BINDING:—

In fine cloth, red edges, in cloth case, price 21s.

In French morocco, gilt edges, in leather case, price 31s. 6d.

In best red Russia, in an elegant case, price £3 15s.

"This choice miniature edition contains the whole of the plays, the poems, and a glossary, and is the result of a happy thought most charmingly realised."—*Sidon*.

In 25 Elegant Little Volumes, each containing a Complete Novel,

THE HANDY VOLUME WAVERLEY.

Containing the whole of the Waverley Novels enclosed in a case, which measures only 9 inches in height and length, and 5 inches in depth. The Author's Notes are given at the end of each volume.

STYLES OF BINDING:—

In crimson cloth, red edges, in cloth case, price 45s.

In French morocco, gilt edges, in leather case, price £3 13s. 6d.

BRADBURY, AGNEW, & CO., Ltd., 8, 9, & 10, Bouverie Street, London, E.C

THE GARDENERS' ALMANAC

("THE TIMES OF HORTICULTURE")
A Weekly Illustrated Journal
(Established 1841)

Among the Correspondents & Contributors to recent Volumes the following, out of many Hundreds, may be named:—

ALPINE PLANTS:—

BACKHOUSE, J., the late.
BALL, J., F.R.S., the late.
CHURCHILL, G. C., Clifton, Bristol.
CORREYON, H., Geneva.
DEWAR, D., Kew.
DOD, Rev. C. W., Malpas.
JENKINS, E., Hampton.

AMATEUR GARDENING:—

BADGER, E. W.
BOYLE, Hon. Mrs. E. V. B., ("Days and Hours in a Garden").
BRIGHT, the late H. A., ("Notes from a Lancashire Garden").
CLARKE, Col. Trevor.
ELLACOMBE, Rev. Canon.
EWBANK, Rev. H., Ryde.
GUMBLETON, W. E.
WILSON, G. F. R.S., Weybridge.
WILKS, Rev. W.

ARBORETUM, &c.:—

ANNESLEY, the Earl of.
ACLAND, Sir T. P.
ACTON, T., Kilmacurragh.
ARGYLL, the Duke of.
BAKER, W. R., Rayfoldbury.
BARROW, W., the late.
COURTOWN, the Earl of.
DIECK, Dr. Merseburg.
DUCIE, the Earl of.
EGERTON, Sir P., Bart.
ENSKILLEN, the Earl, the late.
GROSVENOR, Lord R.
HENRY, MITCHELL.
HUNTLEY, the Marquis of.
LONDSEBOROUGH, the Earl of.
MACLEAY, the late Sir G.
MEATH, the Earl of.
NICHOLSON, G., Curator, Royal Gardens, Kew.
POWELL, T. H., Esq.
POWERSQUIT, Viscount.
RASHLEIGH, J.
RUTLAND, the Duke of.
SARGENT, Prof., Arnold Arboretum Cambridge, U.S.A.
SHANNON, the Earl, the late.
SMITH, T. A., Dorrien, Esq.
STAIR, the Earl of.
TREVELYAN, Sir W., Bart, the late.
VAN VOLKEM, J., the late, Brussels.

CHEMISTRY:—

CHURCH, Prof.
DEHERAIN, Prof., Paris.
DYER, Bernard.
GILBERT, Prof., Rothamsted.
LAWES, Sir J. B., Rothamsted.
MITCHELL, W. S.
WARINGTON, R., Rothamsted.
WILLIS, J. J., Rothamsted.

DISEASES OF PLANTS:—

ARTHUR, Prof., New York.
BASTIAN, Dr. Charlton, F.R.S.
BOS, Dr. Ritzema, Wageningen.
COOKE, Dr. M. C., Kew.
MAGNUS, Prof., Berlin.
MASSÉE, G., Kew.
MURRAY, G., British Museum.
PAGEET, Sir James, F.R.S.
PHILLIPS, W.
PLOWRIGHT, Dr. C. B., King's Lynn.
PHILIBOX, Prof., Paris.
SAITH, W. G.
SORAUER, Prof., Proskau. [Forestry.
WARD, Prof. Marshall, School of

FERNS:—

BAKER, J. G., Royal Gardens, Kew.
DRURY, C. T.
HEMSLEY, A.
LOWE, E. J.

FLORISTS' FLOWERS, &c.:—

DEAN, R., Ealing.
DOWELL, K. S., Oxford.
D'OMBRAIN, Rev. H. H., Westwell.
DOUGLAS, J., Ilford.
DOWNIE, J., Edinburgh.
HORNBY, Rev. F. D.
LLEWELYN, Sir J. D., Bart.
MOLYNEUX, E.
PAUL, G., Paisley.
TURNER, C., the late.

FOREIGN CORRESPONDENCE:—

ANDERSSON, J., Sweden.
ANDERSSON, M. P., Sweden.
ANDRE, E., Paris.
BENNETT, H., the late, M.D., Mentone.
BUNYARD, H., Short Hills, New York.
CARRIÈRE, Paris.
CARTEL, Prof., Florence.
COSTERUS, Dr., Amsterdam.
CLOS, Prof., Toulouse. [Brussels.
GRÉPIN, Director, Botanic Garden,
DANMARA, Br. Udo, Berlin.
DE ROSSCHÈRE, C., Liège, Belgium.
DE MAR, J. A., Boston, U.S.A.
DEVANSAYE, A. de la, Angiers.
DRUDE, Prof., Dresden.
DUCHARTRÉ, Prof., Paris.
ENGLER, Prof., Berlin.
ERNST, Dr., Caracaz.
FENZL, Car. E., Florence.
FORSTER, O., Scheitels, Upper Austria.
GLAZIOU, Dr., Rio Janeiro.
GOEZE, Dr., Griefswald.
HANBURY, T., Esq., Mentone.
HANSEN, G., California College of Agriculture.
HENRIQUEZ, Prof., Coimbra.
JOLY, C., Paris.
KANITZ, Prof., Klausenburg.
KERCHOVE, Comte de, Gand.
KOLB, Max, Munich.
KRELLAGE, F. H., Haarlem.
LANGE, Prof., Copenhagen.
LEHMANN, H., Pöpsan.
LEMMON, J. G., Oakland, California.
MEHMAN, T., Philadelphia.
MICHELI, M., Geneva.
MONTHELO, Chev., Lisbon.
NAUDIN, C., Antibes.
NELSON, C. J., Orange Free State.
OLIVEIRA, J. D., Oporto.
ORTIGES, E., Zurich.
OUDEMANS, Prof., Amsterdam.
PIROTTA, Prof., Rome.
PYNAERT, E., Ghent.
REBEL, E., Director, Imperial Botanic Garden, St. Petersburg.
RODIGAS, E., Ghent.
ROYVILLÉ, Sig., Pallanza.
SOLMS, Prof., Campt, Strasburg.
SURINGAR, Prof., Leyden.
TRETAKSE, Prof., St. Louis.
TROUBETZKOI, Prince (Eucalyptus), Melbourne, H. de Paris.
WILLKOMM, Prof., Prague.
WITTMACK, Dr., Berlin.
WOLKENSTEIN, P., St. Petersburg.

FORESTRY:—

BRACE, C. J., Orleans.
FRANCE, C. S., Aberdeen.
MAYR, Dr., Munich.
MICHE, C. Y., Cullen, Aberdeen.
SCHLICH, Dr. Superintendent, Forest Department, Coopers Hill.
WEBSTER, A. D., Dumfries.
WEBSTER, J. B., Gordon Castle.

FRUIT CULTURE:—

BARRON, A. F., Chiswick.
BLACKWOLF, Dr., Teddington.
BUNYARD, G., Maidstone, Kent.
CHEAL, J., Crawley, Sussex.
MARKHAM, H., Mereworth.
RIVERS, T. F., Sawbridgeworth.
WILDSMITH, W., the late.

GARDEN BOTANY:—

BAKER, J. G., F.R.S., Kew.
BALFOUR, Prof., Edinburgh.
BARREY, W., Lausanne.
BROWN, N. F., Edinburgh, Kew.
BURIDGE, E. W., Botanic Gardens, CLARKE, Col. Trevor. [Dublin.
CLARKE, Col. F. R.S.
CORNU, Prof., M. A., Director of the Jardin des Plantes, Paris.
DE CANDOLLE, A., Geneva.
DYER, W. T., Director, Royal Gardens, Kew.
ELVES, H. J., Cirencester.
FRANCHET, M., Paris.
HEMSLEY, W. B., F.R.S., Kew.
HOOKER, Sir J. D., K.C.S.I., the late Director, Royal Gardens, Kew.
JACKSON, J. R., Museum, Royal Gardens, Kew (Economic Botany).
LEICHTLIN, Max, Baden-Baden.

GARDEN BOTANY:—

LINDSAY, R., Royal Botanic Gardens, MAW, G., Broseley. [Edinburgh.
MAXIMOWICZ, Dr., the late, St. Petersburg.
MOORE, F., Royal Gardens, Glasnevin.
MORRIS, D., Assistant Director, Kew.
NAUDIN, C., Antibes.
OLIVER, Prof., F.R.S., Kew.
STRICKLAND, Sir C., Bart., Helmsley.
TODARI, Baron, Palermo.
WATSON, Serebo, Boston, U.S.A.

GARDEN INSECTS:—

BLANDFORD, E.
MCLACHLAN, R., F.R.S., Pres. Ent.
MICHAEL, A. E., F.R.S. [Soc.
WESTWOOD, Prof., F.R.S., Oxford.

HERBACEOUS PLANTS:—

BARR, P., Covent Garden.
CLAIR, W. A., York.
CREWE, Rev. H., Harpur, the late.
DOD, Rev. C. W., Malpas.
ELLACOMBE, Rev. Canon.
FLOWER, H. J., Cirencester.
EWBANK, Rev. H., Ryde.
FOSTER, Prof., Cambridge.
HARTLAND, Baylor, Cork.
POTTER, W., York.
WILSON, G. F., F.R.S., Weybridge.

INDIA AND THE COLONIES:—

ADLAM, E. W., Johannesburg.
BANCROFT, G., M.D., Queensland.
BENNETT, G., M.D., Sydney.
BOLUS, H., Capetown.
BROADWAY, W. E., Royal Botanic Gardens, Trinidad.
DUTHIE, J. F., Saharanpore.
FAWCETT, W., Superintendent Botanical Department, Jamaica.
FORD, C., Hong Kong.
HART, J. H., Superintendent, Botanical Department, Trinidad.
IM THURN, Esq., British Guiana.
JENMAN, J. S., British Guiana.
KING, Dr., Director, Royal Botanic Gardens, Ceylon.
KIRK, J., Wellington, N.Z.
LAWSON, Prof., Halifax, Nova Scotia.
MACOWAN, Prof., Cape Town.
MACQUEEN, Prof., Ottawa.
MUTILLER, Baron, Sir Ferd. von.
MURTON, H. J., Siam. [Melbourne.
RIDLEY, H. N., Superintendent Botanical Department, Singapore.
SAUNDEES, Prof., Ottawa.
SCHOMBURGK, Dr., Adelaide.
TRIMEN, H., Director Royal Gardens, Ceylon.
WOOD, Medley, Botanic Garden, Durban. And many others.

LANDSCAPE GARDENING:—

ANDRE, E., Paris.
BAINES, T., Scotland.
BARROW, W., F.R.S., Cirencester.
BOSCAWEN, Hon. and Rev. J. T., the
BURVENICH, F., Ghent. [late.
CHALM, J., Crawley.
GOLDING, F., Kew.
JACKMAN, J., Woking.
JULIAN, G. R.
MAWSON, Windermere.

ORCHIDS:—

ANDERSON, J., Meadow Bank.
BACKHOUSE, J., York.
BULL, W., Chelsea. [Glasgow.
BULLEN, R., Botanic gardens,
BUTLER, M., the late, Cumnor.
CATT, A. G., Worcester.
COOKSON, N., Wylam-on-Tyne.
KRANZLIN, Dr., Berlin.
LAWRENCE, Sir Trevor, Bart., M.P., President, Royal Horticultural Soc.
LEE, W.
LINDEN, Lucien, Brussels.
LOTHIAN, the Marquis of.
O'BRIEN, James.
PITZER, Prof., Heidelberg.
REICHENBACH, Prof., the late.
ROSE, R. A., Kew.
ROSS, Comm., Florence.
SANDER, F., St. Albans.
SMEE, A. H., Wallington.
SWAN, W., Eglefield Green.

ORCHIDS:—

VEITCH, H. J., F.L.S., Chelsea.
WHITE, R. B., Ardlaroach.
WILLIAMS, B.S., the late, Holloway.

PRACTICAL GARDENING:—

ATKINS, J.
AUSTEN, J., Witely Court Gardens.
BAILLIE, W. M., Luton Hoo Gardens.
BAINES, T., Southgate.
BENNETT, W., Ramsgate Gardens.
BLAIR, T., Strathland Gardens.
CARMICHAEL, A. M.
COLEMAN, W., Eastnor Castle Gardens.
COOMBER, J., The Hendre, Monmouth.
COOMBER, W., Regent's Park.
CROSSING, R., St. Fagan's Castle Gardens.
CULVERWELL, W., Thorpe Perrow.
DEAN, A.
DEWAR, D., Royal Gardens, Kew.
DIVERS, W. H., Ketton Hall.
DOUGLAS, J., Great Geares, Ilford.
DUNN, M., Balkeith.
EARLEY, W., Ilford.
FINDLAY, R., Manchester.
FISH, D. T., late of Hardwicke Gardens, Gant, Berwick, Salop.
GRIEVE, P., Bury St. Edmunds.
HARROW, W., Sheffield Botanical Gardens.
HEMSLEY, A., (Market Plants).
HERBIN, C., Dromore.
HURSON, J., Ganneshbury.
INGRAM, W., Belvoir Gardens.
LYNCH, R. J., Botanic Gardens, Cambridge.
MELLOR, D., Dunrobin Gardens.
MILES, G. T., Wycombe Abbey Gardens. (Fruit).
MILLER, W., Coombe Abbey. (Fruit).
MILNER, K., Penrice Castle.
MOORE, F. W., Royal Botanic Garden, Glasnevin.
POWELL, D. C., Powderham Castle.
ROBERTS, J., late of Ganneshbury.
ROSS, E., late of Pendell Court, Blethinchley.
RUFT, J., Eridge Castle.
SAUL, M., York.
SHEPPARD, J., Wolverston Gardens.
SMITH, J., Mentmore Gardens.
WALLIS, J., Rosing Park.
TEMPLE, M., Carron House, N.B.
THOMAS, O., Frognore.
THOMSON, W., Clovenfords (Vine).
WALLIS, J., Kew Gardens.
WARD, E., Hewell Grange, Frognore.
WARD, H. W., Longford Castle Gardens.
WATSON, W., Royal Gardens, Kew.
WEBSTER, J., Gordon Castle Gardens.
WILDSMITH, the late W.
WILSON, D.
WYTHES, G., Sion House Gardens. And many others.

ROSES:—

D'OMBRAIN, Rev. H. H., Westwell, Kent.
FISH, D. T., late of Hardwicke, Bury St. Edmunds.
FISHER, Rev. O.
GIRDLESTON, T. W., Sunningdale.
MAWLEY, E., Perkhamsstead.
PAUL, G., Chertsey.
PAUL, W., Waltham Cross.
VIVIAN-MOREL, Lyons.

VEGETABLE PHYSIOLOGY, &c.:—

BENNETT, A. W.
BONAVIA, Dr. E.
BOULGER, Prof.
DARWIN, the late, Charles.
DE VRIES, Hugo.
FOSTER, Prof. Michael, Cambridge.
GARDNER, W., Cambridge.
GLAISHER, James (Meteorology).
GOEBEL, Prof., Munich.
GOODE, Dr., Boston, U.S.A.
GRAVIS, Prof., Liège.
HENSLOW, Rev. G., Ealing.
MACLEOD, Prof., Ghent.
OLIVER, Prof. F. W.
WALLACE, Adam.
SOLMS, Count, Strasburg.

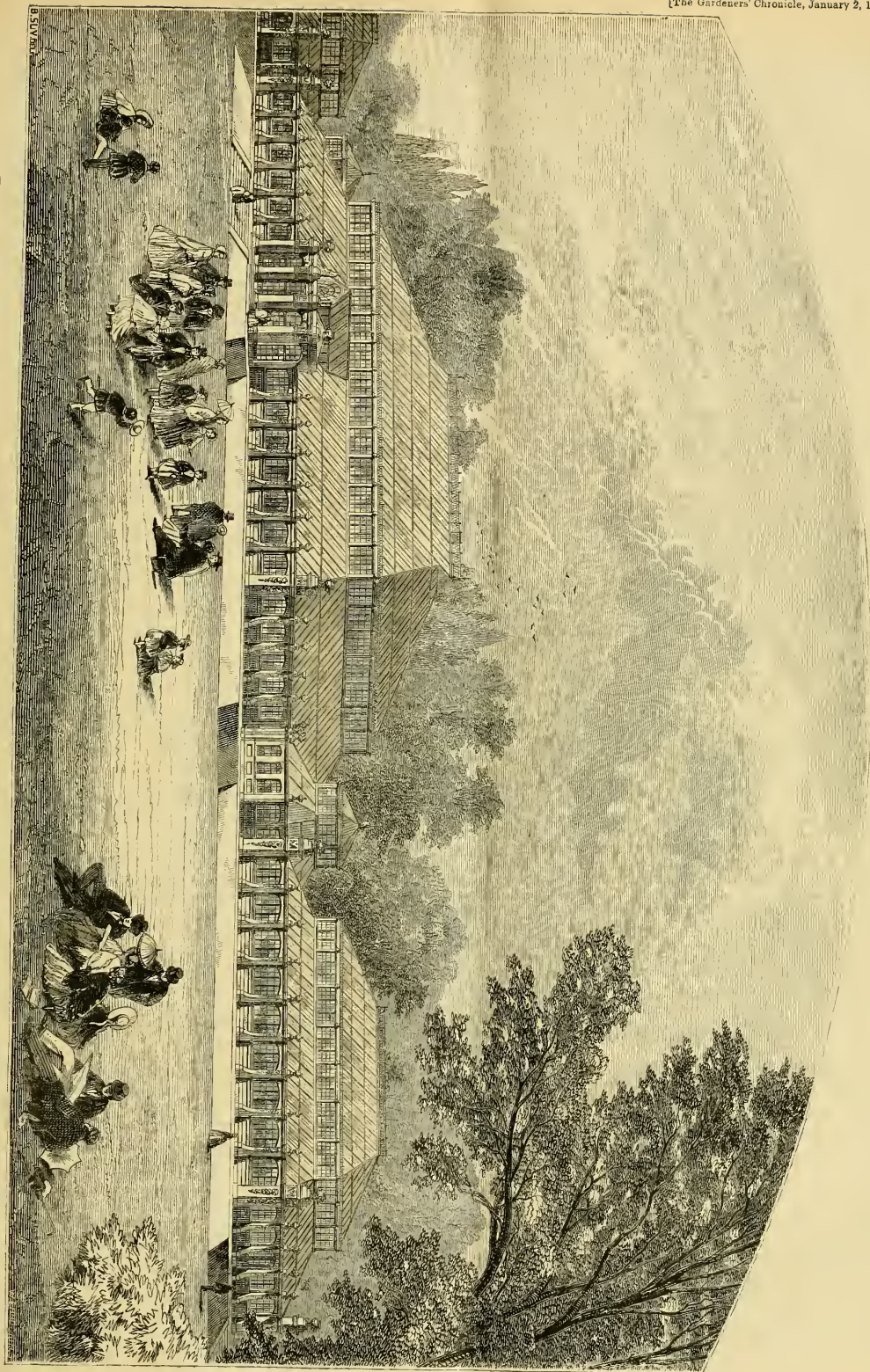


FIG. 3.—VIEW OF THE TEMPERATE HOUSE, KEW, SHOWING THE WINGS REARED TO COMPLETE THE DESIGN, AND FULFIL THE REQUIREMENTS OF THE GARDEN. (SEE P. 12.)

By the completion of the temperate-house of which we speak elsewhere, the need we have alluded to will be supplied and space will be found for most of the economic subjects whose cultivation in our colonies and crown lands is meeting with so much attention. The plants being planted out in borders instead of cramped and stunted in pots, will attain to fuller development, and show their characteristics more perfectly.

We may mention the names of a few plants that are becoming yearly of increased importance in one or other branch of economy, and which it is desirable to represent on an adequate scale at Kew—Cinchona, Palms which are valuable for their fibre, fruits, or foliage; Mango, Pomegranate, Schinus Molle, S. terebinthifolia, Pistachia, Nephelium Litchee, the Leechee, Cassia fistulosa, Loquat, Michelia Champaca, Diospyros in variety, Cythomandra betacea (the Tree Tomato), Aberia Caffra, Anonas (Custard Apple), Papaw, Carissa, Ceratonia (Carob tree). We do not know how more fittingly the Jubilee of Kew Gardens could be commemorated than by completing the Temperate-house in the manner indicated.

THE TEMPERATE-HOUSE, KEW.—Those of our readers who have visited the Royal Botanical Gardens at Kew, will have remarked the apparent want of completeness of design exhibited by the Temperate-house. The missing parts are two annexes, one at each end, and connected with the main central portion by the octagona which at present form the end portions of the building. The completion of the design has long been desired, but has now, as we have pointed out above, become a matter of necessity. This was indeed felt long ago by Sir JOSEPH HOOKER, when Director, when he remarked, "The wings are as essential to the completion of the collection and the instruction of the public as they are to the architectural design. If the wings are abandoned, so must also be the idea of cultivating a selection of colonial shrubs and trees, which is the great desideratum of our national gardens, and one the supplying of which will be unceasingly urged upon the Government and the future directors of this establishment." The older portions of the building rest on a strong wall, some 4 feet high, surmounted with a dressed stone coping, and glass and iron might be substituted for this, with much advantage to the plants to be grown in the house, and in doing this, there would possibly be a considerable saving in the cost. Besides this modification of the design, which need not injure the architectural symmetry of the building, some, or all of the brickwork, which, in the case of the existing building, throws so much shadow on the plants, and which is especially injurious to them in winter, should not find place in the new building. The dimensions of the building as represented in our illustration are as follow:—Centre portion, 212 feet 6 inches by 137 feet 6 inches. Each wing will be 112 feet 6 inches by 62 feet 6 inches. Total length of the building (including wings when built), 582 feet. Superficies, 48,392 feet. Height of the central portion, 60 feet, and that of the wings 37 feet 9 inches in the centre. The Palm-house at Chatsworth contains about 15,276; that at Kew, 24,300; and the conservatory at Syon, 7,755 superficial feet.

EDINBURGH PUBLIC PARKS.—The Public Parks Committee of the Edinburgh Town Council, at a meeting held on December 24, acting under a remit with powers, gave an order for the supply of 300 guards for the trees about to be planted in Inverleith public park. The cost will be somewhat over £30. The committee also authorised an offer of £35 to be made for the tent belonging to Mrs. WINCHESTER on the Braid Hills, with the view of utilising the building as a cloak-room. It was reported that the

works in connection with the "Ride" on the Brides were now completed, and that it was now available to the public.

THE MARKET GARDENERS, NURSERYMEN, AND FARMERS' ASSOCIATION.—The annual dinner of this association took place on December 17 at Simpson's Hotel, Strand, London, W. POTPART, Esq., the President of the Association, in the chair. About seventy gentlemen, representative of the growers, partook of an excellent repast. A selection of vocal and instrumental music contributing to the success of the gathering. A full notice of the association, its constitution and objects, will be found in our advertisement columns.

AGRICULTURAL STATISTICS.—We have received from the Board of Agriculture details relating to the crops of cereals in 1891 in Great Britain, from which it appears that in Great Britain the estimated produce for the year is as follows:—

Wheat	73,127,263 bushels—
Barley	73,129,095 "—
Oats	112,389,261 "—

The acreage under cultivation for Great Britain was:—

Wheat	2,307,377—
Barley	2,112,798 +
Oats	2,899,129—

The average yield per acre is as follows:—

Wheat	31.26 bushels per acre +
Barley	34.14 " " —
Oats	38.77 " " —

The signs — and + have reference to the corresponding figures for 1890. In 1891 the corn crops have generally been inferior in quality and condition, and an unusually large proportion of grain was shed in the fields.

JASMIN.—By SAMUEL SMILES, LL.D. (JOHN MURRAY) JACQUES JASMIN was a French, or rather a Gascon, poet who, in the first half of the present century enjoyed considerable celebrity in his native land. He was like the heroes of others of Dr. SMILES' biographies, a self-educated man, being born (at Agen) of parents too poor to afford him much schooling. JASMIN was by trade a hair-dresser, and it is said to his credit that even when in later years he became famous and might have been rich, he preferred to earn his bread by the work of his "velvet hand," devoting the pecuniary results of his genius to charitable purposes. "After, perhaps, a brilliant tour through the South of France, delighting vast audiences in every city, and flinging many thousands of francs into every poor-box which he passes, the poet contentedly returns to his humble occupation, and to the little shop where he earns his daily bread by his daily toil as a barber and hair-dresser. His poetry was chiefly written in the "peculiarly expressive and heart-touching" Gascon dialect, then rapidly dying out, but which he strove to perpetuate by proving its beauties to his hearers and readers. So highly were his works esteemed by some, that JASMIN was once said to be "what BURNS was to the Scottish peasantry, only he received his honours in his life-time." JASMIN read his poems before many audiences, travelling for the purpose to Paris, Toulouse, Rodez, and other towns. He was also summoned to recite before LOUIS PHILIPPE and the DUCHESS OF ORLEANS; the former afterwards conferring upon him a pension of 1000 fr. Many other honours were heaped on him, and he was literally surfeited with gilt and silver crowns, Laurel wreaths, and similar trophies. Had he written in French, the Academy would have paid him much honour; as it was, they bestowed on him a prize value "3000 fr., which was made up to 5000 fr. by the numbers of copies of the *Papillotes* purchased by the Academy for distribution amongst the members." JASMIN died, aged sixty-five, in 1864, from a chill taken at Villeneuve, whither he went to "plead most eloquently for the relief of the poor." A few years later a statue was erected to his memory in his native town; this memorial is illustrated in the frontispiece. Of the merits of JACQUES JASMIN, poet

and philanthropist, we have no doubt, but those of his skilful biographer also claim recognition. We are so well used to works of this kind from Dr. SMILES' pen, that "it goes without saying" that this particular book is well put together, and will interest even the most careless reader. The hero's life and work are pleasingly described, and the book includes an index, as well as an appendix composed of English translations of some of JASMIN's songs. The whole is well printed on good paper, of convenient size, and is altogether a welcome addition to the set of similar works by the same author and publisher.

"THE ORCHID ALBUM."—The plants represented in the last number are *Cymbidium pendulum*, t. 437; *Cypripedium Niobe* X, t. 433; *Oacidium laxense*, t. 439; and *Angraecum Chaillanum*, t. 440. We shall advert to these at greater length on another occasion.

EUCALYPTUS FARMING.—The *Pharmaceutical Journal* tells us on what an extensive scale Eucalyptus trees are now grown for the sake of the oil. Mr. BOSISTO, head of the firm of BOSISTO & Co., calculates that "the turn-over of the firm in connection with that article alone is £50,000 a year, and that they have nine square miles of land covered with Eucalyptus trees."

"CONSPECTUS FLORÆ AFRICÆ."—Messrs. DURAND of Brussels, and SCHINZ of Zurich, are about to bring out a work under the above title. The object is to present in a condensed form all the facts as to the nature and occurrence of plants in the Continent of Africa and the adjacent islands. The work will be comprised in six volumes, of which the first will contain generalities and bibliographical details. The fifth volume, which it is proposed to publish first, will contain details relating to 900 species of Orchids, 400 of Irids, &c.

"FRUKTHUSET NIED DERTIL HÖRANDE KULTURER," at M. P. ANDERSEN, Jönköping, Sweden.—A treatise on the culture of fruit trees in orchard houses. Unfortunately we are not able to say much more of the book as it is in Swedish, but the well-known ability of the writer may be taken as a guarantee that there is much valuable information to be found in it.

CULTIVATED PLANTS.—The Orcutt Seed Company of San Diego, California, announce the preparation of herbarium specimens of all cultivated plants. The labels will give botanical and vernacular names, descriptions drawn from the fresh plants, colour, uses, notes on cultivation, &c. Such a herbarium would be a most useful addition to the libraries of our horticultural societies.

AUSTRALIAN FUNGI.—Dr. M. C. COOKE has been commissioned by the governments of the several Australian colonies to prepare a handbook of the Australian fungi in one volume, with plates.

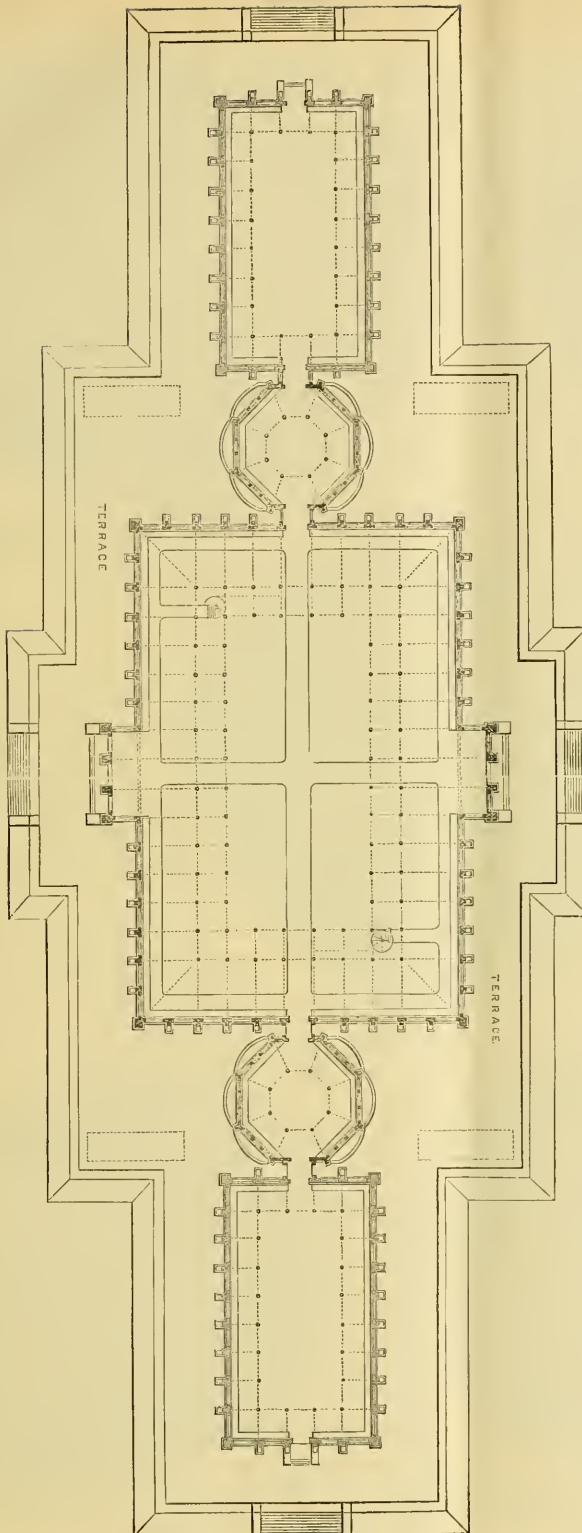
DAFFODIL DISEASE.—Mr. ENGLEHEART, in a recent number of the *Garden*, calls attention to the circumstance that some Daffodils do well in ground penetrated by tree roots.

THE FIRST CHRYSANTHEMUM EXHIBITION IN VIENNA.—The fashion is spreading. A great exhibition has been held lately in the Imperial city by the Danube. Among other exhibitors were Messrs. REID & BORNEMANN, of London.

WEST AMERICAN OAKS.—Dr. ALBERT KELLOGG left at his death a series of drawings of Oaks, Pines, and other trees of the Pacific coast. These drawings, so far as the Oaks are concerned, are now published through the liberality of Mr. McDONALD, whilst Professor GREENE, of the University of California, has furnished the text. A sympathetic memoir of Dr. KELLOGG is furnished by Mr. DAVIDSON, who was the head of the expedition to Alaska in which KELLOGG acted as botanist. The western Oaks, some twenty-five in number, are less well-known than those from the eastern States, and no species is common to both sides of the American continent. The present memoir contains all that is known at present of the West American Oaks,

FIG. 4.—PLAN OF THE TEMPERATURE-HOUSE AT KEW, WITH THE WINDS REQUIRED TO COMPLETE THE CONSTRUCTION. (SEE P. 18.)

SCALE
 0 10 20 30 40 50 60 70 80 90 100
 FEET



and with the scrupulously accurate drawings will be of the greatest service to the botanist. In addition to the specimens drawn by KELLOGG, Professor GREENE has added a supplement, detailing the results of his own subsequent investigation of the Oaks of the Sierras of Colorado and Montana; his journey in those regions being also defrayed by the generosity of Mr. McDONALD. Ten plates are thus added, these plates being drawn by our old correspondent, Mr. HANSEN, whose teratological drawings are preserved in the Natural History Museum.

A NEW HOLLYHOCK RUST.—In the *Journal of Mycology*, published by the U.S. Department of Agriculture, is a figure and description of a new *Puccinia* growing on Hollyhocks and other Malvaceous plants, closely allied to, but differing from the *Puccinia malvacearum*.

"HANDBUCH DER LAUBHOLZKUNDE."—The second volume of this treatise on hardy trees and shrubs, from the pen of Dr. DIPPEL, the director of the botanic garden at Darmstadt, has just been published by PAUL PAREY, of Berlin, and may be had through Messrs. WILLIAMS & NORGATE. The great advantage of the book for English readers is, the great number of outline illustrations which appeal to those who do not read the German text as forcibly as to those who do. The synonyms and references to the plates are also useful to readers of all nationalities, and reference is facilitated by a copious index.

"HOW TO BE COMFORTABLE WITH ONE SERVANT."—Mrs. J. E. BAKER, whose previous publication on a similar subject has met with general approval, has now issued through Messrs. PARTRIDGE & Co., a second pamphlet, the scope of which may be judged from its title. After a perusal of the multifarious duties prescribed, we feel disposed to think the servant is likely to be more comfortable with one mistress than with many! Inexperienced housekeepers will find many useful hints in the little pamphlet; experienced ones will think their own system the best.

AN ECONOMIC ORCHID.—It may not be generally known that a strong glue or cement is made from the bulbs of *Bletia hyacinthina*. Miss ALICE HART, in the *Manchester Guardian*, says that this is the case, and that the cement is used by the Japanese to affix the wire out-likes to the copper surface of such vessels as are afterwards ornamental with *cloisonné* enamel.

MR. GEORGE BREBNER has been appointed Marshall scholar in the Royal College of Science, South Kensington. Mr. BREBNER is favourably known by his original work on vegetable histology, which, we are glad to learn, will be continued in the Huxley research laboratory.

THE GINGER-BEER PLANT.—Professor MARSHALL WARR has been studying this jelly-like substance, which he finds to consist of various minute organisms in association. Of these the two essential forms are a yeast-fungus (*Saccharomyces ellipsoideus*) and a bacterium (*B. vermiforme*). The bacteria form coils of filaments, among which the yeast-cells are entangled, and the co-operation of both is required for the full development of either, so that the two organisms are analogous to lichens. The paper, which is full of curious details of a very suggestive character, will be published in the *Proceedings of the Royal Society*.

MR. GEORGE DICKSON, OF NEWTOWNARDS, COUNTY DOWN, IRELAND.—Lovers of the Rose, who are so much indebted to this gentleman for the new and valuable varieties he has added to our gardens, will be glad to hear that the Lord Chancellor of IRELAND has been pleased recently to confer on him the dignity of a Justice of the Peace for the county of Down. Mr. DICKSON has filled several public offices, and there can be no doubt that he will fill the duties of his new position with the same satisfaction as he has done his former ones, and his friends earnestly wish him many years of health to enjoy his well-merited honours.

"LA ROSE."—Messrs. BAILLIÈRE ET FILS send us a copy of a little work by M. J. BEL, of Toulouse. It contains the usual details relating to the history and associations of the Rose, of which, if we may judge from their frequent repetition, people never tire. Then follows a chapter on the "Botany of the Rose," and a list of authors who have written concerning it, among whom a strange omission, that of CÆNIPIS, may be noted. A descriptive list of 500 cultivated forms follows, ranged under the heads of Tea, Bengal, Noisette, Bourbon, Hybrid Perpetual, Perpetuals, Centifolia, Provins, and Climbing Roses. Cultural details are then furnished, and a few particulars given as to the principal insect pests. Lastly, there are receipts for the utilisation of the Rose for perfumes, cosmetics, &c.

EUPHORBIA HIBERNA.—Nearly a hundred years ago, ROBERT BROWN, a surgeon in the Scottish Fencibles, was stationed in county Donegal. There, according to the *Journal of Botany*, he discovered *Euphorbia hiberna*. No one else, it appears, has since recorded its presence in the neighbourhood till lately, when Mr. J. HOWARD found it again on the banks of the river Dunree, and his discovery is corroborated by Mr. H. CHICHESTER HART, who comments on the proof it affords of the equable mildness of climate extending around the west coast from north to south. The absence of severe frost in Donegal along the edge of the Atlantic is hardly sufficiently known, and Mr. HART's success with tender garden species has surprised many experienced growers. "I could show," says Mr. HART, "a collection of delicate and half-hardy plants that have lived out with me for several winters which would, I imagine, astonish many English cultivators. Reverting to the Irish Spurge, the editor of the *Journal*, Mr. BRITTEN, adds an extract from R. BROWN'S MS. diary, now in the Botanical Department of the British Museum, dated May 27, 1800, in which mention is made by BROWN of his having found *Euphorbia hiberna* in the very locality in which it has now been re-discovered by Mr. HOWARD. On July 16 of that year BROWN was at Duodalk, and visited "the late Earl CLANBRASSILL'S gardens—a tolerable collection of exotics, chiefly stove plants—few hardy plants." Mr. READ, the gardener, found *Euphorbia hiberna* in "the county of Mayo." Sir JOSEPH HOOKER, in the *Student's Flora*, gives "south and west of Ireland" as the habitat for this species, which, as it now appears, occurs much further north. Sir JOSEPH also adds, "used in Ireland to poison fish."

HERBARIUM PEST.—Botanists, especially those who have to do with Californian and Mexican plants, should be on the look-out for a most destructive caterpillar, described and figured by Professor RILEY in the last number of *Insect Life*, the official publication of the United States Department of Agriculture. The name of the creature is *Carboxera ptelearia*. "It would seem possible, if not probable," says Mr. RILEY, "that it normally feeds on the dead or dry plants of Mexico and adjacent arid regions, and that it has simply adapted itself to the somewhat similar conditions prevailing in herbaria." Corrosive sublimate and arsenic, such as botanists use, are recommended. Still more effectual is the plan of placing the packets of the herbarium for a short time in a zinc box with bisulphide of carbon, taking care to keep any light or flame away.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle Street, Piccadilly. The following arrangements have been made public. Friday-evening meetings before Easter, 1892, to which members and their friends only are admitted. January 22, The Right Hon. Lord Rayleigh, M.A., D.C.L., LL.D., F.R.S., M.R.I., "The Composition of Water." 29, Sir George Douglas, Bart., M.A., "Tales of the Scottish Pea-berry." February 5, Professor Roberts-Austen, C.B., F.R.S., M.R.I., "Metals at High Temperatures." 12, G. J. Symons, Esq., F.R.S., Sec. R.M.S., "Rain, Snow, and Hail." 19, Professor Percy F. Frankland, Ph.D., B.Sc., F.R.S.,

"Micro-organisms in their Relation to Chemical Change." 26, Sir David Solomons, Bart., M.A., M.R.I., "Optical Projection." March 4, Professor L. C. Miall, F.L.S., "The Surface-Film of Water and its Relation to the Life of Plants and Animals." 11, Professor Oliver Lodge, D.Sc., LL.D., F.R.S., F.R.A.S., "The Motion of the Ether near the Earth." 18, George Da Maurier, Esq., "Modern Satire in Black and White." 25, John Evans, Esq., D.C.L., LL.D., Treas. R.S., "Pony-rings." April 1, F. T. Piggott, Esq., "Japanesque." 8, Prof. W. E. Ayrton, F.R.S., "Electric Meters, Motors, and Money Matters." Lecture arrangements before Easter, 1892. Lecture hour, three o'clock. Christmas lectures: "On life in Motion, or the Animal Machine," by Professor John G. McKendrick, M.D., LL.D., F.R.S., Professor of Physiology in the University of Glasgow. Six lectures (adapted to a juvenile auditory) on December 29 (Tuesday) and 31, 1891; January 2, 5, 7, and 9, 1892. Tuesdays: "On the Structure and Functions of the Nervous System—the Brain," by Professor Victor Horsley, F.R.S., B.Sc., F.R.C.S., M.R.I., Fullerian Professor of Physiology, R.I. Twelve lectures on Tuesdays, January 19 and 26; February 2, 9, 16, and 23; March 1, 8, 15, 22, and 29; April 5. Thursdays: "On some Aspects of Greek Sculpture in Relief," by A. S. Murray, Esq., LL.D., F.S.A., Keeper of Greek and Roman Antiquities at the British Museum. Three lectures on Thursdays, January 21, and 28, and February 4. "On Some Recent Biological Discoveries," by Professor E. Ray Lankester, M.A., LL.D., F.R.S. Three lectures on Thursdays, February 11, 18, and 25. "On the Progress of Romance in the Middle Ages," by W. P. Ker, Esq., M.A., Professor of English Literature in University College, London. Three lectures on Thursdays, March 3, 10, and 17. "On Epidemic Waves," by B. Arthur Whitelegge, M.D., B.Sc. Three lectures on Thursdays, March 24, 31, and April 7. Saturdays: "The Induction Coil and Alternate Current Transformer," by Professor J. A. Fleming, M.A., D.Sc., M.R.I., Professor of Electrical Technology, University College, London. Three lectures on Saturdays, January 23, 30, and February 6. "On Matter: at Rest and in Motion," by the Right Hon. Lord Rayleigh, M.A., D.C.L., F.R.S., M.R.I. Six lectures on Saturdays, February 13, 20, and 27; March 5, 12, and 19. "On Dramatic Music, from Shakespeare to Dryden." (The Play, the Masque, and the Opera.) With Illustrations, by Professor J. F. Bridge, Mus.Doc. Three lectures on Saturdays, March 26, April 2 and 9.

GARDEN PUPILS.—The regulations adopted in conformity with the will of the late Mr. SNAW for the establishment of garden scholarships in the Missouri Botanical Garden, St. Louis, are as follows:—Pupils will be lodged in the garden, where a good library is also available. During the first year of their scholarship, garden pupils will work at the practical duties of the garden nine or ten hours daily, according to the season, the same as the regular employés of the garden, and will also be expected to read the notes and articles referring to the subject of their work, in one or more good journals. In the second year, in addition to five hours' daily work of the same sort, they will be given instruction, and be required to do thorough reading in vegetable and flower gardening, small-fruit culture, and orchard culture, besides keeping the run of the current papers. In the third year, in addition to five hours of daily labour, they will be instructed and given reading in forestry, elementary botany, landscape gardening, and the rudiments of surveying and draining, and will be required to take charge of clipping or indexing some department of the current gardening papers for the benefit of all. In the fourth year, besides the customary work, they will study the botany of weeds, garden vegetables, and fruits, in addition to assisting in the necessary indexing or clipping of papers, &c., and will be taught simple book-keeping, and the legal forms for leases, deeds, &c. The course for the fifth year, in addition to the customary work, will include the study of vegetable physiology,

economic entomology, and fungi, especially those which cause diseases of cultivated plants; and each pupil will be expected to keep a simple set of accounts pertaining to some department of the garden. In the sixth year, in addition to the manual work, pupils will study the botany of garden and greenhouse plants, of Ferns, and of trees in their winter condition, besides the theoretical part of special gardening, connected with some branch of the work that they are charged with in the garden.

"THE MINIATURE FRUIT GARDEN."—The twentieth edition of a book might make the general reader think that he had to do with a trade catalogue or an artfully-concealed advertisement. In the present instance, this is not so. The little volume contains a succinct account of the practice of the late THOMAS RIVERS, and of his son and successor, T. FRANCIS RIVERS. The book is so good that we do not suppose it will be long before a twenty-first edition will be called for. The recent agitation in favour of hardy fruit culture for cottagers and small farmers has called attention to the matter, and we know of no safer guide in practical matters than the *Miniature Fruit Garden*.

A CHRISTMAS CARD.—An obliging correspondent in British Guiana sends us a photograph of a group of "Ginger Lilies"—*Hedychium coronarium*—as growing in the Guianan forests.

PUBLICATIONS RECEIVED.—PITMAN'S *Shorthand Weekly*.—Pearson's *Almanack*.

APPLES AND PEARS IN SUBURBAN GARDENS.

THE past season, so far as I have seen, on this the western side of the metropolis, was one of the best for some years past, as regards crops grown under ordinary conditions. I mean by this, where no mulching or artificial manures have been employed, or root watering resorted to. True, this latter important aid to growth in dry seasons was not needed, with such rains as we experienced. This, however, points to the fact that such waterings upon our soils would be a great assistance were the season a dry one. Here, all our fruit is grown upon a gravelly subsoil, which in places is not far below the surface. If we trench our ground two spits deep, and break up the bottom, the gravel is more often than not turned up. Last summer's and autumn's rains therefore just suited us, having been none too much, considering the heavy crops the trees bore in most instances. During the average of seasons even, I have found that we very quickly suffer from drought. I find that a moderate system of pruning answers better than a too severe use of the knife. By relinquishing the latter, I have in several instances got rid of the canker in our Pear trees, with which I found them much affected. I consider the prime consideration in fruit culture is good crops of fruit. If this cannot be secured by the rule-of-thumb practice, other means must be adopted. The mere appearance of the trees, without regarding the crops obtained therefrom, is a fallacy. The rains of the autumn, with comparatively few fogs as an accompaniment, no doubt sowed another good purpose—that of keeping the fruits clean. Around here, what we lack most is colour in our Pears and Apples, particularly in the latter; this seems to be an unsurmountable difficulty under ordinary conditions. The character of the soil, without doubt, also contributes to this failing in a greater or less degree. Apples and Pears which possess the best constitutions are the most likely to succeed.

THE APPLE CROP.

The Apple crop now gathered in here was the best and the cleanest that I have had during sixteen seasons. The fruits, taken on the whole, were much finer than we usually have them. Our finest this year were Blenheim Orange, which, with us, must still be placed in the front rank; the fruits were larger and weightier than in any previous year, covering the above period. The trees were large and spreading;

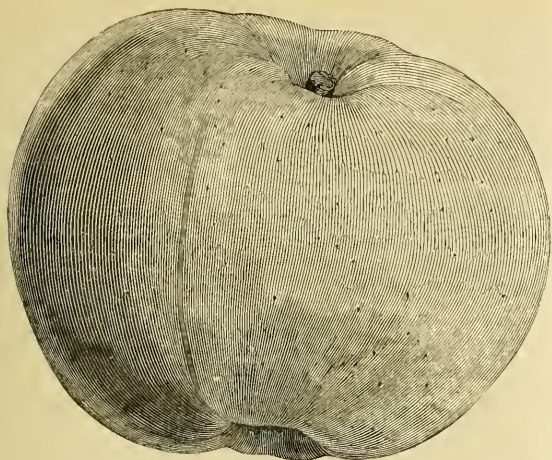


FIG. 5.—GOLDEN NOBLE.

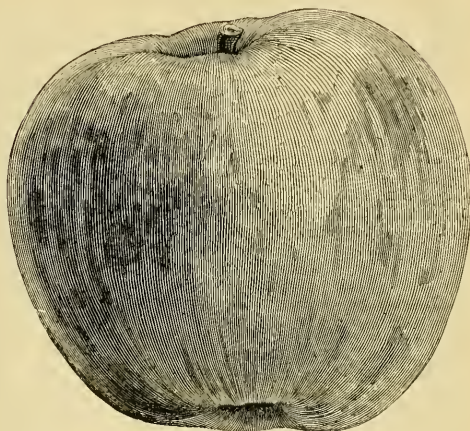


FIG. 6.—CELLINI.



FIG. 7.—EMPEROR ALEXANDER.



FIG. 8.—COX'S ORANGE PIPPIN.

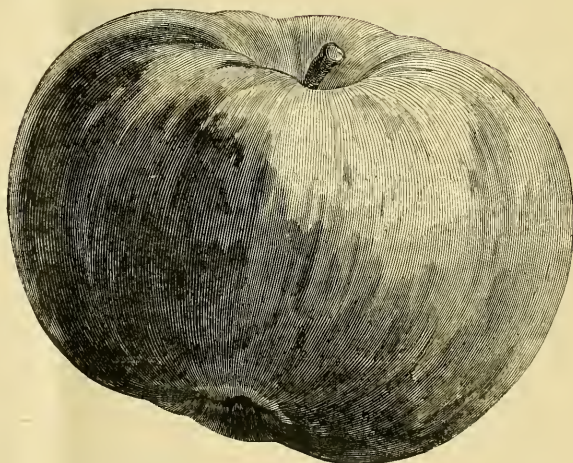


FIG. 9.—COX'S POMONA.

some are in the kitchen garden, others upon grass—perhaps the best crops are from the former. These trees were planted in 1850, and have rarely failed to bear a crop in my time. Another splendid Apple with us is Waltham Abbey Seedling, but I find it to be a periodical bearer, a heavy crop one year and a light one the next. Nevertheless, it is a standard sort, and the tree of good constitution. When fully ripe I prefer it for eating to King of the Pippins. One of our finest late Apples is Alfriston, of which this year we have again a very clear and heavy crop. Gloria Mundi, although a fine Apple, does not often bear so well as the former. As an Apple for a private garden, Golden Noble (fig. 5), is one of the finest of all, the fruits are now (November) turning to a deep golden colour. In a few weeks' time, they would be an ornament to any dessert, and of no mean quality either. The tree is very robust and sturdy in growth, its habit is more upright than in many kinds, and is one of the best sorts to resist a strong wind, the fruits being set firmly upon a short thick foot-stalk. Cox's Pomona (fig. 9), is another most admirable Apple, being just now in good condition. We cannot colour it as many do, but in spite of this it is very handsome; I find it to bear well nearly every season. King of the Pippins is this year a heavy crop, the fruits very fine, and remarkably clear for us. It is oftentimes liable to spot, thus the fruits are disfigured and do not keep so well either. Gravenstein was remarkably fine, the crop a heavy one. I wonder it is not more seen and recommended as a dessert Apple; it is with us the best of any for September and October use. Our trees are large, and the growth vigorous. I do not know how it may do upon the Paradise stock, but if it succeeded, it might probably be had finer still. Braddick's Nonpareil has borne good crops, but the fruits do not partake of that superior flavour with us that it should assume. Cellini (fig. 6) does well, and is most useful for this season of the year. One of our finest early Apples is Ecklinville; in our case it is superior in every way to Lord Suffield, which spots badly, requiring to be used up quickly. Ecklinville on the other hand, can be taken for use quite as early, whilst it will last longer. Wellington was considerably better than usual, although a good bit spotted. Last year it bore better than most kinds; the trees do not, however, look happy. An old tree of Winter Queening usually bears a fairly good crop; last year the fruits were large, and finely coloured. The crop of Beespool was this time a thin one; I do not find it a reliable bearer, but when a good crop is secured, it makes some amends, being so useful in February and March.

Of smaller Apples, Franklin's Golden Pippin, Court of Wick, and Yellow Ingestre should be named as amongst the best. Golden Reinette is, perhaps, one of the best croppers of these smaller kinds; last year, when Apples were scarce, this sort bore well, and again this season. My neighbour, Mr. Reynolds, of Gunnersbury Park, had Stirling Castle in splendid condition; the trees annually bear very heavy crops of unusually fine fruit. Peasgood's Nonsuch also did very well with him, the fruits coming very fine. Of older Apples, and upon old trees also, he had Cockle Pippin, Adams' Pearmain, and Ribston Pippin—all good, the first-named being a splendid cropper. Other first-rate sorts in the same garden are Cox's Orange Pippin (fig. 8), Lord Derby, Frogmore Prolific, Warner's King, and Mère de Ménage, besides most of those I have named as being in my own charge.

THE PEAR CROP.

In our case, as with the Apples, so with the Pears—the crop was all that anyone could wish; and, taken on the whole, but little fault could be found with the flavour. The most disappointing in this respect was Beurré d'Amanlis, this Pear evidently requiring a warm summer. One of the best for flavour thus far was Thompson's; the fruits of this fine Pear have been delicious—so much so, that it has been termed the "honey" Pear. In the case of the first-named, the fruits were extra large; in the latter, smaller than usual—both, how-

ever, bore heavy crops. Louise Bonne of Jersey was in capital condition; here, too, the flavour was good, and the crop a heavy one. Upon one tree the fruit was scabby; it is a tall one, and much exposed—so tall, in fact, that we had to cut off its top, and that may have had something to do with this failing. Williams' Bon Chrétien, in common with other parts, has about here and with us borne a very heavy crop, the sample being also a good one. Jargonelle growing as an orchard tree likewise carried a fine crop of fruit with less grittiness at the core than usual. Where this Pear is pruned here it does not succeed so well. Our earliest was Doyenné d'Été, but it was rather later than usual, not being ripe until the second week in August. Gratioli of Jersey was somewhat acid, but quite passable. Marie Louise was never of better flavour, the fruits mostly being grown upon our free standards have that russetty appearance which in this Pear denotes quality. Pitmasot Duchess was very good from a standard, but the crop was not what it ought to have been. I find the birds are very fond of this sort before it is really fit to gather. Beurré Clairgeau, a Pear which is frequently condemned, ripens well upon our soil and is also of very good flavour, this combined with its good looks recommend it. Duchess d'Angoulême, also from a standard, was much finer than usual, but I cannot yet speak of its quality last year, nor of that of Beurré Diel, which was likewise a good sample. Of the winter Pears, our mainstays are Josephine de Malines and Beurré Rance, these both do exceedingly well, ripening in a satisfactory manner with rare exceptions. Although we do not in these Pears attain to the size of some growers, we secure quality, and that is of first importance.

Small or medium-sized fruit of these late sorts have no doubt more chances of perfect development than the larger ones. Ne Plus Meuris is a good cropper and ripens well, so does Knight's Monarch, this latter sort, however, is given to dropping prematurely. Beurré Superfin from an old tree last season bore a good crop of fruit, being of excellent flavour also. Clapp's Favourite promises to be a good addition to the early kinds coming in between Jargonelle and Williams' Bon Chrétien. The best of all Pears for stewing is Catillac. Our trees are all orchard-grown without pruning; we rarely ever miss a crop, last season we had a very heavy one. *James Hudson, Gunnersbury.*

HOME CORRESPONDENCE.

THE WET WEATHER AND STRAWBERRIES.—The long-continued wet weather has had a marked effect upon Strawberries where the soil is heavy, and it is not for the best for the next year's crop of fruit. For the last month the leaves have taken on a yellow tinge, until many are now quite dead, some varieties being more affected than others. The variety Sir Joseph Paxton appears to be the worst hit, which is rather surprising, when we consider that this is the best wet weather Strawberry when the fruit is ripe. Dr. Hogg and British Queen are also affected in the same way. The latter, I expected, would be so, but not the former. Vicomtesse Hélicart de Thury and Noble appear to stand the wet weather much the best. Upon examination by digging up a few plants, I find all the small fibrous roots are dead, thoroughly rotted by excess of moisture, which is retained for sometime in our heavy soil, rendering it cold throughout the winter. I have had greater success with the Strawberry since we left off the practice of stirring the soil between the rows; but owing to these exceptional circumstances I must have the space between the plants lightly forked over, just deep enough to break the hard crust of the surface, which will allow the air to enter the soil more freely, preventing the moisture from remaining so long in excess in the soil, which is to the detriment of the plants. I find here in this soil Strawberries succeed much better when no manure is laid on the surface during the winter, as practised in some gardens. The plan which succeeds best here is to mulch the surface just previous to the plants throwing up their trusses of bloom, with some light manure, that from a spent Mushroom-bed answering well; and over this some straw

is laid to prevent the fruit being splashed by heavy rains. The goodness from the manure gets washed down to the roots of the plants, and in the case of a spell of dry weather setting in, either when the plants are in flower or later, rapid evaporation of moisture is averted. After the fruit is gathered, all the runners, and a half of the largest and oldest leaves, are cut off, the remnant of the old mulching material with the straw is removed, the plants being then left exposed about the surface for the winter. The past season was the wettest here for ten years, and the greatest rainfall for the year in the period named was 36.0 inches, already up to the present date we have exceeded that by 1.0 inch, the average registered rainfall here being 30.00 inches. Therefore I do not wonder much at the present appearance of the Strawberry-beds in our retentive soil. *E. M., Hampshire.*

CLIMBING NIPHETOS ROSE.—*Apropos* of the letters which have recently appeared in the *Gardeners' Chronicle* concerning the climbing habit of the above Rose, I may be permitted to say that, in looking through Messrs. Keynes, Williams & Co.'s well-stocked glass-houses (which, by the way, are being extended), I noticed some thousands of the climbing Niphetos Rose recently grafted pushing into growth in the propagating-frames in the forcing-house. This led me to inquire after the parent plant, which I described in the *Gardeners' Chronicle* a few years ago. This I was shown in the plant-ground close to the houses growing in the same cask it was in a few years since; the young shoots had been cut hard back for grafting purposes, the main shoots or rods being tied loosely together, and laid in a straight line from the tub, measured exactly 28 feet in length. *H. W. Ward.*

EGG PLANTS.—You have done well in taking up the question of the cultivation of the "Auberger," for why so valuable a vegetable should have been so long neglected is surprising. I grew some in pots last summer under glass without heat, only starting the seeds early with bottom-heat. The plants ripened fruit by the end of June, and the only difficulty was their infestation by green-fly and red-spider—probably my own fault. The seed I used was Vilmorin's variety, Violette Hâtive. May I add to your correspondent's nomenclature and cooking? The Turks call it Badlijan, and the Persians Padlijan, and London says the Arabs call it Bydenjan. As regards cooking, an excellent method consists in splitting longways, filling each division with chopped meat, and frying in oil. I should say that, taking the world round, it occupies as large an area as the Potato, and could be produced in England at the cost of the Tomato. *B. P.*

ASPIDISTRA ELATIORE BEARING SEED.—I have at present in my nursery a plant of above, bearing a healthy capsule of seed, though not yet mature. The flower was pollinated in June. Several attempts to obtain seed were made here, but previously none were successful. The capsule is entirely above the surface of the soil, and in this particular it is unlike the flower, which usually is partially buried. It is spherical in shape, and measures about three-quarters of an inch in diameter. Its integument is thick and fleshy. I should be glad to know if anyone has hitherto been successful in raising seed of this plant, or if it produces seed freely in its native habitat. *James Wilson, F.R.H.S., Greenside Nursery, St. Andrews, N.B.*

CHRYSANTHEMUM MRS. ROBINSON KING.—I note Mr. Blair, on p. 761, vol. x., speaks favourably of this sport from the Queen, but I cannot agree with him where he says, "I have seen several spurious varieties of Mrs. R. King." I always thought plants—or anything else for the matter of that—which were raised from the original stock by cuttings or offsets, could not possibly be spurious varieties. This can only come about when stocks of any plant are obtained from seed. In Chrysanthemums which are annually increased by means of cuttings, offsets cannot produce spurious varieties. If Mr. Blair saw light-coloured blooms, they were the result of defective culture, which will produce much variation in colour in almost any variety of the Chrysanthemum, especially the Queen section, with the one exception—*Empress of India*. *A.*

"CEDAR OF GOA." CUPRESSUS LAUCA (SYN. C. LUTIANICA).—*Apropos* of your illustration of this exquisite and rare plant (p. 761, vol. x.), I should like to say that by far the finest specimen I ever saw exists in a co. Wicklow garden—a fine spreading tree, 30 to 40 feet in height, at least, and feathered

to the turf by its elegant branches, most of which are laden with fruits. As thus seen, fresh, healthy, and fertile, it is one of the most distinct and graceful of all its allies; but the place is sheltered, and near the sea, and the soil of the most fertile in the vicinity. I have not the owner's permission to mention his name, or the estate on which the really noble specimen of this "Cedar of Goa" exists, but if this should meet his eye, perhaps he would himself kindly give us the history of his splendid specimen, so far as it is known to him. *F. W. B.*

SIGNS OF SPRING.—I have to-day (December 26) seen the first Snowdrop flower-bud, one of Galanthus Elwesii, growing on the south side of the rockery. Anemone fulgens has been in flower in the open border for fully a week, and does not seem any the worse for 13° of frost which was experienced one night lately. *E. Molyneux, Hants.*

THE TREE TOMATO (CYPHOMANDRA BETACEA).—Another year's experience with this novelty only enhances my opinion of it as a decorative and fruiting subject combined. In the summer we have its head standing out in striking relief against well-known decorative plants of our English homes. The young leaves are violet-purple, followed, as each leaf increases in size, by a purplish-green tint, assuming more and more of a sea-green hue until, as it approaches maturity, the bright green disappears, giving place to a yellow cast, until the fruit commences to colour, when the plant has then to change its character. Belonging to the same race as the Tomato, it is, when cooked, scarcely distinguishable in flavour from that esculent. The fruit is egg-shaped, 3 inches long, and of a salmon-red colour. When the additional fact is taken into consideration, that this variety fruits from November to beginning of February, it will be apparent to all practical minds what a valuable subject it must prove for an employer's table during the dark winter months. That well-known authority, the Rev. W. Wilks, when he exhibited fruits of this species at the meeting of the Royal Horticultural Society, stated that he had grown his plants, "in a cool orchard-house, from which frost only was excluded." My experience applies to plants grown in an intermediate-house throughout the summer, and conveyed to a drier atmosphere as the plants attained maturity. His experience, therefore, increases its value, by showing that any amateur who has a house from which he can keep the frost is able to cultivate it. Perhaps Mr. Wilks may be induced to give his "summer treatment" of this plant in the pages of the *Gardeners' Chronicle*. *Pioneer.*

RHUS VERNICIFERA.—Is it generally known that the sap of *Rhus vernicifera* is of a very poisonous nature? We have a number of this variety of *Rhus* in the grounds here, raised from seed, brought home by my employer from Japan some few years ago, and are now nice trees from 10 to 12 feet in height. Having occasion to transplant some of these, myself and two men have since been suffering from blood-poisoning of most irritating nature, inflaming the whole body from head to foot, especially the hands and face, and having the appearance of nettle sting, only with more swelling—the irritation being so great that no sleep was to be had for some nights. *Albert Willis, Sandford Leigh Gardens, Newton Abbot.* [All the species of *Rhus* are more or less poisonous. *Ed.*]

CHRYSANTHEMUMS AND ORCHIDS AT DAVENHAM BANK, MALVERN.—The gardens at the above place are always full of beauty and interest. At the present time the conservatory is gay with *Chrysanthemums*, and these are arranged in a freely artistic manner. Prizes are offered in large numbers throughout the kingdom for "groups of *Chrysanthemums* arranged for effect," and the stereotyped masses, dense in substance, stiff in composition, and almost—in many cases entirely—devoid of artistic arrangement, are "put up" year after year. Colours are jumbled together, and good taste is seldom seen. Why cannot we have prizes offered for groups of *Chrysanthemums* arranged for artistic effect? At present competitors feel themselves compelled to produce a jumble of colour in order to meet the rules of judging, which, I think, require that the groups shall be representative, i.e., contain examples of the different sections of *Chrysanthemums*, and variations in colour. Mr. Bradshaw has wisely departed from the old lines of mixing his colours, and produces more delicate and pleasing effects by grouping the tones or shades of one colour. Mr. Perkins, of Coventry, showed us long ago how much richer

effects are produced in that way, by his lovely bouquets of *Chrysanthemums*. Orchids are well represented at Davenham Bank, and many old-fashioned species are found there in large masses. Amongst the most noticeable were *Epidendrum ciliare*, a very large mass; *E. prismatocarpum*, also very large; *Maxillaria grandis*, *Anguloe Clowesii*, *Dendrobium moschatum*, *D. Dalhousienum*, and *D. simbrarium oculatum*. These *Dendrobies* are not very durable when open, but they are very beautiful. The curious and rare *Nanodes Medusae* here represented by a specimen on a block. Here also is probably one of the finest specimens of *Odontoglossum pulchellum* in cultivation. The lovely *Cattleya exoniensis* is represented by a specimen for which "the trade" has offered over 250 guineas. *Cattleya Sanderiana* is represented by magnificent specimens in robust health, and *Lælia purpurea* and *L. anceps* are grown in quantity. The latter are throwing up large numbers of spikes. It is rarely that one sees *Miltonia vexillaria* growing more freely than here. *Angraecum sesquipedale* is showing a number of flower-stems, and Mr. Bradshaw says that he once had one that bore thirteen flowers on one spike. *Cypripedium longifolium* and *Sedenii* are gigantic specimens in No. 1 pots! And the lovely *C. Spicerianum* is smaller and more numerous. *Phalenopsis* are sending up panicles of flowers 3 feet to 4 feet long. The Holy Ghost flower (*Peristeria elata*) blossoms every year, and is a very robust plant. There are three or four very fine specimens of *Vanda teres*, and I learn that they flower very freely. The chief element of success is to see that they make their growth near the glass, and have as much sun-light as they can bear without injury to the leaves. *Cecylogyne cristata*, one of the loveliest white *Orchids* grown, is a great favourite here; like some other *Orchids*, it is improved by weak manure-water. *Thunias* and *Sobralias*, and *Sophranitis* are well grown, and flower freely in their season. *Masdevallias*, an excellent collection are grown in quantity. Great masses of *Trichomanes radicans* are grown in the temperate Fernery, and in that condition the plants are lovely. The beautiful subway which conducts from one part of the garden to another, is a work that is creditable alike to the engineering and artistic skill of Mr. Bradshaw. But description fails to convey an adequate idea of the beauty of this part of the garden. *Hortulanus.*

BOCCONIA CORDATA.—I can vouch for the hardness of this fine foliage plant, as I have a large clump growing in my nursery from 8 to 10 feet through, and which has produced stems 6 to 7 feet high. I consider it cannot be surpassed either in a mixed border or as a companion to the Pampas-grass. I herewith send roots taken from the ground, and others started in a little heat, showing how easily it may be propagated. *James McDonald, Chichester.*

FROST IN WILTSHIRE.—I send you a report of frost that we registered at this place during the latter half of December. On the morning of the 18th, we had 12°; 19th, 12°; 20th, 17°; 21st, 18°; 22nd, 22°; 23rd, 20°; 24th, 15°; 25th, 11°; 26th, 5°; in all, 132° of frost in nine nights. *Wm. Leaney, Chippenham.*

NOTICES OF BOOKS.

LETTERS FROM A COUNTRY HOUSE.

The language of the book is easy and well-chosen, but what does "powerling" along the road mean? And again, speaking of sleep and pleasure respectively, is the phrase, "He had pretty well of it"—a provincialism. To villa-ise is a verb as yet, fortunately, not to be found in a dictionary.

Mr. Anderton pokes a little fun at the "varieties of fruits and vegetables, of improved Peas that are as sweet as sugar, succulent as Asparagus, and the size of marbles," and at the pictures of such treasures in the seedsmen's catalogues. "Somehow," he says, "when I try to produce these wonderful varieties, they do not always come up as the illustrations shown, but I suppose that it is all the fault of my garden and gardening. It can't be anything wrong with the seed. Perish the thought!"

The account of his old gardener is very amusing. This worthy considered a piece of Seaweed far more reliable than any "brometers," and ascribed a spell

of wet weather to the new rain-gauge. But the words he chose were even more remarkable than his opinions:—"I asked him if it would not be well to have more variety among the Pansies, instead of so many of one kind. 'Oh, yes,' he said, 'it will make a nice disparity of colour.' One year my Potatoes did very badly, and I reminded him of this fact. 'Ah,' he replied, 'I must plant 'em somewhere else, this ground is getting "tater-sick".' Once I asked him to put up some sticks in a certain place, to prevent the grass being over-trodden. He did so in rather a fanciful way, on the ground that they would look more 'gothic.' I doubt if he quite knew the meaning of the word he used; but it was decidedly appropriate, since gothic does mean utility and ornament combined."

Writing on many and varied subjects, including fox-hunting, rhapsodies on cloud-effects, the pleasures of feeding (!), how to manage a fire, ploughing, and superstitions, Mr. Anderton has used his leisure to give us a book which is a welcome addition to our book-shelves; for although the sentiments expressed are often common-place, they are pleasantly and chatily written, in a style which does not call for adverse criticism. The "Letters" were originally published in the *Midland Counties Herald*; in their revised form they are issued by Messrs. Simpkin, Marshall, London; and Cornish Bros., of Birmingham. Print, paper, and binding, are all excellent, and the book is of convenient size, and of neat, attractive appearance.

DIE VERDELUNGEN FÜR DIE VERSCHIEDENEN BÄUME UND STRÄUCHER. Von Nicholas Gaucher. (Stuttgart, Julius Hoffman.) (Grafting of various trees and shrubs.)

The progress of horticultural education in this country will necessitate the production of a higher class literature than at present prevails. As a model of what such books should be, we commend Mr. Gaucher's treatise on ennobling or grafting. The language in which it is written is no doubt a serious drawback to many English students, but it may possibly be translated, whilst the numerous illustrations appeal happily to people of all nations, and they are so instructive that much may be learnt from them without looking at the text itself. The various methods of grafting, budding, inarching, layering, &c., are fully described and the latter half of the book contains an alphabetical list of shrubs and trees, together with the best methods of propagating them, and the seasons appropriate to each. Pruning and training are duly attended to, and the work ends with a monthly calendar of operations and a full table of contents.

SEVEN DREAMS. By Annie Trumbull Slosson. (Osgood, Macfivaine & Co.)

This is a collection of allegories—or, rather, to use the expression the authoress prefers, of dreams—which ought to be read by every lover of Nature. The seven "contes" in the book relate the harmless but pathetic manias of simple, humble New England folk. A cynic has said that, to reach the highest ideals of usefulness, one must be a little wrong in the head; these tales, in some measure, seem to bear out this statement. But they are told with such a quiet air of pathos, and such real sympathy, that the most callous reader cannot fail to be deeply moved in perusing them. The second one, entitled "Botany Bay," tells how a gatherer of simples believed that he had a double, or *alter ego*, with only one soul between them. In the silence of the woods he used to converse with his imagined other self, and pray that he might be annihilated, so that the other might inherit the eternal life. This story, as well as two others, entitled "Fishing Jimmy" and "Aunt Randy," abound with wonderfully life-like descriptions of wild flowers and insects. Perhaps the most beautiful "conte" in the book is "Deacon Pheby's Selfish Nature." It is the story of a boy, who, when his twin-sister, a little girl, on whose clinging, loving nature his widowed mother leant,

and when the mother herself was blind from the effects of small-pox, pretended that he had died instead of his little sister, so that his mother should not pine herself to death, and though he was a boy loving all sorts of outdoor sports, forced himself to copy feminine ways. His mistakes, which the blind mother puts down to the effects of the small-pox, are very humorously told.

To show the beauty of the descriptions, and how charming they are to any lover of wild flowers, we will quote the following, which is one only of the many beautiful passages in the same sympathetic strain:—"There are no stately monuments here or cold white tablets, but at the head or foot of many a mound lies a granite block or boulder, softened and made beautiful by moss, and Vine, and tiny flower. No laboured epitaphs are written here, nor are they needed. The bursting chrysalis, setting free the bright-winged butterfly, which shall take wings and soar upward some bright June day. The buried seed, the waking flower, the bursting bud, all are living lessons, and require no letters cut into cold stone to make their meaning clearer. No massive wall or fence shuts in this God's acre. On one side a bank slopes down to a grassy meadow, another side is bounded by a crystal-clear mountain streamlet, along the third is a wild hedgerow of trees, shrubs, and tall herbs, wild Cherries with tassels of bitter-sweet scent, Hazel with odd green tufts which mean to be nuts some day, Shad-blow with leaves of bluish-green, white flowers, or green berries, waiting for the sun to make them red; quivering Poplars with slender white trunks, pointing to the sunrise; Mountain Maple, Birch, and Alder."

FOREIGN CORRESPONDENCE.

THE WINTER IN SWEDEN.

AFTER such a trying winter as the last one, when it was nearly as severe in England as it is generally here, perhaps it may be of some interest to your readers to know what plants proved quite hardy here:—*Acer tartarica*, *A. ginnala*, *A. negundo variegata*, *A. virginicum*, *A. laciniatum*, *Azalea mollis*, *A. pontica*, *Chionanthus virginiana*, *Deutzia scabra*, *D. crenata*, *Hydrangea paniculata*, *Rhododendron ponticum*, *Rosa rugosa*, *Abies amabilis*, *A. Fraseri*, *A. nobilis*, *A. Nordmanniana*, *Picea polita*, *Cupressus nutekensis*, *Libocedrus decurrens*, *Retinospora plumosa aurea*, also most of the American Oaks. Cut down to the ground were, on the other hand, *Ceanothus var.* (they flower well all the same), *Coronilla emerus*, *Crataegus pyracantha*, *Daphne Mezereum*, *Deutzia gracilis*, *Rhus Cotinus*, *Ribes sanguineum var.*, *Robinia Decaisneana*, *Spiraea arifolia*, *Weigela var.*, *Picea morinda*, *Abies grandis*, *Cedrus Libani*, *Prunus laurocerasus*.

POTTING SOIL.—The object in the preparation of a good soil for potting fruit trees is to make it physically and chemically lasting and durable, more than to make it rich. By physically lasting, I mean one able to remain open, porous, and sweet for years; this is best obtained by using good loamy turf, rich in root fibre. As a good substitute for mixing with garden soil where turf is scarce, woollen refuse from paper and shoddy manufactories may be recommended. Chemically durable is the soil when it contains the principal nutritive substances (phosphoric acid, potash, and nitrogen), in such a condition that they are not absorbed at once by the roots, or carried away by water. They should not be, as the farmer demands them, as soluble as possible. The best materials are raw crushed bones, not too fine (phosphoric acid), pulverised minerals rich in potash, as felspath, or sand consisting of these minerals, more soluble, and therefore to be used in smaller quantities; but more often, wood-ashes, kainit, and potash fertilisers are used. Durable nitrogen fertilisers are wool and hair refuse.

STAYING ON.—About the best time for this operation there are different opinions, some say it is when

you close for the day, others say so early that the leaves may get dry before night. The rule here is quite the contrary; we never syringe earlier than we may be sure that the leaves will keep wet through the night. This I consider of much importance, and I do not syringe before the sun leaves the house, half an hour before it sets. My reasons for this are: it is natural for the dew to remain on the leaves till it is dried off by the sun in the morning, and what it is natural I should say is the best. Now it is said that we cannot copy Nature in our cultures under glass, this may be true when our object is different from that of Nature, not otherwise. When we aim at the same end as Nature gains in favoured climates, and we are generally content with that, we cannot do better than use the same means as she does. The other reason for late syringing is, that when the leaves remain wet till next morning it is unnecessary to syringe at that time, as most people, like Mr. Rivers, recommend. Finally we give the trees much more time for work when we syringe at sunset and not at all in the morning than we do when we syringe at 6 to 7 p.m. and 6 to 7 a.m. in June, when the sun rises at 3, and sets at 9, something like five hours is gained. We may very well suppose that when the air in the house is moisture-laden, and the leaves wet, there can be no evaporation, and therefore no productive work going on in the leaves. Perhaps I overrate the advantage to be derived from this gain in time, but it seems to me to be as important to economise the plants' working-time as it is to do it with your own. *M. P. Andersen, Jönköping, Sweden.*

FRUIT NOTE.

NEW PEAR, GHELLINCK DE WALLE.—The *Bulletin d'Arboriculture*, &c., for November contains a coloured figure of a new Pear of first-rate quality, raised in the garden of M. Ghellinck de Walle, near Ghent. Fruit of medium size, oblong-obovate, skin yellowish, speckled with russet; flesh creamy-white, melting juicy sugar slightly acid, and delicately perfumed; eye small, level with the fruit; stalk short, thick, inserted vertically or obliquely in a shallow basin. Season, November. M. Pynaert considers it one of the best autumn Pears.

SCOTLAND.

In Mr. Muir's paper on "Gardeners and Gardening, North v. South," are some things not only hard to be understood, but extremely difficult for a Scotsman to stomach. In England you often hear Scotland spoken of as the knuckle end of England, but though very small in proportion, its successes in those arts, of which gardening is one, have been altogether out of proportion to the size, wealth, and population. Cut out of England any portion of equal size with Scotland, compare the results, and I question if the balance will not fall to Scotland. Mr. Muir gave credit where he could not withhold credit, acknowledging that the English climate was an important factor in making English horticulture easier and possibly better. Scottish gardeners are a smaller hand, much less efficiently accoutred, but have heavier odds to face in cold and storm and briefer seasons. Another point is this, and one with which as a Scotsman Mr. Muir must be thoroughly conversant, that in common with the other free arts, gardening for long was little encouraged in Scotland until within comparatively recent years. England had its exhibitions of paintings years and years before Scotland, so that Scotland has some lee way to make up before being put into the balance by my friend, against our more artistic neighbour, and found wanting. Regarding our table decoration, which hurts Mr. Muir's feelings as much as our Scotch nurserymen's humble representatives, it is all a matter of taste; and as regards our Scottish exhibitions, the Royal Caledonian Society gives the largest amount of prize money of any society in Great Britain.

On the whole, while grateful to Mr. Muir for his kindly criticism of Scotland, which all wise Scotsmen will receive as "the wounds of a friend," common sense and a little experience of both countries soon lead one to think that it is nothing more or less than the fact that Scotsmen are pushing and successful in the south, and that in consequence we hear the occasional bark of partisanship. *J. W. McHattie, Newbattle Gardens, Dalkeith, N.B.*

TRADE NOTICES.

MESSRS. DICKSON AND ROBINSON, MANCHESTER.

By an advertisement in this week's number it will be seen that the following change is being made in the firm of Messrs. Dickson & Robinson, Seed Merchants, Manchester. Mr. Robinson, hitherto the sole proprietor is, on January 1, admitting into partnership, Mr. A. W. Whale and Mr. Henry Hicks, the first-named has, for the last twenty-two years, held an important post in the celebrated German seed house of Mr. Ernest Benary, Erfurt; the latter gentleman has a large circle of acquaintances amongst our readers, having represented the Manchester firm as traveller for many years, more especially in the Midland and Northern counties.

COLONIAL NOTES.

SIERRA LEONE.

MR. G. F. SCOTT ELLIOT, one of our contributors, has been appointed botanist to the Boundary Commission appointed to fix the limits of French and of British territory respectively in Sierra Leone.

THE WEST INDIES.

MR. C. A. BARBER, Demonstrator of Botany at Cambridge, has been appointed Superintendent of the Botanical Department of the Leeward Islands.

CLIMBING SOUVENIR DE LA MALMAISON.

Messrs. Illife & Co., of Sydney, who make a specialty of Rose-growing, have raised and sent out a climbing form of this favourite Rose. Mr. Thomas Milner, a son of the late nurseryman of that name, at Bradford, Yorkshire, has lately joined the firm. A photograph of a standard Niphetos Rose is enclosed. *Correspondent.*

PLANT PORTRAITS.

BILBERGIA FRANZ ANTOINE. *Wiener Illustrirte Garten Zeitung*, December, 1891. B. Windi x B. Kobani.

CALLIARHOE PAFAYER. *Garden*, December 12, 1891.—A malvaceous hardy perennial, with palmately-lobed leaves and long flower-stalks, each bearing a cup-shaped flower, 2 inches in diameter, rosy-lilac with a white eye.

CHRYSANTHEMUM MADAME E. FIENERS. *Revue de l'Horticulture Belge*, December.—An early-flowering Japanese variety, with linear florets of a white colour flushed with rose.

CYPRIPEDIUM FAIRRIANUM. *Orchidophile*, November, 1891.

DORYANTHES PALMERI. *Revue Horticole*, December 1. **IRIS ATROPURPUREA**, Baker, *Gartenflora*, t. 1361.—A Syrian species, with very dark brown velvety flowers.

LONICERA HALTEANA. *Canadian Horticulturist*, December.

ODONTOLOSUM ORTHOGESIANUM x, *Gartenflora*, December 1, t. 1360.—A natural cross between crispum and odoratum.

ONCIDIUM SPLENDIDUM. *Orchidophile*, October.

ROMNEYA COULTERI. *Gartenflora*, t. 1359.

ROSA VICHURIANA. *Garden and Forest*, December 2.

SARRACENIA PURPUREA. *Mechan's Monthly*, t. 6.

SENECIO FULCHER. *Moniteur d'Horticulture*, December 10.

FLORIDA PAVONIA, *Illustration Horticoles*, t. 142.
VANDA CORTLEA, *Revue de l'Horticulture Belge*,
Deceubur.

Obituary.

W. T. ACTON, market gardener, of Bollo Lane, Acton, died on December 17, at the age of sixty-one, from inflammation of the lungs. Mr. Acton was an old inhabitant of Acton, having been born there, and succeeded his father as a market gardener. He grew Pears—Bon Chrétien especially—Apples, Plums, bush fruits, and Mushrooms on a rather large scale in the open air. He was well-known in Covent Garden Market, his geniality and uprightness secured for him a large number of friends. For some years he took an active part in local affairs, and was a member of the Local Board of Health for a considerable period. He was also a member of the jury of copyholders.

JAMES WILLIAMS.—It is somewhat remarkable that we should have had to record the death of Mr. B. S. Williams, of Holloway, several months before that of his father. In fact, all the circumstances of the case are remarkable. Mr. James Williams, who died on Christmas Eve, was born in January, 1797, having thus nearly completed his ninety-fifth year. He entered the service of Mr. John Warner, of the Woodlands, Hoddesdon, so long ago as 1817, and remained in the service of the family at the same place till four years ago, when failing health necessitated his retirement. A service of seventy years in one family is probably unexampled. In former years Mr. Williams was a successful exhibitor himself, and frequently acted as judge. In a future number we hope to give a portrait of this patriarch.

DR. WILLIAM ROBERT WOODMAN.—The Doctor "passed peacefully away" at De-von House, Brondesbury, on Sunday, December 20, 1891, the day following his sixty-second birthday, and was laid in his grave at old Willesden Churchyard on Christmas Eve. He was a prominent figure in gardening and in freemasonry. In 1871 he succeeded his enthusiastic uncle, the late Mr. R. T. Pince, of Exeter Nursery, and carried on under the familiar title of Lucombe, Pince & Co., that famous old establishment, with much spirit and enterprise until 1883, when he relinquished the business in favour of his late tenant. To record all his victories would fill a whole page, for he was first prize-winner in nearly every competition wherever he went, and his magnificent collection of specimen exhibition plants was at that time unquestionably the finest in existence. During 1873 to 1877 he won in open competition upwards of 100 1st prizes and silver cups, the most notable being the 20-guinea Cup at Plymouth for twenty stove and greenhouse plants, and the 15-guinea Cup at Weston-super-Mare for twelve stove and greenhouse plants—both victories he repeated on several occasions; two 1st prizes at Manchester in 1874 for hardy Conifers, the £15 prize at the Royal Aquarium, in 1876, for eight distinct stove and greenhouse plants in bloom; the £20 prize for twenty stove and greenhouse plants at Nottingham in the same year, and the 1st prize for eighteen stove and greenhouse plants at Torquay in 1877; he also for some years "swept the decks" in the open classes at Exeter and Taunton. After 1877 he did not again compete for prizes, but still continued to the last as an honorary exhibitor, his extensive and artistic displays being generally the chief feature of the flower shows he patronised; moreover, his own annual exhibitions of Hyacinths and spring flowers at the Exeter Nursery gave delight to thousands. He spent his time, his learning, and his money, for the benefit of others, and in attempts to reascend an unwholesome business which had passed its meridian.

Mr. Napper, one of his old employes, sends a warm eulogy of the merits of Dr. Woodman, together with a portrait, which we shall probably reproduce.

THOMAS STATTER.—Mr. Thomas Statter, of Stand Hall, was the agent of the Earl of Derby on his extensive estates in Lancashire, at Knowsley and Colne, for a period of fifty years or more. He was a man of peculiar individuality, and a keen judge of character. His position and varied knowledge rendered him powerful in the various districts named, and he has been called upon year after year, as he has told the writer himself, to take part as a witness in the various schemes in connection with these districts before numerous parliamentary committees. He was a keen field naturalist in every sense of the word, fond of all manly sports, and, although a stern disciplinarian, was ready to lend a helping hand to those possessed of talent in their particular spheres. He had gathered together in his quiet residence at Stand Hall no end of art treasures; and latterly, in the afternoon of his life, took to the cultivation of Orchids. How far he has been successful, the pages of the *Gardeners' Chronicle* bear ample testimony. Nothing delighted him more than to have a chat with any Orchidist who knew what he was talking about. Contented with small things at first in the Orchid way, as most Orchidophiles are, he rapidly gathered a collection, which now ranks high among the collections of the country. What he bought lately consisted of gems of the first water. No man of our acquaintance was keener in his appreciation of the beautiful in the more showy Orchids of our time, and no one could sneer more pointedly than the deceased gentleman at second-rate articles. Possibly, his greatest gems were in *Laelias* and *Cattleyas*, and the various hybrid forms which have sprung from them. His *Dendrobies*, too, are a marked lot, and so are his *Ondotoglossums*. It was only quite recently to look to *Cypripedia*. Like many other collectors, he could not see very much beauty about the sorts of yore; but when these finer hybrids came to be offered, there was nothing distinct or good in commerce but what he would have. He was a practical man, every inch of him, and appreciated intelligent gardening practice wherever seen. His garden-r, Mr. Johnson, began Orchid-growing with him, and "bit by bit" acquired his present knowledge by careful watching and intelligent perseverance, showing clearly that that department of gardening practice depends more upon the study of the individual habits of the species than upon any hard-and-fast rule of the elementary cultivation of families of plants.

When he was laid aside, and could not visit his glass-houses, he had the plants brought into his study in the first instance, and latterly into his bedroom. There he took notes, and discoursed upon his grand varieties of *Laelia elegans*, and *Cattleya Trianae*, of *Cattleya labiata*, or *Vanda Sanderiana*, &c., in which the collection was particularly rich. He seemed never tired of discoursing upon a theme of this sort, even when his physical health was rapidly declining. Only about six weeks ago the writer was in his bedroom, where he had been holding an interesting conversation with his gardener on the merits of the particular plants of the day, that were brought up to show him in flower. When the duties of the day were over, and his principal letters read and replied to, then his hobby of Orchids, and how they should be cultivated, came to be discussed. His success he put down to his exposed position, where there was plenty of air moving about to get into the covered ventilators. He advocated bairdhood of culture, and his system of heating and ventilating of houses tended to that end.

His son and successor, Mr. Thomas Statter, told me that his extreme love for Orchids in the latter days of his life kept him so much employed that he was under the impression that it lengthened his days. Opinionative as our deceased friend was, he always cheerfully hearkened to the voice of practical wisdom, and in his gardener, Mr. Johnson, he had a valuable but independent employé. He went to his rest, after doing some of the ordinary routine of business in the morning, at noon on Christmas Day, in the full enjoyment of his mental faculties up to

the last, and his is one of the gaps that we Orchidists have to lament over as years roll on and men pass away. J. A.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

CELERY-COFFER appears to have come into use at Glasgow. Can any reader of the *Gardeners' Chronicle* say what kind of Celery is used, and how the coffee is prepared? D. M.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 45° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for so inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.		
	MEAN.					INCHES.		HOURS.		
	ACCUMULATED.					PERCENTAGE OF POSSIBLE DURATION FOR THE WEEK.		PERCENTAGE OF POSSIBLE DURATION FOR THE WEEK.		
	ABOVE 45° FOR THE WEEK.					ABOVE 45° FOR THE WEEK.		ABOVE 45° FOR THE WEEK.		
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Ineh.	Ins.	Ins.	Ins.	Ins.	
1	3	10	26	+ 104	+ 107	10	235	51.3	8	26
2	2	0	50	— 74	— 172	5	179	29.9	29	30
3	10	0	99	— 97	— 159	5	177	24.5	9	28
4	9	0	95	— 95	— 137	4	192	26.3	21	33
5	11	0	110	— 85	— 145	5	187	30.1	14	31
6	7	0	70	— 93	— 137	4	185	33.0	38	33
7	1	0	24	+ 36	+ 45	6	99	48.1	9	31
8	7	0	76	+ 36	+ 67	6	180	37.5	22	29
9	5	1	41	— 130	+ 113	6	193	43.8	27	37
10	1	6	31	+ 22	+ 50	6	118	34.2	33	31
11	2	10	32	— 35	+ 48	4	208	40.4	38	34
12	5	9	27	— 9	+ 51	6	195	36.1	65	47

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—1, Scotland, N.; 2, Scotland, E.; 3, England, N.E.; 4, England, E.; 5, Midland Counties; 6, England, S.; 7, England, S.W.; 8, England, S.W.; 9, England, S.W.; 10, Ireland, N.; 11, Ireland, S.; 12, Channel Islands.

THE PAST WEEK.

This following summary record of the weather for the week ending D-cember 26, is furnished from the Meteorological Office:—

"The weather during this week was very cold and dry over England, with thick fogs at the inland stations, but with fine, bright sunshine on the coast. Over Ireland and Scotland the conditions, though generally dry, were less wintry; while in the extreme North-west slight rain was experienced at times. Towards the end of the period the weather became milder and damper in all parts of the kingdom.

"The temperature was 3° above the mean in 'Scotland, W.,' but below it in all other districts. In Ireland and the east and west of Scotland the deficit was only 1° or 2°, but over England it was much greater, amounting to 7° in 'England, S and N.W.,' 3° in 'England, E.,' 10° in 'England, N.E.,' and 11° in the 'Midland Counties.' The highest of the maxima, which were registered on the last day of the period, ranged from 55° in 'Ireland, S.' to 45° in 'England, N.E.' During the middle part of the week the daily maxima over all the more central parts of England, were generally below 30°, and at some stations considerably lower; at Bawtry the maximum reading on the 22nd was no higher than 10°, and at York, the thermometer did not rise above 20°. The lowest of the minima were recorded at the meteorological stations either on the 23rd or 24th, when the thermometer fell to 9° in 'England, S.W.,' and to between 13° and 20° in most other districts. In the

Channel Islands, however, the temperature did not fall below 26°.

"The rainfall was less than the mean in all districts, the fall in most cases being very slight.

"The bright sunshine varied greatly in different localities, but was upon the whole, above the mean for time of year. In some parts of inland England—notably in London and at York—it was almost entirely absent. The percentage of the possible duration ranged from 65 in the Channel Islands, to 38 in Ireland, S. and England, S., and 33 in Ireland, N., to 14 in the Midland Counties, 9 in England, N.E., and Scotland, W., and to only 8 in Scotland, N."

MARKETS.

COVENT GARDEN, December 31.

We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who give the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. [Ed.]

MARKET quiet after Christmas. Prices generally unaltered. *James Webber, Wholesale Apple Market.*

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples, Canadian and	Kent Cobs, 100 lb. 3 0 3 5 0
New Scotland, per	Lemons, per case 13 0 30 0
barrel ... 10 0 10 0	Pine-apples, St. Mi-
Apples, 2-sieve ... 0 18 0	chael, each ... 2 0 6 0
Grapes ... 0 8 2 8	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Ancenis or Mimosa, per bunch 1 0 1 8	Mignonette, doz. bun. 1 6 2 0
French, per bunch 1 0 1 8	Narcissus, paper-
London Lilies, doz. bls 8 10 0	white, Fr., p. bun. 4 0 8 0
Azalea, per doz. sprays 1 0 1 8	Orchids—
Calliopsis, white, per doz. 1 0 1 8	— Cattleya, 12 blms. 6 12 0
— red, per doz. 1 0 1 8	— Odontoglossum
Carations, 12 blms. 2 0 3 0	crispum, 12 blms. 3 0 6 0
Chrysanthemums, 12	Pelargoniums, scar-
blooms ... 1 0 10 0	let, per doz. bun. 6 0 9 0
— 12 bunches ... 3 0 5 0	— 12 sprays ... 1 0 1 6
Eucharis, per dozen 5 0 7 0	Poinsettia, 12 blooms 4 0 9 0
G. rufica, per dozen 4 0 6 0	Primula, sing. 12 bun. 6 0 9 0
Heliopsis, 12 sprays 0 6 8 0	Roses, Tea, per dozen 1 0 3 0
Hyacinths, 12 sprays 0 6 1 0	— coloured, doz. 2 0 4 0
Lilac white (French)	— yellow (Maré-
per bunch ... 6 0 8 0	chal), per doz. 4 0 6 0
Lily of the Valley, doz. 4 0 8 0	— red, per dozen 1 4 2 0
Lily of the Valley, per doz. sprays 1 6 2 8	Taberna, 12 blms. 1 0 1 6
Maiden Hair Fern, 12 bunches 4 0 9 0	Tulips, p. doz. blms. 1 0 2 0
Marguerites, per doz. bunches ... 3 0 4 0	Viola, per bunch ... 3 6 4 0
ORCHID-BLOOM in variety.	— Czar, per bunch 2 0 3 0
	— English, 12 bun. 1 0 2 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantums, per doz. 4 0 12 0	Ficus gracilis, doz. 8 0 12 0
Arum, per dozen ... 12 0 18 0	Ferns, various, doz. 4 0 9 0
Aspidistra, per doz. 18 0 63 0	Ferns, per 100 ... 8 0 15 0
Cactea, per doz. ... 38 0 9 0	Ficus, each ... 1 6 7 0
Begonia, per doz. 4 0 6 0	Lily of the Valley, per 2 0 3 0
Chrysanthemums, per dozen 6 0 9 0	Marguerites, per doz. 6 0 12 8
— large, each ... 2 0 6 0	Primula sinensis, doz. 4 0 6 0
Coleus, per dozen ... 3 0 8 0	Palm, various, each 2 0 21 0
Cyclamen, per doz. 9 0 18 0	specimens, each 6 0 24 0
Cypripedium, per dozen 4 0 10 0	Pelargoniums, scar-
Draecena, each ... 1 0 3 0	let, per doz. 4 0 8 0
Euphorbia, p. doz. pots ... 9 0 18 0	Poinsettia, per doz. 12 0 18 0
Erica hyemalis, per dozen ... 12 0 18 0	Roman Hyacinth, p. doz. pots ... 9 0 12 0
	Solanum, per dozen 9 0 12 0
	Tulips, per doz. pots 8 0 9 0

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.	s. d. s. d.
Artichokes Globe, each ... 0 4 0 6	Lettuces, per doz. ... 1 6 2 0
Beet, French, lb. ... 0 6 1 0	Mushrooms, punnet 2 0 0 0
Beet, red, per dozen 9 0 5 0	Mustard and Cress, punnet ... 0 4 0 0
Carrots, per bunch ... 0 4 0 6	Parsley, per bunch ... 0 3 0 6
Cauliflowers, each ... 0 3 0 6	Shallots, per lb. ... 0 6 0 0
Celery, per bundle ... 1 0 3 0	Spinach, per bushel ... 3 6 0 0
Cucumbers, each ... 0 6 0 0	Tomatoes, per lb. ... 0 8 1 3
Radish, per dozen ... 2 0 3 0	Turnips, per bunch ... 0 4 0 6
Herbs, per bunch ... 0 9 1 0	

POTATOES.

The trade is particularly quiet, and mild weather does not assist to make it better. *J. B. Thomas.*

FRUITS AND VEGETABLES.

BOROUGH, Dec. 29.—Quotations.—Savoys, 4s. to 5s.; Broccoli, 10s. to 15s. per tally; Spinaches, 2s. 6d. to 3s. per bushel; Turnips, 1s. 6d. to 1s. 9d.; Carrots, 1s. to 1s. 9d. per dozen bunches; English Onions, 5s. 6d. to 6s. per cwt.; Apples, 2s. 6d. to 8s. per bushel; Canadian do., 15s. to 25s.; Newtown Pippins, 15s. to 25s. per barrel.

SPITALFIELDS, Dec. 29.—Quotations.—English Apples, 2s. to 6s. per bushel; American do., 10s. to 16s. per barrel; Pears, 2s. to 2s. 6d. per half-sieve; English Tomatoes, 4s. to 6s. per

peck; foreign, 1s. to 1s. 6d. per box; Cabbages, 2s. to 3s.; Savoys, 2s. 6d. to 4s.; Cauliflowers, 5s. to 12s. per tally; Greens, 2s. 6d. to 4s.; Turnips, 1s. 6d. to 2s.; Carrots, 1s. 6d. to 2s.; Parsley, 3s. to 5s. per dozen bunches; Brussels Sprouts, 1s. 6d. to 2s. per half-sieve; Parsnips, 6d. to 8d. per score; Endive, 1s. 6d. to 2s.; Cabbage Lettuce, 6d. to 8d.; Leeks, 2s.; Beetroot, 8d. to 8d. per dozen; Mustard and Cress, 2s. per dozen baskets; English Onions, 5s. to 5s. 6d. per cwt.; Spanish do., 6s. to 7s.; Bordeaux do., 4s. to 4s. 6d. per case; Bologna do., 3s. 9d. to 4s. 8d.; Dutch do., 3s. 9d. to 5s. per bag of 110 lb.; Celery, 6d. to 1s. per bundle; Horseradish, 1s. to 1s. 2d. per bundle.

SPITALFIELD, Dec. 30.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade has been done as under.—Savoys, 2s. to 3s. 6d. per tally; Greens, 9d. to 1s. per sieve; do., 1s. to 2s. per dozen bunches; Cauliflowers, 9d. to 2s. per dozen; do., 3s. 6d. to 8s. per tally; Turnips, 1s. 6d. to 2s. 6d. per dozen bunches; do., 2s. to 4s. per score; Carrots, household, 3s. to 4s. per ton; do., cuttie-feeding, 20s. to 32s. do.; Parsnips, 9d. to 1s. per score; Mangels, 16s. to 18s. per ton; Swedes, 18s. to 25s. do.; Onions, English, 12s. to 13s. do.; do., Dutch, 5s. 6d. to 4s. 6d. per bag; do., Bordeaux, 4s. to 5s. 9d. per case; do., Portos, 6s. to 7s. do.; Apples, English, 2s. to 6s. per bushel; American, 11s. to 15s. per barrel; Brussels Sprouts, 1s. to 1s. 6d. per half-sieve; do., 2s. to 2s. 6d. per sieve; Celery, 10d. to 1s. 2d. per bundle.

SEEDS.

LONDON, Dec. 30.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., write that today's market is as usual at this time, and was thinly attended. Prices all round, in the absence of transactions, are without change. Meantime, an exceedingly firm feeling characterises the market generally. As regards American Red, the rise here has lagged behind the advance on the other side, and spot seed is obtainable under c.i.f. quotations. In Rape-seed the tendency is upwards. There is no change in Mustard seed. Canary and Hemp-seed realise former terms. Blue Beans come slowly to hand. Haricot Beans are firm. The new Königsberg spring Tares are obtainable at tempting rates.

POTATOES.

BOROUGH, Dec. 29.—Quotations.—Hebrons and Elephants, 70s. to 80s.; Imperators, 60s. to 85s.; Bruce Magnums, 60s. to 90s. per ton.

SPITALFIELDS, Dec. 29.—Quotations.—Snowdrifts, 60s. to 70s.; Bruce Magnums, 60s. to 80s.; Hebrons, 60s. to 80s.; Imperators, 60s. to 80s.; Regents, 55s. to 70s.; Magnums, 55s. to 70s. per ton.

SPITALFIELD, Dec. 30.—Quotations.—Magnums, 60s. to 75s.; Bruces, 70s. to 80s.; Imperators, 65s. to 80s.; Scotch Magnums, 60s. to 100s. per ton.

FARRINGTON, Dec. 30.—Quotations.—Bruces, 75s. to 110s.; Imperators, 70s. to 90s.; Magnums, 65s. to 110s.; Hebrons, 80s. to 95s.; Sutton's Abundance, 85s. to 110s. These prices hold also for the King's Cross Market, and supplied by Messrs. Woodward & Bristow.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure, during the past week; and for the corresponding period last year.—1891, Wheat, 35s. 6d.; Barley, 29s. 4d.; Oats, 20s. 3d. 1890, Wheat, 32s. 3d.; Barley, 28s. 5d.; Oats, 17s. 11d. Difference: Wheat, +4s. 3d.; Barley, +11d.; Oats, +2s. 1d.

NOTICES TO CORRESPONDENTS.

BOTTLE BRUSH PLANTS: *W. M.* Species of *Metrodieros* (Callistemon). Native of Australia.

CROTONS: *G. H.* We cannot undertake to name the garden varieties of Crotons. Get a nurseryman who grows the plants large to do so from well-developed shoots and leaves.

FIRING SHEETS: *Ignorant.* A stationer or printer would supply any number of these if you would specify the exact form in which you wanted them. Why not enquire of the present gardener at the place you named in your note, to send an example for your inspection?

GRAFTING PEAR TREES: *B. G.* The large tree being in good health, although the fruit is worthless in your climate, might be grafted at the proper time with *Beurré d'Aremberg*, *Jersey Giant*, *Williams' Bon Chrétien*, *Winter Nelis*, *Hacón's Incomparable*, and *Easter Beurré*. The smaller and younger tree on the south wall should be grafted with *Marie Louise*, *Jargonelle*, or *Doyenné du Comice*. The above-named Pears do well in the warmer parts of the North of England, provided the soil is not of a very heavy

nature, is well-drained, and they are placed on any aspect but one facing some point towards the north.

MISTLETOE: *Ancient Druid.* Let fowls eat the perfectly ripe seeds, as the latter germinate better after having been digested by birds. Do not give them too many seeds at one time, as they are somewhat poisonous. The seed may be stuck in a slight cut made on the under sides of branches of Willow, Maple, Apple, Oak, &c. It does not take so well on Oak as on the other trees named. Select, if possible, trees near water.

MUSTARD AND CRESS FOR MARKET: *A Young Gardener.* In the pits that you already possess, you may if they are heated, very well grow these plants in a wholesale manner; but, it will be necessary to bring the surface of the bed on which they are to be grown up to within 1 foot of the glass. The soil on which the seed is sown need not be more than 2 inches thick, and it should be light, rich, finely sifted, and tilted up towards the sun. The seed should be sown thickly, the soil having been watered the day before, and the seed gently pressed into it with a piece of smooth board or the spade, and left uncovered. Cover the pit till germination takes place; keep it close, maintaining an even temperature of 60°. The main object should be rapid growth, but not so rapid as to produce very growth that will go down with damp; afford air in moderate degree to dispel damp, and cut before the true leaf appears.

NAMES OF PLANTS: *G. O. W.* 1, *Thuya Veitchiana*; 2, *Thuopsis dolabrata*; 3, *Cryptomeria elegans*; 4, probably a form of *Cupressus Lawsoniana*.—*J. F. S.* *Diploclappus chrysophyllus*.—*A. P.* *Antrim*. 1, *Cupressus Goveniana*; 2, a form of *C. torulosa*.—*P. & J. R.* 1 and 2, *Cypripedium Schlimii*; 3, *Oncidium unguiculatum*; 4, *Lycaste Schilleriana*; 5, *Cattleya Harrisonia pallida*; 6, *Vanda tricolor*, near to *planiflora*.—*T. D.* *Dendrobium nobile*.—*No name*. 1, *Polypodium glaucum*; 2, *Pteris tremula*; 3, *Libonia*, probably: send when in flower; 4, *Agavea celestia*.

PRIMULUS: *B. S. Williams & Son.* The colour of the Primula sent is rich, the substance of the blooms good, and size above the average.

PROTOPLASM: *Enquirer.* You may obtain an idea of this by likening it to the bricks and mortar of which a house is built, but you must also suppose the bricks to be sensitive and mobile. The latest opinion as to its structure is that it is made up of a complicated network of extremely minute twisted tubes, such as have been for a long time known to occur in the nucleus of the cell.

ROOTS IN DRAINS: *A. P.* The sulphuric acid would not kill all the roots if these have got to long distances. Nor do we know of any substance that would do so, by merely pouring it on the tree stumps. Where trees and Equisetum abound, rubble drains are preferable to pipes. Make them V-shaped at the bottom with a ledge of soil left on each side. Fill up to the ledge with broken stones, and cover with sods, grassy sides downwards. Sods drain might, in your case, be placed over or alongside of the existing pipe-drains, the same main outlets being retained.

ROSES FOR A SOUTH WALL: *Constant Reader.* *Niphotos*, *Souvenir de Sarah A. Prince*, *Gloire de Dijon*, *Maréchal Niel*, *Catherine Mermet*, *W. A. Richardson*, fine for cutting in the bud; *La France*, *Horace Vernet*, *Celine Forestier*, *Lamarque*, *Madame Berard*, *Marie Berton*, *Belle Lyonnaise*, *Solfaterra*.

SIX GOOD TABLE PLANTS: *G. H. Pandanus Veitchi*, *Croton Johannis*, *C. Weissmanni*, *Alafia filicifolia*, *Myrsiphyllum asparagusifolium* (Smilax), *Draecena terminalis*, or other variegated *Draecena*. There are many flowering and berried plants that are equally suitable with the above for the purpose you name.

THE COMMONEST VEGETABLES IN USE IN EVERY FAMILY:—*W. H. S.*, surely, can answer that question as well as we.

COMMUNICATIONS RECEIVED.—*A. J.* Clifton—*W. H. S.*, *C. M. P.*, *W. H. S.*, *J. E. H.*, *W. J. A. L.*, *A. W. C.*, *M. W.*, *H. S.*, *T. C. D. J. R.*, *Piaceenza*, *A. McK.*, *F. L. L.*, *Brussels*, *H. C. Genovese*, *W. L. Monaco*, *W. F. Philadelphus*, *J. T. N.*, *Moss*, *D. J.*, *W. A. R. E.*, *Dr. Engler*, *Berlin*, *W. N. W.*, *B. E. J. J. W.*, *R. A. R.*, *W. A. C. A.*, *Patersson*, *M. D.*, *R. D.*, *A. D. P.*, *L. S.*, *J. B. W.*, *H. L. E.*, *J. M.*, *W. W.*, *J. & S.*

W. WOOD & SON'S NEW YEAR'S "SPECIALTIES."

The Cheapest House in the Trade for ORCHID BASKETS

Our Own Manufacture, of all Descriptions and Sizes.
Send for New Illustrated CATALOGUE, giving prices.

PEAT, THE FINEST ORCHID, THE COUNTRY PRODUCE, FOR HARD-WOOD AND STOVE PLANTS, OUR PEAT IS UNQUALLED.

Special Prices Carriage Paid to any Station in the
United Kingdom.

RHODODENDRON PEAT, 15s. per Ton F.O.R. Hants.

FRESH GREEN SPHAGNUM.

Short, thick, full-headed Moss; just the sort for Orchids.
2s. 6d. per Bushel.

SPECIAL OFFER,

TO CLEAR GROUND,
Broken Fibrous Peat, in truck loads, 6s. 6d. per yard;
Decayed Leaf Soil, 3s. 6d. per sack. In trucks on
Rail near London.

W. W. & S.

PRIZE MANURES.

USED ALL OVER THE WORLD. NO EXHIBITOR
SHOULD BE WITHOUT.

WOOD WOOL, Superior, Pure White, SUPERIOR WADDING IN COLOURS.

A Ship Just Arrived, of

SHELL SHINGLE, LOAM, RICH SURREY, VERY FIBROUS.

COCOA-NUT FIBRE.

G. E. R., 16s. per Truck of 2 Tons.
G. N. R., G. W. R., L. & N. W. R., and M. R., 1s. 6d. per ton extra.
L. B. & S. C. R., S. E. R., L. C. & D. R., 3s. per ton extra.

TOBACCO PAPER, RAG, & JUICE

Samples and Price on application.

W. W. & S. NEW IMPORTED ARCHANGEL MATS, Large Size and Full Weight.

RAFFIA, the very Best Plaited.

W. W. & S. Fertilising Moss.

GUANO. TRY OUR IMPROVED FISH GUANO.

Unequalled in quality and price, 16s. 6d. per cwt. All our
other PRIZE MANURES at special low trade prices.

BONES, and all other Manures, at Market Prices.

W. W. & S. "COMBINATION," for
Vine Borders, 27 7s. per Ton.

The Largest
Importers of BAMBOO CANES, 200,000 in Stock, of all
sizes, in black & white.

SILVER SAND, Coarse Crystal, Medium, and Fine,
Direct from Pitts.

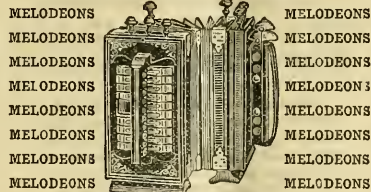
SEND FOR WOOD'S SECOND EDITION
ILLUSTRATED CATALOGUE.

W. WOOD & SON, F.R.H.S.

ESTABLISHED 1850. Chief Office—

WOOD GREEN, LONDON, N.

CHEERFUL WINTER EVENINGS. CAMPBELL'S BROAD REED MELODEONS (Patent). GRAND NEW MODELS.



NO HOME SHOULD BE WITHOUT ONE.
CAMPBELL'S world-famed MELODEONS have Organ and
Celestial Tones and Charming Bell Accompaniments. The Sacred
Psalm, the Soul-stirring Hymn, the Cheerful Song, and the
Merry Dance can all be played on these charming Instruments.
No knowledge of Music is required by the player.

GOOD NEWS! CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.
To readers of the *Gardeners' Chronicle*.
OUR GRAND PRIZE MEDAL "GEM" MELODEON.
With Two Sets of Broad Reeds, Organ and Celestial
Tone, sent carefully packed and carriage paid to any address in
Great Britain and Ireland on receipt of P.O.O. for 6d.
Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.
To readers of the *Gardeners' Chronicle*.
OUR GRAND PRIZE MEDAL "MINIATURE"
MELODEON.
With Two Sets of Broad Reeds, Organ and Celestial
Tone, and the Charming Bell Accompaniments, sent
carefully packed and carriage paid to any address in
Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS.
Important Testimonial from Professor Brown, the Champion
Melodeon Player of Great Britain, Ireland, and Wales:—
"Campbell's Patent Melodeons are the finest instruments that
have ever come under my touch, and only require a trial to
advertise themselves." Campbell's Patent Melodeons are the
only genuine Melodeons in the market. Beware of worthless
imitations.

N.B.—All lovers of music should at once send for our New
Illustrated Privilege Price List for Season 1891-2, now ready.
100,000 of these valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS, 116, TRONGATE, GLASGOW. ESTABLISHED 50 YEARS.

STOCK	SIZES
Inches.	Inches.
14x12	20x15
16x12	20x16
18x12	22x16
20x12	24x16
16x14	20x18
18x14	22x18
20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet
and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered
free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."
GEORGE FARMILLOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

BARB WIRE.

CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry,
and Clergy, for all kinds of
OUTDOOR WORK, CONSERVATORIES,
Greenhouses, Frames, &c.

1 Cwt. and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.;
15, VICTORIA STREET, WESTMINSTER, S.W.;
and BAUGHOR'S WALK, DUBLIN.—Discount for Cash.

HORTICULTURAL GLASS.

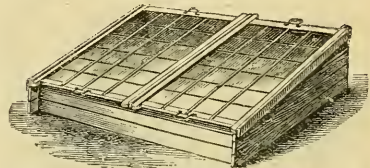
A Large Stock
always on Hand.

Special quotations for quantities.

WHITE LEAD, OILS, AND COLOURS
At lowest possible prices.

NICHOLLS & CLARKE, 6, HIGH STREET, SHOREDITCH, LONDON, E.

GREAT REDUCTION IN FRAMES OUR WELL-KNOWN MAKE.



PORTABLE CUCUMBER FRAMES.

These Frames are made of the Best Materials, and can be put
together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.	£	s.	d.
1-light, 4 ft. by 6 ft...	CASH	2	0
2 " 8 ft. by 6 ft...	PRICES,	3	0
3 " 12 ft. by 6 ft...	4	2	6
4 " 16 ft. by 6 ft...	CARRIAGE	5	5
5 " 20 ft. by 6 ft...	6	7	6
6 " 24 ft. by 6 ft...	PAID.	7	10

Larger sizes at proportionate prices.

R. HALLIDAY & CO., ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER. London Agents, Mr. H. SKELTON, Seedsman, &c., 2, Holloway Rd., N.

W. H. LASCELLES & CO., HORTICULTURAL BUILDERS, 121, BUNHILL ROW, LONDON, E.C.



CONSERVATORIES, GREENHOUSES, ORCHID HOUSES, VINERIES, PEACH HOUSES, &c.

Plans and Estimates Free.



JAS. BOYD & SONS,

HORTICULTURAL BUILDERS
and HEATING ENGINEERS,
PAISLEY.

**HORTICULTURAL
STRUCTURES**
of every description,
in either Wood or Iron,
or both combined.

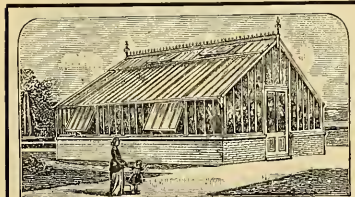


Wooden Chapels,
Shooting Lodges, Cottages,
Tennis Courts, Verandahs, &c.



Hot-water Apparatus
for warming Churches,
Schools, Public Buildings,
Mansions, Harness Rooms,
Drying Rooms, Hothouses, and
Buildings of every Description.
Illustrated Circulars
Post-free.

Complete Catalogue, 3s.



THIS GREENHOUSE erected and heated complete, in
any part of the country, best materials only, workmanship
guaranteed, 26 ft. by 12 ft., £50; 20 ft. by 10 ft., £70. Brick-
work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for
immediate use, well made, painted four coats, glazed with
21-oz. glass, carriage paid.—1-light frame, 4 x 6, 85s. 6d.;
2-light frame, 6 x 8, 55s.; 3-light frame, 12 x 6, 85s. 6d.;
Span-roof Frames, 12 x 4, 47s. 6d.; 9 x 5, £3 15s.;
16 x 6, £9 10s.

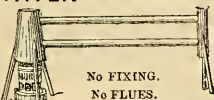
HARDY BRUIIN & CO., Street, LEICESTER

See this Boiler before being induced to purchase
any other.

DEFRIES' PATENT HOT-WATER CIRCULATING BOILER.

Price, 38/6

With 10 ft.
of 2-inch
Piping.



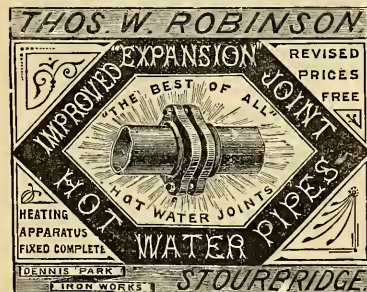
Price, 44/6

With 15 ft.
of 2 inch
Piping.

For CONSERVATORIES, LEAN-TO HOUSES, &c.
The Patent Oil Stove is the only one that neither smells nor
smokes. It burns with a blue flame, and gives double the heat
of any other large Oil Stove.

Sole Manufacturers, the Metropolitan Light Co., proprietors of
THE DEFRIES SAFETY LAMP AND OIL AGEANCY,
43 and 44, HOLBORN VIADUCT, E.C.

No Agents. Orders executed strictly in rotation.



GARDEN REQUISITES.
—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo
Canes, Rustic Work, Manures, &c. Cheapest Prices of—
WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

"DUROLINE"

(Transparent Wire Wove Roofing)
SUBSTITUTE FOR GLASS
UNBREAKABLE. FLEXIBLE.
LARGELY USED IN ALL PARTS OF THE WORLD.

Government Officials, Fire Insurance
Surveyors, Architects, Engineers, and
numerous Experts have testified on oath
that "DUROLINE" is preferable to
and much safer than Glass for Roofs,
Skylights, and other similar erections.

See Report "London County Council v. The New Wire
Wove Roofing Co., Ltd." May and June 1891.

INVALUABLE FOR FARM BUILDINGS.
Extensively used on the estates of H.R.H. The Prince of
Wales, The Dukes of Westminster and Sutherland, and
thousands of others.

SAMPLES AND FULL PARTICULARS OF THE
SOLE PATENTEES AND MANUFACTURERS
THE NEW WIRE WOVE ROOFING CO., LD.
75a, Queen Victoria Street, LONDON, E.C.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN TREE GUARD,

"The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire,"

"Dec. 28, 1891."

"DEAR SIRS,—I have now had
an opportunity of trying
your PORCUPINE TREE
GUARDS, and they seem
quite to answer my
purpose, so you may send me
50 more as before. I en-
close cheque for your
account."

Yours truly,
RICH. GREEN,
Messrs. Hill & Smith.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—
SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).
These Boilers, after long experience, have
proved themselves the Most Efficient, Economical,
and Lasting Boilers extant.
Every other kind of Boilers, Sockets, Flanges,
Expansion Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

ROBERTS'S (IMPROVED) PATENT STOVES

TERRA-COTTA! PORTABLE! FOR COAL!
Pure and ample heat, 24 hours for about 1d.,
without attention.

For Greenhouses, Bedrooms, &c.
GREENHOUSES Heated 24 Hours for about One Penny.
Pamphlets, Drawings, and authenticated Testimonials sent.
See in use at Patentees',
THOMAS ROBERTS, 34, Victoria St., Westminster, S.W.

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE and SMITH'S COKE delivered in Truck-
loads to any Station in England and Wales.—Address,
G. J. EVESON, 26, Corporation Street, Birmingham.

THE PATENT

SILICATE MANURE.

This manure is chemically distinct from all
other Manures, and has been proved to supply
the place of sunshine, and has the power of
bastinging the colouring and ripening of Grapes,
Tomatoes, Peaches, &c., beyond any other
Manure.

September 29, 1891.

"I am very pleased with your Silicate Manure. The effect
upon the Vines is very marked, for they ripen and colour much
better. Your Manure has given me great satisfaction for
Tomatoes; it is all you claim for it."

(Signed) **THOMAS PRICE,**
Gardener to the Bishop of St. Asaph.

Prices in Sacks, at Works, 10s. per cwt.; £2 per
½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO., THE CHEMICAL WORKS, HEMEL HEMPSTEAD, HERTS.

"Nothing Succeeds like Success."

HUGHES' (SOLUBLE) INSECTICIDE FIR TREE OIL

The most reliable and best of all Insecticides
for destroying Insects and Vermin on Plants
and Fruit Trees, also on Animals, and Birds;
and as a Disinfectant & Bleacher in Washing
Clothes. Full Directions on the Labels of
each Bottle.

Sold by Seedsmen & Chemists, 1/6, 2/6, & 4/6; ½-gallon
7/6, 1-gallon 12/6, or less in larger quantities.

A Treatise on FIR-TREE OIL as an insecticide, its
application to Plants and Animals, sent post free on
application to the manufacturer, addressed to

E. GRIFFITHS HUGHES, Victoria-st., Manchester.
WHOLESALE from all the London Seed Merchants and
Patent Medicine Houses.

NEW YORK—A. ROLKER & SONS.

THE "CLIMAX" INSECTICIDE.

The Cheapest and Best of all Insecticides.

As a Wash for Plants for destroying all kinds of Insects and
Parasites, which infest the foliage and roots, such as Green
and Black Fly, Mealy Bug, Scale and Thrip, Red Spider,
American Blight, Woolly Aphis, Caterpillar, Wood Lice, &c.

Price in tins—1 Pint, 1s.; 1 Quart, 1s. 6d.; 1 Gallon, 3s.;
½-Gallon, 5s.; 1 Gallon, 9s.; 5 and 10-Gallon Drums, 8s. per
Gallon, Carriage Paid.

Testimonials and Particulars sent free on application.

PREPARED SOLELY BY

THE BOUNDARY CHEMICAL CO., LTD., LUTON STREET, LIVERPOOL.

THE "STOTT" SPECIALTIES

For Destruction of Insect Pests.

Patent Distributor, Patent Syringe, Patent Sprayers.

KILLMIGHT,

2-oz. Sample posted free on application.

Testimonials and Price LISTS on application. Retail from
Ironmongers and Seedsmen. Wholesale and Retail from the
Stott Distributor Co., Ltd., Barton House, Manchester

SAVE HALF THE COST.

GARSDIE'S BEDFORDSHIRE COARSE AND FINE SILVER SAND

Is admitted by the
leading Nurserymen
to be the Best
Quality obtainable in the Trade.

Consumers should Buy Direct from the Owner of these
Celebrated and Extensive Pits, which contain a practically in-
exhaustible supply of Splendid Sand, and thus save half the
ordinary cost. NO TRAVELLERS OR AGENTS.

Apply direct to the Proprietor for Samples and Price
free on Rail or Canal. All Orders executed with the utmost
promptness and under personal supervision. Special Rail-
way Rates in force to all parts. All kinds of PEAT supplied
at lowest possible prices. Sample Bag sent on application to
GEO. GARSDIE, Jun., F.R.H.S., Leighton Buzzard, Beds.

HEATING! HEATING!! HEATING!!!**THE THAMES BANK IRON COMPANY**

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, &c.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London." Telephone, No. 4763.

KEEP YOUR PIPES WARM.

FOSSIL MEAL PIPE LAGGING is the only effective means for preventing Loss of Heat, and Pipes

Freezing. **CHEAPEST PACKING** existing. For Sample and Particulars, write to

MORITZ H. SCHÖNSTADT, 59, FARRINGDON ROAD, LONDON. E.C.

SANKEYS' famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong, and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your Garden Pots, and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

THE COTTAGER'S CALENDAR OF GARDEN OPERATIONS

Post-free 3½d.; 25 Copies, 5s.; 50, 10s.; and 100, 20s.

Parcels of not less than twenty-five delivered, Carriage Free, in London only.

Not less than one hundred Carriage Paid to any part of Great Britain.

GARDENERS' CHRONICLE OFFICE, 41, WELLINGTON STREET, STRAND, W.C.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM _____ To _____

_____ THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.

_____ 1892

Please send me "THE GARDENERS' CHRONICLE" for _____ Month,
commencing _____, for which I enclose P.O.O. _____

Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free

FOREIGN SUBSCRIPTIONS (excepting India and China):—Including Postage, 17s. 6d. for 12 Months. India and China, 19s. 1d.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.
Jan. 2, 1892.

For Green and Black Fly, American Blight, Camellia Scale, Red Spider, Mealy Bug, Brown and White Scale, Worms, Wood Lice, &c.

"PICRENA" THE UNIVERSAL INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.

15, PRINCES STREET, EDINBURGH, July 15, 1887.—"Dear Sir, I have thoroughly tested a sample of a new Insecticide which you were so good to send me. At the rate of 1 oz. to a gallon of water at a temperature of 90°, I find it kills Green Fly immediately. Double this strength, or 2 oz. to a gallon at 120°, seals the fate of Scale of all sorts in a few seconds; while 3 oz. to a gallon at same temperature effectually dissolves Mealy Bug, and so far as I have yet observed, without the slightest injury to leaf or flower, and it is withal a most agreeable compound to work with. All our insect remedies are applied through common syringe, or garden engine, a much severer test of efficiency than when applied by hand-washing or spray—I remain, dear Sir, yours truly. (Signed) A. MACKENZIE, of Messrs. Methven & Sons."

Victoria and Paradise Nurseries, Upper Holloway, London, January 7, 1888. "GENTLEMEN, I have given your Insecticide, 'Picrena,' a good trial in competition with many others, I am pleased to say that I have found it to be more effectual in destroying Mealy Bug and other insects than anything we have ever used. It ought to command a good sale. (Signed) B. S. WILLIAMS."

Made by Chemists, Nurserymen, and Florists, in Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in Tins (1 and 2 gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and upwards, 9s. per gallon.

Prepared only by
DUNCAN, FLOCKHART & CO., Chemists to the Queen, Edinburgh.

May be had from B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, London; and from WILLIAM EDWARDS and SON, 157, Queen Victoria Street, London.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

GARDEN REQUISITES,

As supplied to the Royal Gardens.

BEST QUALITY ONLY.

COCCA-NUT FIBRE REFUSE, sack, 1s. 2d., 10 for 12s. 20 for 20s., 30 for 28s. sacks free; 2-ton truck free on Rail. Near works, 30s. ORCHID PEAT, 8s. per sack. BROWN FIBROUS PEAT, 5s. per sack, 5 for 22s. 6d.; BLACK do., 4s. 6d. per sack, 5 for 20s. LEAF MOULD, LOAM and PEAT MOULD, each 3s. per sack. COARSE SAND, 1s. 6d. per bushel, 14s. half-ton, 25s. per cwt. PURE BONES, 4-inch 11s. per cwt., dust, 11s. 6d. per cwt. SPHAGNUM, 7s. 6d. per sack. CHARCOAL, 8s. 1s. per sack. TOBACCO PAPER, 10d. per lb., 28 lb. for 21s. CLOTH, 1s. per lb., 28 lb. for 28s. ROPE, 6d. per lb., 28 lb., 10s. 6d. RUSSIA MATS, New Archangel, 19s. per dozen. PETERSBURG, 10s. 6d., 11s. 6d., and 12s. 6d. per dozen. List free.

W. HERBERT & CO.,

Hop Exchange Warehouses, Southwark Street, London, S.E.

RICHARDS' Noted ORCHID and other SELECTED PEATS (Cut from his Own Grounds), SOILS, MANURES, and every description of GARDEN SUNDRIES.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere
Crescent, Lambeth, London, S.E.
Write for Samples and Price List. Post free.
Chief Post Depot, Ringwood, Hants.

EPSS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,
Hardwood do, Ferns, and Rhododendrons, by sack, yard, ton,
or truckload. SPECIAL ORCHID PEAT, in sack only,
and fine fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal,
and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE,
fresh SPAGNUM, Patent MANURES, FERTILISERS, INSDO-
TORIES, and all other Garden Requisites. Peat Moss Litter.
The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d.
SECOND QUALITY, 5s. per sack; 5 for 23s. 6d.
BROWN FIBROUS PEAT for Azaleas, Rhododendrons,
and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM,
each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING
COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.

ORCHID PEAT; best Quality; BROWN
FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON
AND AZALEA PEAT. Samples and Prices of
WALKER and CO., Farnborough, Hants.

ORCHID BASKETS, RAFTS, BOATS, AND CYLINDERS, AND ALL GARDEN SUNDRIES.

SEND FOR A

PRICE LIST

from the Largest Manufacturer in the Trade,

H. C. SMYTH,

21, GOLDSMITH STREET,
DRURY LANE, W.C.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft.,
iron bar across and very strong, 4s. each; free on rail in
London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door,
&c. Put on rail in London. Low price. Send for detailed
specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

CHAS. FRAZER'S EXORS.—Conservatories
Orchid-houses, Viveries, Greenhouses, Plant and Forcing-
houses. Best Materials and Workman-ship guaranteed, at Moder-
ate Prices. Intending Purchasers waited upon by appointment.
HOT-WATER BOILERS and HEATING APPARATUS, for
large or small Greenhouses. Great variety of Garden Frames
and Handlights kept in stock. All kinds of Garden Requisites,
Foultry Appliances, Portable Summer-houses, Tool-houses,
Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely
illustrated CATALOGUE, post-free, for six stamps.
PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

JUST PUBLISHED.

THE MINIATURE FRUIT-GARDEN AND MODERN ORCHARD.

By THOMAS RIVERS and T. FRANCIS RIVERS. AND
INSECT PESTS,
By H. S. RIVERS.

20th Edition. Price 4s. By Post, 4s. 3d.
Published by THOMAS RIVERS and SON, The Nurseries,
Sawbridge-works.

ONIONS: How to Grow Them. Revised
Edition. By J. A. TAPLIN, Banbury, Oxon. Price 6d.
London: HOULSTON and SONS, Paternoster Buildings;
may also be had of the Author.

ELEMENTS of AGRICULTURE: a Text-
Book prepared under the Authority of the Royal Agricultural
Society of England. By W. FREAN, LL.D. 450 pp.,
with 2.0 Illustrations.
JOHN MURRAY, Albemarle Street, W.

GO TO BLACKBURN & HOMER

43, WELLINGTON STREET,
COVENT GARDEN, W.C.,
FOR

MATS, MATTING,
RAFFIA, Orchid PEAT.
BAMBOOS, BONES,
FIBRE DUST, CORK,
AND ALL OTHER
GARDEN REQUISITES.

WATERPROOF GOODS OF EVERY DESCRIPTION.

Open at 4 a.m. on Market Mornings.

BOILING WATER OR MILK.

E P P S'S

GRATEFUL-COMFORTING.

C O C C O A

BREAKFAST-SUPPER.

GARDENING APPOINTMENTS.

Mr. JOHN TWEDDIE, until recently Foreman at Wemyss
Castle Gardens, as Gardener to Sir R. ABERCROMBY, Bt.,
Birkenbog and Farglen, Banffshire.

Mr. WILLIAM LEATH, until recently Foreman at Onslow
Hall Gardens, Shrewsbury, as Gardener to T. R. GREAT-
ORCH, Esq., Mytton Hall, Shrewsbury.

Mr. WATSON, until recently Gardener at Englehurst Castle,
Fawley, Hants, where he had been for the last seventeen
years, and who was formerly with Count Bathynay, as
Gardener to F. COX, Esq., at Harefield Place, near
Uxbridge, Middlesex.

CATALOGUES RECEIVED.

DICKSON, BROWN, & TAIT, 43 and 45, Corporation Street,
Manchester.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.
CHARLES SHARPE & CO., Slough—Garden and Farm Seeds.
WEBB & SONS, Worsley, Stourbridge—Vegetable and Flower
Seeds, &c.

DICKSON & ROBINSON, 12, Old Millgate, Manchester—Seed
Catalogue.

DOBBIE & CO., Rothsay, Scotland—Catalogue and Competi-
tion Guide.
LITTLE & BALLANTYNE, Carlisle—Garden and Farm Seeds, &c.
CUTBUSH & SON, Highgate, N.—Flower, Vegetable, Farm
Seeds, &c.

CARTER & CO., High Holborn, London—Seed Catalogue for
1892.

H. & F. SHARPE, Wisbech—Garden and Agricultural Seeds.
BROWN & WILSON, Market Place, Manchester—Vegetable and
Flower Seeds, &c.

THOMAS METHVEN & SONS, Edinburgh—Garden Seeds, Imple-
ments, &c.

WILLIAM WATT, Cupar and Perth, N.B.—Forest and Ornamental
Trees, Shrubs, &c.

C. FIDLER, Reading—Vegetable Seeds and Potatoes.
C. LORENZ, Erfurt—Flower and Vegetable Seeds.

WANTED, IMMEDIATELY, a young man,
about 25 years of age preferred, as CHRYSANTHE-
MUM GROWER in a nursery; one capable of taking entire
charge of this department, propagating, and growing good
exhibition blooms. None but those seeking a permanent
situation need apply. State previous experience, salary
expected, &c., to M. A. J., Gardeners' Chronicle Office, 41,
Wellington Street, Strand, London.

WANTED, a SEEDSMAN.—One of the
leading Houses in America REQUIRES the services of
an experienced MAN, capable of taking charge of the Ware-
house Department. A good position will be given to an en-
ergetic thoroughly-experienced man. None other need reply.
Address by letter only, stating—age, experience, and references,
also salary required, to GARSDEN, Gardeners' Chronicle Office,
41, Wellington Street, Strand, W.C.

WANTED, a HEAD WORKING GAR-
DENER.—Must be well qualified. Cottage found.—
State wages and full particulars, to F. P., Farnborough
Station, S.W.R., Hants.

WANTED, as HEAD GARDENER.—An
energetic, practical, and obliging Man. He must
thoroughly understand his business, and be able to produce a
constant supply of Fruit, Flowers, and Vegetables. Garden
contains the usual quantity of Glass, and a Foreman is kept.
Preference will be given to a middle aged man without family.
Letters, with all particulars, to H. H. R. Gosden, 77, Tavistock
Street, Covent Garden, London, W.C.

TO GARDENERS.—Can any gardener RE-
COMMEND a good all-round man for the kitchen
garden, that understands the general routine, planting,
pruning, forcing, &c. To live in the lodge; wife to attend to
the gate, but without incumbency. His wages would be 15s.
per week, with lights and coal found, and a good garden.—
G. JESSOP, The Gardens, Hindlip, Worcester.

WANTED, a FOREMAN, for the Houses.—
Good practice. Abstainer preferred.—Copies of testi-
monials, &c., to Mr. GANT, Berwick Gardens, Shrewsbury.

WANTED, an UNDER FOREMAN, in the
Fruit and Rose Department. Must be well up in
Budding, Grafting, and Layering, and know Fruit Trees and
Roses well.—Apply, stating age and experience, to WILLIAM
BARROW and SON, Elvaston Nurseries, Borrowash, Derby.

WANTED, several active MEN, to work
under glass in a Market Nursery. Must be experienced
and wages required.—THOMAS ROCHFORD, Turford Hall
Nurseries, near Broomhouse, Herts.

WANTED, for the Houses, under the Fore-
man, an energetic young MAN, experienced in Fruit,
Wages, 14s. per week, botany, and Vegetables.—A. G.
NICHOLS, Nuacham Park Gardens, Abingdon.

WANTED, a strong active young MAN,
chiefly for the Houses.—Age 17 or 18; must have had
some experience.—Apply, J. COWARD, The Gardens, Haver-
some Priory, Sleaford.

WANTED, an industrious young MAN, as
JOURNEYMAN for the Houses. Wages, 17s. 6d.
per week, with botany, coal, and light.—Apply, stating age and
experience, to G. F. BROTHSTON, Miller
Field Gardens, Bingley, Yorks.

WANTED, strong, able young MAN, of good
character; one who can use the Spade, and who takes
an interest in the foundation of good Gardening, namely,
Outside Work.—W. C. LEACH, Albury Park Gardens,
Guildford.

WANTED, a young MAN, for small Nursery.
—Must be used to Growing for Market. State age,
experience, wages, and references to Mr. MAY, Old Office
Yard, Hampton Court, Middlesex.

WANTED, a young MAN, quick at Potting
and Tying, with a good knowledge of Market Work.
State wages, references, and when disengaged.—MARSHALL
BROS. and CO., Barnham, Bognor.

WANTED, two young MEN, thoroughly
experienced in Falmes and Ferns. Must be quick and
energetic. Also one as STOKER, and to be generally useful.
—J. ROCHFORD, Page Green Nursery, South Tottenham.

WANTED, an IMPROVER in a Provincial
Nursery; 8s. per week. No objection to a foreigner.
—H. H. MOORE, Chichester.

WANTED, a JUNIOR ASSISTANT, for the
General Seed and Bulb Trade. Good writer, accurate,
active, and of good address.—Apply, with references and wages
required, to R. P. K&R and SONS, Bassett Street, Liverpool.

WANTED, a young man, as CLERK and
BOOK-KEEPER.—Must have excellent testimonials.
One with a knowledge of the Cut Flower and Plant Trade
preferred.—Apply, in own handwriting, and state wages
required, to MARSHALL BROS. and CO., Barnham, Bognor.

WANTED, as SHOPMAN, a young MAN,
with good experience in Country Business.—Apply,
stating full particulars, to R. E., Hurst & Son, 152, Houn-
ditch, London, E.

WANTED, an ASSISTANT SHOPMAN.—
Must be well-up in Fencing.—HARRISON and
SONS, Seed Merchants, Leicester.

WANTED, an ASSISTANT SHOPMAN.—
Reply, stating age, experience, and wages expected
to SHOPMAN, Messrs. Hurst & Son, 152, Houndsditch, E.

WANT PLACES.

Advertisers are cautioned against having letters
addressed to initials at Post-offices, as all
Letters so addressed are opened by the
authorities and returned to the sender.

Head Gardeners.

JOHN LAING and SONS can at present
recommend with every confidence several energetic
and practical Men of tested ability and first-rate character.
Ladies and Gentlemen in want of GARDENERS and BAILEYS,
and HEAD GARDENERS for first-rate Establishments or
Single-handed Situations, can be suited and have full
particulars by applying at Stanstead Park Nurseries, Forest Hill,
London, S.E.

SANDERS, St. Albans, can thoroughly
RECOMMEND several first-class HEAD GARDENERS.

GARDENERS, Farm-Balliffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at all businesses. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, The Vineyard and Nurseries, Garston, near Liverpool, wish to recommend to any Nobleman or Gentleman who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterspool, near Liverpool.—Full particulars on application to the Company.

SCOTCH GARDENERS.—I have at present several very superior MEN on my Register, whose character and ability will bear the strictest investigation.—JOHN DOWDIE, Sec-Man, 144, Princes Street, Edinburgh.

GARDENER (HEAD), where several under are employed.—Age 40, married, one boy 19 years; open to engage with Lady or Gentleman requiring the services of a good all-round practical Gardener. Excellent testimonials for fourteen years as Head Gardener.—W. S., 305, High Street, Acton, W.

GARDENER (HEAD).—A Gentleman recommends an energetic, sober, industrious, reliable man. Skilled in Stone Plants, Orchids, Decorating, Forcing Choice Fruits, Flowers, and Vegetables. Master of his work all round. Won over 100 prizes.—F. E., 20, Oxford Terrace, West Norwood.

GARDENER (HEAD).—F. GRESON, Gardener to the Earl of Egmont, will be pleased to recommend to any Lady or Gentleman a practical man, thoroughly experienced, and capable of the Management of Men, and the usual routine of a good establishment.—Cowdrey Park, Midhurst.

GARDENER (HEAD).—Age 46, married. Life experience in all branches, Land and Stock (fifteen years as Head). Excellent character and testimonials.—A. B., 3, Ferness Cottages, Stanley Road, East Sheen.

GARDENER (HEAD).—Age 40, married, two children. Practical experience in all branches. Nine years' charge of large establishment, leaving through death.—A. GORDON, Manor House, Shepperton, Middlesex.

GARDENER (HEAD).—Age 36, married. A LADY can recommend a steady, sober, respectable man, well up in all branches of his profession.—G. L., 111, Paget Street, Loughborough.

GARDENER (HEAD), age 39, desires re-engagement in a Nobleman's or Gentleman's Establishment. Gardeners' good character from last employer.—O., Caldwell & Sons, Knutsford.

GARDENER (HEAD), where several more are kept.—Age 41. A gentleman wishes to recommend a man who has been with him for the last fifteen years. Well up in Orchids, Ferns, Stone and Greenhouse Plants, and forcing of Fruit, Flowers, and Vegetables.—E. S., 20, Argyle Terrace, Bognor.

GARDENER (HEAD).—Age 36, married, no family; thoroughly practical. Stone and Greenhouse Plants, Orchids, Vines, Peaches, Decorating, Forcing, Fruit, Kitchen, and Flower Gardens. Testimonials with reference to sobriety, honesty, and ability.—A. B., 21, Fort Royal Hill, Worcester.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 40, married.—Mrs. KENYARD can thoroughly recommend her Gardener. Life experience to Gardening. Ten years' good character. Leaving through a death.—G. HENLEY, Thatched Cottage, Hampton Wick.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 33.—A GENTLEMAN can confidently recommend his Gardener; thoroughly practical in all branches. Perfectly trustworthy, and of satisfactory reasons for leaving.—T. NASH, Brewery, Isleworth, Middlesex.

GARDENER (HEAD WORKING).—Age 30, married, one child; fifteen years' experience in all branches. Private or Nursery. Used to Early Forcing, Hard and Soft-wood Propagating.—J. GOODE, 33, Stanley Road, Fulham, S.W.

GARDENER (HEAD WORKING).—Age 41, married. Over thirty years' practical experience in all branches. Fifteen years as Head. Vines, Peaches, &c., Stone and Greenhouse Plants, Flower or Kitchen Gardens. Good character. To PARKER, Potter's Pond, Wotton-under-Edge, Gloucestershire.

GARDENER (HEAD WORKING).—Age 30; fifteen years' practical experience in all branches. Well recommended.—W. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING).—Age 39. Single. Thoroughly experienced in all branches. Excellent references and testimonials as to character and ability. Address, stating particulars, GARDENER, 5, Upper Peljar Road, Woolwich.

GARDENER (HEAD WORKING).—Scotch.—Age 34 married; thoroughly experienced in all branches, also Stock. Leaving through death of employer. Highest references.—S., The Gardens, Beaulieu, Winchester Hill, N.

GARDENER (HEAD WORKING), where three or four are kept.—Age 32, married, small family; thoroughly practical all-round, including Pines, Vines, Peaches, Apples, Cucumbers, Early and Late Forcing, Orchids, and Greenhouse Plants, Flower and Kitchen Gardens.—G. B., 2, Rice Terrace, Cavendish Road, Angel Road, Upper Edmonton, near London.

GARDENER (HEAD WORKING), where three or more are kept.—Married, no family; thoroughly practical in all branches of Gardening. Five years in last situation, and fourteen years in previous one.—C. SAYER, Bramley, Guildford.

GARDENER (HEAD, or otherwise).—Age 35, married; twenty years' experience in Stone and Greenhouse Plants, Vines, Peaches, Mignon, Flower and Kitchen Gardens. Excellent testimonials and character.—S. B., West Mill, Buntingford, Herts.

GARDENER (HEAD, or with Help).—Thoroughly practical in Stone and Greenhouse Plants, Kitchen, Flower, and Laying-out Gardens. Wife experienced Cook and Landress (age 31 and 37 respectively).—H. M., 81, Cleveland Road, Surbiton, S.W.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 26. Thoroughly competent in all branches. Good character from present and previous employers.—G. B., Smith's Library, 25, Hill Road, Wimbeldon.

GARDENER (good SINGLE-HANDED).—Age 35, married. Good all-round man. Chrysanthemums a speciality. Good character. Life experience.—J. MARSHALL, Hillcrest Cottage, College Road, Kewslai, Surrey.

GARDENER (SINGLE-HANDED, or SECOND).—Ten years' experience with Tomatoes, Cucumbers, Melons, &c.—A. BEALE, 58, Garland's Road, Redhill, Surrey.

GARDENER.—Understands Kitchen and Flower Gardening, Carpet Bedding, Stone and Greenhouse Plants, Vines, Cucumbers, Melons, &c. Fourteen years' experience. Good references. State wages, &c.—D. WALTON, Beighon, Rotham.

ORCHID GROWER, or GARDENER (HEAD WORKING). Twenty-six years' general experience.—W. PARSONS, eight years with the late Mr. Bath, North Cray, two and a half years with General Hutchinson, is open to an engagement.—Victoria House, Triangle, Bournemouth.

GARDENER (SECOND), Inside and Out, or JOURNEYMAN, in the Houses.—Age 23; good character. Total abstainer.—G., 30, White Road, Vicarage Lane, Stratford, E.

GARDENER (UNDER).—Three years' experience, Indoor and Out. Wishes to improve, and has good character.—F. SELTIEY, 12, Columbia Street, Cheltenham.

GARDENER (UNDER, or SINGLE-HANDED).—Age 21; good knowledge Inside and Out. One year ten months' good character.—A. CHALLIS, 38, Ravenshaw Street, West Hampstead.

GARDENER, where two are kept, or FOREMAN, in a good establishment.—Age 15, single; previously with Mr. Paddon, Bramley Park.—HINSTEAD, 4, Haslemere Villas, Fuller Road, West Brompton.

PROPAGATOR and GROWER.—Roses, Rhododendrons, Clematis, Bedding and General Nursery Stuff. Practical experience in some of the leading Nurseries.—H. L., 55, Natal Road, Streatham, S.W.

PROPAGATOR or FOREMAN.—Age 25; nine years' nursery experience. Ferns, Palms, Stone, Softwooded, and General Growing; Wreaths, Bouquets, Decorations, Sales, &c.—ALCOCK, 42, Victoria Road, Burton-on-Trent.

To Nurserymen.

PROPAGATOR and GROWER.—Cucumbers, Tomato Plants, and Cut Flowers for Market. Twenty-five years' trade experience.—GROWER, 2, Nursery Place, Northwood Road, Upper Clapton, London, E.

To Nurserymen.

PROPAGATOR and GROWER (ASSISTANT).—Age 21; nine and a half years' experience with all kinds of Hard and Soft-wooded Plants, the Grafting of Roses, Marigolds, and the Double Primula, Cyclamens, Bourdains, Roses, Chrysanthemums, Palms, Ferns, Eucharis and plants usually found in Nurseries. Well up in Bouquets, Wreaths, &c. Excellent testimonials. State wages given.—C. S., 5, Hextable Cottages, Hextable, Kent.

PROPAGATOR and GROWER.—Age 25; eleven years' experience in growing Foliage and Soft-wooded Stuff, Tea Roses, Ferns, Grapes, &c.—F., 1, Baltic Terrace, Portladies, Sussex.

FOREMAN (GENERAL), in large establishment.—Age 30. Experienced in all Departments. Sober, energetic, and capable of taking charge of men. Excellent recommendations.—G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN, or PROPAGATOR and GROWER.—Married; nineteen years' experience in growing large quantities of Plants and Cut Flowers for Market, such as Double Primula, Cyclamens, Bourdains, Roses, Chrysanthemums, Palms, Ferns, Eucharis and plants usually found in Nurseries. Well up in Bouquets, Wreaths, &c. Excellent testimonials. State wages given.—C. S., 5, Hextable Cottages, Hextable, Kent.

FOREMAN (GENERAL).—Age 29. Sixteen years' experience in first-class Gardening, including Tree and Shrub Planting. Highly recommended.—ABSTAINER, Mr. Worford, Stationer, Poole.

FOREMAN.—WALTER MARSHALL, Little Sutton, Chester, previously foreman at Guy's Cliffe, Warwick, also Only Park, Salop, would be pleased to hear from any Head Gardener requiring a Foreman.

FOREMAN, in the Houses, or SINGLE-HANDED, where there is Glass.—Age 15, married when sold. Good character from present place.—W. G. WORKS-FOLD, Rose Cottage, Hasely, near Warwick.

FOREMAN, in good establishment.—Age 27; thirteen years' good practical experience. Good references.—M., 19, Bemark Road, Hightate Hill, London, N.

FOREMAN, in the Houses, in a good Establishment.—Over twenty years' present situation as Foreman. Good character from present and previous employers.—J. WELLS, Sherfield Manor, Basingstoke.

JOURNEYMAN, Inside and Out, in a good establishment.—Age 21; four years in present place. Good reference. Both preferred.—W. BUTTERFIELD, The Hoe Gardens, Welwyn, Herts.

JOURNEYMAN, in the Houses.—Age 20; five years' experience. Well recommended. Left through reduction of establishment.—B. MARSH, Sturton-le-Steeple, Lincoln.

IMPROVER, under a good Gardener.—Age 19; five years' experience. Good character.—Both preferred.—C. F., Bushey House, Jerington Road, Eastbourne.

TO HEAD GARDENERS.—Wanted, an engagement under Glass, where one fond of the work can prove useful to the above, and improve himself. Five and a half years' experience in Fruit, Flowers, Orchids, Ferns, Stone and Greenhouse, in large establishment.—Excellent references. Age, in 20th year. Total abstainer.—H. J. SMITH, London Fern Nurseries, Longbarn Junction, S.W.

TO GARDENERS.—Situation wanted by a young man (age 21), as JOURNEYMAN, in the Houses; five years' experience, Inside and Out.—Apply to Mr. LEACH, Gardener, Albany Park, Guildford, Surrey.

TO GARDENERS.—Wanted, by a respectable Lad, age 16, situation in Gentleman's Garden. Two years' experience in Stone and Greenhouse. Both preferred. J. CURRY, Milford Hill, Salisbury.

TO NURSERYMEN.—Situation wanted, by a Youth, age 18, who has had four years' experience in a Nursery, Inside Department.—J. C. ELLISON, The Dell Nurseries, Rock Ferry, Cheshire.

TO NURSERYMEN.—Situation wanted, by a practical man, as WORKING MANAGER, in Outdoor Nursery, with a view to ultimately becoming Partner.—A., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

TO NURSERYMEN and FLORISTS.—A young man (20) requires a situation in the Houses. Five years' experience.—H. S., 3, St. John's Park Terrace, Winchester.

TO MARKET GROWERS.—MANAGER.—Experienced in Grapes, Tomatoes, Cucumbers, Chrysanthemums, Palms, Ferns, Cut Flowers, Grafting, Tea Roses, Clematis, &c. Twenty years' experience.—REX, 1, Grove Road, Mitcham.

TO MARKET GROWERS.—Wanted, situation as FIREMAN. Age 32.—A. B., 14, Stamford Terrace, Stoke Newington, N.

TO SEEDSMEN and FLORISTS.—Situation required as ASSISTANT in Florists and Seed business.—Age 26; practical knowledge of Nursery Work, Book-keeping, &c. Excellent references.—G. F., 24, Kingsbury Road, Brighton.

SHOPMAN, SALESMAN, or MANAGER.—Age 28; experienced in Wreaths, Bouquets, Plants, Seeds, Sundries, Book-keeping, and is a good salesman. Excellent references. Moderate salary.—H. A., 65, Solon Road, S.W.

SHOPMAN.—Age 25. Nine years' experience. First-class reference.—Used to brisk counter trade. Abstainer.—EDWARDS, 275, Stamford Street, Ashton-under-Lyne.

SHOPMAN, or MANAGER.—Age 32; thorough knowledge of Seed, Bulb, Plant, and Flower Trade. Good references. State particulars.—W. HARRIS, Hammerwood, East Grinstead, Sussex.

SHOP-ASSISTANT, or IMPROVER, in the Houses.—Situation wanted by young man (age 10, total abstainer) as above. Two years' experience both ways. Wages 16s. per week.—J. J., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PACKER (HEAD), well up in general Packing, Nursery, and Seed Warehouse. Good references.—J. H., 79, Tunis Road, Shepherds' Bush, W.

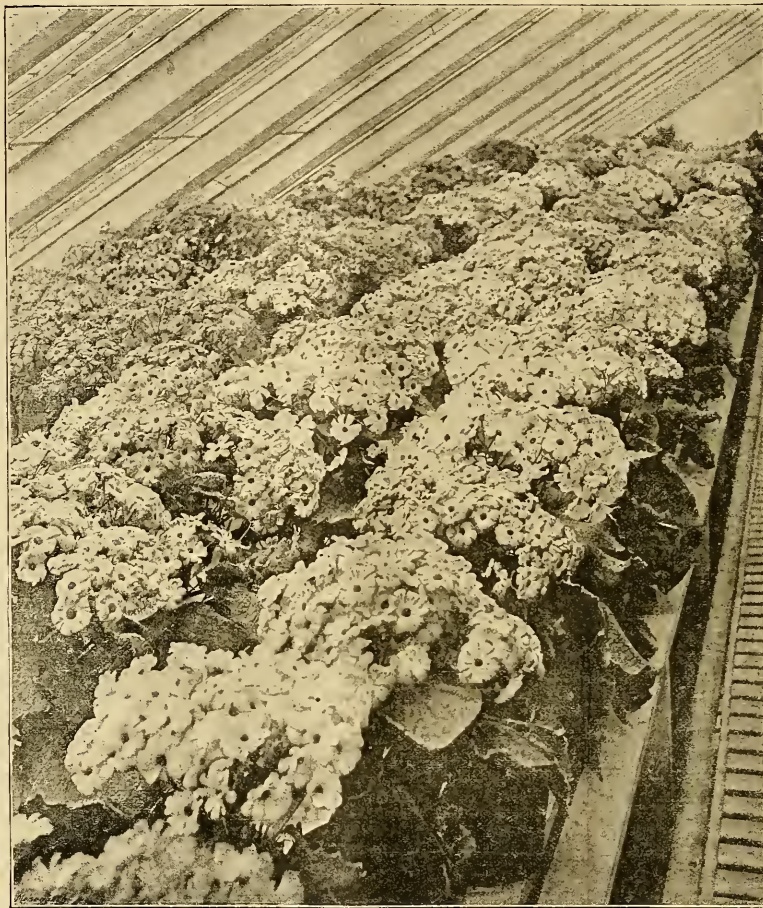
HOLLOWAY'S OINTMENT and PILLS.—Rheumatism and Neuralgia.—Though the former disease remorselessly attacks persons of all ages, and the latter is usually self-cured, it is nevertheless a fact that the persevering use of the remedies will infallibly cure both complaints. After the affected parts have been diligently fomented with hot brine, and the skin thoroughly dried, Holloway's Ointment must be rubbed in firmly and evenly for ten minutes twice a day, and his Pills taken according to the printed directions wrapped round each box of his medicine. Both Ointment and Pills are accompanied by instructions designed for the public at large, and no invalid, who attentively reads them, can now be at any loss how to doctor himself successfully.

DIXONS' SUPERB GIANT CINERARIA.

THE Strain from which our Seed is taken is unique, and the result of many years' careful cross-breeding—"not mere selection, which in most cases is carried out without due regard to consanguinity, or a strictly definite object in view; the result, weakened power of germination, a constitution not at all strong, indefinite and washy colours, and very many other defects."

Our Strain has been brought to its present perfection by the most careful selection in the first instance, followed by a system of crossing carried on strictly scientific principles, by which we have obtained results unrivalled in this class of plants.

The Habit is sturdy, yet not wanting in grace; it is sufficiently branching to show the true character of each flower to the best advantage, a feature



REPRODUCED FROM A PHOTOGRAPH.

which has been the aim of the raiser. The flower heads are very large in proportion to the size of pot in which the plants are grown.

The Flowers are very large; some have measured from 3 to nearly 4 inches in diameter. The petals are stont and beautifully formed, a point which is seldom gained with very large flowers.

The Colours are of the most varied hues, ranging from pure White to the most intense Crimson and Blue, with a well-balanced proportion of self and parti-colours.

The Plants being vigorous, yet not tall and lanky, they will be found most valuable to the amateur and market gardener alike.

We have no doubt that when our Strain is better known, it will become the favourite.

In Sealed Packets, 1s. 6d., 2s. 6d., and 5s. each, Post-free.

PRICE TO THE TRADE ON APPLICATION.

E. P. DIXON & SONS, THE YORKSHIRE SEED ESTABLISHMENT, HULL.

The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2663.

No. 263.—Vol. XI. {THIRD SERIES.}

SATURDAY, JANUARY 9, 1892.

[Regt. as a Newspaper. {PRICE 3d. POST-FREE, 2½d.}

CONTENTS.

American Agave ...	54	Mulberry, the ...	41
Aplary, the ...	47	New plants ...	42
Arslaid, a new ...	50	Nitri-fying ferments of the soil ...	50
Books:—		Novelties of 1891 ...	42
Orchid Hunter, Travels and Adventures of an	43	Nursery notes ...	55
Annals of Scottish Natural History, the ...	50	Obituary ...	43
Botanical Magazine ...	50	Grant, Mrs. ...	57
Botanic institutions in the United Kingdom, India, and the Colonies ...	56	Williams, J. ...	53
Carex variegata ...	54	Orchid-houses, the ...	46
Chrysanthemum groups ...	53	Orchid-hunting ...	43
Conifers, dates of introduction of ...	52	Orchid notes and gleanings ...	45
Oretons in winter ...	51	Plants in pots ...	53
Dahlias, Tom Thumb, wanted information ...	54	Peas, Fitzmason Duchess ...	54
Electro-culture ...	42	Plants and their culture ...	46
Florists' flowers ...	55	Peas and their growth ...	52
Flower garden ...	46	Peas, fruit trees ...	53
Gardeners' Orphan Fund ...	50	Technical Education ...	51
Gourd garden at Kew ...	49	Trade notice ...	57
Hardy fruit garden ...	47	Treat Park, New Barnet ...	55
Herbarium pest ...	54	Trout, New ...	51
Hot-beds: how to make and use them ...	44	Weather ...	58
How do plants obtain their nitrogen ...	50	Weights and measures ...	50
Jardin des Plantes, the ...	50	Willow growing in Ireland ...	53
Kitchen garden ...	47		
Maidenhair Ferns ...	57		
Maidenhead, (Signed) W. H. HOTHAM (Raiser of Mrs. Robinson King), Waltham, East Yorks. Plants distributed early in February.	52		

ILLUSTRATIONS.

Beardtick Rose ...	45
Gourd-lined walk at Kew ...	49
Magdalena River, view on the ...	43
Williams, James ...	53
Woodman, Dr. W. R. ...	42

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. The PUBLISHER, 41, Wellington Street, Strand, W.C.

Notice.

NEW INCURVED CHRYSANTHEMUM, MRS. ROBINSON KING.
I hereby certify that I have SOLD the whole of my CERTIFIED STOCK to Mr. ROBERT OWEN, Floral Nursery, Maidenhead. (Signed) W. H. HOTHAM (Raiser of Mrs. Robinson King), Waltham, East Yorks. Plants distributed early in February.

Now is the Time to Plant Peonies.
GLADIOLI are also ready, 20 large bulbs, named exhibition sorts, 10s. For Priced Lists see KELWAY'S MANUAL for 1892, 1s. post-free; gratis to customers.—KELWAY and SON, Langport, Somerset.

IRELAND and THOMSON have now posted their General VEGETABLE and FLOWER SEED CATALOGUE for 1892 to all their customers and friends. If not received, another copy will be sent on application. Seed Warehouse, 51, Princes Street, Edinburgh.

150,000.—Special Offer of Kentias.
W. ICKTON has a large quantity of the above to offer very reasonable, at from 27 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well-established, at 230 per 1000.
W. ICKTON, Putney, S.W.

Sharpe's Victor Potatoes.
W. W. JOHNSON & SON, SEED GROWERS and MERCHANTS, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

GERANIUMS.—For disposal, about 700 Henri Jacoby and MacMahon, Autumn stock, turned out of boxes. What offers?
H. NAYLOR, Grimsby, Bourne, Lincolnshire.

SUTTON'S "AMATEUR'S GUIDE IN HORTICULTURE FOR 1892."
NOW READY.

SUTTON'S "AMATEUR'S GUIDE IN HORTICULTURE FOR 1892."
NOW READY.

SUTTON'S "AMATEUR'S GUIDE IN HORTICULTURE FOR 1892."
NOW READY.

Price 1s., Post-free; Gratis to Customers ordering Goods value 25s. and upwards, from

SUTTON AND SONS,
THE QUEEN'S SEEDSMEN, READING.

ORCHIDS A SPECIALTY.—Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants.
W. L. LEWIS and CO., F.R.H.S., Chass Side, Southgate, London, N. Nursery, Orchard Road.

CHRYSANTHEMUMS.—Proved NOVELTIES IN EARLY, JAPANESE, INCURVED, and other Select Varieties. New LISTs free. Gave great satisfaction last year.
A. J. A. BRUCE, The Nurseries, Chorlton-cum-Hardy, Manchester.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MOARTHUR, The London Nursery, 4, Maida Vale, London, W.

CHRYSANTHEMUMS.—Our new Illustrated LIST, now ready, includes every novelty really worth having.
J. R. PEARSON and SONS, Chilwell Nurseries, Notts.

HENRY ROCK has to spare **MANETTI STOCKS**, 21s., LA GRIFFIERE, 24s. per 1000 for cash, clean and well disbudded.
Kumberton, Shifnal, Salop.

Prize Cob Filbert Trees.
MR. COOPER, F.R.H.S., of Western Elms, Reading (late of Calcut Gardens), is the Largest Grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good Trees now ready for distribution.
Descriptive Price LISTs, &c., on application.

DOBIE'S CATALOGUE and COMPETITORS' GUIDE for 1892.—25th Annual Edition, 160 pages, illustrated. Described by one of the greatest authorities in England as "the most useful list published in the trade." Ready on January 1, and will be sent gratis to all who apply for it and enclose 3d. to cover postage.—DOBIE and CO., Seed Growers and Florists, Rothsay, Scotland.

ROSES! ROSES!! ROSES!!!—The best and cheapest in the world. 40 Choice Perpetuals for 21s.; purchaser's selection from 400 best varieties; Catalogues free on application. Twelve Acres of Roses. 100,000 grand plants to select from; plant now.
JAMES WALTERS, Rose Grower, Exeter.

W. D. BUNDAY, of Covent Garden Market, E. and 37, Exeter Street, W.C., having commenced to SELL on COMMISSION, is OPEN to RECEIVE TOMATOS, GRAPES, &c. Good references.

A. G. WATSON,
FRUIT and FLOWER SALESMAN, ABERDEEN.
CONSIGNMENTS SOLICITED OF POT PLANTS and CUT FLOWERS.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS.
CATALOGUES free on application.
FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

WANTED. Dwarf-trained, also Standard-trained, PEACHES, extra large Trees, such as have been planted too thick in houses. Sorts and price to FISHER, SON and SIBRAV, Handsworth Nurseries, Sheffield.

WANTED. MINT ROOTS for forcing. State price per cash for cash. Also strong-rooted cuttings of WHITE MARGUERITE.
R. FOULGER, Holly Bank Nurseries, Potter's Bar.

To the Trade.
NUTTING and SONS have posted their Fifty-first Annual Trade CATALOGUE of Garden and Flower Seeds to all their Friends; if not received, another Copy will be sent on application.
Seed Warehouses, 106, Southwark Street, London, S.E.

BEGONIA SEED.—Now sown.—Box's strain is best and cheapest. Single, 1s., 2s. 6d., and 5s.; Double, 1s. 6d., 2s. 6d., and 5s. per packet. TUBERS also. Special List and Pamphlet gratis.
JOHN R. BOX (for 10 years Laing's sole Partner), Begonia Grower, Croydon.

10,000 EUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 6s. to 15s. per dozen. Less by the 1000. Cash with Order.
J. J. CLARK, Goldstone, West Brighton.

To Florists.
FRENCH FLOWERS, direct from the Gardens.—An enormous saving. ROSES, MIMOSA, MIGNONETTE, MARGUERITES, ORANGE BLOSSOM, &c. Sample basket, carriage paid to London, for 10s. Postal Order. The RIVIERA FLORAL SUPPLY, Nice.

VINES.—VINES.—VINES.
We hold a fine Stock of the above, both Fruiting and Planting Canes. Names and prices sent on application.
JOHN FEED and SONS, Rouppell Park Nurseries, Norwood Road, London, S.E.

The Best Present for a Gardener.
VINES and VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
New Edition.
Price 5s., post-free, 5s. 6d.

A. F. BARRON, Royal Horticultural Society, Chiswick.

ROSES! ROSES! ROSES!—Plant now 100 strong dwarf, H.P. Roses for 27s. 6d. The finest in the Trade.
Send for Sample Dozen, 6s. Cash with Order.
CATALOGUES, free on application.
C. H. GORRINGE, Rowlands Nursery, Eastbourne.

RASPBERRY CANES.—Norwich Wonder, Carter's Prolific, also Fastolf, strong and well rooted.
ALBERT BATH, Vine Court, Sevenoaks, Kent.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Descriptive CATALOGUES, post-free, on application.
FLETCHER BROS., Otterhaw Nurseries, Chertsey, Surrey.

Seeds.
CHARLES TURNER'S Descriptive and Priced CATALOGUE of KITCHEN, FLOWER, GARDEN, and FARM SEEDS, will be sent Free on Application.
The Royal Nurseries, Slough.

CHRYSANTHEMUMS.—Our Illustrated CATALOGUE will be sent free on application.
15 First Prices, (10 this year).
6 Gold Medals for Chrysanthemums.
REID and BORNEMANN, Sydenham, London, S.E.

Thousands: Good and Cheap.
STANDARD PLUMS: Victoria, Czar, Early Prolific, &c.
STRAWBERRIES: Noble, Paxton, &c.
GRAPE VINES, FIGS, SEAKALE, MAIDEN CHERRIES, PEACHES, NECTARINES, and PEARS, very fine.
WILL TAYLOR, Osborn Nursery, Hampton, Middlesex.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Aquinuity Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.
King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE J. Victoria Road, Putney.
WM. THOMSON and SONS, Clonsford, Galashiels, N.B.

SALES BY AUCTION.

ABSOLUTELY WITHOUT RESERVE.

GREAT CATTLEYA SALE.

JANUARY 15, 1892,

AT

MESSRS. PROTHEROE AND MORRIS' Rooms, 67 and 68, Cheapside, E.C., at half past 12 o'clock, by order of Mr. F. Sander, including—

2000 PLANTS OF CATTLEYA LABIATA,

Without Reserve. Also a CATTLEYA SPECIES, in superb condition, from a hitherto unexplored district of Columbia. Our Collector encountered almost insurmountable difficulties in getting this lot of plants together, and suffered many hardships and risks before his efforts were successful.

These plants come from the almost inaccessible mountains of Santiaqui, a most perilous journey, and not lightly to be undertaken, owing to the hostile attitude of the neighbouring tribes, as well as the rugged and precipitous gorges that had to be explored.

The flowers of this wonderful Cattleya are white, with a red labellum, richly fringed, and will be a grand addition to the already richly-endowed Cattleya family.

EVERY PLANT IS OFFERED, AND WITHOUT RESERVE. Also a MAGNIFICENT LOT OF CATTLEYSAS FROM THE WHITE AUREA DISTRICT (C. IMSCHOOTIANA).

Our collector states that the varieties to be found among these plants surpass in loveliness anything seen. The varieties, Dryadocystis, Immschodiana, Hardyana, margarita, Massianae, are quite eclipsed.

DRIED FLOWERS WILL BE SHOWN ON THE DAY OF SALE. EVERY PLANT IS OFFERED, AND WITHOUT RESERVE. A CRIMSON AND YELLOW CATTLEYA, with gigantic buds, distinct, and most extraordinary.

Only six plants.

We leg to draw special attention to this marvellous-looking Cattleya.

There will also be included in this Sale a magnificent lot of DENDROBIUM NOBILE, many grand and perfectly-formed masses. The forms are stated by our Collector to be brilliant and varied, with a range of colour hitherto unsuspected in this lovely and most useful Dendrobium.

EVERY PLANT IS OFFERED, AND WITHOUT RESERVE. Also

CYPRIPEDIUM INSIGNE, UPPER BURMA VARIETY.

A yellow one, just in flower, will be on view. We believe this will be even more productive of grand varieties than the mountain section, which has produced such beauties as Sanders, Saccarum, which has produced such beauties as Sanders, Saccarum (now in flower with Baron Schroder), also-sepalum, Bohufulum (white upper dorsal), and

This region has never been visited by any collector before, and it is more than probable that quite new and magnificent types of this widely-distributed species are to be found amongst the plants now offered.

Also a DENDROBIUM SPECIES from northern Queensland, very free-flowering, producing as many as twenty flowers on a single inflorescence; the colour is rose-crimson, quite distinct from D. phalaenopsis Schraderianum or D. Leeanum.

Also a grand lot of DENDROBIUM WARDIANUM, Sander's superb large-flowered form.

A CATASEPUM, SP. NOVA, FROM THE RIALTO.

VANDA OERULEA—Hill Variety.

Compact healthy plants, and probably the largest and darkest form ever seen of this beautiful variety.

EPIDENDRUM WATSONIANUM, N. SP.

From the old habitat country; flowers yellow, buff, and lilac; inflorescence very large, tree-growing and free-flowering.

CATTLEYA SP., resembling Schofieldiana in habit. The variety called Du Baysianum exists among these plants.

Also many other choice, rare, and valuable C. CHIDS.

On view morning of Sale, and Catalogues had.

Friday Next, January 15.
A NEW GOLDEN-YELLOW FLOWERED FORM OF
CYPRIPEDIUM INSIGNE.

MESSRS. PROTHEROE AND MORRIS have been instructed by Mr. F. Sander to SELL BY AUCTION, at the above place, a NEW GOLDEN-YELLOW form of CYPRIPEDIUM INSIGNE, from the importation received last year.

Friday Next, January 15.

MESSRS. PROTHEROE AND MORRIS have been instructed by Mr. F. Sander to include in above SALE—A WONDERFUL FORM OF ODONTOGLOSSUM NEBULOSUM, the MOST BEAUTIFUL EVER SEEN.

Friday Next, January 15, 1892.

A new and beautiful variety of

EPIDENDRUM GODSEFFIANUM.

MESSRS. PROTHEROE AND MORRIS have been instructed, by Mr. F. Sander, to include in their SALE, without reserve, on FRIDAY NEXT, January 15, a quantity of

EPIDENDRUM GODSEFFIANUM.

NEW SPECIES.

In extraordinary condition and masses. This is a very beautiful Epidendrum just to hand, and one that will become, when known, justly popular, the flowers are nearly 2 inches in diameter, and very round, the flower-spikes carry themselves well above the foliage, and are 18 inches high, producing from ten to twenty their large flowers each, the sepals and petals are ovate oblong, of a lovely pale buff colour, veined with very light chocolate, the lip which is nearly an inch long and broad, is rose-white.

Orchid Sale.—Friday Next.

MESSRS. PROTHEROE AND MORRIS will include in the above Sale,
1000 fine TUBES of the brilliantly-coloured Climber
GLORIOSA SUPERBA,
in splendid condition.

Monday Next.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, January 11, at half past 11 o'clock, 1000 CARNATIONS and PICOTEES, PERENNIALS, SPIREA JAPONICA, PALMATA and ELEGANS; 1000 AMERICAN PEARL TUBEROSES; 2000 GLADIOLI LENOIR in great variety, DAHLIAS, a large variety of BEGONIAS, HARDY CLIMB JAS, and an immense number of HARDY PLANTS and BULBS.

On view morning of Sale, and Catalogues had.

Wednesday Next.

40 lots of GREENHOUSE and STOVE FERNS; PALMS in variety; DOUBLE and SINGLE BEGONIAS; 330 STANDARD, HALF-STANDARD, and DWARF ROSES; a quantity of English-grown LILIES in variety; HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS; COCOS WEDDELIANA SEEDS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 13, at half past 11 o'clock.

On view morning of Sale, and Catalogues had.

Thursday Next.

1000 LILIUM AURATUM, 500 lots of HERACROUS PLANTS, also BEGONIAS, DAHLIAS, GLADIOLI, CARNATIONS, PICOTEES, PERENNIALS, &c.; 200 lots of HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, E.C., on THURSDAY NEXT, January 14, at half past 11 o'clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.—(Weather permitting).

500 Standard and Dwarf ROSES, FRUIT TREES, a good Collection of BORDER PLANTS, HARDY ORNAMENTAL SHRUBS and CONIFERS, 50,000 LILY OF THE VALLEY, 50,000 SPIREA, 50,000 fresh KENTIA SEEDS, 10,000 COCOS WEDDELIANA, 10,000 TUBEROSES, LILIUM AURATUM from Japan, and a large quantity of DUTCH BULBS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 13, at half past 12 o'clock precisely (weather permitting).

On view morning of Sale, and Catalogues had.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 12, Bull Ring, Birmingham, of BULBS, PLANTS, NURSERY STOCK, &c., every Monday and Friday, at 4.30 P.M. Sales of choice Cut Flowers. Fresh Entries invited. Account Sales and cheques daily. Empties and labels found.

Horeham Manor Market Gardens and Farm, Waldron, Sussex, nearly adjoining the Horeham Road Station, on the L. & S. & C. Railway.

MR. J. FLUMER CHAPMAN has been instructed by the Hon. John Lubbock, Esq., of Coyle, who is selling the whole of the Market Garden and Greenhouse Plants, to SELL BY AUCTION, on the Premises, as above, on WEDNESDAY, January 13, 1892, the CONTENTS of the GREENHOUSE, S. comprising 1000 very finely-grown Maidenhair Ferns, 600 Arum Lilies, many being in blossom; Camellias, Azaleas, Valloets, Cyclamen (in full bloom), and other pot plants; several thousand young Red and Black Currant Trees, Gooseberry canes, and Rose Trees, about 6 acres of Paxton and Eton Pine Strawberry Plants, Cucumber Frame, Garden Stakes, 50 sacks of Carter's Imperial Ash-leaved Potatoes, Ransome's Lawn Mowing Machines, Burford & Perkins Water Ballast Hand Roller, Tanks, Greenhouse Fitting, &c., quantity of Flower Pots, in sizes; Water Cans, and Garden and Greenhouse Requisites.

Catalogues obtained of the Auctioneer, 63, High Street, Lewes, Sussex; and commissions faithfully executed by the HEAD GARDENER, The Lodge Cottage, Horeham Manor, Horeham Road, Sussex.

Nursery Business.—Partnership Required.

MESSRS. PROTHEROE AND MORRIS have a Client desirous of PURCHASING A PARTNERSHIP in a General NURSERY BUSINESS, either in London or the Provinces, and will be glad to hear from any Firm having such an opening. Capital, about £2000. Should be marked private, to be addressed PROTHEROE AND MORRIS, Auction and Estate Offices, 67 and 68, Cheapside, London, E.C.

WANTED TO RENT, a Small NURSERY with Dwelling-house. Provincial town preferred.—W. BRUNS WICK, 99, Queen's Road, Lee, S.E.

WANTED, near a good Town, 400 to 600 feet run of good GLASS, and about an Acre of Ground.—Particulars to J. R., 3, Wayne Street, Hull.

MIDLAND COUNTIES.—TO BE SOLD (Folio 7561), in an important town, an old-established General NURSERY BUSINESS. Long Lease. Low rental. Capital required, about £2500. Apply to PROTHEROE AND MORRIS, Auction and Estate Offices, 67 and 68, Cheapside, London, E.C.

MUST BE SOLD.—STOCK, GOODWILL, and BUSINESS, of a Compact NURSERY and FLORIST SHOP, all Glass; or a PARTNER may be accepted. W. P., Stockwell Road Nursery, Stockwell, S.W.

FOR SALE.—GOLD MEDAL BOILER, complete, capable of heating 600 to 800 feet of Piping. Price 8 guineas.—Apply to Mr. J. CURREY, Milford Hill, Salisbury.

TO BE LET, 14 miles from London, on the Bath Road, HEATHROW FARM, Harmondsworth, Middlesex, from Michaelmas next; contains 438 acres of good Arable and 46 of Meadow Land. Let as a whole, or divided into three or four Market Gardens. The House and Buildings are 2 miles from West Drayton and Hayes Stations (G. W. R.), also Fetham and Ashford Stations (S. W. R.). No Agents need apply.

For particulars, apply to WALTER C. RICHMOND, Wrotham Park Estate Office, Barnet, Herts.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the king, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by PHILHAM AND SON, 50, Finsbury Square, London, E.C., and Broadview, Herts. Illustrated Book sent for inspection on receipt of twelve stamps.

OLD CRIMSON CLOVE CARNATION, strong-rooted Layers, 24 per 1000. Dormant MAIDEN-HAIR FERNS, 6 inches across, 50s. per 100. JOHN SON AND CO., The Nurseries, Hampton.

FOR SALE, THREE CROTONS, 5 by 3, for Propagating. Offers wanted.—Apply, MORRIS, Hillside, Enfield.

FOR SALE, RED DUTCH CURRANTS, extra strong stuff, 3 years, at 2s. per dozen, 12s. per 100, 100s. per 1000, packing free, for cash with order. THOMAS EVES, The Nurseries, Gravesend.

KELWAY'S ILLUSTRATED MANUAL of Horticulture and Agriculture for 1892. See larger advertisement for details.—KELWAY, Langport, Somerset.

JERUSALEM ARTICHOKE for Sale, 2 or 3 tons, in lots, or the whole. Good sample. First-class quality. State highest price to W. A. TROTTER, Bromesbury, Leathers.

HARRINGTON'S "EARLIEST OF ALL" POTATO.

A new introduction. The earliest Potato in cultivation, and may be depended upon for producing a heavy crop. The flesh is yellowish-white, and is of delicious flavour when cooked. This Potato is especially suited for frame culture.

Price, 3s. per stone.

JOHN HARRINGTON, Seedsmen, Hertford.

FOR SALE, "clearing-out" STEPHANOTIS, covering 30 feet house, 50s.; 36 NIPHEOTES ROSES for cut blooms, 5s. each. Several hundred BOUVDIAS, Alfred Neume, 2s. per dozen; 200 Double White Winter King GERANIUMS, strong plants, taking stock, 4s. per dozen; splendid RASPBERRY CANES, 1s. per 100. Would EXCHANGE for SEEDS, BULBS, BOX TREES, &c. W. COOMBS, Belstone, Devon.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

THE VINEYARD AND NURSERIES,

GARSTON, NEAR LIVERPOOL,

Have just received large and fine importations of the following

ORCHIDS,

CATTLEYA AUREA,

CATTLEYA GIGAS SANDERIANA

(including C. AUREA and C. HARDYANA),

CATTLEYA TRIANE of the finest type

(including some of the pure white forms),

ODONTOGLOSSUM VEXILLARIUM,

ODONTOGLOSSUM MIRANDUM,

ODONTOGLOSSUM WALLISH,

ODONTOGLOSSUM LUTEO-PURPUREUM.

The Company have also secured a fine lot of the NEW and BEAUTIFUL

COCHLODA NOETZLIANA.

Full Particulars on Application to the Company.

SHALLOTS, all guaranteed clean sound English grown. Can now be supplied in any quantity from 12s. 6d. per cwt. Cash with orders.
W. L. THOMSON, Royal Seed Warehouse, Yewell.

Manny Acres of Lilies of the Valley!

T. JANNOCH, Largest Grower of LILIES OF THE VALLEY, the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.
T. JANNOCH (city of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Deringham, King's Lynn, Norfolk.

Fruit Trees a Speciality.

APPLES, PEARS, PLUMS, STRAWBERRIES, and all sorts of Small and Hardy Fruits grown in immense quantities. The best of the Old and New Varieties either to Grow for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most complete issued, 6d. Ordinary LIST free.
J. WATKINS, Pomona Farm Nurseries, Withington, Hereford.

Seeds! Seeds!! Seeds!!!

VEGETABLE and FLOWER SEEDS, saved from CHOICE SELECTED STOCKS. Everyone with a Garden, and every Market Gardener, should send for a CATALOGUE before purchasing elsewhere.
SPECIAL LOW QUOTATIONS to Large Buyers.
B. L. COLEMAN, Seed Merchant and Grower, Sandwich, Kent.

IMPORTANT LISTS ON APPLICATION.

Surplus Clearance **DAFFODIL BULBS**, in prime condition for Pot, Beds, and to Naturalise, at greatly reduced prices. Conference **Michaelmas Daisies** and Sunflowers, Choice Single and Double Peonies, Choice Iris, Tall and Dwarf, Choice Hellebores and Lilies, Choice Gladioli, Carnations, Picotees, and Pinks.
BARR and SON, 12, King Street, Covent Garden, London, W.C.

"GOOD THINGS" from HARTLAND, Cork, for 1892.—**AURICULA**, Empress of India, try it for colour, which is deep indigo, magnificent, 2s. 6d. per packet. **COSMOS bipinnatus alba**, White Pearl, from America, beautiful, 6d. per packet. **POPPY**, Snowdrift, double fringed bloom, like balls of cut tissue paper; thousands of packets in circulation through a famous London wholesale firm, 1s. per packet. **PHLOX**, Drummond's grandiflora, mixture, the finest in Europe, see coloured plate in *Garden*, from specimens grown from Hartland's unique class, 6d. and 1s. per packet. **BRUCCOLLI**, April Queen (Hartland), the finest and purest variety in any part of Europe, 1s. per packet. **SUNFLOWER**, Hartland's 1000 of plants, 1s. each, 7s. 6d. per dozen, post-free.—**WM. BAYLOR HARTLAND**, Seedsmen and Florist, 24, Patrick Street, Cork. "Year Book" for 1892, now ready, please write for it.

A STRONG HEDGE.

A rare good lot of strong SCOTCH THORN QUICKS, 2½ to 3½ feet, unselected, 15s. per 1000 selected, 1000 6s. 6d. per 1000.
FOTHERINGHAM and CO., Nurserymen, Dumfries, N.B.

SMALL SHRUBS and CONIFERÆ.—Abies

orientalis, 4-yr., 40s. per 1000; *Cupressus macrocarpa*, 3-yr., 30s. per 1000; *C. Lasiocarpa*, 1 foot, 40s. per 1000; *C. erecta viridis*, 8 to 9 inch, 30s. per 1000; *C. conica* ex Simonsii, 1 foot, 30s. per 1000; *Eucalyptus macrantha*, 9 inch, 8s. per 100; *Ivy*, Irish, 2-yr., 30s. per 1000; *Lilac*, purple, 2-yr., 30s. per 1000; *Laurestinus*, 8 to 8 inch, 1s. per 100; *Oaks*, evergreen, 3-yr., drilled, 10 inch, 50s. per 1000; *Pinus cembra*, 3-yr. transplanted, 40s. per 1000; *P. Nordmannii*, 2-yr. transplanted, 60s. per 1000; *P. nobilis*, 2-year transplanted, 6s. per 100; *Privets*, oval, 9 inch, 8s. per 1000; ditto 10 to 12 inch, 14s. per 1000; *Retinospora plumosa*, 8 inch, transplanted, 40s. per 1000; *R. aurea*, 6 to 8 inch, 8s. per 100; *R. squarrosa*, 8 inch, transplanted, 40s. per 1000; *Rhododendron ponticum*, transplanted, 4 to 6 inch, 40s. per 1000; 6 to 9 inch, 55s. per 1000; *Thuja Lobbi*, 10 to 12 inch, 30s. per 1000; 15 to 18 inch, extra, 40s. per 1000; *Veronica Traversii*, 8 inch, 7s. per 100; *V. Pinguifolia*, 8 inch, 8s. per 100; *Yew*, English, 2-yr., 1-yr. transplanted, 20s. per 1000; Irish Yew, 8 to 9 inch, 8s. per 100.

GARLIES MITCHELL, Nurseryman, Stranraer.

ROSES—ROSES—ROSES.—

From the Open Ground. Strong Plants. Tea-scented Roses, in sixty of the leading kinds; Hybrid Perpetuals, in all the leading varieties; Mus Roses, all the best varieties in cultivation; Ice Roses, for forcing, well established in 5-in., 6-in., and 7-in. pots; also very strong stuff in 8-in. pots. All very cheap. CATALOGUE of 400 varieties, with prices on application, to—
CLARKES NURSERIES, Wellington, Somerset.

PERNS! FERNS!!—Trade.—Greenhouse and

Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large *A. cuneatum*, in 48s., 6d. per doz. Large Ferns, 10 saleable sorts, *Arctia Sieboldii*, *Prinula Solanum*, superior stuff, all in 48s., 6d. per doz. *Palm*, *Ficus*, *Erica myrsina*, and *Cyclamen*, in 48s., 12s. per dozen, for bloom and fine foliage can be better. *P. tremula*, and *A. cuneatum*, selected bushy, for potting on, 16s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro Junction, S.W.

ARTHUR L. BULLEN.

WHOLESALE FLOWER SALESMAN and GROWER, 33, EXETER STREET, COVENT GARDEN, W.C. Stands Nos. 271 and 272, Flower Market, Covent Garden, and Highgate Nursery, Bromley, Kent, &c. &c. Having been established nearly twenty years in Covent Garden Market, A. L. B. has a daily demand for Choice Flowers, and giving personal attention to all consignments, he is thus enabled to command full market prices for same.

THE LARGEST EVER SEEN.

A MONSTER SPECIMEN

WITH 250 BULBS

SANDER'S LABIATA,

IN MAGNIFICENT ORDER & CONDITION,

Full of Sheaths and Green Leaves.

Will be Sold by MESSRS. PROTHEROE & MORRIS

(who have kindly consented not to charge commission),

On FRIDAY NEXT, January 15.

Mr. Sander will present the amount realised

AS A NEW YEAR'S GIFT TO

THE Gardeners' Orphan Fund.

SANDER & CO., ST. ALBANS.

FOR ORCHIDS, and GARDENERS to Grow Them, apply to **SANDERS**, St. Albans. The finest stock of Orchids in the World—30 minutes from St. Pancras.

COELOGYNE CRISTATA, well-grown, with bloom spikes, also *Chatsworth*, *Templeton*, and *Maxima* varieties cheap.

TRUSTEES late J. STEVENSON, Tipton, Cheshire.

Trade Offer of Large Palms.

W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 8 to 25 feet high, fit for Conservatory and House Decorations; *Dracenas*, *Bamboos*, & *Foliage Plants*. Lowest Prices quoted on application.
W. ICETON, Putney, S.W.

FOR SALE, twelve large WHITE AZALEAS, six *INDICA ALBA*, six *FIELDER'S WHITE*, about 5 feet high, and 4 to 5 feet through. Well set with flower bud. Price on application to—
B. FOULGER, Holly Bank Nurseries, Potter's Bar.

FOR SALE, a fine specimen of *CATAKIDAZAMIA MACLEAYI*, 8 feet diameter, and an *ENCHIRIDARTOS VILLOSUM*, 6 feet diameter. For particulars apply to—
GEO. JACKMAN and SON, Woking Nursery, Surrey.

THE PENNY PACKET SEED COMPANY.

Having now posted our CATALOGUE, 1892, to all our Customers, we shall be obliged if any Customers who may have failed to receive theirs as usual, will communicate with us. The Catalogue will be sent to intending purchasers, gratis, on application.

BIDDLES & CO.,

LOUGHBOROUGH, LEICESTERSHIRE.

WHOLESALE SEED CATALOGUE.

We have now published our Wholesale Catalogue of **VEGETABLE & FLOWER SEEDS**

Containing also the best NOVELTIES of the SEASON, and LIST of over 150 varieties of choice Fern spores. MAY BE HAD ON APPLICATION. Any of our customers not having received one by post will oblige by letting us know, when another shall at once be posted.

WATKINS & SIMPSON,

BULB and SEED MERCHANTS, EXETER ST., STRAND, LONDON, W.C. Seed and Trial Grounds—Feltham and Twickenham, Middlesex.

NEW ENGLISH CHRYSANTHEMUMS

For 1892.

Mrs. ROBINSON KING, 6 F.C.C.'s, new Golden-yellow Sport from G. Empress. The WHOLE of the CERTIFICATED STOCK in my POSSESSION (see Notice). PRELUDE or striped Alfred Lyne, Noel Praguell or striped Empress, Excelsior, Jap., rose-ceres, F.C.C. F. W. Flint, Jap., crimson-carnation, 2 F.C.C.'s, G. C. Schwabe, J., carnine rose, 3 F.C.C.'s, Mrs. Nisbet, J., purple-amaranth, F.C.C. Peter Blair, J., yellow and crimson, F.C.C. William Tunstun, J., chestnut-red, Com. Atlantic, J., white and rose; Bugeit, J., red and yellow; Charles Bondall, J., lilac-rose; J. Bienskius, J., crimson; J. P. Kendall, J., amaranth; Majestic, J., carnine-rose; Masterpiece, J., ruby-red; Mrs. Chr. Gunn, J., white; Mrs. C. Russell, J., buff; Mrs. Glanville, J., cream; Mrs. H. F. Spaulding, J., black; Richard Nisbet, J., red and yellow; Standard, J., rose-magenta; Umpire, J., Lilac-rose; Miss Lillian Cope, J., or White Etiole de Lyon. Descriptions and prices, see Catalogue (free). Orders booked and executed in rotas on during February and March.

R. OWEN, Floral Nursery, Maidenhead.

CANNELL'S BEGONIAS.

Three Great Victories: The Temple, Crystal Palace, and Edinburgh last year.

At the first-named Great Show we were awarded by the Royal Horticultural Society, as a mark of great excellence, a Gold Clock, an unprecedented and highest prize yet given to this family. Like all our plants and seeds there are none to equal them for real excellence, and as a proof we have received probably more First-class Certificates of merit for diverse varieties than all other growers put together; for full particulars see our Floral Guide, a book of reference, and contains the most accurate information on flowers throughout the world, and is valued for such in preference to all others. Sent post free to intending purchasers.

MR. W. NELSON, Ficksberg, Orange Free State, South Africa, September 2, 1891.

"I have just returned from a tour of some 600 miles through the Free State and Transvaal, and as I had, as a matter of course, a copy of your Floral Guide with me, I feel that I ought to thank you for the rich stores of solid and interesting information contained therein. Many were the hours which it helped to while away, it being so thoroughly characteristic of true British florists."

SWANLEY, KENT.

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow. 74 ACRES IN STOCK. See CATALOGUE for Simple Instructions, and kinds of Trees to suit all Soils.

ROSES. Hundreds of Thousands. BUSHES, Packing and Carriage Free for Cash with Order. 8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen. ORNAMENTAL TREES, 91 ACRES. 4 ACRES OF GLASS.

CLEMATIS (80,000), from 15s. per dozen. N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS | VEGETABLE, FLOWER, and FARM.

DESCRIPTIVE LIST, FREE.

RICHARD SMITH & CO., WORCESTER.

Select VEGETABLE, Choice FLOWER, The best qualities at Moderate Prices.

Delivered Free by Rail or Parcels Post.

The Best SEED POTATOS, Garden Tools, Sundries, &c., &c.

Illustrated Descriptive Catalogue, No. 403 POST FREE ON APPLICATION.

Dicksons Seed Growers, Chester. (Limited)

CHARLES NOBLE

HAS FINELY BUDED RHODODENDRON named kinds. ANDROMEDA FLORIBUNDA. AZALEA, finest Ghent kinds. Ditto, Seedlings. Ditto, OCCIDENTALIS. RHODORA CANADENSIS.

DWARF ROSES, H. P., B., and TEAS. THUIOPSIS BOREALIS THUIA LOBBII Ditto, AMERICANA } 3 to 8 feet. CUPRESSUS LAWSONIANA HYPERICUM CALYCEUM. PORTUGAL LAURELS, 2 to 3 feet. HARDY HEATHS. CLEMATIS, 3 and 4 years old.

The General Assortment of NURSERY STOCK will be found superior in every way.

BAGSHOT, January, 1892.

GARDEN. BULBS, ROSES, &c.

FOR WHATEVER IS WANTED, mentioned or not in these columns, please to write immediately to **H. CANNELL & SONS**, whose SEED and NURSERY STOCK is very complete and extensive, and where nearly everything for the Garden is grown and supplied in large quantities, in the finest possible condition, at the lowest prices consistent with correctness and superior character. Never has there been such a complete Autumn Catalogue issued of everything required for the garden as the one we are now sending post free; neither has there ever been such a splendid stock of best varieties of the many families of plants necessary to keep the garden in the highest state of perfection as we are now soliciting orders for. Our climate, soil, and facilities give us and purchasers many advantages, and we ask all to send for a Catalogue, and then

Come and See.

H. CANNELL & SONS, SWANLEY, KENT.

BARR'S SURPLUS CLEARANCE SALE OF DAFFODILS

Prices greatly reduced. Bulbs in prime condition for Potting, Bedding, and Naturalisation. Detailed Priced LIST on application.

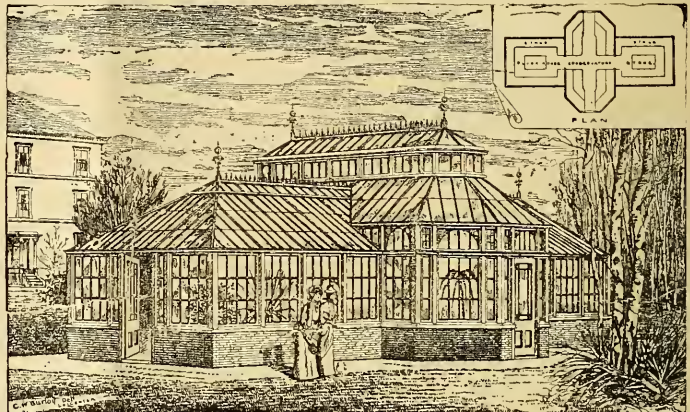
Per 1000, 15s., 25s., 42s., 63s., 84s., and 105s.

BARR'S CLEARANCE SALE OF HYACINTHS, TULIPS, POLYANTHUS-NARCISSUS, CROCUS, SNOWDROPS, CHIONODOXA, SCILLAS, SNOWFLAKES, and other Spring-flowering Bulbs, ALL IN PRIME CONDITION. PRICES GREATLY REDUCED. LIST on APPLICATION.

Important Descriptive LISTS now ready, free on application:—

CONFERENCE MICHAELMAS DAISIES, and PERENNIAL SUNFLOWERS. GLADIOLUS, CARNATIONS, PICOTEEES, PINKS, HELLEBORES, and LILIES. SINGLE PÆONIES, DOUBLE PÆONIES, HELLEBORES, and IRIS.

BARR & SON, 12, King St., Covent Garden, London.



MESSINGER & CO.'S New CATALOGUE of Greenhouses and Heating Apparatus,

Just issued, will be found the most complete, practical, and reliable guide to all about to build, alter, or heat Greenhouses. Illustrations of every description of Glasshouse, from the largest range of Winter Gardens to the simplest forms of Portable Greenhouses, Plant Protectors, and Garden Frames; also of all the best kind of Boilers, Hot-water Pipes, and all appliances for heating. This Catalogue, possessing hundreds of illustrations of all the latest improvements in greenhouse building and heating, is on a scale never before attempted. It should be in the hands of every one interested in gardening, as it contains many practical hints on the subjects of which it treats, the result of many years' experience. Price, 2s. post-free.

A large number of the illustrations are taken from greenhouses erected by us in various parts of the country: an inspection of this Catalogue shows, therefore, buildings the efficiency of which has been well tested by actual use. The advantages possessed by us enable us to carry out work with the utmost promptness, and in the very best style, at prices which defy competition. Surveys made, and gentlemen waited on in any part of the country. Plans and Estimates free on application.

MESSINGER & COMPANY, LOUGHBOROUGH.

London Office:—163, Palmerston Buildings, Old Broad Street, E.C.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

From _____ To _____
THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.

Please send me "THE GARDENERS' CHRONICLE" for _____ 1892.
commencing _____, for which I enclose P.O.O. _____ Months.

Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

FOREIGN SUBSCRIPTIONS (excepting India and China):—Including Postage, 17s. 6d. for 12 Months. India and China, 18s. 6d.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.
Jan. 9, 1892.

SANKEYS' famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still had them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

KELWAY'S MANUAL.

Ready January 1, 1892, 130 pages quarto. 1s., post-free. Gratis to Customers.

Handsome volume for presentation. Practical for use. Thirty-second Edition, still further improved and enlarged. Phototype and Wood Engravings. Cultural articles and full descriptive matter. For Contents see *Gardeners' Chronicle*, December 26, p. 755.

INCLUDES the CHOICEST SEEDS, and GLADIOLI, ESPECIALLY for EXHIBITION. Indispensable to every Amateur. Tables useful to the Gardener and Farmer are included.

Fifty-seven Gold and Silver Medals, London and Paris, awarded to the Produce of our

SEEDS, PLANTS, AND BULBS.

KELWAY & SON, Langport, Somerset.

F. C. HEINEMANN,

SEED GROWER,

ERFURT, GERMANY.



BEGONIA ODORATISSIMA (BAUMANNI).

The First Sweet-scented, Large-flowered
BEGONIA.

Per Packet, 1s. 6d.

Engraved from a photograph lent by Mr. VICTOR LEMOLNE.

MY ILLUSTRATED CATALOGUE OF FRESH & SELF-GROWN SEEDS, ENGLISH EDITION, is NOW READY.

Includes all the FINEST NOVELTIES of the Season, and may be had post-free on application (1d. post-card). Please quote *Gardeners' Chronicle*.
My business is the Oldest and Largest of Erfurt that supplies private Gardeners and Amateurs only. More than 60,000 parcels are sent yearly to all parts of the World.

I OFFER MY SEEDS AT MUCH LOWER PRICES

than any English or Continental Seed House of good repute, and guarantee, besides, self-grown, genuine, and fresh Seeds only.

It is an established fact that the greater part of all Seeds Sold in England or America is grown in Germany, especially in and near Erfurt, the Garden Town of Germany.

Furnishing you with my Catalogue, I place my stores at your very door, and enable customers thousands of miles away to obtain their supplies as safely and cheaply as if they had called in person at my establishment.
Ordered Seeds will arrive in Great Britain within a few days, and are offered and sent Package and Postage Free.

DIRECT CORRESPONDENCE. NO AGENTS.

F. C. HEINEMANN,
SEED GROWER,
ERFURT, GERMANY.

The Best of the Season.

WEBBS' RELIABLE NOVELTIES.

For Descriptions and Full Particulars see

WEBBS' SPRING CATALOGUE

Beautifully illustrated with six coloured plates and hundreds of engravings, post-free, 1s., which is allowed off subsequent orders.

Seedsmen by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales.

WORDSLEY, STOURBRIDGE.



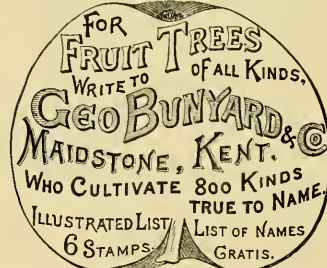
NOW READY.

SHARPE'S TRADE CATALOGUE

OF
GARDEN AND FARM SEEDS
for 1892.

Post-free on application to

CHARLES SHARPE & CO.,
Seed Farmers and Merchants, SLEAFORD.



BUYERS SHOULD COME AND VIEW THE STOCK.

Over 100 Acres, Nursery Stock.
NOW is the Time to Order.
ROSES—ROSES—ROSES,
FRUIT TREES,
Ornamental Trees and Shrubs,
FOREST TREES,
And HEDGE PLANTS.
RHODODENDRONS, AMERICAN PLANTS.
CLEMATIS, IVIES, and
HARDY CLIMBING PLANTS.

NEW ILLUSTRATED CATALOGUE
Of all above, may be had POST-FREE.

WM. CLIBRAN & SON,
Oldfield Nurseries, Altrincham;
Also, 10 and 12, MARKET STREET, MANCHESTER.

VALUABLE SILVER MEDALS offered to Exhibitors during 1892. All Amateurs and Gardeners should see **KELWAY'S MANUAL** for 1892 for particulars; 1s. post-free. Gratis to customers. For details see larger advertisement.—Langport, Somerset.

Myatt's Prolific Kidney Potatoes.
W. W. JOHNSON AND SON, SEED
 GROWERS AND MERCHANTS, Boston, offer the above
 in quantity. Price on application.

Raspberry Canes and Currant Trees.
BAUMFORTH SEEDLING, 40s. per 1000;
SEMPER FIDELIS, 20s. per 1000. Sample 100 of
 either sort 6s. **RED CURRANT TREES, 8s. per 100.**
 Cash with order. Free on rails. Apply—
R. L. BATH, Wisbech.

BEGONIAS A SPECIALITY.—Awarded
 Four Gold Medals, and Gold Cup, and all First Prizes.
 Seed saved from Prize plants. Our Begonia Seed and Bulbs
 eclipse all previous years. Choicest mixed, single or double
 varieties, 1s. 2s. 6d., and 5s. per packet. Collections (Seed)—
 single, 12 named varieties, separate, 5s. 6d.; 6 ditto, 3s.
 Tubers, named singles, from 12s. to 42s. per dozen; unnamed
 seedlings, 12s. to 21s. per dozen; hedding, choicest, 4s., 5s., 6s.,
 and 9s. per dozen; choicest named doubles, from 42s. per doz.;
 unnamed, choicest, 12s. to 30s. per dozen; choicest mixed, for
 bedding, 9s. and 12s. per dozen. Catalogues gratis.

**JOHN LAING AND SONS, Begonia Growers, &c., Forest
 Hill, London.**

ASPARAGUS, of fine quality—for forcing
 and planting; 2 yr. old, 2s. 6d. per 100; 3 yr. old, good
 roots, 3s. per 100; ditto, selected, 4s. per 100; 6d. per 100 less
 for quantities of 1000 and upwards. For forcing, 4 yr. old,
 5s. per 100; 5 yr. old, splendid roots, 10s. per 100; ditto
 selected, 12s. 6d. per 100; 6 yr. old, extra fine, 15s. per 100.
 Cash with order. My Asparagus always makes top price at
 Covent Garden.

The following unsolicited testimonial:—"Please send
 me another 200 of 5 yr. old Asparagus Roots I may get, and
 the last 200 were the best lot of forcing roots I ever bought, and
 they surpasses the quality is excellent."—**C. H. PERKINS,**
 The Parkers, Milton Abbey, Hantsford.

J. J. CLARK, Market Gardener, Goldstone, Brighton.

SEASON 1892. Wm. CLIBRAN & SON Beg to inform their patrons that their NEW CATALOGUE OF

**SELECT
 VEGETABLE
 SEEDS** AND **CHOICE
 FLOWER
 SEEDS**

Is NOW READY, and will be sent post-free on application.
 It contains Description of all the STANDARD VARIETIES
 OF VEGETABLE AND FLOWER SEEDS, with a
 careful selection of the most promising NOVELTIES.
 BUYERS OF GENUINE, RELIABLE SEEDS should
 send for a copy before placing their Orders.

INSECTICIDES, IMPLEMENTS, TOOLS,
 And Miscellaneous Requisites of every description,
 for the GARDEN or FARM, supplied.
**10 & 12, MARKET ST., OLDFIELD NURSERIES,
 MANCHESTER.** **ALTRINCHAM**
 And Principally Nurseries, Glasgow, Llandudno.

Special Cheap Offer to the Trade and large Planters.
ISAAC MATTHEWS AND SON
 have large quantities of the under-mentioned trees to
 offer cheap:—100,000 RHODODENDRONS, Early, White,
 Scarlet, Pink, and other varieties, fine plants; and
 500,000 Ponticum and Seedling Hybrids, various sizes, from
 1 to 4 feet, by the 100 or 1000; 500,000 THORN QUICK, four
 and six ear old, one size up to 3 feet; COMMON ASH, 3 to 4 feet
 and upwards; MOUNTAIN ASH, 6 to 12 feet; BIRCH, 8 to 9,
 9 to 10, and 10 to 12 feet; HORSE CHESTNUTS, from 2 to 9,
 also a large quantity of Horse Chestnuts, 12 to 15 feet,
 and specimen trees for avenue-planting. ENGLISH YEW,
 ELMS, and HORNBEAMS, 8 to 10 feet; AUSTRIAN PINES,
 fine trees, 3 to 8 feet; recently-transplanted POPLARS, varie-
 ties, 6 to 12 feet; SPRUCE, for Christmas Trees, also for
 Forest Planting; ACACIAS, HOLLIES, BOX, CUPRESSUS,
 VIVIES, LAURELS, &c.

CATALOGUES on application.
 The Nurseries, Milton, Stoke-on-Trent.

1892—NEW SEED CATALOGUE—1892
DICKSON, BROWN & TAIT,

Seed Merchants to H.R.H. the Prince of Wales,
 CORPORATION STREET, MANCHESTER.

Beg to announce that their DESCRIPTIVE CATALOGUE of
 Choice VEGETABLE and FLOWER SEEDS for 1892 is now
 published, and may be had post-free on application.

FERNS A SPECIALITY
 The finest & most interesting collection in the Trade.
1400 SPECIES & VARIETIES
 Stove, Greenhouse, Hardy Exotic & British
 EVERY ONE interested in FERNS SHOULD
 SEND FOR OUR partially descriptive.
 CATALOGUE FREE ON APPLICATION.
 also our ILLUSTRATED CATALOGUE No. 21.
 Price 1/6 post free.
W. & J. BRKENHEAD
FERM NURSERY SALE, MANCHESTER.

H. J. JONES,

Begs to draw attention to the Great Bargain he is now
 offering in

BEGONIAS,

Absolutely the best value for money ever offered. Try them,
 if not satisfied, cash returned.

SINGLE BEGONIAS FOR BEDDING.

These have been selected with great care, and may be relied
 upon to give a grand display.
 Very choice, all colours mixed, per doz., 3s.; per 100, 20s.
 Very good to colour, " " 3s.; " 20s.
 Very choice, selected to colour " 4s.; " 26s.

SINGLE BEGONIAS FOR POT CULTURE.

All the varieties offered under this heading are quite up to
 exhibition standard, and remarkable value for money.

12 finest selected mixed colours, 4s.
 6 finest selected Fawn, Bronze, Terra-cotta, Buff, Apricot,
 and Dark Orange, 4s. 6d. A unique collection.
 12 fine selected, in 12 distinct colours, 6s.
 12 very fine selected, in 12 distinct colours, 9s.
 12 My very best selected, equal to the finest named varieties,
 usually offered at 5s. each, in 12 lovely colours, 12s.

DOUBLE BEGONIAS FOR POTS OR BEDDING.

6 fine selected Seedlings, 6s. 6d.; 12 for 12s.
 6 extra fine selected, suitable for exhibition, 13s.; 12 for 24s.
 Unblommed double—60 per cent. of them will be fine double
 flowers—9 for 2s. 6d.; 12 for 4s.
 Begonia Seed, single, 1s. and 2s. per packet; double, 1s. 6d.
 and 2s. 6d. per packet.

All free for cash with order.

RICECROFT NURSERY, EITHER GREEN, LEWISHAM.

Seeds.—Carriage Paid.—Seeds.

DICKSON AND ROBINSON'S

DESCRIPTIVE CATALOGUE for 1892.
 Enumerates the Best and Choicest Varieties of VEGETABLE
 AND FLOWER SEEDS, and SEED POTATOS, MANURES,
 INSECTICIDES, HORTICULTURAL IMPLEMENTS, and
 GARDEN REQUISITES. Post-free on application.

COLLECTIONS OF VEGETABLE SEEDS, from 5s. to 8s.
 COLLECTIONS OF FLOWER SEEDS, from 2s. 6d. to 8s.
 Seed Warehouse, 12, Old Milgate, Manchester.

WM. PAUL AND SON respectfully invite
 inspection of the following TREES and SHRUBS,
 now on Sale. Prices (on application) very reasonable, and
 quality unapproachable as to roots, tops, and stems:—

BEECH, purple, best variety " " 12 to 18 feet.
 " common " " 12 feet.
 BIRCH, Silver and others " " 12 to 14 feet.
 ELMS, four sorts " " 12 to 18 feet.
 LABURNUMS " " 9 to 10 feet.
 LIMES " " 8 to 12 feet.
 MOUNTAIN ASH " " 12 to 16 feet.
 NORWAY MAPLES " " 12 to 18 feet.
 PLAINS " " 12 to 18 feet.
 POPLARS, six sorts " " 12 to 18 feet.
 SCYAMOR " " 12 to 18 feet.
 THORNS, Paul's Double Scarlet " " 12 to 14 feet.
 (The finest Trees in the Trade.)
 FLOWERING SHRUBS, various " 4 to 5 feet.

ARBOR-VITÆ, American " " 5 feet.
 ACACIAS " " 3 to 4 1/2 feet.
 BOX, of sorts " " 3 to 5 feet.
 CEDRUS ATLANTICA " " 5 to 10 feet.
 DEODARA " " 8 to 12 feet.
 CUPRESSUS LAWSONIANA " " 6 to 7 feet.
 HOLLY, Variegated " " 6 to 12 feet.
 " Green, named sorts " " 6 to 12 feet.
 FIR, Scotch " " 6 to 9 feet.
 " Austrian " " 3 to 8 feet.
 LAURELS " " 3 to 7 feet.
 OSMANthus " " 2 to 4 feet.
 PICEA PINSAPO " " 6 to 8 feet.
 RHODODENDRON PONTICUM, " " 2 to 4 feet.
 " loam " " 2 to 4 feet.
 " Hybrids " " 2 to 4 feet.
 " Named sorts, " " 2 to 4 feet.
 YEWs, Common, and others " " 3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and
 Pearms.

APPLES and PEARS, Horizontal-trained.

CHERRIES and PLUMS, Fan-trained.

ASPARAGUS for Forcing.

PAUL'S NURSERIES, WALTHAM CROSS.

South Entrance, 4 minutes' walk from Waltham Cross Station;
 West Entrance, 3 minutes' walk from Theobald's Grove Station,
 Great Eastern Railway.

CLEARANCE SALE OF PALMS,

DRACENAS, &c.
 Strong Small Palms, averaging 10 to 12 inches high,
 SPATHOPHIA ELLEGANS, LATANIA ROSEONICA, ARECA
 SAPIDA, CORYTHA AUSTRALIS, KENTIA BELMORIANA,
 K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of
 each, 14 plants in all, 5s.; 1 of each, 7 to all, 3s. Packages
 Free, and Carriage Paid for Cash with Order.

* LATANIA ROSEONICA, 4 feet high, with pot averaging
 10 lbs. leaves, 15s. each.

* CHAMEROPUS EXCELSA, 5 feet high, with pot averaging
 12 lbs. leaves, 20s. each.

* Ditto ditto 4 feet high, with pot averaging
 12 lbs. leaves, 21s. each.

* DRACENA CAMFOLIA, 5 to 6 feet high, 21s. each.

* Ditto ditto 4 feet high, 15s. each.

* PHOENIX TENNIS, 3 feet high, 5s. each.

* Ditto ditto 2 feet high, 15s. per dozen.

* DRACENA INDIVISA, 3 feet 6 inches high, 5s. each.

* Ditto RUBRA, 2 feet high, 15s. per dozen.

* Ditto ICONESTA, 2 feet high, 15s. per dozen.

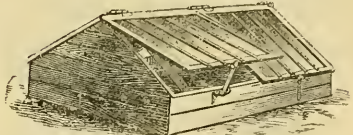
* SEAPORTHIA ELLEGANS, in 60's, fit for 48's, strong, 6s. doz.

Prices per 100 on application.

Those marked * are Packed Free, but NOT Carriage Paid.

W. OWEN, 106, Stamford Hill, N.

GREAT REDUCTION IN FRAMES OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

These Frames are made of the Best Materials, and can be put
 together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.	2	3	4
6 feet long, 3 feet wide	CASH	2	0
6 feet " 4 feet "	"	2	5
12 feet " 4 feet "	PRICES,	4	0
6 feet " 5 feet "	"	2	15
12 feet " 5 feet "	CARRIAGE	4	10
12 feet " 6 feet "	PAID.	5	12

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
 ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.
 London Agent, Mr. H. SKELTON, Seedsmen, &c., 2, Holloway Rd., N.

HILL & SMITH
 BRIERLEY HILL,
 STAFFORDSHIRE,
 And 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN

TREE GUARD,

"The Porcupine."

The maximum of utility and
 the minimum of cost.

Constructed of Strong Iron, Up-
 rights and Galvanised Barbed Steel
 Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire,
 "Dec. 28, 1887."
 "DEAR SIRS,—I have now had
 an opportunity of trying your
 PORCUPINE TREE
 GUARDS, and they seem
 quite to answer my pur-
 pose, so you may send me
 50 more as before. I en-
 close cheque for your
 account."

Yours truly,
RICHD. GREEN
 Messrs. Hill & Smith.

"DUROLINE"

(Transparent Wire Wove Roofing)
SUBSTITUTE FOR GLASS

UNBREAKABLE. FLEXIBLE.
LARGELY USED IN ALL PARTS OF THE WORLD.

Government Officials, Fire Insurance
 Surveyors, Architects, Engineers, and
 numerous Experts have testified on oath
 that "DUROLINE" is preferable to
 and much safer than Glass for Roofs,
 Skylights, and other similar erections.

See Report "London County Council v. The New Wire
 Wove Roofing Co., Ltd." May and June 1891.

INVALUABLE FOR FARM BUILDINGS.
 Extensively used on the estates of H.R.H. The Prince of
 Wales, The Dukes of Westminster and Sutherland, and
 hundreds of others.

SAMPLES AND FULL PARTICULARS OF THE
 SOLE PATENTED AND MANUFACTURED BY

THE NEW WIRE WOVE ROOFING CO., LD.

75a, Queen Victoria Street, LONDON, E.C.

LAPAGERIAS

LARGE SPECIMENS ON SALE BY
FISHER, SON & SIBRAY

Nurserymen, Seedsmen, and Florists,
HANDSWORTH, near SHEFFIELD.

LAPAGERIA ALBA (Handsworth Variety)—
3 and 4 shoots, 4 to 5 feet long ... 12s. 6d. each.
5, 6, 8, 2, 6, 7, 30s. 0d. "

LAPAGERIA RUBRA, a fine dark variety—
4 and 5 shoots, 4 to 5 feet long ... 10s. 6d. each.
6, 7, 8, 2, 6, 7, 12s. 6d. "
7, 8, 2, 6, 7, 21s. 0d. "

LAPAGERIA MACULATA, carmine-red,
inside the bell spotted with white, flowers very large
and well reflexed, distinct. Was awarded the Gold
Medal at the Manchester Royal Botanic and Horticultural
Society's Autumn Exhibition of 1887—
5 and 6 shoots, 4 to 6 feet long ... 12s. 6d. each.
9, 10, 11, 12, 3s. 6d. "
10, 12, 10, 14, 42s. 0d. "

LAPAGERIA PROFUSA, bright glossy red,
flowers in clusters, good habit highly recommended.
Was awarded First Class Certificate at the Manchester
Royal Botanic and Horticultural Society's Autumn
Exhibition of 1887—
6 and 8 shoots, 6 to 7 feet long ... 31s. 0d. each.
8, 9, 7, 9, 50s. 0d. "

LAPAGERIA GIGANTEA, very dark crim-
son colour, immense size—
3 and 4 shoots, 4 to 5 feet long ... 15s. 0d. each.
5, 6, 6, 7, 30s. 0d. "

GREENHOUSE RHODODENDRONS,

42s., 48s., 60s., and upwards, per dozen.

SPECIMENS, in VERY LARGE POTS, 21s. to 42s. each.

LARGE TREES, for Street Planting. One
of the Largest Stocks in the World to select from. List
of Sorts, with prices, sent on application.

ORNAMENTAL TREES in Great Variety.

DECIDUOUS SHRUBS, Ornamental and
Flowering.

EVERGREEN TREES and SHRUBS, in-
cluding Hollies, Aucubas, Laurels, &c., Rhododend-
rons, &c.

CONIFERÆ, a large assortment—Retinospora,
Yews, Green and Variegated, &c.

PLANTS, suitable for Window-Boxes and
Permanent Bedding.

ROSES.

CLIMBING PLANTS, including Clematis,
Roses, Ampelopsis, Ivies, &c.

The following **CATALOGUES** may be had,
in their respective seasons, free on application:—

No. 2.—**NURSERY STOCK**, comprising—

Fruit Trees. One of the largest collections in
Europe, consisting of Apples, Pears, Plums, Cherries,
Apricots, Peaches, Nectarines, &c., in all sizes and
shapes.

Forest Trees of every description, and of all sizes.
Large Trees for Avenues, Streets, or Park planting, &c.
Quercus and Hollies for Gapping and making new
Fences.

Ornamental and Weeping Trees. An immense
assortment of all sizes.

American Plants, consisting of over 300 named
varieties of Rhododendrons; also potted in quan-
tity, for Game Covers, &c.

**Evergreen, Coniferæ, and Deciduous-flowering
Shrubs** of all the leading sorts, in large quantities.
Climbing and Twining Plants. A choice selec-
tion, including Clematis, Ampelopsis, Ivies, Honey-
suckles, &c.

No. 3.—**FRUIT TREES, DESCRIPTIVE.**

No. 6.—**VEGETABLE and FLOWER SEEDS.**

No. 7.—**GARDEN TOOLS and REQUISITES.**

No. 9.—**AGRICULTURAL SEEDS.**

No. 10.—**BULBS (IMPORTED), WINTER-FLOWERING
PLANTS, &c.**

No. 12.—**ROSES, DESCRIPTIVE.**

No. 13.—**ORCHIDS, STOVE and GREENHOUSE PLANTS.**
No. 14.—**BEDDING and BORDER PLANTS.**

A **LARGE COLLECTION of WINTER-BLOOMING
AND DECORATIVE PLANTS.**

PAULS' NURSERIES, WALTHAM CROSS.

South Entrance, four minutes' walk from Waltham Cross
Station (G.E.R.); West Entrance, three minutes' walk from
Theobald's Grove Station (G.E.R.).



ROSES.

The Largest and Finest Stock
in the Country.

NEW ROSES A SPECIALTY.

Also Books on Roses, by
Wm. Paul, F.L.S.

Descriptive Priced CATALOGUE
Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



SEEDS & BULBS

OF BEST QUALITY.

ALSO

MUSHROOM SPAWN, GARDEN
MATS, MANURES, INSECTI-
CIDES, and all other GARDEN
REQUISITES.

Descriptive Priced CATALOGUE
Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



FRUIT TREES

AND

GRAPE VINES.

An enormous Stock of
Fruiting and Other Trees
unsurpassed in quality,
being vigorous, clean, and
true to name.

Descriptive Priced CATALOGUE
Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



HARDY TREES AND SHRUBS.

EVERGREEN, DECIDUOUS, and
CONIFERS, in endless variety,
kept constantly transplanted.

RHODODENDRONS off Loam.
HARDY CLIMBING PLANTS
a specialty.

Descriptive Priced CATALOGUE
Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



CAMELLIAS

The Largest Stock in the
Country.

Plants well set with Bloom-buds.

Also,

AZALEAS, LAPAGERIAS, and
other GREENHOUSE CLIMBERS.

Descriptive Priced CATALOGUE
Free by Post.

Prices strictly moderate; reduced rates for large quan-
tities. Inspection of stock invited. Goods packed by experienced
hands for all parts of the world. Gardeners of character and
experience recommended.

Important: Observe the Christian Name and Address—

**WM. PAUL & SON,
WALTHAM CROSS,
HERTS.**

GENUINE SEEDS.



JAMES VEITCH & SONS

Desire to direct attention to the following

CHOICE VEGETABLES

FOR PRESENT SOWING:—

CAULIFLOWER,

Veitch's Extra Early Forcing.

First-class Certificate Royal Horticultural Society.
Of dwarf compact habit, beautifully close and white,
small medium-sized heads.

Per Packet, 2s. 6d.

"The best forcing Cauliflower is Veitch's Extra Early
Forcing. It is not large, but it is very close and white,
and tarts in quickly."—*The Garden*.

CARROT, PARISIAN FORCING.

Earlier than the old French Forcing. Shape, nearly
round, of a bright red colour, with very small top; forces
well.

Per oz., 1s. 6d.

CUCUMBER, VEITCH'S PERFECTION.

"Telegraph is a good variety, but Veitch's Perfection is
an improvement on it, and I can strongly recommend it to
those who want a really good Cucumber."—*J. SHEPPARD*.—
Gardeners' Chronicle.

Per Packet, 2s. 6d.

LETTUCE, VEITCH'S GOLDEN QUEEN.

Unrivalled for Early Forcing, and Early Summer Use.

Per Packet, 1s. 6d.

RADISH, EXTRA EARLY FORCING SCARLET.

Of quick growth, coming into use before any other sort;
fine for Forcing.

Per oz., 8d.

JAMES VEITCH & SONS,
Royal Exotic Nursery, CHELSEA, S.W.

FRANK CANT'S ROSES. CHEAP and GOOD.

Standards, from 21s. per dozen.

Dwarfs, from 6s. per doz., or 40s. per 100.

SEND FOR CATALOGUE.

BRAISWICK NURSERY, COLCHESTER.

SHRUBS and CONIFERÆ.—American

Arbovitæ, 2½ feet, 20s. per 100; Berberis aquifolium,
2 feet, 16s. per 100; Box Tree, 1½ foot, 12s. per 100; Coto-
naster microphylla, 2 feet, 12s. per 100; C. Simonsii, 3 feet,
12s. per 100; Escallonia macrantha, pot, 2 feet, 24s. per 100;
Laurel, Common, 1½ foot, 10s. per 100; 2 to 2½ feet, 16s.
per 100; 3 to 3½ feet, 20s. per 100; rotundifolia, 2 to 2½ feet, 16s.
per 100; Portugal Laurel, 2 to 2½ feet, 22s. per 100; Rhododendron
ponticum, 1½ to 2 feet, 25s. per 100; 2 to 2½ feet,
32s. per 100; 3 feet, 50s. per 100. full of buds; Yews, Eng-
lish, 1½ to 2 feet, 24s. per 100; 2 to 2½ feet, 30s. per 100;
Araucaria imbricata, 3 to 3½ feet, 30s. per doz.; 4 feet, 40s. per
doz.; Cupressus Lawsonii, 2 to 3 feet, 20s. per 100; 3 to 4 feet,
30s. per 100; Erecta viridis, 2 to 2½ feet, 30s. per 100; 3 to 3½
feet, 40s. per 100; Picea Nordmannia, 2 feet, 60s. per 100;
2½ to 3 feet, 12s. per dozen; Retinospora plumosa, 2½ feet, 30s.
per 100; 4 to 4½ feet, 50s. per 100; Thuia Loblii, 3 to 4 feet,
30s. per 100; 5 feet, 50s. per 100; 6 feet, 70s. per 100; 7 feet,
extra, 80s. per 100; Thuja dolabrata, 2 feet, 40s. per 100;
2½ feet to 3 feet, fine specimens, 24s. per dozen; 4 to 5 feet, 4s.
each.

GARLIES MITCHELL, Nurseryman, Stranraer.

UNRESERVED SALE,

Friday Next, Jan. 15.

Great Cattleya
S A L E.

A magnificent lot of CATTLEYAS from the white aurea (C. In-schootiana) district. See DRIED FLOWERS on the day of Sale.

A superb lot of CATTLEYAS, from the Santayni Wilderness. The flowers white, with red, richly-fringed labellums.

A Gorgeous Crimson and Yellow CATTLEYA, six plants only.

A new and beautiful Orchid,

EPIDENDRUM CODSEFFIANUM

flowers 2 inches across, a lovely pale buff, veined light-chocolate, lip delicate rosy-white with scarlet veins, chaste and elegant.

2000 OLD LABIATAS

DENDROBIUM NOBILE—grand masses, brilliant varieties, and such a range of colour hitherto unsuspected in this most useful of all Dendrobies.

DENDROBIUM SP.—from North Queensland, rosy-crimson, distinct from D. Phalenopsis Schroderianum or D. Leeannum.

CYPRIPEDIUM INSIGNE

(Upper Burma variety).

A golden-yellow form, in flower, will be offered.

VANDA CÆRULEA—Hill variety. Compact plants.

NEW CATASETUMS, NEW ONCIDIUMS,
NEW EPIDENDRUMS,

&c., &c.

By Order of

F. SANDER, St. Albans,

AT

PROTHEROE & MORRIS' ROOMS

67 & 68, CHEAPSIDE, E.C.

SUTTON'S AMATEUR'S GUIDE

FOR 1892. NOW READY.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON & SONS, READING.



THE

Gardeners' Chronicle.

SATURDAY, JANUARY 9, 1892.

THE MULBERRY.

THE question was put to me a short time since—"Why did Pliny term the Mulberry the wisest of trees?" The reason is not far to seek; it is because it is late in unfolding its leaves, and thus escapes the sometimes dangerous frosts of early spring. To this day the Gloucestershire folk have a saying that, after the Mulberry tree has shown its green leaves, there will be no more frost. It is quite the end of May, and in some seasons later, before the branches clothe themselves with verdure, and then danger from frost is well-nigh past.

That the Mulberry was well known in ancient times there can be no doubt. It is mentioned by the early Greek writers, and by the Roman also. All these writers are supposed to refer to the Black Mulberry, *Morus nigra*, which, in all probability, some writers say must have been the species first employed for feeding the silkworm after its introduction into Western Asia and the South of Europe. Dr. Prior tells us we get the German name Mulberry by the change of "r" to "l" from the Latin *morus*, a word of unknown origin, and which was introduced into Greece with the tree.

The native country of the Mulberry appears to be doubtful (Persia?). But that the original seat was South-western Asia is, as Mr. Leo Grindon states, eminently probable. He further states that no reference to the Mulberry, as understood in modern times, occurs in the Old Testament Scripture, but that it is mentioned in the New under the Greek name of Sycamine, in Luke xvii. 6. "When the tree was originally brought to England is unknown; but seeing that the Anglo-Saxons had a name for it—*Morbeam*, literary *morus-tree*, it may have been introduced by the Romans. And he goes on to say, "or as Charlemagne, that great patron of the useful, ordered it to be grown upon all the imperial farms, it may have been during his reign, say about A.D. 812, that this tree was first carried across the English Channel by Saxon visitors to the continent. "Mor" got changed into "Mul" by a process of permutation of sounds, exceedingly common in the annals of language, and "beam," = tree, would very naturally in the case of a fruit tree give place to "berry," though the Saxon is retained to this day in Hornbeam and Whitebeam.

The Mulberry, as already mentioned, is one of the latest trees to put forth its leaves. It appears to be susceptible of cold, for it is said to drop every leaf on the night of a severe frost. This has led to its culture against walls, a method

generally adopted in the north, as, owing to the lateness of the tree itself, and the retarding influences of the northern climate, the fruit does not ripen in the autumn except in a favourable season. Trees planted against a south wall are found to produce much finer fruit, and of a decidedly better flavour. When planted in the open, it does best in a good rich loam; and if only to accelerate the ripening process, needs an open sunny position. One can quite understand the old method of planting Mulberry trees on grass, so that when the fruit falls, it should not be damaged as it would be if it fell upon gravel or hard soil. Mulberry trees are generally grown as standards, which is, taking all things into account, the most convenient form. Some fruit-tree nurserymen, if propagating the Mulberry, grow stools, as they are called, and the young growths, after they have become hard enough, are layered in the autumn; the layers remain down for two years, when they are potted, and tied to stakes—but it requires another four years or so before they become large enough to plant out. A vigorous tree seldom exceeds, when fully developed, 30 feet or so in height; the branches are thick, and the general form close and rounded. The rough, coarsely-serrated, and dark green leaves, though usually cordate, are prone to curious changes, often becoming irregularly three or five-lobed. The flowers are produced in separate clusters, yellowish-green in colour, and, like the globular green heads of female flowers, contemporaneous with the young foliage. The tree is of great durability, and seems to be wonderfully tenacious of life. It is remarkable for the density of the shade it affords; it is capable of enduring the smoke of towns. It is an excellent tree for suburban gardens, and will thrive even in little corners among warehouses in cities." Its longevity is illustrated by the examples at Syon and elsewhere, which, it is believed, were planted as far back as 1548. So vigorous and tenacious of life is the tree, that the underside of a trunk of a branch lying on the ground has been known to strike root in the soil, while the branches on the upper side have borne and ripened fruit. This was illustrated some years ago at Syon, where a branch fell from the decaying parent trunk on to the grass, put forth roots, and became a tree bearing fruit.

Our favourite Mulberry is the black. The fruit is distinguished for its sweet sub-acid taste, with a very agreeable aroma superadded. When doing well, the tree is a very heavy cropper. *R. D.*

NEW OR NOTEWORTHY PLANTS.

LEPTOTES BICOLOR, *Lindl.*, var. BREVIS,
n. var.

AMONG a batch of the ordinary form of *Leptotes bicolor*, Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, have introduced a very distinct and pretty little plant, which, though differing both in shape and colour from the typical form, must, I think, be considered a variety of the same, and may be distinguished as above. It has quite the habit and general character of *L. bicolor*, but differs in the following characters. The sepals are only 10 lines long by 3 lines broad, oblong-linear, and subacute. The petals are similar, but a little longer and narrower below. The front lobe of the lip is broadly elliptical in shape, very obtuse, 6 lines long by nearly as broad, and the colour pure white, not purple. The side lobes are very light green, and, as usual, embrace the very short, dark-green column. The only trace of purple is a very minute and faint streak on either side of the two

minute fleshy calli at the lip's base. There is a single dried specimen at Kew, together with the ordinary form, which is very similar to the present one in shape, but it has the purple on the front lobe of the lip, as in the ordinary form; which circumstance seems to show that the species is somewhat variable, and must include the one now described as a variety, though at the first glance it appears to be quite distinct. It is a pretty little plant, much like a minute *Brassavola*. *R. A. Rolfe, Kew.*

"ELECTRO-CULTURE."

IN the two articles which the *Gardeners' Chronicle* has devoted to this subject, "the influence of electricity upon plant life" is made to include two things, which it seems to me are perfectly distinct and unconnected with one another:—1, the effect of electric light upon vegetation; 2, the influence of electric currents upon growing plants. With respect to the latter matter, our knowledge of an exact kind is at present very scanty. Sachs, who has given especial attention to it, sums up what is to be said in the following passage in his *Lectures on the Physiology of Plants*



DR. W. R. WOODMAN.

We are now enabled to give a portrait of this gentleman, an obituary notice of whom was given at p. 25.

(English Translation, p. 201.) "Relatively little is as yet known concerning the influence of electricity on the life of the plant. . . . In general all that can be said is, that very feeble constant currents or induction shocks during short periods produce no visible effects on protoplasm; but that, on the other hand, with a certain strength of the currents, disturbances appear in the protoplasm which resemble those brought about by a high temperature, and that with further increase of strength of the current, the protoplasm is killed." That electricity artificially produced is likely to be of any practical importance in either horticulture or agriculture, I, for my part, do not believe. However, I do not propose to discuss this further.

But what I want to point out is, that the effect of electric light upon vegetation is perfectly independent of electricity. The electric current in passing through substances which offer resistance to its passage raises their temperature, and ultimately renders them incandescent; they then become intense sources of light. But the light though produced by electricity, and, therefore, in familiar language called "electric light," has nothing in any way electric about it; and

in point of fact, it might be produced by other means without calling in the aid of electricity at all.

The "effect of electric light upon vegetation" is therefore nothing more than the effect of artificial light of great intensity. When put in this shape there is really nothing novel about it.

It is now well known that all the rays of different refrangibility which make up the spectrum act with very varying degrees of effectiveness in the cardinal feature in plant nutrition—the decomposition of carbonic acid. The chemical action of light upon green plants is limited almost entirely to the red end of the spectrum. If we take the total amount of carbonic acid decomposed by white light to be represented by 100, the proportion represented by the different rays are the following:—red and orange, 32; yellow, 46; green, 15; blue and violet, 7. The yellow rays, in point of fact, are nearly as effective in vegetable nutrition as those of all the rest of the spectrum put together. It is no doubt true that many kinds of "electric light" are rich in so-called "actinic rays." But these are precisely those at and beyond the violet end of the spectrum which are least effective in plant nutrition.

In an article in *Nature* for March 11, 1880 (pp. 438 to 440), I gave a history of the experiments which have been made on the growth of plants under artificial light. The earliest were those of A. P. De Candolle in 1806, who experimented with the light of six Argand lamps: he found that this was sufficient to develop a green colour in Mustard- and Cress seedlings.

The first experiment with the electric light in connection with vegetation was made by Hervé Mangon in 1861. He succeeded by means of it in developing chlorophyll in young seedlings of Rye, but he did not succeed in demonstrating any chlorophyll activity by the evolution of oxygen.

In 1866, Wolkoff found that seedlings of Cress grown in the dark became green after eight hours' exposure to the flame of a Bunsen burner made luminous by sodium carbonate. This was a crucial experiment as far as showing that the production of chlorophyll was independent of the so-called chemical rays of the spectrum. A few years later, Prillieux completed the demonstration of the competence of light from artificial sources to perform all the sun could do as regards the decomposition of carbonic acid, by showing in M. Jamin's laboratory at the Sorbonne that oxygen was evolved by a water plant, whether illuminated by the electric light produced by a magneto-electric machine, the Drummond light, or even gas-light of sufficient intensity.

That in the processes of plant-life, sun-light can be replaced by light from artificial sources is, therefore, beyond dispute. Whether it is practically advantageous to use the so-called electric or any other form of artificial light in horticulture, literally reduces itself to the question whether the "game is worth the candle?" But in employing any form of arc-light, two things should be borne in mind. First, that it emits a very considerable amount of obscure heat, the effects of which, in producing scorching, it appeared to me at the time, Sir William Siemens did not fully appreciate; secondly, that, as was stated in the discussion at the Royal Society, it oxidises the nitrogen of the atmosphere, giving rise to various oxides of nitrogen, the effect of which on growing plants in a confined space would almost certainly be more or less injurious. For these two reasons, the introduction of any form of arc-light into greenhouses would require some caution. *W. T. Thiselton-Dyer, Royal Gardens, Kew.*

NOVELTIES OF 1891.

(Continued from p. 11.)

STOVE AND GREENHOUSE PLANTS.

ONE of the handsomest of these, is the crimson-spathed hybrid *Anthurium Burfordiense*, which was raised in the gardens of Sir Trevor Lawrence, and where are many others of doubtless equal merit,

but which are not yet in their true character. In these gardens the handsome white *Anthurium Laingii* was flowered better than it had before been seen; and a fine plant of the beautiful *Asparagus refractus* was exhibited.

As of yore, Messrs. J. Veitch & Son, Chelsea, were busy among home-raised novelties, and among these their new strain of *Streptocarpus* deserves special mention, forming, as these plants do, subjects which anyone may grow, neat of habit, rich and varied in colouring, and readily raised from seeds. In *Amaryllis* (*Hippeastrums*), Messrs. Veitch maintain their high place with some grand novelties,

beautiful in colouring, and, doubtless, useful for forcing. Of these, *A. m. fl.-pl. Mecene* is a fragrant double white, and *A. m. fl.-pl. Norma*, a light-reddish orange.

Of Messrs. B. S. Williams & Son's introductions, *Allamanda Williamsii* will prove a showy exhibition plant. Among their new *Cliveias*, *Prince of Orange* is distinct in colour, and among *Amaryllis*, *J. R. Pitcher*, a rich deep crimson-coloured novelty, is one of the best they have yet sent out.

Messrs. Geo. Paul & Son, Cheshunt, have a very distinct strain of *Amaryllis*, obtained from the best forms of the old type, such as *A. Johnsoni*, mar-

arrived strangers), demands notice as flowering at the Royal Gardens, Kew, viz., the wonderful *Aristolochia gigas* (*grandiflora*), which was so much admired by all who saw it; and from the same gardens, *Ornithogalum Saundersiae*, *Tulbaghia natalensis*, *Scilla laxiflora*, *S. Adami*, which flowered with Mr. Tillett; and the distinct pure white *Nerine paniculoides*, which flowered with that ardent lover of bulbous and Orchidaceous plants, R. A. Todd, Esq. *Chorizema Lowii* seems to be the brightest and neatest of the genus, and well worth growing in quantity. The three fine *Azalea indica*, *Pharailde Mathilde*, M. Labrousse, and *Princess Clémentine*, introduced by



FIG. 11.—VIEW ON THE MAGDALENA RIVER, FROM A SKETCH BY THE LATE A. BRUCHMULLER. (SEE P. 48.)

among which the beautifully-formed *A. Olivia*, a clear white with delicate rosy-red lines, and *A. Vandyke*, a grand deep scarlet, may be mentioned as examples of the best flowers that have ever been raised. Of their invaluable new strain of greenhouse *Rhododendrons*, *R. Ceres*, a finely-formed clear yellow, is a fair specimen; and the double forms of the favourite winter-flowering *Begonias* of the John Heal section will be looked forward to with interest, although, as they will have to be propagated by cuttings, some time must necessarily elapse before they can be sent out. Among greenhouse plants may be enumerated the double forms of *Azalea mollis* (are they pure *A. mollis*?), which have been exhibited by Messrs. Veitch, and which are very

ginata, and *Ackermanni pulcherrima*, which, by reason of their exquisite marking, and the large number of blooms on a scape, will find general favour with lovers of easily-grown showy flowers.

Messrs. F. Sander & Co., whose collectors are not unmindful of good ornamental plants when collecting Orchids, have in store several novelties in variegated plants, and have exhibited during the year the most elegant little Palm, *Cocos Pynartii*, and the showy *Crinum Roozenianum* of Messrs. Ant. Roozen & Son, of Overveen, Haarlem, who catalogue a most wonderful collection of miscellaneous bulbs, was described. One of the most extraordinary flowers of the year (which although a re-introduction, as are the greater part of the newly-

Mr. Charles Turner, of Slough, are distinct advances. The beautiful-flowered *Cannas*, exhibited by Messrs. Geo. Paul & Son, are fine subjects, either for the conservatory or the flower garden. Some new *Camellias*, and especially the soft pink variety, *Beauty of Waltham*, were shown by Messrs. W. Paul & Son, of Waltham Cross.

One of the most interesting plants exhibited during the last year was *Roridula dentata*, an elegant fly-catching plant, which had been raised by Mr. Lindsay at the Edinburgh Botanic Gardens; although probably difficult to propagate, it will most likely be easy to grow with *Ericas*, &c.

Among meritorious novelties in tuberous *Begonias* we have a long list from Messrs. Cannell & Son,

and Messrs. Laing & Son; some few new *Caladiums* from Mr. Bause and Messrs. Laing, which latter firm possess a finely-striped form of *Cordylina australis variegata*, and some *Cliveias*, which are improvements on previously existent forms.

PERNS.

So far as the hardy British species are concerned, these were excellently exhibited in quantity at the September 8 meeting of the Royal Horticultural Society both by C. T. Drury, Esq., and E. J. Lowe, Esq., when many new varieties were certificated; but most people considered *Athyrium f.-f.* *plumosum* Druryi the handsomest one shown. Of greenhouse kinds, mention should be made of the new crumpled-fronded *Pteris cretica crispata* of Messrs. Veitch & Sons, the elegant *P. serrulata* of G. F. Standford, Esq., Horsham; and the fine crested *P. tremula cristata* of Messrs. Smith of Worcester. And then we have as a re-introduction by the Fern specialists—Messrs. Birkenhead, of Sale, near Manchester—the handsome *Platycyrium Wallichii*, which was imported on this occasion, as on the last, by J. H. Gilbert, Esq. Messrs. Hugh Low & Co., Clapton, also announce *Davallia assamica*, a plant that will make a good subject for a basket.

As a subtypical plant, the *Nicotiana colosea* sent out by F. C. Heinemann, Erfurt, will probably be given a place in most gardens where sufficient space is allowed to display it to advantage, but those who plant it should be careful to give it a sufficient depth of good rich soil, and abundance of water in hot weather. It would not be fair to starve it, and then find fault with it for not coming up to expectation.

LILIES.

Messrs. Hugh Low & Co.'s *Lilium Wallichianum superbum*, imported from India, and distributed by them in such a large quantity during 1891, proves to be a distinct and handsome plant, producing its large showy flowers freely when it is growing in a pot, and flowers well, but keeps dwarfier in the open ground. Messrs. Low & Co. have two other new Lilies—*L. Lowii* and *L. claptense*, which appear to be good and distinct, but of which there are but few as yet imported.

Following the *Lilium Henryi* from China, which flowered at Kew last year, is another handsome novelty, *L. longiflorum chloraster*. Mr. T. S. Ware flowered the little-known *L. maritimum*, and other rare species; while contemporaneously Mr. C. G. Van Tubergen, Jan., the bulb grower of Haarlem, and C. B. Powell, Esq., of Southborough, Tunbridge Wells, seem to have raised a batch of seedlings from *L. Martagon* × *Hansonii*, of which Mr. Powell's plants produced some beautiful flowers in 1890, and again this year, at which time it also flowered with Mr. C. G. Van Tubergen, Jun., and was described by Mr. J. G. Baker.

HARDY PLANTS.

The first of the genus *Celmisia* has been imported by Messrs. J. Veitch & Sons, and it is hoped that its beautiful dwarf Aster-like flowers may grace our flower-gardens. Of the beauties of this genus, Dr. Kirk's notes, and the figures of C. Chapmani and C. vernicosa in the *Gardeners' Chronicle*, pp. 587, 731, vol. ix., 3rd series, give evidence. Messrs. Veitch also well exhibited *Indigofera Gerardiana* alba, *Elaeagnus pungens maculatus*, a beautiful and varied strain of *Aquilegia*, in which the yellows and orange-reds were specially fine; and who, together with Mr. C. G. Van Tubergen, Jun., of Haarlem, received First-class Certificates for the wonderful *Iris Gatesii*, a plant of which was also exhibited by Messrs. Barr & Son of King Street, Covent Garden, amongst their groups of *Narcissus* and other bulbous plants at the Royal Horticultural and at the Royal Botanic Society.

Among other fine plants from Messrs. Ware's nursery at Tottenham was the neat yellow-flowered *Iris Danfordia*. One of the most charming of plants of the past year for the open garden was the large blue-flowered *Myosotis Victoria*, of W. Marshall, Esq., of Bexley. It is to be hoped that this extra-

ordinary plant will freely bear seed, and so make its way into our gardens, where it is likely to become a lasting favourite.

Of bluish *Primroses*, a specialty of G. F. Wilson, Esq., of Oakwood, he has three new ones, of great beauty, in James Nimmo, a dark blue; *Covenanter*, a blue with red zone and yellow eye; and *Mary Erskine*, a delicate lavender-blue; and in the same field, Mr. R. Dean has two or three novelties, as well as good new *Pinks*, *Carnations*, &c. The hybrid *Sweet Briars* of Lord Penzance promise our gardens a new race of garden *Roses*, in which the colours are effective, and the foliage fragrant. In the other sections of *Roses* we have good novelties from various sources, and with which only a specialist can deal. The *Clematis* Snow-white *Jackmanni* of Messrs. Smith, of Worcester, is really what it purports to be; and M. Lemoine, of Nancy, sends us two fine double-flowered *Lilacs*, in *Madame Lemoine*, a fine white, and *Michel Buchner*, of whitish-lilac colour; a third novelty in *Lilac Léon Simon*, was exhibited by Messrs. G. Paul & Son, who also well displayed the pretty *Saxifraga* *Boydii*, and some other little-known hardy perennials. *Godetia*, white pearl, formed one of a batch of novelties sent out by Messrs. Carter & Co., High Holborn, would make a telling bed or a fine plant for sowing in herbaceous borders, after the manner in which the wise are in the habit of sowing to give variety and effect to the permanent herbaceous plant borders without disturbing the regular occupants; and for the same purpose the new strain of Eckford's *Sweet Peas*, and the wonderful new strain of *Gaillardias* of Messrs. Kelway & Son, Langport, Somerset, come in well; whilst their new novelties in *Delphiniums*, *Gladioli*, *Pæonies*, &c., which have been seen in quantity at most of the leading flower-shows, are up to their usual high standard of quality. Among the host of contributors of new plants of merit may be named—Messrs. Hooper of Bath, and Turner of Slough, for *Carnations* and *Pinks*. Messrs. Cheal & Son, Ware, Turner, Geo. Paul, Cannell, Humphries, Keynes, Williams & Co., Rawlings, and G. Phippen, for *Dahlias* of all sections.

The following novelties were illustrated in the *Gardeners' Chronicle* in 1891:—

Aristolochia gigas (grandiflora), November 7, p. 553.

Celmisia Chapmanii, June 13, p. 731.

Celmisia vernicosa, May 9, p. 587.

Myosotis Victoria, August 8, p. 159.

Nicotiana colosea, January 17, p. 83.

Begonia tuberosa vittata, November 7, p. 561.

Aster White Comet, October 31, p. 525.

Gaillardia Lorenz's Perfection, November 7, p. 561.

Roridula dentata, September 26, p. 367.

Platycyrium Wallichii (figure inverted), December 12, p. 699.

HOTBEDS: HOW TO MAKE AND USE THEM.

ANTICIPATED as this subject undoubtedly is, it is but very imperfectly understood by many amateurs, who would like to raise their own Cucumbers, cuttings, &c., did they but understand the method of procedure; therefore, I shall endeavour to show those readers of the *Gardeners' Chronicle*, who, perhaps, may hitherto have failed, how they may succeed. The first step to take is to throw together to heat a good heap of stable-dung and leaves, using rather more of leaves than dung. This should be turned over twice within ten or twelve days to sweeten, and to allow of the rank steam escaping therefrom before making it into a hotbed. The ground on which the hotbed is to be made should be higher than that surrounding it, so as to prevent the lodgment of water under the bed. Where this is not the case, half-a-dozen faggots placed underneath the bed would answer the same purpose. The hotbeds are best made in front of a wall, fence, or hedge, having a south or west aspect, which will shield

them from the cutting north or east winds, which would otherwise cut into the frames as soon as a little air was put on, to the detriment of the plants growing therein. Make the bed a few inches larger than the frame which is intended to be placed upon it, and sufficiently high (about 6 feet at the back, sloping to 5 feet in the front) to allow of its subsiding, which will be to the extent of about one-third its height when finished. As the work proceeds, beat the dung and leaves well together with a five-pronged fork, and if a few old Pea sticks are placed across and along the bed in the process of making it, they will serve as a means of conducting the heat supplied by the linings to the interior of the bed and frame, thereby in connection with the shell referred to below, supplying top as well as bottom-heat to the occupants of the frames.

When the frame is placed on the bed, put inside it a shell, which should be 6 inches shallower than the frame. This shell can be easily made by measuring the interior of the box, and making it 1 inch less all round, and as I have already stated, 6 inches shallower, and nailing the battens on the outer side of the shell, so that when it is fixed in the frame there will be a clear space of 1 inch between the shell and the frame, thus, as indicated above, supplying a means of admitting top-heat as supplied by the linings, made up at intervals of a week or fortnight, according to the character of the weather and the subjects growing therein, as well as the condition of the fermenting materials at the time of either making fresh linings or freshening up the half-spent ones. Let there be sufficient hot-dung and leaves put inside the frame to make the depth at the back correspond with that of the front, after which a couple of inches thick of short dung should be laid on; following this (if the bed is intended in the meantime to raise Melon and Cucumber plants, cuttings, &c., in) with 4 or 5 inches deep of saw-dust or dry leaf-mould. But, on the other hand, if the hotbeds are intended for producing early Potatoes, Carrots, and Radishes, and for raising young Cauliflower, Cabbage, and Lettuce plants in, 7 or 8 inches thick of light garden soil, should follow the layer of short dung. This, like the leaf-mould or saw-dust referred to above, should be in the frame a couple of days, to become slightly warmed before planting the Potatoes or sowing the seeds in it.

HOW TO USE HOTBEDS PROFITABLY.

Sets of early Potatoes now starting into growth should be planted in rows 1 foot apart, and at about 3 inches asunder in the rows, afterwards earthing-up the plants by laying on 3 or 4 inches thick of light soil of about the same temperature as that in which they are growing. This should be done when the haulms have attained a height of 5 or 6 inches, giving sufficient air on all favourable occasions to ensure a sturdy growth. Carrots of the early Nantes Horn type should be sown thinly in drills about 1 inch deep and 1 foot apart, and between these rows of Wood's Frame Radish may be similarly sown. The soil should then be closed over the seeds and patted with the back of a spade or shovel to make it moderately firm. If steam is likely to arise in the frame, one or two of the lights should be tilted up a little at one side with a label to allow it to escape. A pinch of Cauliflower, Cabbage, and Lettuce seeds may also be sown thinly in square patches without in any way interfering with the growth of the Carrots and Radishes, as the young plants should be removed for pricking-out under handlights in warm corners or in beds prepared for pushing them on as soon as large enough to handle. The Radishes, too, will be removed for salading as they become fit for use, and before the Carrots require the space occupied by the former for developing their growth. These frames should always have sufficient air admitted to prevent their contents from making a weakly growth, and the linings should, as intimated above, be made sufficiently often to maintain a little warmth in the beds, so as to keep the roots active and the plants on the move.

If a surfacing of soil is put over the short dung,

Asparagus roots can be packed closely together thereon, covering with 4 or 5 inches thick of light mould, and then watered with tepid water to settle the soil among the roots. Air must be admitted to the frame on fine days as soon as the "grass" comes through the soil to encourage a sturdy growth in the same, and it will grow to perfection. Cucumbers and Melons can also be well grown in hotbeds by those who understand their management, and those who do not may learn to do so by reading atten-

ORCHID NOTES AND GLEANINGS.

CYMBIDIUM PENDULUM.

This is a bold-growing evergreen plant, which requires a great deal of bad usage before it succumbs. We well remember having some plants of the kind several years ago, which were subjected to a course of treatment which would have quite destroyed any other plant, and the same specimens

thought and care, if the plant is to appear creditable after the resting season. We recommend the plant to be kept in the Brazilian-house during the winter, and during this season very little water will suffice, but during the summer season the plant enjoys an abundance of water and heat; it will not injure this plant if it is stood under the full influence of the sun's rays without any shading whatever. It is a strong-rooting plant, so that larger pots than usual are necessary to accommodate it; drain these well, and use for soil half good turfy peat and loam—pot firmly, and elevate the plants slightly, so as to provide for its pendulous spikes. *Orchid Album*, vol. x., part 110.

CYPRIPEDIUM NIOBE

is a cross between *Spicerianum* and *Fairrianum*, and has distichous oblong leaves, some 6 inches in length, dark green on the upper side, but paler beneath; peduncle erect, bearing a single flower, which is about 3 inches across; dorsal sepal large and handsome, broad and ovate, white, tinged with flesh colour, having a small blotch of pale green at the base. In the centre is a broad line of chocolate, having on either side a few streaks of magenta, which all terminate below the margin, leaving a marginal border of pure white; the lower sepal smaller, creamy white, with a few pale green veins; petals deflexed, the points recurved, ground colour pale green, with a broad central stripe of chocolate, and two or three dotted lines on either side of dark brown, the margins undulated, bordered with dark brown, and fringed with long dark hairs; lip medium-sized, pale green, veined with a darker green, the front portion rich brown. *Cypripedium Niobe* is a plant which thrives best in well-drained pots of a medium-size, and should be potted in a mixture of fibrous light loam and turfy peat, adding a little leaf-mould and sphagnum moss. It enjoys the same temperature as the *Cattleyas* and *Laelias*, and should be well exposed to the sun and light, always remembering that the plants are under glass and liable to be burnt, so shade them lightly during the middle of the day. *Orchid Album*, vol. x., part 110.

ONCIDIUM LOXENSE

is an evergreen plant. The pseudobulbs are Pear-shaped, smooth when young, becoming wrinkled with age, and bearing mostly but a single leaf, which is obtusely ligulate, carinate beneath, and unequally bilobed at the apex. The long-branching flower-spikes bear numerous, very beautiful, and showy flowers, thick and coriaceous in texture, which last a long time in full perfection. The sepals and petals are large, measuring nearly 3 inches across; these are somewhat ovate, deep chocolate, brown in colour, the sepals transversely barred with brown on a greenish yellow ground; lip large, sub-rotund, rich orange-yellow, dotted with lines of red at the base. The plant in question, coming from so great an altitude, naturally thrives best under cultivation in the cool-house with the *Odontoglossums*. We are told that in Quito the rain is abundant, falling generally for a few hours in the afternoon, and rarely so constant or so heavy as to mar seriously the enjoyment derived from the usually bright sky and delicious atmosphere. Further south in Loja, and east in the plains, there is less than at Quito, whilst in the opposite direction, at Barbacoas, it rains nearly every day in the year; but, although in Loja there is less rain than at Quito, enough always falls to keep the plants in a growing state, so that no season of rest need be given this plant, although less water will be necessary in the winter months. The pots should be well drained, and for soil use good peat-fibre and sphagnum-moss, using some medium-sized nodules of charcoal to keep the soil open, and to carry off any excess of moisture, and the plant should be slightly elevated above the pot's rim, in order to carry the damp away quickly from the young growth. *Orchid Album*, vol. x., part 110.

ANORCUM CHAILLUNUM.

Being a native of one of the hottest and wettest parts of the world, this requires to be kept in the warmest house throughout the entire season,



FIG. 12.—STATUE OF BENEDICT ROEHL.

(See p. 51.)

tively and following the instructions given, as occasion requires, in these columns. A few seeds of Telegraph and Stourbridge Gem Cucumber, and Lockinge Hero and Webb's President Melons sown singly in 3-inch pots half-filled with light mould and covered with a little of the same as soon as there is a hotbed ready to plunge the pots to the rims in, being covered with a square of glass, will soon appear through the soil, when, of course, the glass should be removed, and the young plants, when about 2 inches high, top-dressed with soil which has been in the frame a couple of days before being used to get warm. *W. L. C.*

are now thriving and doing well, which gives a convincing proof that some of the Orchids that come to this country last for a number of years. The plant is said to come from Sylhet, and other places in Northern India, and grows well in a medium heat, but it does not object to a pretty strong heat during its growing season; thus we have seen this plant thriving in an ordinary greenhouse and in a Pine-stove in the same garden, but the plant in the latter house was growing the fastest and the best. During the winter season it appears to like a thorough and severe resting, such as few Orchids can withstand; but such treatment should be carried out with fore-

where the lowest temperature does not fall below 65° at night. It enjoys an abundance of sun and light, but yet a thin shading material should be used to break the direct influence of the sun's rays during the middle of the day, and to avoid the effects of burning the leaves, or to prevent their turning yellow, both of which have a bad effect upon the plant. A moist atmosphere must be maintained during the summer months, which are its growing season, and a more moderate amount of moisture in the air in winter will meet all requirements. The plant may be grown in a well-drained pot or in a hanging-basket, the latter being preferable, as in this case the plant can be hung up near the roof-glass, and thus be better exposed to the full influence of the light; but it must be remembered that the plants are under glass, and that if exposed too much, the sun's rays may prove injurious to them, as before remarked. The pots or baskets in which they are grown should be well-drained, and above this material sphagnum moss alone should be used; this should be cleanly picked and made firm, and at the same time, should any decay in this material set in, it must be replaced at once by good fresh living moss, nothing dead, decaying, or sour being allowed to remain in contact with plant or roots. *Orchid Album*, vol. x., part 110.

GRAFTING.

The *Journal de la Société Nationale d'Horticulture de France* for September contains a review of M. Daniel's paper "Sur la Greffe des Parties Souterraines des Plantes." Grafting, says the author, is one of the most important horticultural operations, and, except upon the tubers of *Dahlia*s, is not generally performed upon underground stems or roots. To ensure success in grafting, it is usually considered necessary that the two portions should be of plants of the same genus, or at least of the same family. M. Daniel, wishing to prove if this applied to subterranean shoots, as well as to stems and branches, set grafts of various plants on the roots or tubers of species belonging to different families. In most cases this plan was not successful; however, a graft of *Saponaria*, a Caryophyllaceous plant, with a free or superior ovary struck on the root of *Onochara biennis*, which belongs to a family of Onagradaceae, in which the ovary is adherent or inferior. Hitherto there had been no ground for supposing that this could be done. In the experiments which failed, the grafts were affected in different ways. Under some circumstances, says M. Daniel, the graft at first thrived at the expense of the stock until it developed adventitious roots, which enabled the plant to obtain nourishment for itself; it then grew as does a cutting, and if it lived, the stock was of no further use. This was the case when Cabbage and Burdock were grafted on *Ranunculus tuberosus*, Parsley on *Valerian*, &c. In other cases the graft at first drew its nourishment from the stock, but no adventitious roots were developed, and as the stock died after a few months, the graft perished from want of nourishment. This was the cause of the failure of the trials of Lily of the Valley and Primroses on *Crocus* bulbs. One fact worth notice is, that grafts with a growing bud set on herbaceous stocks, such as Spruce and Cedar on Potato tubers, thrived at the expense of those stocks until they became woody. Grafts made between plants of the same family were successful, but often the graft sent out adventitious roots, and became independent. This was the case when Lettuce and Chicory were put in on Dandelion, Cabbage on Wallflowers, &c. Though the union might be perfect, M. Daniel found that the graft was not sufficiently nourished by the stock, since the suppression of adventitious roots caused shrivelling, and finally death. On the contrary, the graft grew well when *Salsify* was put on *Scorzonera*, *Barkhansia* on Dandelion and *Hypochoeris*, although with few or no adventitious roots. This may be explained by the fact that in the first case the membranes and the graft could not be traversed by the nutritive matters

with which the stock could furnish it, while in the second case they were quite permeable by these substances. M. Daniel believes the following general conclusion to be correct:—that the failure of many grafts is easily to be explained by insufficient nourishment, without its being necessary to take into consideration the more or less problematical relations between genera or between species of the same genus.

There was another unexpected result of M. Daniel's trials. The chief thing in grafting is to connect the graft and stock so as to bring the growing layer or cambium of each in connection with that of the other; a layer which in dicotyledons is situated between the wood and the liber, or fibrous bark. It is, in fact, the young and active tissue which alone is capable of effecting fusion between the two. Now the experimenter finds that this is not absolutely necessary. "In a certain number of grafts," he writes, "I have cut only the bark and liber without going down to the cambium. The union then took place, nevertheless, by the aid of the cellular tissue, which was existent in a state of meristem (that is to say, cellular tissue essentially young and living), as well as the medullary parenchyma of the stock. It is, therefore, sufficient if living tissues are brought into contact—either in a state of meristem, as in the growing layers, or in a tissue which may pass into that condition as the liberian or medullary parenchyma."

THE WEEK'S WORK.

THE ORCHID HOUSES.

THE CATTLEYA AND INTERMEDIATE-HOUSE ORCHIDS.—A close examination of the plants should be made just now for the dreaded Cattleya-fly, which is making its appearance in plants imported during last autumn. Its existence may be known by the young break, when an inch high, becoming very thick at the base, tapering upwards very sharply, and making but little progress. The only means to exterminate this pest is to cut off the infected growth, in the centre of which the young grub will be found in a more or less advanced stage. Two very pretty Cattleyas in flower just now are *C. Percivaliana* and *C. chocoensis*; the former should be grown in the full sun, in order to make it flower well. The *Trianas* will follow in due course, and if flowers of good quality, to be succeeded later by strong growth, are desired, do not force them, the warmth of this house being sufficiently high. The same remark will apply to *Dendrobium*s that may be resting in this house, or in still cooler quarters, and let the flower-buds come on slowly and surely. Very little spotting will occur in plants of *Odontoglossum vexillarium*, and strong growths result if the plants of this species are placed in a warm yet airy position in this house, keeping them moderately dry at the root, and applying occasionally some weak liquid manure; great attention must, however, be paid to them, or thrips will soon disfigure the foliage and stunt the growth. Go over the plants frequently with some kind of insecticide, and a small brush to put it on with. I use a weak solution, and allow it to remain on the leaves.

THE COOL-HOUSE.—*Odontoglossum Alexandrae* and some allied species are flowering, others have bloom spikes, but the majority of the plants are very actively growing, and these must be encouraged, so that strong pseudobulbs will form. Freely ventilate the houses, especially in dull, mild weather, and use the watering-can with a good deal of discretion. I am no advocate for affording *Odontoglossum* over-much water, nor yet for starving them of it; much, however, will depend upon the kind of potting material and the manner the potting has been done. I cannot conscientiously recommend the general use of liquid manure to Orchids, and that they do well without it I have proved satisfactorily. The autumn-flowering species of *Pleione*s, if not already potted, should be attended to, employing a mixture of loam and peat in equal proportions, adding a little leaf-soil and sand. Place the pseudobulbs on the surface in shallow pans, and steady them with wooden pegs, and over the compost and between the pseudobulbs place a thin layer of sphagnum moss; keep this just moist without wetting the soil beneath, and suspend the pans in a light and cool airy house, and when well-rooted, syringe them daily twice, and occasionally

afford them manure water. As *Pleione*s must be grown in the full sun to flower them well, this surfacing of moss will be found very beneficial in preventing the too-rapid drying up of the moisture in the soil. *H. A. Burberry, Highbury, Birmingham.*

THE FLOWER GARDEN.

STAKING TREES.—All young Lime, Laburnum, and similar trees which are likely to grow out of the perpendicular, should have a stout stake put to each. Each stake should be driven firmly into the ground in an upright position at the side not seen, and the tree secured thereto with tarred string, first winding a piece of coarse cloth or a hay-band round the stem.

REMOVING MOSS FROM TREES.—Any trees that are covered by moss should be cleaned at once. It should be scraped off the main stem and principal branches with a piece of lath or hoop, dusting the smaller branches while damp with a mixture of fresh soot and lime. This application will also destroy any insects, and thereby tend to promote a healthy and more vigorous growth in the trees.

STRIKING CUTTINGS.—Where the supply of autumn-struck cuttings of *Pelargonium*s, &c., is inadequate, the plants should be gone over at once, and all the best cuttings removed for propagation. In order to economise space, put the cuttings in about 2 inches apart in shallow boxes of uniform size—about 30 inches long, 9 inches wide, and 4 inches deep, inside measurement. These, being provided with seven or eight $\frac{3}{4}$ -inch holes, with a crock placed over each, followed by a few handfuls of half-rotted leaves for drainage, are filled with light soil, with a surfacing of sand, and the cuttings dibbled at the distance indicated. They are then watered through a rosed watering-can, and placed closely together in one of the forcing-houses, where, in due time, they root, and are then potted off, either singly or twinto 3-inch pots. Cuttings of *Ageratum*s may also be struck in boxes in the manner recommended above.

FUCHSIAS.—A few plants of the light and dark varieties should be put into heat to produce young growths for cuttings. First trim the plants into shape, then prick over the surface of the soil, and give water at the roots. If placed in an early vinery or Peach-house and damped overhead with tepid water, they will soon push into growth. As soon as cuttings having a couple of joints can be secured, they should be taken and put into boxes or pans in the manner described above for *Pelargonium*s. *H. W. Ward, Longford Castle, Salisbury.*

PLANTS AND THEIR CULTURE.

THE CONSERVATORY.—The plants should be rearranged at intervals of a week, with an eye to good effect, and to avoid monotonous appearances, finding suitable places for the various plants. After this time there are numerous plants coming into bloom, either forced or not, to keep up a well-furnished look in this house from now on ward. I may mention a few of these:—*Poinsettia pulcherrima*, *Euphorbia jacquiniæ*, *Cinerarias*, *Primulas*, *Cyclamen*s, *Epiphyllum truncatum* in variety; *Heaths*, and *Bouvardias*; and besides these are *Tulips*, *Hyalanthus*, *Scillas*, *Narcissus*, *Callas*, which should be grown in good quantity. Let the watering of the plants and the cleaning of the floors be done betimes, and care taken not to afford a plant more water than it actually requires. The temperature of this house may be at night—50° to 55°, with a rise of 5° or 10° in the daytime, the greater during sunshine.

THE GREENHOUSE.—Very little water will be required by any plants in this house, unless the heating apparatus has been much in use to exclude frost; guard against damp in rainy weather by affording air freely when the weather is favourable for doing so. When frosty, and easterly winds prevail, the ventilation will need to be carefully done, and it will be advisable at such times to keep the heating apparatus sufficiently warm to temper the small quantity of air admitted by the roof-ventilators, and to dry up moisture. Where *Cape Heaths*, *Epacris*s, *Tremandras*, *Boronia*s, and similar peat-loving Cape and New Holland plants are grown in this structure, they should be examined frequently to ascertain the state of the soil, and the *Heaths* for mildew. If it be present, dust the affected plants with flowers-of-sulphur, and stand them in a part of the structure where a free circulation of air is obtainable. If some species of *Saliginella* is employed for edging beds, and it is getting naughtily from age, remove it, and some of the soil

beneath it—say 6 inches in depth, to be replaced by fresh loam and leaf-soil in equal parts with the addition of a little sand, afterwards replanting it with fresh pieces of the plants. The following species will be found the most suitable for the warm and the cool conservatory, *Selaginella Kraussiana* (denticulata), *S. K. aurea*, *S. K. variegata*, and *S. Wildevitii*, which latter does best in the warmer house. The temperature at night may be from 45° to 50°, according as the weather is mild or the opposite, and 55° by day.

FERNERY.—Examine the plants in this structure, removing decayed fronds, as if these are left, they quickly cause injury to the healthy ones with which they may be in contact, especially is this true of *Adiantums*. Guard against over-watering any of them, or exciting to growth for several weeks yet to come. Young spore-raised Ferns which are abundant under the stages and on walks in the fernery, may be taken up, potted into thumb-pots in loam and peat in equal proportions, and sharp sand, placing them under hand-lights, in a house of moderate warmth, till the roots have seized on the soil. These small Ferns will be found very useful, especially *Adiantums* and *Pteris* for furnishing purposes and dinner-table ornamentation.

THE STOVE.—The stock of the following species of plants may be increased—*Panicum variegatum*, *Tradescantias*, *Selaginellas*, *Peperomias*, *Gynostachias*—by striking cuttings in a light sandy compost in small pots, placed in bottom-heat in a dung-bed frame or the propagating-house proper. They will quickly strike roots, and when a sufficient number has been raised, the old plants may be thrown away.

VIOLETS.—Our plants in pits and frames are now affording us a good supply of flowers, and in mild weather, abundance of air is admitted to the plants, and sometimes the lights are drawn off altogether in the daytime. If slugs are troublesome, a top-dressing of fresh-sifted wood-ashes will be found an effective preventive against their travelling over the soil, and it will act as a slight stimulant to the plants. *R. Milner, Penrice Castle, Swansea.*

THE HARDY FRUIT GARDEN.

BEING now fairly launched into the New Year, work in this department should proceed as rapidly as the weather permits. Pyramids of Apples and Pears should be amongst those to receive first attention, all thin and unripened wood being cut off close to the main branches, and where the main branches are much crowded, these should be reduced in numbers so as to leave them about 18 inches apart. Overcrowding is often a cause of unfruitfulness, inasmuch as the sun and air do not sufficiently penetrate to the interior of the tree. Where spurs are very close together on the main branches, some of them should be cut clean out, leaving a space between those left of about 4 inches or even more, according to the size of the spurs.

Discrimination should be exercised when pruning out the thin wood, as many varieties of Apples, and a few Pears, make thin growths, at the end of which a bloom-bud will be found. These should be retained, for they will bear fruit when the close-cut spurs fail to do so. With a little examination of a tree, these long spurs are readily detected. If it is desirable to extend the size of any tree, last year's growths may be cut back to about three parts or half their length, otherwise 2 or 3 inches of wood only should be left, care being taken to cut to an outside wood bud.

BLACK CURRANTS.—The bushes should be well-thinned, bearing in mind that it is upon the young growths the best fruit and bunches are produced. If the bushes are very large ones, and bare of young wood towards the bottom, the long old branches may be cut down to within a foot of the ground level, and from these stumps there will spring a few nice young growths. By pruning in this manner for a few years a dwarfish bush will result.

RED AND WHITE CURRANTS.—Unlike the Black Currant, these are best spurred-in, much in the same way as grape vines. The bushes in this locality, and in Kent generally, are pruned so that when full-grown, they are basin-shaped. The plant is taken in hand when quite young, cutting the branches to a bud pointing outwards, and by doing this and summer-stopping the shoots, the bushes become very fruitful, the straps of Currants also drying quicker after rain than when they are smothered up in the centre by shoots.

THE FRUIT-ROOM.—Examine all the fruit stored therein, removing at once any that may be decaying. Every precaution must be taken to guard against frost finding an entry into the room. We have no anxiety in this respect, our fruit-room being constructed with double walls, with space between them for a man to walk. A very good plan to adopt if oil lamps are not used in frosty weather, is to place a thick layer of paper next to the fruit, upon this place a little clean sweet dry hay, finishing the whole off by more paper, care being taken that the paper hangs well over the sides. *G. Woodward, Barham Court, Maidstone.*

THE KITCHEN GARDEN.

KITCHEN GARDEN SEEDS.—There should be, for obvious reasons, no more delay in obtaining the supply for the season from the seedsman. If the purchases are made from a firm of acknowledged reputation for seeds of good quality, the young gardener will do well to keep to kinds known to be excellent, and to eschew novelties; not that I object to new varieties of vegetables, but they should be tested in a small way before ordering largely. The wet character of last season was most unfavourable for the ripening of seeds of all kinds, and some seeds are likely to be dear and scarce, and most will require to be thickly sown. The seeds left over from last year should be tested as for their germinating powers, and any with poor vitality thrown away. In ordering seeds, I would advise the list being kept to a few varieties, there being small gain in having a large number. Of early Peas, *Chelsea Gem*, *Wm. Hurst*, and *William I.* are excellent, *Duke of Albany*, *Stratagem*, *Telephone*, *Veitch's Perfection*, *Sturdy*, and *Ne Plus Ultra* coming in after these. In smaller gardens even less variety than this will be better, and the varieties named are good for any sized garden. In Beans, the best are the longpod varieties, with the *Broad Green Windsor* for late use. *Syon House*, *Negro*, *Longpod*, *Ne Plus Ultra*, and *Canadian Wonder* are all good French Beans. Beet is not required in quantity. I prefer *Cheltenham Green Top*, *Nutting's Dwarf Red*, *Pinnell's Exhibition*, using *Eclipse Turnip*-rooted for the first crop. Broccoli should be selected according to the time when it is required for table. A late variety is *Model*—very good, but my preference is for *Paris Market*. Brussels Sprouts should not be large and coarse, nor should Cabbages; *Ellam's Early* is a nice early variety. In Cauliflowers, *Walcheren* is excellent, and mild in flavour; *Veitch's Pearl* and *Autumn Giant* are indispensable varieties of Cauliflowers. The best Carrot last season was *Matchless*, a fine type of an intermediate variety; *Early Nantes* is good for the first crop in the open ground. *Standard Bearer* and *Major Clarke* are two of the best red varieties of Celery, and the *Sandringham Dwarf* is the best white one. Onions require attention in selection, and I have a preference for *Bedfordshire Champion*, *James Keeping*, with *Giant Tripoli* for autumn sowing; of newer varieties *Ailsa Craig* and *Roussin* Park are valuable introductions, and when the seeds are cheaper than at present they will be largely grown. Those who like *Salsify* and *Scorzoneria* should grow *Sandwich Island Mammoth* variety of the former, and the large Russian variety of the latter; these roots should be commonly grown, because of their usefulness in the spring, when other kinds of vegetables have got scarce. I only grow one kind of Spinach, the *Victoria Improved Round Seeded*, it being the best for either summer or winter. Turnips may consist of *Early Snowball* and *Red Globe*, with a late kind for winter; the last-named variety does well for the main crop or for late use. Tomatoes are indoor plants rather than outdoor; for the open air *Conqueror* or *Conference* and *Ilam Green* are very good varieties. The best Vegetable Marrows are the *Long White*, *Prince Albert*, and *Pen-y-Byd*, the last-named a very handsome fruit. New sets of Potatoes should be obtained either by exchange or purchase, as the annual change of land minimizes loss from the disease. When obtained, the tubers should be laid out thinly or put in shallow boxes, if early ones, to sprout. *G. Wythes, Syon House, Brentford.*

FRUITS UNDER GLASS.

POT VINES.—As I have pointed out in my former *Calendar*, the old method of getting very early fruit has much to recommend it, as permanent Vines cannot be forced hard without injury. Besides,

more heat is required in a large permanent vinery, and therefore pot vines are preferable. To get these in a proper condition for forcing was a difficult matter last season, owing to the comparative sunless season, and the Vines, unless thoroughly well ripened, will not start into growth so well as one would wish. In a former *Calendar*, I pointed out the importance of shortening back and doing what pruning was necessary as soon as growth was complete; when this is deferred, it is almost impossible to prevent bleeding. If this has been neglected, it is best to rub off the surplus buds, in preference to pruning.

One great advantage with pot Vines is, that they can be placed in a high temperature. We always give them 5° more than permanent Vines, and this season the canes have broken very well. We always start the eyes early in the new year, to get well-ripened, short-jointed canes; do not use bottom-heat, and put them in good loam, mortar-rubble, and a little of Thomson's manure. For early fruiting, we use one-year cut-back canes. Watering pot Vines is a delicate matter, as often they get too much moisture with the continual syringing overhead in their early stages of growth, and too little when finishing their fruits. Care, therefore, is required to avoid extremes, and to keep the bottom-heat at an even temperature. Use warm leaves and litter when replenishing, and to get the material into condition, it should be placed in a heap, and frequently turned. There is also a great advantage in using a small house or pit for pot Vines, as it can be covered on the outside in severe weather, thus helping to maintain an even temperature. Some Vines require more bending down than others, to induce them to break evenly, and they should be often gone over when breaking, and placed up to the light. *Black Hamburg* and *Foster's Seedling* are the best Vines for forcing in pots. *G. Wythes, Syon House, Brentford.*

THE APIARY.

PUNIC BEES.—It seemed likely, a short time ago, that there was going to be, sooner or later, as the Americans would say, a boom, in the bees to which this name has been given, as their praises had been sung, both here and in America, and queens offered for sale at the big price of five guineas each. The Entomological Society, at a recent meeting, had specimens submitted to them, which they were asked to classify as a new species, under the name of *Apis niger*, and it was there stated that these bees would not sting. The bubble has now burst, however, and truth will out, even when bees are concerned, the *British Bee Journal* having been the means of enlightening most of the beekeeping fraternity on the matter. It appears that this race is already known as a variety of *A. mellifica*, in which species are included the bees of Great Britain, Italy, Cyprus, Carniola, Syria, &c., and that it hails from Tunis. It has also a close similarity to the bees of Minorca, Algeria, and Morocco, and most likely all these are identical. The workers are black, small, bad-tempered, and do not winter well; they also gather large quantities of propolis, with which they stick up everything in the hive, including the entrance, where they reduce the passage-way so that only one or two bees can pass at a time. Their indifferent character is also fully borne out by Mr. F. Benton, the celebrated queen breeder, who is probably the best authority on the subject, as he says of these bees: "I always called them by the most natural name, Tunisian, and never thought best to strain after something a bit fanciful, like 'Punic.' Perhaps, the party who got up this name had in mind the ancient 'Punic faith,' in which the race resembles that of the old Carthaginians, for when you least expect it, i.e., when they have been well, and even royally treated, they will sally out, and cover the manipulator with their tiny javelins. They carry in more propolis than any other race, and are poor winterers. I handled several hundred colonies two different seasons in Tunis, took some to the Orient with me, also had them tested in Palestine, and I tried them in Munich, and came to the conclusion that in no way do they excel Cyprians, and in some points they are behind that race. I would therefore advise to let Tunisian (Punic bees) quite alone."

APPLIANCES.—It is now time to go carefully through all bee appliances, and make out a list of articles likely to be required for the coming season's work, and give the order to the manufacturer at an early date, so as to have everything to hand when it will be required for use. *Expert.*

EDITORIAL NOTICE.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY,	JAN. 12.	Royal Horticultural Society: Lecture on "Water Vegetables." All committees meet.
THURSDAY,	JAN. 14.	Brighton and Sussex "New" Horticultural Society.
FRIDAY,	JAN. 15.	Gardeners' Royal Benevolent, Annual General Meeting.
SATURDAY,	JAN. 16.	Wakefield Faxon Society.

SALES.

MONDAY,	JAN. 11.	Carnations, Picotees, Begonias, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	JAN. 13.	Greenhouse Ferns, Palms, Roses, and Dutch Bulbs, at Protheroe & Morris' Rooms.
THURSDAY,	JAN. 14.	Lilium auratum, Herbaceous Plants, &c., at Protheroe & Morris' Rooms.
FRIDAY,	JAN. 15.	Great Sale of Imported Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—36° 6.

In the greedy quest for Orchids at the present day, we have too often to regret a lamentable waste of opportunities on the part of some collectors. Not by any means that we would impute blame to those adventurous men who follow a calling in which the rate of mortality is among the very highest. They have certain allotted work to do, and that work is not, unless indirectly, the collection, still less the publication, of scientific information. They go for a definite purpose, which, for the most part, they execute with conspicuous success under most difficult and dangerous conditions. It is the system, not those who carry it out, that is to be reprehended. What a fund of information on all branches of natural history and geography might be accumulated; what treasures in the way of specimens might be got together were the collectors able to turn their attention to other things besides Orchids. If illustrations be wanted—illustrations which prove the rule—we may refer to the works of HOOKER, of FORTUNE, of ANDRÉ, of BURBIDGE, or to the letters of JOHN VEITCH, published, like those of FORTUNE, in these columns. An account of the wanderings of DOUGLAS was given in the *Companion to the Botanical Magazine*; that of ROEHL in various foreign horticultural periodicals. These few instances will show that collecting and publica-

tion of observations are not necessarily incompatible, and that when fortunately they do coincide, while the world is vastly the gainer, the collector is at least none the worse.

Mr. MILLICAN has just furnished us with another excellent illustration of the good work that a collector can do by publishing the record of his travels.* His book is "a narrative of things seen and experienced . . . while travelling with natives through the forest, sharing with them the hospitality of the wayside hut or the forest shelter and the camp fire, as well as the more agreeable life of the hotels and towns." The narrative is founded on five journeys made to the Orchid districts of South America (that is to say, the Venezuelan and Colombian districts).

The book is illustrated with woodcuts and process-blocks, from photographs taken by the author himself. Some of these are excellent, and all are interesting. The earlier chapters traverse well-known and often-described districts, but presently our author takes us to the Valley of the Magdalena (of which we append an illustration from the pencil of the late A. BRUCHMULLER, see p. 43) and its tributaries, the Lebrija. A curious contrast is afforded by the town of Bucaramanga with its European luxuries, and evidences of advanced civilisation, though high up on the Andes, and only accessible by canoe and mules.

From this town the author proceeded along the valley of La Florida in search of Cattleya Mendeli. "On each side of the valley the mighty peaks of the Andes tower up to the clouds all bristling with forests." At Pié de Cuesta, 3500 feet above the level of the sea, he speaks of the climatal conditions as furnishing twelve hours of day and twelve hours of night all the year round, a mild balmy air which is never oppressively hot or disagreeably cold, an abundance of pure water, and a rich variety of tropical fruits. Here *Epidendrum atropurpureum* covers the walls, and flowers in profusion. A thousand feet higher the plain of La Mesa delos Santos is reached, and here we are told the vegetation consists of a tall rank herbage, with occasional scrub, intermingled with thousands of the beautiful *Sobralia leucoxantha*, with rose and white flowers of the colour and substance of those of *Cattleya Mendeli*, but so difficult to transport, that very few plants are known in England. Proceeding on his course, and leaving the precipices of Subi and the village of Curiti, he came at length upon the object of his search:—

"I had not far to go before I was rewarded with the object of my search in the myriads of Bromeliaceæ and Orchids, which literally cover the short stunted trees and the bare points of rocks, where scarcely an inch of soil is to be found. The most magnificent sight for even the most stoical observer are the immense clumps of *Cattleya Mendeli*, each new bulb bearing four or five of its gorgeous rose-coloured flowers, many of them growing in the full sun, or with very little shade, and possessing a glowing colour which is very difficult to get in the stuffy hot-houses where the plants are cultivated. Some of these plants, considering their size and the slowness of growth, must have taken many years to develop, for I have taken plants from the trees with 500 bulbs, and as many as 100 spikes of flowers, which, to a lover of Orchids, is a sight worth travelling from Europe to see. Apart from the few extraordinary specimens, the Orchids, as a rule, are very much crowded and mixed up with other vegetation."

* *Travels and Adventures of an Orchid Hunter. An Account of Canoe and Camp Life in Colombia while Collecting Orchids in the Northern Andes*, by Albert Millican, Cassell & Co. 8vo, pp. 222. Numerous illustrations.

Like most of his predecessors, Mr. MILLICAN continues, he "was tempted to bear away a large quantity of the coveted plants," and so we may expect this habitat will be denuded, as others have been before. For some reasons we shall be glad when the Orchid fever abates, and the energy devoted to their acquisition is turned into some other channel.

Of Mr. MILLICAN's further research for *Odontoglossum crispum*, the Alexandra Orchid, we need say little here, but refer our readers to the book itself. We may add, however, that these Orchids grow in an excessively wet climate, at an elevation of 7000 to 8000 feet, where they are exposed to a temperature which often falls as low in the night as 50°, and rarely, if ever, reaches beyond 60° in the day-time. Under such conditions, *O. odoratum* and *O. crispum* were found. After about two months' work, Mr. MILLICAN secured 10,000 plants, cutting down to obtain these some 4000 trees! Then the Orchids had to be taken to the edge of the forest on men's backs, and even then they were five days' journey from the town of Pacho, where it is usual to make the boxes to pack the Orchids in for shipment to England. Mules transport the boxes from Pacho to the banks of the Magdalena, and after ten days they reach the port of embarkation. Many of the plants die before they leave the coast, many more before they pass the West Indies; a few reach the Azores, a fewer still arrive in England safely. The statement just made applies more particularly to *Odontoglossum blandum*, but in a degree it applies to most of the Orchids from whatever country they are introduced. At a lower elevation than that at which *O. crispum* is found in the neighbourhood of La Palma, *Cattleya Warscewiczii*, *C. labiata*, *Miltonia Phalenopsis*, *Oncidium Kramerianum*, *Masdevallia Harryana*, *Odontoglossum Pescatorei*, *Anguloa Clowesi*, *Odontoglossum blandum*, and many others, are found. Another chapter tells of the search for *Cattleya Trianae*, *Miltonia vexillaria*, *Odontoglossum Harryanum*, &c.

The risks attendant upon travel in the wilds are illustrated by the sad fate of one of the party, who was killed by a poisoned arrow, and the narrow escape from a jaguar on another occasion. In spite of drawbacks like these, Mr. MILLICAN writes:—"No pen or picture has or ever will be able to give more than a faint idea of the glories of this part of Colombia—of its riches in mines of emeralds and gold and silver; of its agricultural products of coffee, cocoa, and grain; of its trackless forests, with their exhaustless supply of timber and choice woods, its wealth of ornamental and medicinal plants, its bevy of gaudy coloured birds and curious animals, its snow-capped mountains and boundless prairies, where the Indians have always roamed with perfect freedom; or of its commercial cities with their rich and cultivated inhabitants."

The book is dedicated to Mr. WHITE, of Ardaroeh. It lacks a sketch map and an index, and its botanical details, other than those relating to Orchids, are not always trustworthy. Neither *Strelitzia* nor *Acacias*, for instance, are at all likely to be found growing in the forests of Colombia. We have, however, said enough to show that Mr. MILLICAN has given us a very valuable contribution to garden literature, and whilst the general reader will find in it an agreeable and interesting narrative of travel and adventure, the Orchid lover, and still more the Orchid grower, will find it essential to the completion of his library, however modest may be its proportions.

A GOURD GARDEN.—The cultivation of Gourds, more especially in eastern countries, dates from a very early period, and at the present time few vegetables are more extensively grown in this as well as in other countries. To the French growers we are chiefly indebted for the many remarkable varieties now in commerce, and just as florist flowers have been improved in size and colour, so these Gourds have been selected, and developed, until at the present time we have the most distinct colours, and curious shapes, as well as a considerable improvement in the flavour, particularly of the group called "Custard

possible advantage. Where space is limited, this is certainly the best way to cultivate Gourds as ornamental plants, and when the Vines are properly managed, they bear in such quantity that they have to be frequently thinned. All the cultivated Gourds are popularly believed to be derived from *Cucurbita Pepo*, but M. Charles Naudin who has studied them for many years, refers their origin to three supposed distinct species, i.e., *C. Pepo*, *C. maxims*, and *C. moschata*. M. Vilmorin, in his *Vegetable Garden*, remarks that he does not know any form of Gourd that should necessarily be considered a hybrid be-

pical. Our plan, though a troublesome one, and not always convenient, is to sow the seeds in heat in March, pot off singly when ready to handle, keeping them growing freely until they can be hardened off and transferred to the open air. Where convenience may be had for treating them in this way, three weeks or a month may be gained, and this is a great help in the development of the fruits. Of course, the size of the fruit will depend entirely on the quantity left on the Vine, and when a very large size is desired they must be reduced to two or even one. We, however, prefer medium-size, which enable us



FIG. 13.—GOURD-LINED WALK IN THE HERBACEOUS GROUND AT KEW.

Marrows." The varieties now offered by the trade are almost innumerable, and considerably over a hundred varieties may be considered first-class. A large collection of these Gourds have for some years now been grown at Kew (fig. 13), and as they have now succeeded in weeding out the useless or less ornamental kinds, the collection there may almost be taken as a standard for garden purposes, as the selection includes fruits of large size as well as of distinct colours. The collection grown in the Royal Gardens, Kew, forms an interesting addition to the hardy plants in the herbaceous ground, and as they are trained up poles, the—in some cases—extraordinary forms are shown to the best

tween any two of these species. That may be, but the fact that many of those forms grown in the garden hybridise freely with each other, is well known to all who have watched these remarkable plants. We have, indeed, frequently seen two distinctly-coloured Gourds on the same Vine; we have also remarked them of slightly different shapes, and have always attributed this to hybridisation. Some growers, indeed, say that it is almost impossible to keep some few of them true when grown near each other. The treatment usually given, is to sow the seeds in the open ground in May, but this we have found not to answer in this country at any rate, where our summers of late years have by no means been tro-

to make a good show of fruit, and we believe this is the plan adopted wherever they are grown in the ornamental garden. To give the names of even a few would take up too much space, and as they are mostly long French names of little utility to the English grower, selections are given by most of our principal seedmen, and no difficulty will be experienced in procuring the most ornamental sorts. At Kew, the Gourd garden, which is somewhat of a novelty in an English public establishment, has awakened a considerable amount of interest even in the ordinary visitor, and we have no doubt, these remarkable vegetable freaks have a great future before them in this country. D.

A NEW ARLIALI.—Among the Orchids which are to be seen at Messrs. SANDERS' other new plants are to be met with, which, were they seen apart from their gorgeous surroundings, would attract more attention than they do now. At a recent visit, for instance, we noticed an *Arliali* from Guatemala which we hardly venture to name as it was not in flower, and which, as Mr. BROWN pointed out to us, is very like an unnamed species in the herbarium from the same country, and probably belonging to the genus *Oreopanax*. It is not, however, quite identical, and hence it is more prudent to await further information before pronouncing a definite opinion. In any case, Messrs. SANDERS' *Arliali* is a striking plant for the decoration of the warm greenhouse, and would probably bear ordinary greenhouse temperature. It is of shrubby habit, with erect stems and long-stalked, coriaceous, dark-green shining leaves. These are roundish, markedly peltate at the base, palmately three-nerved, with spreading nerves, and three-lobed to nearly the centre, the lobes deltoid acuminate. The leaf before us measures about 7 inches in length by 6 in breadth, but others were considerably larger, and the leaf-stalk is rather longer than the blade it supports.

HORTICULTURAL CLUB.—The usual monthly dinner and *conversazione* will be held at the Windsor Hotel on the 12th inst., when the Rev. H. H. D'ONBRAIN will bring forward the subject of the "Rock Garden" for discussion.

ROYAL HORTICULTURAL SOCIETY.—The first New Year's meeting on January 12 will be held in the Drill Hall, James Street, Westminster, where the Fruit, Floral, and Orchid Committees will assemble at 12 o'clock as usual, and the Scientific Committee in the Council Room at 4 P.M. A paper on "Winter Vegetables" will be read in the Drill Hall at 3 P.M. by Mr. W. JOUGLEND, Marston Gardens, Farnham. The arrangements for the current year and a list of the Fellows of the Society have been issued. Those desirous of becoming Fellows may obtain all particulars from the secretary, 117, Victoria Street, S.W.

BOTANICAL MAGAZINE.—The plants figured in the January number are *Moraea Robinsoniana*, t. 7212, the wedding flower of Lord Howe's Island (see *Gard. Chron.*, 1872, p. 393; 1891, i., 457, with fig., formerly referred to *Iris*).

Chirita depressa, t. 7213.—A dwarf, tufted species, with ovate silky leaves, and purple funnel-shaped flowers, with an almost regularly five-lobed limb of a violet tinge. It is a native of Kwantung, and flowered at Kew.

Cirrhopetalum Thouarsii, t. 7214.—A curious species, with long stalked tufts or simple umbels of long lip-shaped greenish flowers. It is a native of Mauritius and the Pacific Islands, a remarkably wide distribution.

Iris Fosteriana, t. 7215.—A bulbous *Iris*, with 2-ranked sword-shaped leaves. Outer segments of the flower erect, yellowish, inner smaller, deflexed purple.—Native of Afghanistan.

Primula Poissoni, t. 7216.—Tall, glabrous, glaucous, leaves fleshy, oblong, obtuse, finely denticulate. Flowers rosy-lilac in remote whorls, of which as many as from eight to twelve are produced.—Native of Central China.

GARDENERS' ORPHAN FUND.—A meeting of the committee took place at the Hotel Windsor, Victoria Street, Westminster, on the 4th inst., the chairman, WILLIAM MARSHALL, Esq., presiding. The Hon. Secretary, Mr. A. F. BARRON, announced the following special receipts:—The Reigate Chrysanthemum Society, per Mr. W. BROWN, Secretary, £10. From collecting boxes as follows:—The Leeds Paxton Society, per Mr. J. W. FRANKLAND, 15s. 6d.; Mr. J. HUGHES, local Secretary, Birmingham, £2 13s. 4d.; Mr. J. LEMMON, Chichester, 6s. 3d.; the Bradford Gardeners' Mutual Improvement Society, per Mr. R. SCOTT, 12s. 4d.; and Mr. A. READ, The Gardens, Grittleton, 17s.;

the total proceeds from boxes being £25 12s. 11d. Some further applications on behalf of orphan children were examined and admitted, bringing the total up to twenty, the 4th being the last day upon which applications could be received. The annual meeting and election is fixed for Friday, February 5, and will take place as usual at the Cannon Street Hotel. The committee will meet on Friday, the 22nd, to make the necessary arrangements.

— On Friday, January 15, a monster mass, consisting of 250 bulbs of the old *Cattleya labiata*, will be put up to auction by Messrs. PROTHOROE & MORRIS, at their rooms, Cheapside, for the benefit of this Fund. Messrs. SANDER & Co. give the plant, the auctioneers waive their commission, the horticultural press forego their charges for advertising, so that everything is arranged to ensure the handing over to the Fund of a substantial New Year's gift, provided the bidders rise to the situation.

OUR WEIGHTS AND MEASURES.—For a considerable time past efforts have been made to secure uniformity in the weights and measures employed in the various markets of the kingdom. Last Session, a Select Committee of the House of Commons was appointed to consider the feasibility of establishing some uniform weight for grain. The Committee has not finished its labours, but meanwhile, Mr. JASPER MORE, M.P., its Chairman, contributes to the *Journal of the Royal Agricultural Society*, a paper entitled "Sale of Corn by Weight." The advantages which would be conferred upon both growers and dealers in Wheat, Barley, and Oats, by the establishment of uniformity are so obvious as to need no argument. But they are accentuated by a perusal of the many incongruous and practically illogical local customs, the effects of which it is almost hopeless to attempt to reconcile. The universal adoption of the hundred-weight (of 112 lb.) may not commend itself to advocates of the decimal system, but it is a great point to get the principle of uniformity generally accepted. Curiously enough, an American hundred-weight is 100 lb. (the ton being 2000 lb.), whilst in England the hundred-weight of cheese is 120 lb.

SULPHATE OF COPPER AND THE POTATO DISEASE.—The experiments which the Agricultural Society conducted last summer to test the value of sulphate of copper as a preventive of Potato disease are described in detail in the *Journal of the Society*. It appears that, whilst the application has not prevented the disease in any locality, it has lessened its amount. Mr. GEORGE MALDEN, an extensive Potato grower in Bedfordshire, gives details of some experiments directed to the determination of the best time for planting the seed-tubers. He concludes with the advice to plant early varieties in March, or as early as possible in April; to finish planting all varieties in April; but if necessary to plant in May, then to select a late variety. Of late varieties, preference is given to the Imperator, which should be well moulded up.

HOW DO PLANTS OBTAIN THEIR NITROGEN?

— In the new quarterly number of the *Journal of the Royal Agricultural Society of England*, there appear several noteworthy communications upon the highly important problem which is well-known to farmers under the name of "the nitrogen question." Of the various elements with which it is necessary to supply the soil in order that crops may be profitably grown, nitrogen is the most costly, and immense sums are annually spent by our farmers in the purchase of nitrogenous and ammoniacal fertilisers. The first of the communications to which reference has been made comes from Sir JOHN LAWES and Dr. GILBERT, the illustrious investigators whose field experiments, extending over half a century, at Rothamsted, in Hertfordshire, are known throughout the civilised world. In a masterly paper on "The Sources of the Nitrogen of our Leguminous Crops," they adduce a large mass of experimental evidence as to the way in which such crops as Beans, Peas, Clovers, Lucerne, Sainfoin, Vetches,

Lupins, and allied leguminous crops obtain nitrogen from the air. Upon the roots of these plants wart-like nodules may be seen, and these nodules appear to be the dwelling-places of certain lowly organisms (microbes) which have the property—not possessed by the higher plants—of taking up nitrogen from the air within the soil, and of presenting it to the higher plant in such a form that the latter can assimilate it. The microbes cannot be regarded as exactly parasitic upon the roots of Clovers, &c., because they are serviceable and not detrimental to these cultivated plants; hence the association of the two is described by the name *symbiosis*, i.e., a living together. From this newly-recognised source of the nitrogen of our leguminous crops, it is possible that results of the highest practical importance in agriculture may eventually proceed. Indeed, in this same issue of the *Journal*, there is a brief paper entitled "Farming without Live Stock," in which Dr. FREEMAN adduces some striking instances of the employment of leguminous crops as collectors of nitrogen, and of the useful practice of ploughing these in as green manure, and supplementing their effect by the addition of artificial fertilisers containing phosphorus, potash, and lime. Such methods have been successfully followed upon some of the soils of Germany, and are likely to be extended when farmers grasp the fact that, under certain circumstances, they can get nitrogen from the air for nothing. Mr. JAMES MASON, of Eynsham Hall, Oxford, has, it appears, been experimenting for several years in this direction upon his estate. This method of obtaining nitrogen from the air is known in France as *sideration*.

THE NITRIFYING FERMENTS OF THE SOIL.

Dr. MUNRO in the *Journal of the Royal Agricultural Society*, makes clear much that has not hitherto been understood concerning the manner in which the nitrogen contained in farmyard manure, shoddy sulphate of ammonia, and many other nitrogenous fertilisers, is converted into the soluble nitrate of lime, in which form nitrogen enters the systems of plants and thus supplies them with food. This conversion into nitrate was once thought to be an exclusively chemical change, but it is now shown to be the work of two microscopical organisms, one of which begins the change and the other finishes it. A fact thoroughly established in these several papers is, that the soil is teeming with life—that it is the abode of bacteria and other micro-organisms all of which, now that their existence is recognised and something is known of their functions, are capable of being turned to useful ends by the ingenuity of the agriculturist.

THE JARDIN DES PLANTES.—A proposal, which we anticipate, will remain as a proposal for a long time, has been made to remove this historically famous garden to Versailles. No doubt, so far as the living plants are concerned, Versailles would be preferable to Paris, but the removal of the library, herbarium, museum, &c., to so great a distance from Paris, offer difficulties not easily overcome. In the meantime, M. MAXIME CORNO is deservedly earning the admiration of all qualified to judge, by the energy and success of his administration starved though it is by an inadequate budget.

THE "ANNALS OF SCOTTISH NATURAL HISTORY" is a new quarterly periodical, devoted to the recent and fossil biology of Scotland. The botanical portion is edited by Professor TRAIL, of Aberdeen. In the part before us, Mr. ARTHUR BENNETT has a paper on "The Botany of the outer Hebrides," Dr. BUCHANAN WHITE one on "Scottish Willows," while several small contributions are furnished by Professor TRAIL and others. We cordially wish all prosperity to our new contemporary, with which, by the way, is incorporated an old friend, the *Scottish Naturalist*.

NATIONAL ROSE SOCIETY.—The General Committee will meet at the Rooms of the Horticultural Club on Tuesday next, January 12, at 3.30 P.M.

GARDENERS' ROYAL BENEVOLENT.—The annual "Lark-Pudding" dinner of the members of this Institution will be held at Simpson's on Friday, January 15, after the annual meeting, the Rev. W. WILKS, Hon. Sec., R.H.S., in the chair.

SPELLING OF GEOGRAPHICAL NAMES.—The Royal Geographical Society has issued a note relating to the spelling of geographical names, from which we take the following extract. Life would be rendered easier if people would conform to these regulations, and that of editors would be much lightened if the metrical system came into general use here as on the Continent, and if our very absurd thermometer scale were superseded by the Centigrade system:—"In 1885 the Council of the Royal Geographical Society, impressed with the necessity of endeavouring to reduce the confusion existing in British maps with regard to the spelling of geographical names, formally adopted the general principle, that in writing geographical native names the vowels should have their Italian significance and consonants that which they have in the English language. To ensure a fairly correct pronunciation of geographical names by an English-speaking person, an arbitrary system of orthography is a necessity. It is hardly too much to say that in the English language every possible combination of letters has more than one possible pronunciation. A strange word, or name, even in our own language is frequently mispronounced. How much more with words of languages utterly unknown to the reader. The same necessity does not arise in most continental languages. In them a definite combination of letters indicates a definite sound, and each nation consequently has spelt foreign words in accordance with the orthographic rules of its own language. It was, therefore, not anticipated that foreign nations would effect any change in the form of orthography used in their maps, and the needs of the English-speaking communities were alone considered. The object aimed at was to provide a system which should be simple enough for any educated person to master with the minimum of trouble, and which, at the same time, would afford an approximation to the sound of a place-name such as a native might recognise. The charts and maps issued by the Admiralty and War Office have been, since 1885, compiled and extensively revised in accordance with this system. The Foreign and Colonial Offices have accepted it, and the latter has communicated with the colonies requesting them to carry it out in respect to names of native origin. Even more important, however, than these adhesions is the recent action of the Government of the United States of America. Contrary to expectation, but highly satisfactory, is the news that France and Germany have both formulated systems of orthography for foreign words, which in many details agree with the English system. The rules referred to are as follow:—

1. No change is made in the orthography of foreign names in countries which use Roman letters: thus Spanish, Portuguese, Dutch, &c., names will be spelt as by the respective nations.

2. Neither is change made in the spelling of such names in languages which are not written in Roman character as have become by long usage familiar to English readers: thus Calcutta, Cutch, Celebes, Mecca, &c., will be retained in their present form.

3. The true sound of the word as locally pronounced will be taken as the basis of the spelling.

4. An approximation, however, to the sound is alone aimed at. A system which would attempt to represent the more delicate inflexions of sound and accent would be so complicated as only to defeat itself. Those who desire a more accurate pronunciation of the written name must learn it on the spot by a study of local accent and peculiarities.

5. The broad features of the system are:—

(a) That vowels are pronounced as in Italian and consonants as in English.

(b) Every letter is pronounced, and no redundant letters are introduced. When two vowels come together, each one is sounded, though the result, when spoken quickly, is some-

times scarcely to be distinguished from a single sound, as in *ai, au, ei*.

(c) One accent only is used, the acute, to denote the syllable on which stress is laid. This is very important, as the sounds of many names are entirely altered by the misplacement of this "stress."

6. Indian names are accepted as spelt in Hunter's *Gazetteer of India*, 1881.

The following amplification of these rules explains their application:—

Letters.	Pronunciation and Remarks.	Examples.
a	<i>ah</i> , as <i>a</i> in <i>father</i>	Java, Bandan, Soudi, Bari, Tel-el-Kebir, Odeh, Yez, Medina, Levuka, Peru.
e	<i>eh</i> , as <i>e</i> in <i>fate</i>	
i	English <i>ei</i> as in <i>ravine</i> ; the sound of <i>ee</i> in <i>beet</i> . Thus, not <i>Feejee</i> , but	Fiji, Hindi.
o	<i>o</i> as in <i>note</i>	Tokyo.
u	<i>long u</i> as in <i>flute</i> ; the sound of <i>oo</i> in <i>boot</i> ; <i>oor</i> should never be employed for this sound. Thus, not <i>Zooloo</i> , but	Zulu, Sumatra.
	<i>All vowels are shortened in sound by doubling the following consonant</i>	Yarra, Taana, Mecca, Jidda, Bonny.
	<i>Doubling of a vowel is only necessary where there is a distinct repetition of the single sound...</i>	Naulia, Oosima.
ai	English <i>i</i> as in <i>ice</i>	Shanghai.
ao	<i>ow</i> as in <i>how</i> . Thus, not <i>Foochow</i> , but	Fuchau.
ae	is slightly different from above	Macao.
ai	is the sound of the two Italian vowels, but is frequently slurred over, when it is scarcely to be distinguished from <i>ey</i> in the English <i>they</i>	Beirât, Beihil.
b	English <i>b</i>	
c	is always soft, but is so nearly the sound of <i>s</i> that it should be seldom used	Celebes.
	If <i>Celebes</i> were not already recognised it would be written <i>Selbes</i> , is always soft, as in <i>church</i>	Chingghin.
ch	English <i>d</i>	
f	English <i>f</i> . <i>ph</i> should not be used for the sound of <i>f</i> . Thus, not <i>Haiphong</i> , but	Haifong, Nafa.
g	is always hard. (<i>Sott g</i> is given by <i>j</i>)	Galapagos.
h	is always pronounced when inserted, as in <i>what</i> ; better rendered by <i>hw</i> than by <i>wh</i> , or <i>h</i> followed by a vowel, thus <i>Hwang ho</i> , not <i>Whang ho</i> , or <i>Hwang ho</i>	Hwang ho, Ngon hwi.
j	English <i>j</i> . <i>Dy</i> should never be put for this sound	Japan, Jinchuen.
k	English <i>k</i> . It should always be put for the hard <i>c</i> . Thus, not <i>Cores</i> , but	Korea, Khan.
kh	The Oriental guttural	
gh	is another guttural, as in the Turkish	Dagh, Ghazi.
l	As in English.	
m	has two separate sounds, the one hard as in the English word <i>finger</i> , the other as in <i>singer</i> . As these two sounds are rarely employed in the same locality, no attempt is made to distinguish between them.	
p	As in English.	Chemulpho, Mokpho.
ph	As in <i>loophole</i>	
th	stands both for its sound in <i>thing</i> , and as in <i>their</i> . The former is most common	Bethlehem.
q	should never be employed; <i>qu</i> (in <i>quies</i>) is given as <i>kw</i>	Kwangtung.
r	When <i>qu</i> has the sound of <i>kw</i> , as in <i>quies</i> , it should be given by <i>k</i>	
s, y	<i>sh, t, v, w, x</i> , as in English	Sawakin.
t	is always a consonant, as in <i>yard</i> , and therefore should never be used as a terminal; <i>i</i> or <i>e</i> being substituted as the sound may require.	Kikiyu, Mikindini, Kwalé, Zulu, Muzdaha.
z	Thus, not <i>Mikindini</i> , but	
zh	English <i>z</i> , or as <i>s</i> in <i>treasure</i>	
z	The French <i>j</i> , or as <i>s</i> in <i>treasure</i>	Tongatábu, Gaspagos, Palawan, Sarawak.
	Accents should not generally be used, but where there is a very decided emphatic syllable or stress, which affects the sound of the word, it should be marked by an acute accent	

TECHNICAL EDUCATION.—With reference to the observations made on this subject in our last

* The *y* is retained as a terminal in this word under Rule 2 above. The word is given as a familiar example of the alteration in sound caused by the second consonant.

issue by the Director of the Royal Gardens, Kew, we have received the following comment from one of our leading gardeners:—"Those of us who are qualifying ourselves, as best we may, for our new missions of teachers of technical horticulture or agriculture, for virtually they are one, will hardly thank the Director of Kew for his bath of very cold water in your new year's issue. This is so unlike the encouragement that the Editor has given to technical instruction in horticulture, that one can only account for its prominent place in the *Gardeners' Chronicle* of the new year on the assumption that for once the Editor was abroad. [The Editor welcomes expressions of opinion from any competent source but does not necessarily share them. Ed.] What the friends of technical education most urgently need at the present time is not cooling laxatives, but bracing tonics and powerful stimulants. The difficulties and dangers of launching such novel enterprises as horticultural lectureships, especially in the rural districts, are formidable enough in all conscience, without our friends at Kew doing their best to render such difficulties insuperable by discounting our failures in advance or slighting our efforts with their authoritative *non possumus*. It is to be hoped that the energy and enterprise of those engaged in this new departure in horticulture will prove equal to saying that it shall be done. We shall look to Kew and to our botanists elsewhere to help us to popularise horticulture, and to bring the knowledge of its principles and practice within closer touch and taste of all classes of our countrymen, through improved series of illustrations, down to date, of the organs and functions of plants. With illustrations on lantern-slides abreast of our knowledge of the life and work of plants, teachers must be dull, and audiences stolid if horticultural lectures are destined to failure. There may be some mistakes at first, and a few falls between the two stools of giving too little and cramming in too much. But with practice in the presentation of such marvellous stores of knowledge, and the opening up of such boundless sources of pleasure and profit as abound in horticulture, the lectures ought to rival in interest many a novel. With all due deference, it appears as if the Director of Kew condemned lectures on technical horticulture on mistaken or insufficient data. County Councillors, anxious to get to work in their new enterprise, naturally turned to Kew and other scientific centres for men and measures, light and leading, on technical education. Virtually, the answer was, we can help you with neither. Spend the money on secondary education, for you cannot teach horticulture in lectures—for this among other reasons, that the young gardeners at Kew already know more of horticulture than some of the lecturers. That may be; but it is wide as the poles asunder from the point at issue, which is not wholly the effect of those technical lectures, or the education of young gardeners, but on the culture and higher education of all classes of our countrymen, and on the stimulation and extension of the first and most vital of our national industries. It is this apparent failure to grasp the great issues at stake in these tentative lectures on technical horticulture that nullifies the value of the decision against their utility; hence, whilst I endorse most of the remarks on the education of gardeners, I fail to find how they logically lead to the condemnation of any well-planned efforts by lectures, or otherwise, to popularise horticulture, and render it at once more pleasant and profitable to all ages and conditions of men, and women also, amongst us. How far this may be accomplished may perhaps partially appear from a couple of programmes sent at random from several that lie before me, and also from a few pages on drainage from the first volume of *Cassell's Popular Gardening*. Most fortunately, this new departure in the teaching and solid advancement of horticulture has received your warm sympathy and powerful support, as well as that of the Royal Horticultural and other societies, and is not likely to fail, because Kew seems alike unwilling to teach or to be taught the new gospel of commercial prosperity and social amelioration by means of horticulture."

REMOVAL OF THE LEAVES OF VINES.—Under the impression that the shade afforded by the leaf is prejudicial to the full ripening of the Grape, some of the French Vine-growers remove the leaves, and so expose the berries to the sun. This practice has been experimentally carried out by M. MUNTZ, who gives his results in the *Annales Agronomiques*. M. MUNTZ arrives at the conclusion that the increased light and heat to which the berries are subjected by the removal of the leaves exert no appreciable influence on the amount of sugar produced, but slightly diminishes the proportion of organic acids. When the practice of defoliation is carried to an extreme degree, as in some parts of South-Western France, harm is done by the diminished production of sugar, and imperfect ripening.

PEAS AND THEIR GROWTH.—In the last *Bulletin* of the Botanical Department, Jamaica, is an elaborate table detailing the results of observations made on a large number of varieties of Peas supplied by Messrs. CARTER. Forty-three kinds were sown on the 3rd or on the 4th of April, and of these, sixteen appeared eight days after sowing. Thirteen appeared nine days after sowing; nine after ten days, and five after eleven days. The dates of blooming showed a wider range of variation, the shortest period being the thirty-fifth day after sowing (American Wonder or Emerald, Carter's First Crop or Ringleader, and Carter's Blue Express); the longest period was sixty-four days (Emperor of the Marrows and British Queen). No definite relation is observable between the time of appearing above ground and the production of the first bloom, but those which flower earliest are dwarf varieties, and those which flower latest are the taller varieties. The average mean temperature during the experiments was about 65°, the minimum about 53°, the maximum about 70°; the rainfall varying from 28 to 34 inches, according to the length of time occupied by the plant in growth, the number of rainy days 40 to 56, the quicker-growing varieties being exposed to less rainfall and less aggregate heat. Abundance is noted as the best Pea (for Jamaica) the very tall Peas getting battered by the wind, and the short ones by the rain. "Abundance," it may be further remarked, appeared above ground on the 9th day after planting, flowered on the 46th day, produced Peas fit for cooking on the 73rd day, and continued to do so for 28 days. The first seed was ripe on the 102nd day after planting; the last ripe seed was gathered on the 133rd day. The number of pods on each plant averaged eight. The number of Peas in a pod is given as 425; but the column in which this record is given is not intelligible as it stands. The mean average temperature of which this Pea had the benefit was 65°-5 F., with a minimum of 53°-2, a maximum of 77°-4, and a rainfall of 34.3 inches. The number of rainy days during its growth was 56; the height of the plant in feet, 2; the time of cooking, fifteen minutes, and the quality third-class. These details will show with what elaboration the experiment was made. It may be further added, that a second sowing of the same varieties was made on May 18, and the results are recorded with equal minuteness. A series of such experiments, duly summarised, would furnish valuable data for estimating the precise effect of a combination of external conditions on the rate of growth and productiveness of the plant, and would help in indicating what phenomena are inherent in the plant itself as a result of inheritance, and what are directly influenced by external conditions.

THE DEVON AND EXETER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The spring session of the above will commence on Wednesday, January 6, the meetings taking place in the Guildhall, Exeter, at 8 o'clock each evening. Wednesday, January 6, Mr. G. C. CRABBE, Prospect Park, subject: "The Culture of the Chrysanthemum by Amateurs." Wednesday, January 20, Mr. ALFRED GEORGE HEAVITREE (formerly Head Gardener at Bicton), subject: "The Cultivation of the Peach and the Nectarine, with Hints on Pruning." Wednesday, February 3rd, the Rev. A. H. CRAWFORD,

Crawfords Orchard Rectory, subject: "How to Grow and how to Show Vegetables for Exhibition." Wednesday, February 17, Mr. J. T. EMBUTT, Winslade Park Gardens, subject: "The Cultivation of the Violet." Wednesday, March 2, Mr. F. W. MEYER, Messrs. VEITCH'S Nurseries, Exeter, subject: "Alpine Plants." Wednesday, March 16, Mr. G. B. LANSDALE, Oxford Terrace, subject: "The Culture of the Carnation by Amateurs." Wednesday, March 30, Mr. ANDREW HOPPE, at Messrs. VEITCH & SON'S, subject: "Daffodils and Narcissi, Illustrated with Typical Specimens." On Wednesday, April 6, the annual business meeting will be held.

BENEDICT ROEHL.—As a result of the exertions of Mr. F. THOMAYER, Director of the Public Gardens at Prague, a statue to the memory of the adventurous botanical traveller has been erected in that city (fig. 12). We are indebted to Mr. THOMAYER for the opportunity of laying before our readers an illustration of this work of art, the characteristic *poë* and freedom of which will be admired. Naturally the largest subscriptions are from Bohemia, but residents in Mexico, Columbia, Russia, England, Belgium, France, all sent contributions, not to speak of smaller amounts from smaller countries less directly concerned in horticulture. How long are DOUGLAS and FORTUNE—and others might be added—to remain unhonoured in their own country?

PUBLICATIONS RECEIVED.—*Elements of Agriculture*. By W. FREEM L.L.D. (John Murray). An excellent text-book, to which we shall take an early opportunity of advertising more at length.—*Discovery*, a weekly journal of Scientific Discovery, and the application of Science to industrial purposes.—*The Annals of Scottish Natural History*. (Edinburgh: D. Douglas.)—*Proceedings of the Agri-Horticultural Society of India*.

MANCHESTER ROYAL BOTANICAL GARDENS.

BEING in the vicinity of Manchester recently, I took the opportunity of visiting the Botanical Gardens, which afford, even at this dull season, a treat to anyone interested in horticulture. During the last ten years the improvements that have taken place are neither few nor small. The glass-houses having been nearly all renewed and enlarged, massive rockwork erected, and the grounds remodelled, at great expense, operations which have placed the gardens second to none of the kind in the provinces.

On entering, the neatness and cleanness of the walks and lawns attracted notice. Hawthorns have been thickly planted by the sides of the promenade and other principal walks, which during the flowering season will fill the air with delicious perfume. In the exhibition-house there was a good display of Chrysanthemums, arranged on each side, with Palms and Tree Ferns in the centre. The Chrysanthemums are grown mostly as bushes, which is a more natural and far more effective style than some others. The Curator pointed out how much larger this house is than the old one, which formerly stood there. By descending the rocky steps at the end of this structure, the cool exhibition-house is entered, which is bygone years was only the framework of a house temporarily covered with canvas when the Whitsuntide shows were held, but which has been covered with glass at a cost of £2000. This house is well adapted for shows, the exhibits looking better than in any house I have seen erected for a like purpose. At the end of this house is placed a concert-room, which provides accommodation for several hundred persons. By a side-door the flower-garden is reached. Bulbs have been largely planted this season, and a fine display may be looked forward to; and here a sunken rockwork has been added for alpine and other species of plants, around which some nice plants of Tree-Ivy, &c., are freely growing. By ascending another flight of rock steps, the terrace is again reached. On entering the conservatory at this point fine plants of Linum tri-

gynum meet the eye, also a fine lot of late-flowering Amaryllis. Passing on to the principal range of span-roofed houses, which take the place of the old lean-to range, the first division was found to be devoted to plants with graceful foliage, with Lapageria trained overhead, which is a very effective arrangement. The next division contained Ericas, Heaths, Epacris, &c., with a well-flowered lot of Primulas staged on one side, which broke the monotony of the whole. By descending a flight of steps the Fernery is arrived at, which is a very attractive feature, and here were noticed some good specimens of Dicksonia, Cythea, &c. The rockwork is well furnished with suitable species and varieties of Ferns, which possess a thrifty, healthy appearance.

The Palm-house is a lofty building, and although it has been recently erected some of the plants have already reached the roof. There are fine specimens of Scaevola, Chamærops, Pandanus, and at the cooler end are huge greenhouse Rhododendrons, Camellias, &c., interspersed with ornamental foliage plants, all of which are planted out. Passing on to the stoves, in which were observed many interesting exotics, it was noticeable how freely the plants have grown. The Orchid-house contained some choice Cypripediums in flower, and a number of the newer varieties of this popular genus have lately been added.

The Azalea-house adjoins the Orchid-house, and contained some fine specimen Azalea indica. A range of small span-roofed houses contained cool Orchids, Cattleyas, Dendrobies, &c., and many other interesting plants.

The lean-to range for bedding plants is the last addition that has been made, but is not least in point of usefulness. To the casual observer, improvement is seen in the grounds, houses, and plants, showing that horticulture is moving forward apace. W. Forrester, The Knoll, Shipley.

CONIFERS.

THE Conifer Congress of last autumn served, among other things, to elicit some enquiries as to the dates of introduction of some of the more important species. In answer to these questions, we may give the following details:—

Before 1548 the Norway Spruce (*Picea excelsa*), the Cypress (*Cupressus sempervirens*), the Arbor-vitæ (*Thuja occidentalis*), the Silver Fir (*Abies pectinata*), the stone Pine (*Pinus pinaster*) had been introduced, but how long before is not a matter of history.

In 1596 mention is made of the introduction of the Pinaster (*Pinus pinaster*).

Before 1629 the Larch (*Larix europæa*) was introduced. In 1640 mention is made of Taxodium distichum.

In 1663 Bishop Compton introduced the Aleppo Pine (*Pinus halepensis*). About 1664 the Cedar of Lebanon (*Cedrus Libani*) and the red Cedar (*Juniperus virginiana*) were made inmates of our gardens.

In 1697 the Balsam Fir (*Abies balsamea*) is mentioned as having been imported by Bishop Compton, who is also credited with the first planting in this country of *Abies nigra* and *A. alba*.

In 1705 *Pinus strobus* is said to have been first cultivated in this country, but Dr. Bolle supposes it to have been grown in the middle of the sixteenth century in France.

In 1736 *Tsuga canadensis*, the Hemlock of the "primeval forest," was imported by Peter Collinson.

In 1746, *Pinus cembra* was brought from Switzerland.

The date 1752 is assigned for the introduction of the Eastern Arbor-vitæ (*Biota orientalis*), and that of 1754 for the Maidenhair tree (*Ginkgo biloba*).

In 1796 *Arancaria imbricata* was brought home by Menzies.

Between 1800 and 1809, *Cunninghamia sinensis* and *Juniperus excelsa* became inmates of our gardens.

Between 1810—1819, *Abies Fraseri* (Fraser, 1811), *Picea Smithiana* (Dr. Gowan, 1818), were introduced.

(To be continued.)

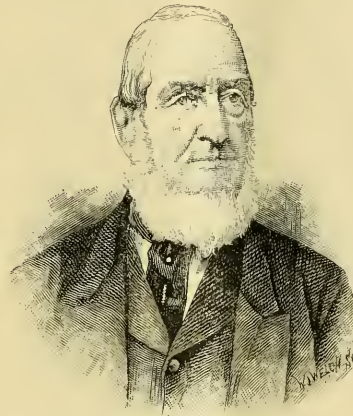
JAMES WILLIAMS.

We are now enabled to present a portrait of the late James Williams, father of the late B. S. Williams, of the Paradise Nurseries, and whose death we announced in our last issue. Concerning his long protracted career we have been favoured with the following details:—"Not to many men has it been vouchsafed to live such a life as his, and it will not be without interest to know something of it. Brought up as a gardener, he married at the age of seventeen, and, three years afterwards became gardener to the late Jas. Warner, of Hoddesdon, in Hertfordshire, and filled the capacity of head gardener there until the weight of his years forbade further working. He died at the age of ninety-five very nearly, in the enjoyment of his faculties to the last, and able to repeat from memory, as he enjoyed doing even on the evening that proved his last, whole chapters of the New Testament. He had outlived his wife by very many years, and also nine of their thirteen children. Beyond the age of eighty he would allow no one else to thin the Grapes in the houses under his care, and beyond the age of ninety he insisted on still keeping the wages-book and paying the wages weekly.

"He had seen the beautiful grounds of Mr. Warner, at Hoddesdon, grow up into maturity from his planting, and could look up to majestic trees 70 feet in height, that his hand had planted. What wonder was it that he enjoyed, as often as he could, and did up to the last, strolling into the gardens he so loved, and what a keen delight it was to him not long ago to be wheeled in a Bath-chair by willing hands, and amidst a circle of horticultural friends, round the tent of flowers that formed the flower show of the Society he helped to create before any other such Society existed in Hertfordshire, the Hoddesdon and Broxbourne Cottage Garden Society. It was in those grounds, that the firm now famous for its artificial rockwork, first built its artificial rocks. The Orchid-house there was the first to be ornamented with rockwork and falling water. This Orchid-house was designed by the late Charles B. Warner, and in it the late B. S. Williams grew the Orchids, that, year by year, when Orchid growing was in its infancy, triumphed so often in the then highest classes of Orchids at Chiswick and elsewhere. On the afternoon of the last day of the year the earth closed over the grave of 'old James,' as his friends loved to call him; and he now sleeps by the side of his wife in the picturesque churchyard at Broxbourne, honoured and loved by all who knew him.

"Six generations had he seen of the family with whom for more than seventy years he had been so closely associated. 'Well done, good and faithful servant, enter thou into the joy of thy Lord,' might well find place on the stone that marks the spot where James Williams lies."

should be done in February or March. Sets should be put down about 16 inches apart, with about 20 inches between the rows. Some plant them 18 inches apart each way, but it makes very little difference which. The sets are about 16 inches long, and when pushed into the soil (which must not be too hard), they should stand about 5 inches above the ground. I may also add that they are the better for being cleared of weeds and grass once or twice during the first year, so that they may get plenty of light and air. Cutting should be done after the leaves fall off, any time from December to the end of March, care being taken to cut the Willows off close to the stump. Planting along fences will not do, as such growth is generally short and shrubby. They do much better when planted in beds, the centre of which will always be found to be less shrubby than the outside. It is quite a mistake to suppose that Willows will only grow in marshy or flooded ground. The best Willows grow on heavy clay land. Bog land will produce fairly good Willows, but a special kind should be procured for it. Soil with a sandy bottom will not do. It is all-important to grow good varieties. The best are "Black Mules," "Brown Norfolks," "Black-tops," "Spaniards," and "Long-skies." The two former are considered the best, and are more largely



THE LATE MR. JAMES WILLIAMS.

cultivated than any others. The "Long Skins" are chiefly kept for two-year-old growth. "Black Mules," "Norfolks," and "Black Tops" will grow well on either bog or clay land. "Spaniards" and "Long Skins" are not suitable for bog or moor land. Poor varieties bring very low prices, and do not pay so well for growing; whereas, if a good stock is used, the crop is highly remunerative. Willow-growing is carried on to a very large extent in England, particularly in Lincolnshire and Nottinghamshire, where it is not unusual to find farmers with 100 acres planted entirely in Willows. They will produce a small crop the first year, and the third year they will probably give about 5 tons to the acre (English), which, at £3 per ton, should pay the producer well. With ordinary care, the plant will last twenty years. No manure is required; the leaves which fall off (in November) are considered quite sufficient. I shall be very pleased to procure good sets for anyone who finds difficulty in getting them, or to give any further information that may be desired. James H. Hewitt, Manager, Workshops for the Blind, Belfast, in the "Freeman's Journal."

CHRYSANTHEMUM GROUPS.—So long as the wording of prize schedules in reference to the exhibiting of groups of Chrysanthemums is the same as at present, exhibitors will have no alternative but to put up their groups as at present. The favourite clause of schedules is this:—"Quality of bloom and general effect to be considered leading features." It

is all very well for persons who are not, and never have been, competitors in such classes to say that a group which is composed and arranged exclusively of plants grown for the purpose, cut down to get them dwarf, and restricted to the orthodox three blooms to obtain as large blooms as possible, cannot compare—in their opinion, perhaps—with one composed of naturally-grown plants, which are remarkable for the number rather than the quality of the flowers. In my opinion, the two kinds of groups ought to be compared on their merits, one set for quality of flowers, and the other for the natural and effective manner in which they are arranged, without any special talent in arrangement possessed perhaps by the exhibitor, but simply because they cannot be packed close together like the other kind of plants. Exhibitors who wish to win prizes, and who do not when they attempt it, must conform to the schedule of the society at whose show they are exhibitors. Seldom indeed do we hear the committee blamed for one iota of the grumble which the exhibitor has to put up with, while they are really responsible for any defects in the general style of the groups. So many square feet have to be filled, the shape more often a semi-circle than aught else, and so small in superficial area that to carry any chance in the competition the plants must be packed very closely together, because where the "quality" clause tells is in the number of fine heavy blooms. Hence the reason for a close arrangement of the plants, almost irrespective of any taste that may be shown in contrasting or blending colour. No judge with the instructions to follow, could omit a group where the number and quality of the blooms were in advance of another group whose exhibitor had depended upon "bushes," provided, of course, that the plants in the former were of a reasonably dwarf habit, with fairly good foliage, and the group nicely finished off at the front, so as to expose but little objectionable legginess of the plants. To my mind, a long way the best method of arranging Chrysanthemum groups is by associating the plants with others having ornamental foliage, but excluding any other kinds of flowers. A little more space is also needed for a group of this kind, 100 square feet is a more suitable superficial area than the 40 or 80 usually offered. Under the mixed plan, competitors are of necessity compelled to employ plants which have not only fully-developed blooms in every respect, but the plants are required to be sufficiently well clothed with foliage as to be worthy of standing alone. In groups of this kind, there is no depending upon the next row of plants to hide the bare stems of the inner row, but each plant must be perfect in itself. Under this style, ample opportunities are afforded of showing the great value of Chrysanthemums as decorative objects in conjunction with other plants of a totally different style of growth. If more of these classes were encouraged, we should soon hear of fewer complaints about the manner in which groups are staged. Visitors do not go to shows to examine critically all the blooms borne by the plants in the groups, which they can do better in the cut-bloom and other classes, but they look at a group as an entity. The Hull Chrysanthemum Society sets the best example in the matter of groups of any that I know. As much as £6 is added to a 20-guinea cup for competition in this class, and the committee have just reason to be pleased with the response made to their handsome offer, as they have perhaps the finest groups of Chrysanthemums to be seen annually staged at any exhibition in England. The crowding and packing of the plants is thus unknown in the winning groups, and in its place there is a judicious disposal of suitable plants, which small groups of Chrysanthemums admit do not admit of. E. M.

PRUNING FRUIT TREES.—I read Mr. Hudson's article, "Apples and Pears in Suburban Gardens" (p. 20), and among many other practical and interesting remarks, noted the following:—"I find that a moderate system of pruning answers better than a too severe use of the knife. By relinquishing the latter, I have in several instances got rid of the canker in our Pear trees. I consider the prime consideration in fruit culture is good crops of fruit. If this cannot be secured by the rule-of-thumb practice, other means must be adopted. The mere appearance of the trees, without regarding the crops obtained, is a fallacy." My experience concurs with that of your correspondent. When I came here I found that the system of pruning adopted was to stop and pinch with thumb and finger, finally cutting-back very hard. The result was that many of the trees cankered terribly; but

HOME CORRESPONDENCE.

WILLOW GROWING IN IRELAND.—A great deal of money is lost to the tillers of soil in Ireland by indifference, not only as regards poultry farming and fruit culture, but also in the matter of Willow growing, which is a crop that practically looks after itself after it is fairly started. As the time for planting Willows or osiers is now approaching, a few hints on the subject may be valued by many of your agricultural or land-holding readers. There are few crops which pay so well as this, and the following suggestions may prove useful to those who intend trying them. Firstly: the ground, which may be good strong clay, or moor land, or bog, should be prepared in the same way as for any other crop, except that it should be more deeply ploughed, or, what is better still, deeply dug or trenched. This, no doubt, is an expensive course, but in the end it is found to pay, as it cleans the ground and opens the soil, so that the sets get a better chance of shooting well; but in any case it should be thoroughly cleared of all weeds and grass, which would be likely to grow up and choke or hide the plants from light and air. Secondly: planting

since I have had sole charge they have been allowed to extend with exactly the same result as your correspondent states. Moreover, we had last season finer fruit from the same trees than we ever had before, fully convincing me that appearances must be put on one side to some extent if one wants full crops of good fruits. *G. Woodward, Barham Court, Madstone.*

PEAR, PITMASTON DUCHESS.—This fine Pear is now thoroughly established as a very desirable variety, combining beauty, size, and flavour. Your correspondent has given just lately some extraordinary examples, and Mr. J. Howard, p. 742, vol. x., is none behind the rest in extraordinary results, but he is unfortunate in saying that some of the fruit are like the old Duchess. We have no proof that there is any relationship. The old gardener at Pitmaston, who sowed the seed, told a friend of mine a short time before he died that "they knew nothing of its parentage, only that among the many seedlings raised it was the best," and I believe it is still growing on the front of the gardener's cottage there. Dr. Hogg says it bears no resemblance whatever to Duchess d'Angoulême, so that the parent will ever be a mystery. Were I to risk an opinion, I should say Marie Louise is one of the parents, fertilized with some large Pear, and all I have for this is a sort of family likeness and the same smooth flesh, whereas the old Duchess is coarse and gritty at the core. *J. Rust, Eridge Castle.*

UNLUCKY GARDENERS.—I read with very great interest Mr. Burbridge's excellent remarks on this subject in a recent issue. He therein expresses (but in a much more convincing way than I could) exactly my views with regard to the "patronage" view of the case under discussion; therefore I will not further trespass on your space as to this particular point. I should like, however, to say a few words on another most important topic which he alludes to in the same communication. Mr. Burbridge remarks, and I very cordially agree with him, "What we really want is a society that would take up the case of the gardener, &c. Here is a field in which the Royal Horticultural Society might legitimately exercise its functions, and with eminently successful results. Some twenty-five years ago, the society instituted gardener's examinations—some will remember Mr. Burbridge taking part in them. I think I have seen it suggested somewhere that this excellent idea is to be revived. What I am about to suggest would be an extension of the "examination" scheme. Why should not the Society have what might be termed a "Registry," in which (after satisfactory references) could be kept the names, qualifications, &c., of gardeners wanting situations, and from which gentlemen might select, with a most reasonable degree of safety, men who would be likely to do credit to the Society, to their employers, and to the gentle art of which the Society is the practical exponent in this country? Such a tribunal would, I feel confident, serve to act as a wholesome check upon the crowd of so-called gardeners who are ever thrusting themselves forward to catch unwary employers. This national registry would inevitably purge the gardeners as a class of men who bring dishonour, discredit, and disgrace upon the profession, and as a necessary consequence, would have the much-to-be-desired result of "easing" somewhat the present congested gardening labour market. And in connection with the "examinations," would it not be an additional incentive—a strong recommendation in fact—for a gentleman to employ a gardener who had received what might be called the gardener's hall-mark, the certificate—the blue-ribbon of merit—of the Society? Such are my ideas, crude perhaps, or one part of Mr. Burbridge's excellent communication, which I have tried to develop. I think their practical application would do much to bring the Society in touch and sympathy with the present race of gardeners, and likewise show its lively appreciation of a class that has lifted British Horticulture into its present proud position. *X.*

CROTONS IN WINTER.—Now that winter is upon us, more than ordinary care is necessary to keep Crotons in health, more especially young plants intended for table and room decoration. It often happens that one or two badly-coloured leaves spoil the appearance of a whole plant, more especially in plants of the *C. Warrenti* type, and a high temperature, with much moisture at the roots, is required at this time of the year. *C. angustifolius* is the only variety which makes growth of fairly good colour with me during the winter months, and plants struck in August make very useful subjects by the spring-time.

Young plants of this species excepted, both the young and the old Crotons are being kept as cool and as dry as it can safely be done. Our plants are well syringed once daily, little or no water besides this is afforded for some time to come; the plants should be carefully examined, however, in case the lower portions of the balls become too dry. If it is found necessary to propagate strong-growing Crotons at this time, firm ripe shoots only should be taken. The smaller growers as *C. angustifolius*, *C. chelsoni*, *C. elegantissimus*, and *C. Langii*, strike badly in winter; whilst *C. Warrenti*, *C. interruptus*, *C. Prince of Wales*, *C. majesticus*, and some of the broad-leaved species and varieties may always be depended upon to root under favourable conditions and careful treatment. *W. R. Williams, Great Marlow.*

HERBARIUM PEST.—The fact of a geometrid caterpillar feeding on dried plants in herbaria is by no means new. In 1798 Fabricius described a moth, now known as *Acidalia herbariata*, and says of it, "Habitat in herbariis folia plantarum exsiccatarum exedens, Mus. Dom. Bosc." This moth has occasionally been found in England, and has been recorded as infesting herbalists' shops; it has been found nearly all over Europe, and usually in herbaria. A complete account of its transformations by Dr. Heylaerts is given in the *Annales de la Société Entomologique de Belgique*, tom. xxi., pp. 1 to 8, 1878. I offer no opinion as to the possible identity or otherwise of the American insect; but simply point out that an insect of similar habit has been known here for nearly a century. *R. McLachlan.*

CAREX VARIEGATA.—This dwarf grass-like plant is rapidly becoming a favourite. It is chiefly useful for covering the surfaces of pots of foliage and flowering plants employed for table and room decoration, associated with *Selaginella* or common Moss. Our plants are grown in an intermediate house in thumb-pots. A fortnight or so before a plant is required for table, a few pots of the *Carex* are turned out, part of the ball of soil being removed; they are then placed where required, together with *Selaginella denticulata*, a little finely-sifted soil being sprinkled over the whole. The *Carex* and *Selaginella* are allowed to remain as long as the plant is in condition for furnishing. Thus treated they often do duty on several plants during the year. It propagates readily by division. *W. R. W., Great Marlow.*

WANTED: INFORMATION.—**TOM THUMB DAHLIAS.**—Are these an acquisition, or the reverse? I ask this question as one thirsting after knowledge. They were praised so much (I had almost written, "and charged for so much") in our last season's Dahlia catalogues, that I looked for something "good"; but, so far as my experience goes, I cannot, as yet, conscientiously say that I consider them an acquisition in any way. I have now in my mind's eye some dozens of Tom Thumb Dahlias, as I see them daily, in the varieties offered this year; near by them are growing other collections of Dahlias—shows, fancies, Pompons, decoratives, and singles; and whilst each time my vision is refreshed by the charms displayed by the types just mentioned, yet these "Tom Thumbs," as it were, jar upon my feelings. Perhaps it may be my fancy, but, so far, I fail to see any beauty in their dwarfness. To me they appear dwarfed altogether out of character. As a curiosity I can look at them; but as regards being "things of beauty" when compared with their regal brethren, they are simply "not in it!" Nor do I appear to be alone in this adverse opinion, for not one who has seen the group aforementioned, seems to have with a comment certainly not flattering. But perhaps I have not viewed these "Tom Thumbs" under the best auspices—so I therefore venture to seek further information. What do our Dahlia growers think of them? *Pioneer.*

BRITISH BIRDS AND THE PAST SUMMER.—The past winter was followed by a very remarkable summer, noted for its lack of sunshine and superabundance of rain. Many insectivorous birds perished through want of food during the ten weeks of severe weather. All who know this beautiful, well-wooded country can well understand how suitable a home it is for the feathered tribe, and up till last winter very many birds of many species were here in large numbers. The lovely golden-crowned wren, the smallest of British birds, was very common here this season. I have only seen one pair; of the common wren, very few; while many others, such as the tree-creeper, yellow and grey

wagtails, large and small wood-peckers, are all very scarce. These birds are truly insectivorous, as is the long-tail titmouse, which is also very scarce. The other three species of tits and the nuthatch are more numerous; this is owing to their not being purely insectivorous, as in severe weather they will, like the robin, eat scraps of bread, meat, and other refuse from the house, and are very fond of looking over the ash-heap in search of food; but I would also mention that the robin suffered much last winter, many being starved. Blackbirds and thrushes did not suffer much, and all kinds of finches are in full force. In severe weather the finches flock to the farmyards for food, with the exception of the goldfinch, which goes to the woods and marshes, and the hawfinch and bullfinch, which can obtain plenty of food in the way of buds, &c. In many parts the hawfinch is uncommon, but here it remains all the year round, doing much damage to Green Pests during the summer months. The owls, of which some four species are common here, suffered much last season, owing to lack of food in the way of mice, for last winter the mice (I mean the common field-mice) were starved to death, and the owls fed on birds that were lying dead under the trees. The only species of birds that suffered less, and seemed to defy the rigour of an arctic winter, were the jays, jackdaws, and the farmer's friends the rooks and starlings. It is really wonderful how the starlings managed to live, yet in spite of ten weeks' frost, they did live, as did also the jays, jackdaws, and rooks. I would mention in passing, for the edification of those who think the rook does no good, that during the autumn and winter months a vast number of rooks came here to roost in the woods, and during the ten weeks of severe frost last winter, when the soil was snow and frost bound, these birds had to live, and with but few exceptions did live—on Corn or Potatoes, but upon the larvae of insect pests. I did ask a farmer if he could tell me what these black fellows got to eat in such severe weather, as I told him they could not get corn or roots. He said he supposed "they got summat else." What that "summat" else was he could not say; but I could have told him that they scratched the ground with their claws, and probed with their strong bills the soil, to unearth the larvae of insects which lay hidden in the soil. Thanks to the running stream, well stocked with trout, the beautiful kingfisher was able to get plenty of food, and two pairs nested here this season. As to the birds that migrate, such as the nightingale, flycatcher, redstart, cuckoo, turtle-dove, goat-sucker or night-hawk, &c., these, like many other insectivorous birds, were not numerous last season, nor did they stay so long as they usually do. Whether the cold and damp summer had anything to do with their stay, I cannot say. The land-rail or corn-crake was heard but little here last season. This is one of the most useful of birds on the land, and should not be shot, for it is by no means too plentiful. In conclusion, I would beg to mention that the golden oriole was not seen here last season, although for two years a pair were here; but, like many another beautiful and rare bird, may have fallen a prey to the ruthless sportsman. Swallows were not here in great numbers, but many of them remained here up till the first week in November, which is very late. *W. C. Leach, F.R.H.S., Athury Park, Guildford.*

AMERICAN AGAVE.—The *Dublin Express* reports the flowering of Lord Rosse's "American Aloe," which, it says, has taken exactly one hundred years to accomplish the task. As this accidental occurrence will probably make more people ready to believe the mendacious legend of its longevity, a few facts as to the time of its maturity may be interesting to your readers. The only one I have seen to flower in a private garden was at the late Sir Richard Wallace's place in Suffolk. This plant was not eighty years old, although very near that age. In the Scilly Islands, where they are quite common, and often planted in cottager's gardens, and are sometimes grown in rows, forming an impenetrable hedge. The average time of flowering is twenty-five years. In these islands the old "masts" of flowers are sometimes allowed to stand till the following year. It is wonderful to think that every node of these huge scapes has been forming in the bud for twenty-five years. *Pagabond.*

WALLFLOWERS.—Wallflower seeds are scarcer and dearer than they have been for years past. The severity of the past two winters told much upon the plants, and while, in 1890, some seed was saved by no means up to the average—the winter of 1890-91 having played greater havoc—in April of last year

comparative few plants were left to bloom. The consequence is a general scarcity, and prices rule high. Especially is that the case with the pretty and useful dwarf yellow variety known as Belvoir Castle, dwarf yellow, or Ware's Cloth of Gold, which is undoubtedly less robust than either of the larger-flowered yellows, or the dark varieties. I like to associate the name of Belvoir Castle with the early dwarf yellow Wallflower. Mr. William Ingram once told me, when I was admiring his pretty spring garden at Belvoir, that he "educated his plants" to his service, and there is much truth in the remark. By means of careful and persistent selection, he obtained a race remarkable for their precocity of blooming, and the dwarf Wallflower was one of his subjects. R. D.

TRENT PARK, NEW BARNET, HERTS.

THE finely-wooded and picturesque estate of F. A. Bevan, Esq., some three hundred acres in extent, has a fair proportion set aside for the requirements of the gardens, and in which the goodly array of glass structures affords ample scope for the display of the abilities of Mr. B. Phillips, the gardener, as a cultivator of plants and fruits. Lately the Orchids have occupied a good amount of attention at Trent Park, as they did formerly at Ludworth, Mr. Bevan's other place; and many of the great genera, such as the Cypripediums, thrive marvellously well in the old-fashioned houses which are still retained, while new ranges have been built for the *Odontoglossums*, *Cattleyas*, *Lælias*, and other plants, which require more air and light than the old buildings are constructed to give. But such as thrive well in the old houses would probably be not improved by a change to the new ones, for it is difficult to imagine a more perfect condition of health than that in which the collection of Cypripediums in a low lean-to, are the plants of C. *Sanderianum*, and other reputedly difficult species, having thick fleshy foliage, and have produced a very fine show of flowers. In this house at present in bloom are some very fine specimens of O. *Spicerianum* ×, C. *Leeanum* ×, grand varieties of C. *Harrisianum* ×; the chastely beautiful C. *Sedenii candidulum* ×, C. *Schlimii*, which good culture has increased in size nearly to that of C. *Sedenii* ×, C. *longifolium Rozeii*, &c., while among the plants noticeable by their very fine sturdy growth are C. *Morganii* ×, C. *Arthurianum* ×, C. *grande* ×, and other rare hybrids and species.

In the next house, also an old one, with a high back wall, there was a great show of *Calanthes*, mingled with foliage plants and *Anthuriums*; and at the further end is a quantity of noble plants of *Phalaenopsis Schilleriana*, many of them large plants, with leaves over a foot in length. There were also fine specimens of P. *amabilis*, P. *grandiflora*, and other species, but it is said that the strong firing rendered necessary by the continued cold of the last winter affected some of the lesser species, so that they are not now so good as they were a year ago. Here in this house was a grand specimen of the rosy-purple *Sobralia macrantha*, and an equally fine one of a white variety of it of great beauty; also some well-grown specimens of *Dendrobium formosum giganteum*, which many still fail to grow and flower satisfactorily. On the slightly-moist back wall of the house and hanging against it, with a shelf projecting over them, too, it was curious to note a row of perfectly healthy *Dendrobium Falconeri*, another plant which gives trouble in some gardens, but which is here thriving in a situation which few growers would select for it.

THE NEW ORCHID HOUSES.

A range in three divisions have in the first commodious division a fine collection of *Odontoglossums*, the forms of O. *crispum* being evidently of excellent quality, while a plant or two of one batch seemed to display distinct features. The flowers were of the broad-petalled class, and perfect in form, but the labellum had more yellow than usual, and a clear yellow ray extended from the column up each of the segments, giving the flowers a most distinct and attractive appearance. Suspended overhead were

some fine pans of *Odontoglossum Rensii majus* and a few scarlet *Sophranitis*, some of each being in bloom.

The next large division was occupied by *Cattleyas*, *Lælias*, &c., among which the forms of C. *labiata*, and especially the newly imported autumn-flowering forms, were in great force. *Cattleya Schroderae* alba, C. *Gaskelliana odorata* alba, C. *Lawrenceana*, with three sheaths, C. *Trianae* alba, and other rare varieties also were noted, and many well-sheathed plants of the varieties of *Lælia purpurata*, L. *elegans*, &c.

In some of the other houses Orchids form all or some of the contents, for at this season Mr. Phillips wisely uses any of the houses for resting *Dendrobies* or other plants requiring a different temperature to that of the regular Orchid-houses, and in various places were arranged a fine lot of all the leading *Dendrobiums*, the D. *Wardianum* especially having put on fine growth, and showing well for bloom. In one of the intermediate-houses was a large specimen, in bloom, of a very fine and distinct form of *Zygopetalum Mackayii*, the flowers of which are very large, and the lip finely developed, and with a veining of dark blue, and a slightly lighter blue over the whole surface; thus the lip is almost entirely blue, and not white veined with blue, as in the ordinary forms. The forms of *Cypripedium insigne* and *Lycastes* were also good in this house.

Among the other houses is a neat little house with the roof covered with the best white and the finest red forms of *Lapageria* in bloom, the stages being occupied by a brilliant show of zonal *Pelargoniums*, among which Mrs. Saunders, lilac-pink; *Zelia*, crimson; *Lady Roseberg*, cerise-scarlet; *Ferdinand Kaufmann*, purplish-crimson, and *Lord Chesterfield*; *Queen of Whites* improved; and *Belle Lyonaise* are prominent. Another greenhouse had *Carnations*, *Cyclamens*, and *Bouvardias*; another had pot *Roses*, &c.; the pits had a fine lot of *Gardenias*, and other plants for cutting and decoration, and in several houses were fine groups of *Chrysanthemums*, which Mr. Phillips seems to get large blooms on in spite of the number which most of them bear.

Great provision for fruits is made, and especially for Grapes and Peaches. One of the vineries had a noble crop of first-class Muscat of Alexandria and Gros Colmar; and another has the roof covered, by one vine of the true Mill Hill Hamburg, which last bore a crop of over 150 fine bunches.

FLORISTS' FLOWERS.

PANSIES IN POTS.

Who cares to grow such common flowers in pots? some cultivators of exotic plants may exclaim. Many persons do, and more would if they knew how much enjoyment could be obtained from them. Some people value plants as they do books, for their rarity, and not for their use. Some years ago, Orchid fanciers used to purchase plants of *Lælia anceps Dawsoni* at high prices at the auction rooms. The plants were sold and re-sold, and the only individuals who obtained profit from them were the auctioneers; for the bulbs in many instances showed clearly enough that the owner of the plants had never seen them flower. The pleasure consisted in possession and anticipation. Cultivators of Pansies in pots can enjoy the most beautiful velvety sweetly-perfumed flowers from cold frames, when the plants out-of-doors are frost-bound. Strong plants are potted early in September, and grown freely but quite hardy out-of-doors until the middle of October, when the shelter of a frame is necessary. Before cocoa-fibre refuse was obtainable, we found a mixture of equal portions of saw-dust and ashes excellent to plunge the pots in. Ashes by themselves are too heavy and saw-dust is too light, but a mixture of both forms an excellent plunging medium for any plants. Pansies flower well in good light potting material, no peat should be used, and the pots should be 6 or 7 inches in diameter. Some of the better *Violas* are lovely when

well grown in pots. The flower-pots should be plunged to about two-thirds of their depth.

CHRYSANTHEMUM LOUIS BOEHMER.

I find that this variety is admirably adapted for growing in small pots, and can be utilised to greater advantage for decoration in that way than taller-growing varieties. I have a number of it that were raised from cuttings taken at the beginning of July, and these were, at the end of the month of November, at their best, and if plants are allowed to perfect only one flower, they are splendid. The pots used are 4 and 6 inches in diameter, and the plants from 15 to 20 inches in height. Their large "hirsute" blooms look very conspicuous when arranged with *Cypripediums*, *Carnations*, *Roman Hyacinths*, and the other occupants of the conservatory. Plants in such small pots are readily moved under cover in the event of frost threatening. I find from experience that if more than two or three blooms are grown on such small plants, the character of the peculiar flowers is not so well exhibited. W. J. Grace, Bickton, Fordingbridge.

NURSERY NOTES.

A MARKET NURSERY AT CHRISTMAS.

The matter-of-fact establishments which we know and recognise as market nurseries can at this season of the year be regarded in the light of an exhibition, simply because all flowering plants are arranged to follow each other in successive and unbroken batches for as long a season as circumstances permit or require; still, the wholesale production of choice flowers at Christmas time, particularly when produced in considerable variety, involves an amount of looking a-head that those who grow a few specialties can hardly be aware of. Generally speaking, of course, market nurseries are supposed to grow largely a few specialties, but even then there is a wide difference between the stall-holder in Covent Garden and the grower who merely sends his goods to the commission-agent for disposal, the establishment of the former always being the most difficult to regulate and profitably to control. It is of one of these that I wish briefly to allude, that known as the King's Road Nurseries, Upper Teddington, and of which Mr. George May is proprietor. Mr. May is a well-known figure in Covent Garden Market, and to supply his ever-increasing trade there, he has gathered around him at Teddington quite a colony of glass-houses, to the number of about fifty, mostly of a large, spacious character. A few of the originals are small and low, while the majority are large, and vary from 100 feet to 300 feet in length, and about 20 feet wide. Some dozen or so of these are filled to overflowing with *Maidenhair Fern*, exclusively grown for the fronds, in 8-inch pots, and daily picking and bunching throughout the year is indulged in with but little interruption. Another batch of fourteen houses, several of which are 150 feet long, are devoted to Tree *Carnations*, and of Miss Jullife alone some 20,000 plants are here grown in varying sizes, to maintain as near as possible a constant supply of its highly popular flowers; other kinds extensively grown are A. *alegatrice*, scarlet; La *Bella*, white; and *Uriah Pike*, crimson-velvet, and fragrant; to the latter, which is not yet in commerce, some five 100-foot houses are devoted, and the plants are in many stages from those three years old to the present season's stock. It is a noteworthy fact of this plant, that it may be grown from year to year constantly under glass, and in these numbers with a death-rate of less than one per cent., which speaks volumes for its true "perpetual" character, as also its good management; the calyx never bursts, and it sends forth lateral shoots with the greatest freedom, and that naturally. The plants are never stopped, but allowed to grow unchecked from the first. In these respects, however, growers of Tree *Carnations* must study individual kinds to bring out their separate natures or habits of growth,

for many kinds I believe are spoiled, or at least their beauty and commercial value marred by too frequent stopping, and even the kinds here named are so absolutely distinct as to each require a separate treatment to bring out its true character. Not content with producing Carnations from cuttings, Mr. May has devoted a house 80 feet long to seedlings, and from this structure some fine things will issue in the near future. These have already flowered and been weeded down, but are being grown on to prove their constancy.

Some good things appeared last autumn, and among them a few meritorious kinds of the yellow-grown type, and good perpetual kinds of this strain will be a decided step onward. The varieties of *Malmaison* are largely grown, one house devoted to large plants being now in flower, with a profusion of buds for a long supply, if the weather (and fogs in particular) permit. Fogs play great havoc with Carnation buds, a fact which was keenly felt a year ago in many districts around the metropolis. Gardenias are another large item in pots and planted out, these producing an incessant supply of flowers. The houses of *Eucharis* would be difficult to match, and still more so, to surpass. There are five 80-foot houses; of these, one with specimens in 12-inch and 15-inch pots, the remainder being in 8, 9, and 10-inch pots, all being in the most perfect health and luxuriance. Here, contrary to the general rule, the *Eucharis* are grown on open stages, and not on bottom-heat, the houses being well heated, and the plants evidently in thorough enjoyment of the treatment accorded.

We have no more valuable plant than the *Eucharis* in mid-winter, for it defies fogs of the basest sort, in support of which I may state, that the large specimen-house just alluded to was a year ago in full flower during December and January, when those terrible fogs played such havoc among flowers generally. At this time the house was a perfect sheet of bloom, representing many thousands, and are worth going 200 miles to see at such a time. Tuberose are also a large item, some 30,000 or 40,000 being grown to maintain a continuous supply. This is another fog-proof plant which should be noted by all, for the number of white-flowering plants which are absolutely fog-proof are by no means numerous. Of Roman Hyacinths 30,000 are grown, the first cutting being made early in last October. Of Lily-of-the-Valley there are 150,000 grown, the earliest being brought on in darkened houses on a bottom of 90° F., and transferred to the cooler side of the house to develop. Arum Lilies are grown in large numbers, and such things as *Lilium Harrisii*, *L. candidum* and others, these latter being very promising. Roses in pots, as well as planted out, are an important feature, and welcome kinds, such as *Niphetos* and *Catherine Mermet* are never-failing in their supplies. Especially good were the latter, with its indescribably sweet colour and perfectly-formed buds. Here, too, may be seen thousands of young plants coming on, mostly on their own roots, as well as large specimens, filling a couple of houses, each about 300 feet long, while others, somewhat smaller, have their share also. Nor does it end here, for propagation is ever going on, and more room will be wanted another year. Such then, in brief, are some of the most important crops which fill this London market nursery at this season, but the general quality of the goods must be seen to be realised. J.

C. H. Wright; Attendant, J. F. Jeffrey; Curator of Museums, John R. Jackson, A.L.S.; Office Assistant, J. M. Hillier; Préparateur, George Baddeley; Curator of the Gardens, George Nicholson, A.L.S.; Assistant Curator, William Watson. Foremen.—Arboretum, William Truelove; Herbaceous Department, Daniel Dewar; Greenhouse and Ornamental Department, Frank Garrett; Temperate-house (Sub-tropical Department), William Bean.

ANTIGUA.—Botanical Station—Curator, Arthur J. Tilloson.

BARBADOS.—Dod's Reformatory, Botanical Station—Superintendent, John R. Bovell.

BIRMINGHAM.—Curator, W. B. Latham.

BRITISH GUIANA.—Botanic Gardens—Georgetown: Superintendent and Government Botanist, George S. Jenman, F.L.S.; Head Gardener, John F. Waby; Second Gardener, Robert Ward.—Berbice: Keeper, Richard Hunt.

BRITISH MUSEUM (Natural History Department), London.—Keeper of Botany, W. Carruthers, F.R.S.; Assistants, J. Britten, G. Murray, E. G. Baker, A. Gepp, and W. B. Rendle.

CAMBRIDGE.—University Botanic Gardens, Professor Charles C. Babington, F.R.S., F.L.S.; Secretary to Botanic Garden Syndicate, Dr. Francis Darwin, F.R.S., F.L.S.; Curator, Richard Irwin Lynch, A.L.S.

CANADA.—Ottawa: Dominion Botanist, Prof. John Macoun, F.R.S.C., F.L.S.; Director of Government Experimental Farms, Prof. William Saunders, F.R.S.C., F.L.S.; Botanist and Entomologist, James Fletcher.—Montreal: Director, Botanic Garden, Prof. Penhallow, B.Sc.

CAPE COLONY.—Colonial Botanist, Prof. MacOwan, F.L.S.—Cape Town: Gardens and Public Parks, Head Gardener, H. J. Chalwin.

CHELSEA.—Botanic Garden, Society of Apothecaries.

CHISWICK.—Royal Horticultural Society's Garden: Superintendent, A. F. Barron.

CIRENCESTER.—Royal Agricultural College: Principal, Rev. John McClellan.

CORK.—Director, Prof. Hartog.

DOMINICA.—Botanical Station—Curator, Henry F. Green.

DUBLIN.—Royal Botanic Gardens, Glasnevin—Curator, Frederick W. Moore, Cor. Mem. R.H.S.—Trinity College Botanic Gardens: Professor, Dr. E. Perceval Wright, F.L.S., Sec. R.I.A.; Curator, F. W. Burdige, M.A., F.L.S.

DOWNTON, near Salisbury.—Agricultural College: Professor Wrightson.

EDINBURGH.—Royal Botanic Gardens—Regius Keeper, Dr. Isaac Bayley Balfour, F.R.S., F.L.S. Curator, Robert Lindsay, F.R.H.S.; Forestry, Dr. Somerville, University.

FIN.—Botanical Station—Curator, Daniel Yeoward.

GLASGOW.—University Professor, Dr. F. O. Bower, F.L.S.—Botanic Garden: Curator, Robert Bullen, Cor. Mem. R.H.S.

GRAHAMSTOWN.—Curator, Edwin Tidmarsh.

GRENADA.—Botanical Garden—Curator, George W. Smith.

HONG KONG.—Botanical and Afforestation Department—Superintendent, Charles Ford, F.L.S.; Assistant Superintendent, W. J. Tutchener.

INDIAN ENGINEERING COLLEGE, STAINES.—Professor of Botany, H. Marshall Ward; Professor of Forestry, Dr. Schlich; Lecturer on Entomology, Mr. Blandford.

JAMAICA.—Department of Public Gardens and Plantations—Director, William Fawcett, B.Sc., F.L.S.—Hope Gardens: Superintendent, William Harris.—Castleton Garden: Superintendent, William J. Thompson.—Cinchona (Hill) Garden: Superintendent, William Cradwick.—Kingston Parade Garden: Superintendent, W. Campbell.—King's House Garden: Superintendent, Eugene Campbell.—Bath: Overseer, W. Groves.

LAGOS.—Botanical Station—Curator, Henry Millen. LINDLEY LIBRARY, Royal Horticultural Society, 117, Victoria Street, London, S.W. Available to the public on application to the Secretary.

LIVERPOOL.—Curator, J. Richardson.

MALTA.—Botanical Garden: Director, Dr. F. Debono.

MANCHESTER.—Botanic Garden: Curator, Bruce Findlay.

MAURITIUS.—Department of Forests and Botanical Gardens.—Pamplemousses: Director, John Horne, F.L.S.; Assistant, William Scott.—Carepipe: Overseer, W. A. Kennedy.

NATAL.—Botanic Gardens—Durban: Curator, John Medley Wood, A.L.S.

NEW SOUTH WALES.—Botanic Gardens—Sydney: Director, Charles Moore, F.L.S.

NEW ZEALAND.—Wellington—Colonial Botanic Garden: Director, Sir James Hector, K.C.M.G., F.R.S.; Head Gardener, William Bramley.—Dunedin: Superintendent, J. McBean.—Napier, Superintendent, W. W. Bower.—Invercargill: Head Gardener, Thomas Wangle.—Auckland: Ranger, William Goldie.—Christchurch: Head Gardener, Ambrose Taylor.

NOVA SCOTIA.—Government Botanist, and Secretary for Agriculture, Dr. George Lawson.

OXFORD.—University Botanic Garden—Professor, Dr. Sydney H. Vines, F.R.S., F.L.S.; Curator, William Baker; Subthorpan Professor, Dr. J. H. Gilbert, F.R.S.

PIETERMARITZBURG (Natal).—Curator, G. Mitchell, PORT ELIZABETH (St. George's Park).—Superintendent, John T. Butters.—King Williamstown: Curator, T. R. Sim.—Graaf Reinet: Curator, J. C. Smith.—Uitenhage: Curator, H. Fairley.—Queens-town: Curator, Mr. Beck.—Kimberley Public Garden: Curator, Mr. Browne.—Fort Beaufort, Public Gardens; East London, Queen's Park.

QUEENSLAND.—Colonial Botanist, F. M. Bailey, F.L.S.; Botanic Gardens, Brisbane: Head Gardener, Philip MacMahon; Overseer, J. Tobin.—Acclimatization Society's Gardens: Secretary and Manager, Wm. Soutter.—Rockhampton: Superintendent, J. S. Edgar.

REGENT'S PARK.—Royal Botanic Society: Secretary, W. Sowerby; Curator, W. Coomber.

ROYAL COLLEGE OF SCIENCE, LONDON.—Professor of Botany, Dr. Scott; Professor of Agriculture, J. Wrightson.

ROYAL HORTICULTURAL SOCIETY, 117, Victoria Street, Westminster: Assistant Secretary, J. Weathers.

ST. ANDREWS, N.B.—Dr. Wilson.

ST. KITTS-NEVIS.—Botanical Station: Curator, Charles Plumb.

ST. LUCIA.—Botanical Station: Curator, John Gray.

ST. VINCENT.—Botanical Station: Curator, Henry Powell.

SHEFFIELD.—Curator, W. Harrow.

SOUTH AUSTRALIA.—Botanic Gardens, Adelaide: Director, Maurice Holtze.—Port Darwin: Curator, Nicholas Holtze.

SWANLEY, Kent.—Horticultural College: Director, F. Bond.

TASMANIA.—Botanical Gardens, Hobart Town: Superintendent, F. Abbott.

TRINIDAD.—Royal Botanical Gardens: Superintendent, John H. Hart, F.L.S.; Assistant, Walter E. Broadway.

VICTORIA.—Melbourne: Government Botanist, Baron Sir F. von Mueller, F.R.S., K.C.M.G.—Botanical Gardens, Director, W. R. Guilfoyle, F.L.S.—Hamilton: H. S. James.—Geelong: Botanic Garden.

INDIA.

ALIPORE.—Beldere Botanic Garden.

ALWAL.—Garden: Curator, P. Brown.

BANGALORE.—Government Botanic Gardens, Lal Bagh—Superintendent, John Cameron, F.L.S.; Head Gardener, J. H. Stephen.

CALCUTTA.—Department of Royal Botanic Gardens, Seepore—Superintendent, Dr. George King, C.I.E., LL.D., F.R.S., F.L.S., Director of Botanical Survey of India; Curator of Herbarium, Dr. David Prain, F.L.S., F.R.S.E.; Curator of Garden, Robert L. Proddick; Assistant, G. T. Lane.

BOTANIC INSTITUTIONS IN THE UNITED KINGDOM, INDIA, AND THE COLONIES.

ROYAL GARDENS, KEW.—Director, W. T. Thiselton-Dyer, C.M.G., F.R.S., F.L.S.; Assistant Director, D. Morris, M.A., F.L.S.; Office-Assistants, John Aikman, J. Burtt Davy; Keeper of Herbarium and Library, J. G. Baker, F.R.S.; Principal Assistant, W. B. Hemsley, F.R.S.; Mycologist, Dr. M. C. Cooke, M.A., A.L.S.; Assistant for India, Dr. Stapf, Assistants, N. E. Brown, A.L.S., R. A. Rolfe, A.L.S.,

Cawnpore: Assistant-Director in charge of Experimental Station, Sayeed Mahammad Husain.

Ceylon:—Department of Royal Botanical Gardens: Director, Dr. Henry Trimer, F.R.S., F.L.S.;—Peraleniya: Head Gardener, Peter D. G. Clarke; Clerk and Foreman, J. A. Ferdinandus; Draughtsman, W. de Alwis.—Hakgala: Superintendent, William Nock; Clerk and Foreman, H. M. Alwis.—Henaragoda: Conductor, A. de Zoysa, Muhandiram.—Anuhabapur: Conductor, T. de Silva, Arachchi.—Badulla: Conductor, D. Guneratne.

Darjeeling:—Lloyd Botanic Garden—Curator, William A. Kennedy.—Agri-Horticultural Society of India: Secretary, J. Blechynden.

Lahore: Agri-Horticultural Society.

Lucknow: Superintendent, M. Ridley.

Madras:—Botanical Department.—Ootacamund: Government Botanist and Director of the Government Cinchona Plantations, M. A. Lawson, M.A., F.L.S.; Curator, A. Jamieson.—Madras Agri-Horticultural Society: Secretary, Edgar Thorston; Superintendent, F. M. Gleeson.

Malacca:—Assistant Superintendent, Robert Derry.

Mungpo:—Superintendent, Government Cinchona Plantations, Dr. George King, C.I.E., L.D., F.R.S., F.L.S.; Resident Manager, J. A. Gamie; 1st Assistant, R. Pantling; 2nd Assistant, Joseph Parkes; 3rd Assistant, G. Gamie; 4th Assistant, Amos Hartless.

Nagpur:—Horticultural Garden.

Northern India:—Botanical Department: Director, J. F. Duthie, B.A., F.L.S.; Saharanpur: Superintendent of Garden, William Gollan.

Oodypore: Superintendent, T. H. Storey.

Penang:—Assistant Superintendent, Charles Curtis.

Perak Museum:—Mr. Wray.

Poona:—Principal College of Science, in charge of Botanical Survey, Dr. T. Cooke; Lecturer on Botany, College of Science, G. Marshall Woodrow; Superintendent, W. Shearer.—Bombay: Municipal Garden—Superintendent, G. Carstensen.

Rangoon:—Agri-Horticultural Society.

Straits Settlements:—Gardens and Forest Department, Singapore: Director, H. N. Ridley, M.A., F.L.S.; Head Gardener, Walter Fox.

[The above list has been largely compiled from the *Kew Bulletin*, and it has been obligingly revised for us by the Assistant Director. Ed.]

MAIDENHAIR-FERNS.

(Continued from p. 12.)

HISPIDULUM GROUP.

A. hispidulum, *A. pubescens*, and *A. fulvum* are all closely allied; the latter is the best variety. The young fronds are brightly tinted with rosy-purple, changing to deep green; it makes a nice fern for decoration, and is grown to some extent for market. *A. hispidulum tenerum* is very pretty in a small state. *A. aneifense* may be included in this group, but is quite distinct from any of the above, having spreading rhizomes and longer fronds.

POLYPHYLLUM GROUP.

In this group may be included all the large-growing *Adiantum*s, most of which have spreading rhizomes, and large, much-divided fronds. *A. trapeziforme* is a fine fern of free growth, and, when treated liberally, soon makes a fine specimen. *A. pentadactylon* is closely allied. *A. sancta Catherina* is another of similar habit; the large pinnales are deeply lobed, and the young fronds of a bronzy-red tint. *A. Finckii* is almost identical with this. *A. cardiochloa*, which is synonymous with *A. polyphyllum*, is a grand fern; the large spreading fronds are of a soft pale green, very delicately tinted when quite young. *A. tetraphyllum* is a fine species, with fronds of good substance. Of this there are several varieties, including the beautiful little *A. tetraphyllum gracile*, which has such a lovely crimson tint in the young fronds; *A. Hendersonii* is another

delicate but very pretty variety. *A. rhomboideum* (syn. *intermedia*) is a free-growing, useful fern; *brasilense* and *Kaufmannianum* appear to be closely allied to this. *A. curvatum* is a very choice and beautiful fern; it requires a stove temperature and careful treatment. I have raised seedlings of this, which have made beautiful plants. *A. formosum*, although rather distinct, may be included in this group; it succeeds well under cool treatment, and the large deep-green fronds are of good substance, and very effective.

CAUDATUM GROUP.

This consists of only four species, or rather two species and two varieties; *ciliatum* (syn. *Edgworthii*) being considered a variety of *caudatum*, and *dolabriforme* a variety of *lunatum*. They all have long slender pinnate fronds and are profliferous, each mature frond producing a young plant at the extreme point, and these young plants will grow until they again reproduce, and when grown in suspended pots or baskets they are very effective. *A. lunatum* is the most effective; this is deciduous, while the var. *dolabriforme* is evergreen. These have deep-green fronds and almost black rachises, while *caudatum* and its variety are of a pale soft greyish-green, and have a villous surface. This will complete the list of species and varieties, but, having written chiefly from memory, I may have omitted some which ought to have been included. However, as I have taken up more space than I intended, I will not look for further additions.

TRADE NOTICE.

We learn that Mr. Millard, formerly with Messrs. Sutton & Sons, and who subsequently was in business on his own account as seedman and nurseryman at Reading, Berks, is now associated with Messrs. J. Sharp & Son, of Barbey and Reading, Seed Farmers and Merchants, and is acting as Manager of the Reading branch of the firm.

Obituary.

MRS. GRANT.—It is with regret we have to announce the death of Mrs. Maria Grant, of Hillersdon, Culloompton, Devon, widow of Mr. William Charles Grant, J.P., of Hillersdon, which occurred on December 28. Mrs. Grant was a lover and cultivator of British Ferns, and had a very fine collection of choice varieties, which she successfully grew into very large specimens; indeed, with her, the congested forms ceased to be congested, and developed characters beyond what is usually seen. She was also the discoverer of some distinct and well-marked varieties; notably, the *N. filix-mas* var. *Grantii* (Moore), and the *Asplenium filix-femina* var. *magenticum* (Lowe). Her passionate love of Ferns, her genuine hospitality and liberality, and the great pleasure she experienced in exhibiting her marvellous specimens to fern friends, made a visit to Hillersdon a real enjoyment. Good collections of Ferns are not numerous, and during the last few years death has much diminished the number; this branch of botany can thus ill afford the loss of one like Mrs. Grant, who has done so much, and so well, in the cultivation, propagation, and introduction of our British varieties of Ferns. *E. J. L.*

MARKETS.

COVENT GARDEN, January 7.

Prices remain practically as last week. *James Webber, Wholesale Apple Market.*

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.			s. d. s. d.		
Apples, Canadian	...	...	Kent Cobs, 100 lb.	30	35 0
Nova Scotia, per	...	...	Lemons, per case	15	0 30 0
barrel	...	...	Pine-apples, St. Mi-	...	...
Apples, ½ sieve	...	...	chael, each	...	...
Grapes	...	...	...	...	...

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.			s. d. s. d.		
Acacia or Mimosa	...	...	Mignonette, doz. bun.	1	6-2 0
French, per bunch	1	0-1 6	Narcissus, paper-	...	...
Aram Lilies, doz. bl.	8	0-12 0	white, Fr., p. bun.	4	0-8 0
Azalea, 1 doz. spray	1	0-1 6	Primula, eng., 12 bun.	6	0-9 0
Camellias, white, doz.	2	0-3 0	Cattleya, 12 blms.	6	0-12 0
—red, per doz.	1	0-1 6	Odoctoglossum	...	...
Caranths, 12 blms.	2	0-3 0	crispum, 12 blms.	3	0-8 0
Chrysanthemums, 12	...	...	Pelargoniums, scar.	...	...
blooms	...	...	—let, per 12 bun.	6	0-9 0
—12 bunches	...	...	—12 sprays	...	...
Eucharis, per dozen	5	0-7 0	Poinsettia, 12 blooms	4	0-9 0
G. rutila, per dozen	4	0-6 0	Orchids, 12	...	...
Holothrips, 12 spray	6	0-9 0	Roses, Tea, per dozen	1	0-3 0
Hyacinths, 12 spray	6	0-1 0	—coloured, dozen	2	0-4 0
Lilac white (French)	...	...	—yellow (Mare-	...	...
—per bunch	...	...	chab), doz.	4	0-6 0
Lilium Harrisii, doz.	4	0-8 0	—red, per dozen	1	6-2 0
Lily of the Valley, per	...	...	Tuberosa, 12 blms.	1	0-1 6
doz. spray	...	...	Tulips, p. doz. blms.	1	0-2 0
Maiden Hair Fern,	...	...	Viola, Farme, per	...	...
12 bunches	...	...	—bunch	...	...
Marguerites, per doz.	...	...	—Car, per bunch	2	0-3 0
bunches	...	...	English, 12 bun.	1	0-2 0

ONCHIP-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.			s. d. s. d.		
Adiantum, per doz.	4	0-12 0	Erica gracilis	doz.	8-12 0
Aram, per dozen	12	0-18 0	Ferns, various, doz.	4	0-10 0
Aspidistra, per doz.	18	0-63 0	Ferns, per 100	...	...
Azalea, per doz.	35	0-60 0	Ficus, each	...	...
Begonia, per doz.	...	...	Gilly of the Valley, pot.	2	0-3 0
Chrysanthemums,	...	...	Marguerites, per doz.	6	0-12 6
—per dozen	...	...	Primula sinensis, doz.	4	0-6 0
—large, each	...	...	Palms, various, doz.	2	0-21 0
Coleus, per dozen	...	...	—specimens, each	6	8 4 0
Cyclamen, per doz.	9	0-18 0	Pelargoniums, Scar-	...	...
Cyperus, per dozen	4	0-10 0	—let, per doz.	...	...
Dracenas, each	1	0-5 0	Poinsettias, per doz.	12	0-18 0
Euphyllium, p. doz.	...	...	Roman Hyacinth, p.	...	...
—pots.	...	...	—doz. pots	...	...
Erica hymalis, per	...	...	Solanums, per dozen	9	0-12 0
dozen	...	...	Tulips, per doz. pots	8	0-9 0

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.			s. d. s. d.		
Artichokes, Globe,	...	...	Lettuces, per doz.	1	6-2 0
each	...	...	Mushrooms, punnet	2	0-...
Beans, French, lb.	...	...	Mustard and Cress,	...	...
Beet, red, per dozen	2	0-3 0	—punnet	...	...
Carrots, per bunch	...	...	Parsley, per bunch	...	...
Cauliflowers, each	...	...	Shallots, per lb.	...	...
Celery, per bundle	1	0-3 0	Spinach, per bushel	3	6-...
Cucumbers, each	...	...	Tomatos, per lb.	...	...
Endive, per dozen	...	...	Turnips, per bushel	...	...
Herbs, per bunch	...	...	...	...	...

POTATOS.

Demand for old stock is quiet at lower prices, whereas fresh arrivals are required for even at higher prices. The late severe weather damaged many truck-loads in transit, which throws on the market some hundreds of tons at low rates. *J. B. Thomas.*

SEEDS.

LONDON: Jan. 6.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., report increased activity in the seed trade. The favourite article is still Red Clover seed, for which prices continue to move upwards. The advance in England, however, lags behind the rise established across the Atlantic, and spot seed can be bought in London at 2s. per cwt. under c.i.f. values. There is no change in either Carrots, White, or Trefolium. Spring Tares are in improved request. There is a good inquiry for English Rape seed. Mustard shows no alteration. Blue boiling Fens, with a somewhat diminished sale, are firmly held. Canary and Hemp seed move off on former terms. Linseed keeps steady.

FRUITS AND VEGETABLES.

SHALFELDS, Jan. 3.—Quotations:—English Apples, 2s. to 5s. per bushel; common do., 7s. to 12s. 6d. per barrel; English Tomatoes, 4s. to 8s. per peck; let, 1s. 6d. to 2s. 6d. per box; Seakale, 1s. 6d. to 2s. 6d. per punnet; Cabbages, 1s. to 2s.; Savays, 1s. 3d. to 2s. 6d.; Cauliflowers, 6s. to 10s. per bunch; Greens, 1s. 6d. to 2s.; Turnips, 1s. 9d. to 2s. 6d.; Carrots, 1s. 6d. to 3s.; Parsley, 1s. 6d. to 2s. per dozen bunches; Spinach, 1s. to 2s. per bushel; Endive, 1s. to 1s. 6d.; Beetroot, 3d. to 6d.; Cabbage Lettuce, 1s. to 1s. 6d.; Lettuce, 1s. 6d. to 2s. 6d. per dozen; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; Bordeaux Onions, 4s. 6d. to 5s.; Spanish do., 6s. to 7s. per case; Belgian do., 4s. to 5s.; Dutch do., 4s. 3d. to 5s. 6d. per bag of 10 lb.; Celery, 4d. to 1s.; Horse-radish, 1s. to 1s. 6d. per bundle.

BOROUGH, Jan. 5.—Quotations:—Savays, 2s. 6d. to 3s. 6d.; Broccoli, 10s. to 15s. per tally; Spinach, 1s. to 2s. 6d. per bushel; Brussels Sprouts, 1s. to 1s. 6d. per ½ sieve; Greens, 2s. to 3s.; Turnips, 1s. 6d. to 2s. 6d.; Carrots, 1s. 6d. to 2s. 6d.; Parsley, 1s. 6d. to 2s. 6d. per ½ sieve; Parsnips, 1s. 6d. to 2s. 6d. per ½ sieve; Cattle-feed, 2s. 6d. to 3s. 6d. per ½ sieve; Parsnips, 1s. 6d. to 2s. 6d. per ½ sieve; Mangels, 16s. to 20s. per ton; Swedes, 20s. to 25s. do.; Onions, English, 12s. to 14s. do.; do., Dutch, 4s. to 4s. 6d. per bag; do., Ports, 5s. to 7s. per case; Apples, English, 2s. to 6s. per bushel; American, 1s. to 1s. 6d. per barrel; Brussels Sprouts,

STRATFORD, Jan. 5.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done as usual.—Savays, 2s. 6d. to 3s. 6d. per bushel; Greens, 9d. to 1s. 3d. loose; do., 1s. 3d. to 1s. 6d. per dozen; Cauliflowers, 1s. to 2s. 6d. do.; Turnips, 1s. 6d. to 2s. 6d. per dozen bunches; do., 3s. to 4s. per ton; Carrots, household, 1s. 6d. to 2s. 6d. do.; Cattle-feed, 2s. 6d. to 3s. 6d. per ½ sieve; Parsnips, 1s. 6d. to 2s. 6d. per ½ sieve; Mangels, 16s. to 20s. per ton; Swedes, 20s. to 25s. do.; Onions, English, 12s. to 14s. do.; do., Dutch, 4s. to 4s. 6d. per bag; do., Ports, 5s. to 7s. per case; Apples, English, 2s. to 6s. per bushel; American, 1s. to 1s. 6d. per barrel; Brussels Sprouts,

1s. 3d. to 1s. 6d. per half-sieve; do, 2s. to 2s. 6d. per flat; Horse Radish, 1s. 1d. to 1s. 6d. per bundle; Celery, 9d. to 1s. per roll.

POTATOS.

BONDUKE: Jan. 5.—Quotations:—Hebrons and Elephants, 70s. to 90s.; Imperators, 60s. to 85s.; Bruce Magnums, 60s. to 90s. per ton.

SPITALFIELDS: Jan. 5.—Quotations:—Magnum, 57s. 6d. to 70s.; Regents, 57s. 6d. to 75s.; Champions, 55s. to 60s.; Imperators, 60s. to 80s.; Main Crop, 60s. to 80s. per ton.

STRAITFORD: Jan. 6.—Quotations:—Magnum, 60s. to 80s.; Imperators, 65s. to 75s.; Hebrons, 60s. to 70s.; Scotch Magnums, 70s. to 85s.; Main Crop, 85s. to 100s. per ton.

FARRINGTON: Jan. 6.—Quotations:—Bruces, 75s. to 110s.; Imperators, 70s. to 90s.; Magnums, 65s. to 110s.; Hebrons, 80s. to 95s.; Sutton's Abundance, 85s. to 110s. These figures apply also to the King's Cross (Great Northern) Market.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.			RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.			INCHES.		HOURS.	
	Above 42° for the Week.	Below 42° for the Week.	Day-deg. difference from Mean since Jan. 4, 1891.	Below 42° difference from Mean since Jan. 4, 1891.	Mo. (42° or less) than Mean for the Week.	No. of cloudy days since Jan. 4, 1891.	Percentage of possible Duration for the Week.
1	1	2	27	+ 100	6	143	53.0
2	1	0	33	+ 80	163	2	184
3	1	4	29	+ 99	147	3	181
4	4	14	28	+ 36	119	1	187
5	4	14	27	+ 80	127	2	192
6	4	26	9	+ 78	110	0	190
7	2	9	19	+ 97	41	5	205
8	3	18	11	+ 47	45	6	186
9	3	25	5	+ 119	89	6	200
10	1	9	25	+ 20	50	3	225
11	1	27	12	+ 25	35	0	204
12	4	46	0	+ 15	43	2	201

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—1, Scotland, N.; 2, Scotland, E.; 3, England, N.E.; 4, England, E.; 5, Midland Counties; 6, England, S.
Principal Grazing, &c., Districts—7, Scotland, W.; 8, England, N.W.; 9, England, S.W.; 10, Ireland, N.; 11, Ireland, S.; 12, Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending January 2, is furnished from the Meteorological Office:—

"The weather was unsettled and rainy in all parts of the Kingdom until the period drew towards its close, when it improved considerably over England, although showers continued to fall in Ireland and Scotland. Thunder and lightning occurred at some of our northern and north-western stations during the early part of the week.

"The temperature was above the mean in all districts, the excess ranging from 1° in Ireland, and the north and north-east of Great Britain, to 3° or 4° in most parts of England. The highest of the maxima were recorded on December 30 in England and Ireland, and on irregular dates in Scotland, and varied from 50° in Scotland, N. and W., and England, N.E., to 55° over eastern, central, southern, and south-western England, and to 59° in Ireland, S. The lowest of the minima were registered during the middle part of the week at most of the Scotch stations, and on Jan. 2 in Ireland and England, they ranged from 26° to 32°, excepting in the Channel Islands, where the thermometer did not fall below 39°.

"The rainfall was less than the mean in England, N.E., and the Channel Islands, and about

equal to it in England, S. and Ireland, S. In all other districts, however, there was an excess.

"The bright sunshine exceeded the mean in nearly all districts, the percentage of the possible duration ranged from 25 to 34 over the kingdom generally, to 18 in England, N.W. and Ireland, N., and to only 6 in Scotland, N."

NOTICES TO CORRESPONDENTS.

BLACK KNOT: *H. S., New York.* This is a disease better known on your side of the Atlantic than it is here. It is caused by a fungus now called *Plowrightia morbosus*. We should cut out and destroy by fire all the affected branches so far as possible, and spray the young trees in spring with solution of sulphate of copper wherever you see traces of the disease.

BOOKS: *T. B.* No books exists treating specially of the subject. Obtain *The Forcing Garden*, by Samuel Wood, published by Crosby Lockwood & Co., Stationers Hall Court, Ludgate Hill, E.C.

CIDER APPLES: *C. E. Kingston Black*, the variety you named, otherwise *Taynton Black* and *Taunton Black*, is a valuable variety, making a cider of a rich tawny-red colour, agreeable in flavour, moderately sweet, and pleasantly acid, with an astringent after-taste. The density of the juice = 1.052, and after twenty-four hours' exposure to the air, 1.055. And 100 parts of the juice by weight yielded of sugar, 10.028; tannin, mucilage, salts, &c., 6.792; water, 83.180. Cummy, from Cummy, in Radnorshire, an introduction from Normandy, makes a slightly aromatic bitter-sweet cider. Sugar content in 100 parts = 14.000. Tanner's Red has plentiful juice of a rosy-amber colour; subacid, with some astringency. Sugar contents, 11.424 in 100 parts.

CORRECTION: Owing to a misprint, the show of the Devon and Exeter Horticultural Society is given in our Almanac as taking place on August 9, instead of August 10.

DUTY ON MALE SERVANTS: *C. D.* The excise tax of 15s. per annum must be paid on the head-gardener, and it can possibly be enforced in the case of an under-gardener, or garden labourer, who may occasionally assist in the dwelling.

FRUITING OF STEPHANOTIS: *C. E.* Not at all uncommon. The fruit is poisonous.

LARGE PARSNIP: *G. F.* A root measuring 17 inches in circumference, and 22 inches in length, is certainly above the average size. The best Parsnips are those which have a large development of the crown of the root, this part affording the greater mass of the pleasant eating mealy outer layer of flesh. Roots of the Carrot shape have a thinner layer of this kind of flesh surrounding the inferior watery core. Most of the London market Parsnips are of this class. Perhaps a smooth clean regular appearance which they have is a great thing with those who know nothing of the points of a really good Parsnip.

LAUREL HEDER AND APPLE TREES: *Amateur.* Choose some of the healthiest and best-placed long branches, and layer them in the gaps in the hedge, excavating a small basin-shaped hole, into which the layer must be bent, and secured with a stout wooden hook, or two straight pegs, driven into the soil, one on each side of the layer, and crossing it above. Then cut all the rest of the plants back into the old wood, leaving the branches at a general level of 2 feet from the ground. This may be done now. Put on to the soil on each side of the hedge a layer of rotted manure, digging it in March or April. The old branches would not, as you suppose, strike roots, if treated as cuttings. You may transplant the 12-year old Apple trees safely, if you take them up carefully; i.e., dig out most of the roots and rootlets, taking special care of the latter, swathing them all in damp bandages the while—old mats and sacking answer well for this purpose. Have roomy holes prepared in well-drained land, and a good lot of fresh pasture loam to throw around the roots when planting. Prune off all damaged roots, and reduce somewhat the size of the crown by cutting back the main branches. When planted, see that the trees do not get planted as deeply as they were before, but rather higher, as the soil will sink considerably, leaving the crown of the root in the deepest part of the depression, and this, when filled up level with soil, which

would occur in course of time, would bury that part too deeply for the future welfare of the trees. Stake the trees at once, and if the heads are heavy, put some guying wires to them.

MILDEW ON STRAWBERRIES: *D. U. M.* This malady is more likely to afflict Strawberry plants and fruits in moist soils in walled-in kitchen gardens, where the beds are on the level land, than those on raised banks, natural or artificial, and in open hilly fields. We do not ever remember observing any traces of mildew on south borders that had a good pitch towards the south, their freedom from it being due to the warmth of the position, the good drainage of the soil, and a better circulation of air about the plants than those on the flat enjoy. Old writers on Strawberry culture advocated the use of raised beds, and these were sometimes made terrace-wise, the soil being kept in place by flat roofing-tiles. It may be that, besides the early fruiting of the plants secured by these Strawberry banks, those old observers had discovered that the mildew did not attack the plants, and that fruit could be gathered without stopping. Loudon, in the *Encyclopedia of Gardening*, gives a figure of a Strawberry bank covered with tiles. *W. R.* The causes are a damp, cool, stagnant state of the house—just the conditions that most favour the development of mildew on Vines, Heaths, Roses, &c. As precautions, afford air by the upper ventilators, or if in ordinary pits, by tilting the lights at the back; or what is better, if the front wall-plate is wide, by pushing the lights down a little way, and to keep up the temperature during the day, even when there is warm sunshine, use the heating apparatus, and keep the air buoyant. Keep saucers about filled with sulphur and water, also smear the hot-water pipes with sulphur and whitewash. For milder attacks on out-of-door plants, dressings of the Bordeaux mixture in the early stages before the fruit appears, or whilst it is still quite young would be serviceable.

MOLES: *G. G.* We are unacquainted with the French method of destroying moles by poisoning them, and should deprecate this wholesale method of ridding a garden of these—in moderate numbers—useful animals. With the use of the right sort of traps, moles can always be caught when their upheaval of the turf has become a nuisance. During the cold weather up to March, the mole rests in his fortresses, usually the biggest hill thrown out, and here it is easy to dig him out, if the workman goes about the job quietly and expeditiously. In setting traps of any kind, the hands should be well coated with damp mould, for the mole has an acute sense of smell, and the mould prevents any part of the trap coming in contact with the skin of the hand. A garden workman should be deputed to look after the moles when they begin to burrow in the spring, and he should be furnished with sharp edged steel or iron piddle, about 2½ inches wide, and 6 inches long, fitted on to a straight ash handle. With this implement a burrowing mole can be thrown to the surface and killed.

NAMES OF FRUITS: *John Milburn.* I. Lewis's Incomparable; 2, unknown; *W. J. S.* Autumn Pearmain—*H. L. E.* Wykes Pippin—*J. H. J.* I and 4, Josephine de Malines; 2, Chaumontel; 3, Beurré Rance; *G. W. S.* Pear Glout Morceau, a wonderfully fine specimen.

NAMES OF PLANTS: *J. C. B.* Epidendrum ciliare. Fertilisera Oneida says that the flowers are their best. *W. F.* Zygopetalum Mackaili. Do not pack flowers in cotton-wool.—*No Name of Sender.* Long pink card-board box—*Carludovica latifolia*—like a Palm.

RAINFALL: *Enquirer.* London is included in N. 5 district, where the average rainfall is 30.0 inches. The appendix of the weekly weather report gives a summary of the rainfall and mean temperature for each district for the whole year for 25 years, ending 1890. It may be obtained for 4d. from the Meteorological Office, 116, Victoria Street, Westminster.

VINES: *Anxious.* According to strength, cut them to within 1 or 2 feet of the ground. If very weak cut them to the ground.

COMMUNICATIONS RECEIVED:—*M. G.*, next week.—*A. L. H.*, next week.—*R. W. G. W. T.*, Woodford.—*P. B. & Sons*.—*D. M.*—*F. T. Frange*.—*C. S. P.*—*Lafayette Indiana*.—*F. S. & Co.*—*W. J. V.*—*C. H. C.*—*Geneva*.—*J. T. N.*—*J. R. J.*—*H. H. P. O.*—*J. C. U. D.*—*Berlin*.—*R. C. M. G. A. B.*—*W. T. F. G.*—*G. G. Dr. U.*—*Banner*.—*T. H. W. A. C.*—*A. P.*—*W. B. M. G. A. L. H. R. D.*—*T. Woodford*.—*F. Collier*.—*W. D. A. G. C. W. H. D. J. D.*—*H. W. W.*—*G. W.*—*D. M.*, next week.

THOMAS METHVEN & SONS

(By Royal Warrant, Nurserymen and Seedsmen to the Queen),

Beg to intimate that their Descriptive Priced

CATALOGUE OF GARDEN AND FLOWER SEEDS, IMPLEMENTS, GLADIOLI, &C., FOR 1892,

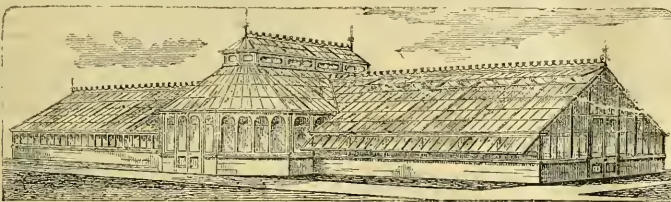
Is NOW READY, and may be had Free on Application.

EAST LOTHIAN INTERMEDIATE STOCK (Methven's Choice Strain), White, Purple, Scarlet, Crimson, and Snow-white, wall-leaved, in Packets, 1s., 2s. 6d., and 5s. each colour.

METHVEN'S JUNE BROCCOLI, in Sealed Packets only, per Packet, 1s. 6d.

SEED WAREHOUSES:—

15, PRINCES ST., & LEITH WALK, EDINBURGH.



Five 1st Prize Medals recently awarded in open competition.

Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Sashes, Hotbed Boxes, &c., always in stock.

Plans, Estimates and Catalogues free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

FAWKES' SLOW-COMBUSTION HEATING APPARATUS.

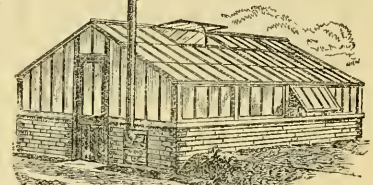
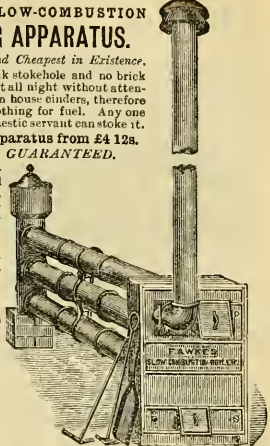
Most Efficient and Cheapest in Existence. Requires no sunk stovehole and no brick setting. Will last all night without attention. Will burn house cinders, therefore costs next to nothing for fuel. Any one can fix it. A domestic servant can stoke it.

Complete Apparatus from £4 12s. SUCCESS GUARANTEED.

Roomy numbers in use all over the country. Only Slow Combustion Apparatus of the kind.

CAUTION. Beware of inefficient incomplete Apparatus, which will not last all night.

Full particulars and Prices of every sized Apparatus, and see numerous Testimonials for the last five seasons, showing enormous success, post-free on application.



BEST CONSTRUCTED and CHEAPEST Greenhouses, Forcing-houses, Pits, Frames, Plant Protectors, Potting Sheds, Tool-houses, &c.

Illustrated Priced Catalogue post-free from

CROMPTON & FAWKES,
CHELMSFORD.

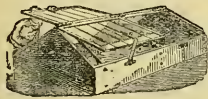
TO HORTICULTURISTS.—GREENHOUSE

GAS COKE and SMITHS' COKE delivered in Truck-loads to any Station in England and Wales.—Address, G. J. EVESON, 24, Corporation Street, Birmingham.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

GARDEN FRAMES in great VARIETY.



No. 60.

PORTABLE PLANT
PRESERVER.

CASH PRICES.

CARRIAGE PAID.

6 ft. by 3 ft. ... £2 0 0 6 ft. by 4 ft. ... £2 5 0
12 ft. by 3 ft. ... 3 2 0 12 ft. by 4 ft. ... 3 15 0

No. 73.

NEW SPAN-ROOF
GARDEN FRAME.

CASH PRICES.

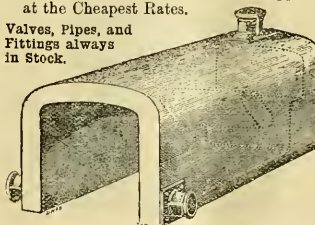
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 12 ft. by 6 ft. ... £5 14 0
8 ft. by 6 ft. ... 4 4 0 16 ft. by 6 ft. ... 7 4 0

All Frames made of Select Red Deal, painted three times, and lights glazed with 21-oz. sheet glass.
CARRIAGE PAID ON ALL ORDERS OF 40s. VALUE.

BOILERS of all Makes and Sizes supplied at the Cheapest Rates.

Valves, Pipes, and Fittings always in Stock.



Our Celebrated
No. 4. CHECK END BOILER,

To heat from 300 to 5000 feet of 4-inch piping.
Prices on application.

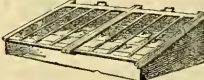
GARDEN FRAMES in great VARIETY.

No. 74.

THREE-QUARTER
SPAN
GARDEN FRAME.

CASH PRICES,
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 12 ft. by 6 ft. ... £5 17 0
8 ft. by 6 ft. ... 4 5 6 16 ft. by 6 ft. ... 7 6 6



No. 75.

MELON AND
CUCUMBER FRAME.

CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 0 0 12 ft. by 6 ft. ... £4 3 0
8 ft. by 6 ft. ... 3 0 0 16 ft. by 6 ft. ... 5 6 0

CUCUMBER-FRAME LIGHTS.

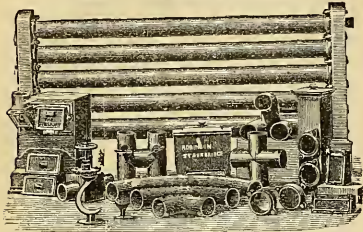
6 feet by 4 feet, painted and glazed ... 14s. 6d. each.
unpainted and unglazed ... 5s. 6d. each.
Catalogue of all our Manufactures, post-free on application.

KEEP YOUR PIPES WARM.

FOSSIL MEAL PIPE LAGGING is the only effective means for preventing Loss of Heat, and Pipes Freezing. CHEAPEST PACKING existing. For Sample and Particulars, write to

MORITZ H. SCHÖNSTADT, 59, FARRINGTON ROAD, LONDON, E.C.

THOS. W. ROBINSON,
Dennis Park Ironworks, Stourbridge.



EXPANSION JOINT HOT-WATER PIPES,
SOCKET HOT-WATER PIPES.
Illustrated revised Price List on application, free.

THE DOUBLE-POINTED NAIL.

"DURRAN'S PATENT."

This Nail renders any wooden fence perfectly unclimbable. It is a complete protection against trespassers and cats. The most perfect fence nail invented. In use at Hurst Park and All Racecourses, Lord's Cricket-ground, and hundreds of other places.

A—HAMMER HEAD. B—CHISEL EDGE.
Price of Fence Nails in Malleable Iron:—1, 2, 3, 4, 5, and 6-in., 7-lb. Bags, 3s. 6d.; per cwt., 55s. 1½-in. Steel Nails, for this purpose, 1s. per gross. Machine-cut Nails, for dwelling joinery, wood-block flooring, &c., 1, 1½, and 2-in., 9d. per gross. Sample boxes, assorted sizes, 6d.; by post, 8d.
DURRAN'S PATENT NAIL SYNDICATE, Limited,
43 & 44, UPPER BAKER STREET, LONDON, N.W.

ROBERTS'S (IMPROVED) PATENT

STOVES

TERRA-COTTA! PORTABLE! FOR COAL!

Pure and ample heat, 24 hours for about 1d., without attention.

For Greenhouses, Bedrooms, &c.
GREENHOUSES Heated 24 Hours for about One Penny. Pamphlets, Drawings, and authenticated Testimonials sent. See in use at Patentee's,
THOMAS ROBERTS, 34, Victoria St., Westminster, S.W.

The Original and Only Makers of the

GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.



FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

STOCK	SIZES
Inches.	Inches.
14x12	20x15
16x12	20x16
18x12	22x16
20x12	24x16
16x14	20x18
18x14	22x18
20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 cwt. and Oil Mixture, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

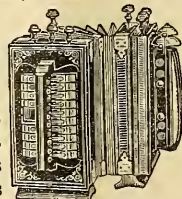
GROVE WORKS, BATTERSEA, LONDON, S.W.;
15, VICTORIA STREET, WESTMINSTER, S.W. ;
and RACHELOE'S WALK, DUBLIN, —Discount for Cash.

CHEERFUL WINTER EVENINGS.

CAMPBELL'S BROAD REED MELODEONS

(Patent). GRAND NEW MODELS.

MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS



MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS

NO HOME SHOULD BE WITHOUT ONE.

CAMPBELL'S world-famed MELODEONS have Organ and Celestial Tone and Charming Bell Accompaniments. The Solemn Fugue, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming Instruments. No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.

To readers of the *Gardeners' Chronicle*.

OUR GRAND PRIZE MEDAL "GEM" MELODEON. 6s. 6d.

With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 6s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.

To readers of the *Gardeners' Chronicle*.

OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON. 10s.

With Two Sets of Broad Reeds, Organ and Celestial Tone, and the Charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS. Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales:—"Campbell's Patent Melodeons are the finest instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

N.B.—All lovers of music should at once send for our New Illustrated and Priced Price List for Season 1891-2, now ready. 100,000 of these valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS,
116, TRONGATE, GLASGOW.
ESTABLISHED 50 YEARS.

"DARLINGTON"

Much cheaper than any other. First-class quality guaranteed. Complete protection with thorough ventilation. Can be instantly removed, and the trees exposed. Price complete from 10s. per foot run.



Price Lists of the Darlington Wall Cover, Glazed Wall Tree Protectors, Glass Houses, Improved Garden Frames, and Hot-water Heating Apparatus, &c., &c. Free on application.

GLASS WALL-COVER

INVENTORS AND SOLE MAKERS:—

W. RICHARDSON & CO.,
Horticultural Builders and Hot-water Engineers,
DARLINGTON.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO
THE LONGFORD WIRE CO. (LIMITED),
WARRINGTON.



THE "STOTT" SPECIALTIES

For Destruction of Insect Pests.

Patent Distributor, Patent Syringes, Patent Sprayers.

KILLMRIGHT,

2-oz. Sample posted free on application.

Testimonials and Price LISTS on application. Retail from Ironmongers and Seedsmen. Wholesale and Retail from the Stott Distributor Co., Ltd., Barton House, Manchester

For all INSECT PESTS in Greenhouses and Frames, nothing has proved equal to the

LETHORION (VAPOUR CONE),

(PATENT).



They are now universally admitted to be thoroughly uniform in strength, and safe for any Plant or Flower, even if four times the quantity are used.

Scale and Mealy Bug may be completely eradicated by using the Cones double strength.

PRICES—For Frames, &c., of 50 cubic feet, 6d.; 100 ft., 9d.; 1000 feet, 1s.; 1000 feet, 1s. 6d.; 4000 feet, 5s. each.

THE HOUSES SHOULD BE WELL SECURED.

CORRY & CO., Ltd., 16, Finsbury Street, LONDON, E.C.

THE "CLIMAX" INSECTICIDE.

The Cheapest and Best of all Insecticides.

As a Wash for Plants for destroying all kinds of Insects and Parasites, which infest the foliage and roots, such as Green and Black Fly, Mealy Bug, Scale and Thrip, Red Spider, American Blight, Woolly Aphis, Caterpillars, Wood Lice, &c.

Price in tins—1 Pint, 1s.; 1 Pint, 1s. 9d.; 1 Quart, 3s.; 1 Gallon, 8s.; 1 Gallon, 9s.; 5 and 10-Gallon Drums, 8s. per Gallon. Carriage Paid.

Testimonials and Particulars sent free on application.

PREPARED SOLELY BY

THE BOUNDARY CHEMICAL CO., LTD.,
LUTON STREET, LIVERPOOL.

THE PATENT

SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

September 29, 1891.

"I am very pleased with your Silicate Manure. The effect upon the Vines is very marked, for they ripen and colour much better. Your Manure has given me great satisfaction for Tomatoes; it is all you claim for it."

(Signed) THOMAS PRICE,
Gardener to the Bishop of St. Asaph.

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ½ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 10 ounces as a winter dressing for Vines and Orchard-house trees, in latter from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s. from the Trade, Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 " ..	0 3 6	16 " ..	0 9 0
6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.

If set across three Columns the lowest charge will be 30s.

Page, 8½; Half Page, £4 10s.; Column, £2.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS. 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths, and Marriages, 5s. each insertion.

PORTION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week must reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. Foreign (excepting India and China), including Postage, 17s. 6d. for 12 months; India and China, 19s. 6d. Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

IMPORTANT TO GARDENERS, AMATEURS, AND OTHERS, WHO FUMIGATE HOUSES TO KILL "FLY," OR "THRIP."

You will shortly be ordering your Spring Supply of Fumigating Material. Why lay in a heavy stock of an article which is uncertain in quality, often disappointing and very unpleasant to use, when you can have a **SAFE, RELIABLE** article, and one that is most pleasant to use?

CAMPEL'S FUMIGATING INSECTICIDE.

THE FIRST AND STILL OF ITS CLASS, ONE



On which you can thoroughly depend. The manufacture is much improved now, and it can be ordered without any risk of the failures or disappointments which frequently attend all other fumigating materials.

PRICES.—No. 3 Roll, sufficient for a house with a capacity of 1000 cubic feet, 1s. each, post-free. No. 4 Roll, do., do., 2000 cubic feet, 1s. 9d. each, post-free. OR FROM YOUR NEIGHBOUR.

WM. CLIBRAN & SON, OLDFIELD NURSERIES, ALTRINCHAM, 15-12, MARKET STREET, MANCHESTER, And Principality Nurseries, Beganwy, Llandudno.

GARDEN REQUISITES.

As supplied to the Royal Gardens.

BEST QUALITY ONLY.

COCOA-NUT FIBRE REFUSE, sack, 1s. 3d., 10 for 12s. 20 for 20s., 30 for 28s., sacks free; 2-ton truck free on rails. near works, 30s. **ORCHID PEAT**, 8s. per sack. **BROWN FIBROUS PEAT**, 5s. per sack, 5 for 22s. 6d.; **BLACK DO.**, 4s. 8d. per sack, 5 for 22s. 6d. **LEAF MOULD, LOAM AND PEAT MOULD**, each 3s. per sack. **COARSE SAND**, 1s. 6d. per bushel, 14s. half-ton, 25s. per ton. **PURE BONES**, 1½ cwt., 11s. per cwt.; dust, 11s. 6d. per cwt. **SPHAGNUM**, 7s. 6d. per sack. **CHARCOAL**, 8s. per sack. **TOBACCO PAPER**, 10d. per lb., 28 lb. for 21s. **CLOTH**, 1s. per lb., 28 lb. for 28s. **ROPE**, 6d. per lb., 28 lb. for 10s. 6d. **RUSSIA MATS**, New Archang., 18s. per dozen. **PETERSBURG**, 10s. 6d., 11s. 6d., and 12s. 6d. per dozen. **LIST** free. Sacks and Bags, 2d. each, except Fibre Bags.

W. HERBERT & CO.,

Hop Exchange Warehouses, Southwark Street, London, S.E.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. **SELECTED**, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. **SECOND QUALITY**, 5s. per sack; 5 for 22s. 6d. **BROWN FIBROUS PEAT** for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. **PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM**, each 2s. 6d. per sack; 5 for 10s. **PREPARED POTTING COMPOST**, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood, do., Ferns, and Rhododendrons, in sack, yard, ton, or truck. **SPECIAL ORCHID PEAT**, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Best Moss Litter.**

The Original Peat Depot, RINGWOOD, HANTS.

RICHARDS' Noted

ORCHID and other SELECTED PEATS (Cut from hia) (Own Grounds), SOILS, MANURES, and every description of GARDEN SUNDRIES.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E.

Write for Samples and Price List. Post free. Chief Peat Depot, Ringwood, Hants.

CHAS. FRAZER'S EXHOS.—Conservatories, Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. **HOT-WATER BOILERS and HEATING APPARATUS**, for large or small Greenhouses. Great variety of Garden Frames and Hand-lights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps. **PALACE PLAIN HORTICULTURAL WORKS, NORWICH.**

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4d. per bushel; 100 for 25s.; 2-ton truck (close, about 2 tons),

40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sack, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack, 5 sacks, 22s.; sacks, 4d. each.

COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.

SPHAGNUM MOSS, 8s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price List.

H. G. SMYTH, F.R.H.S., 21, Goldsmith's Street, Drury Lane (often called 17A, Coal Yard), W.C.

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheap Prices of WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

ORCHID PEAT; best quality; **BROWN FIBROUS PEAT** for Stove and Greenhouse use. **RHO. DODENROD and AZALEA PEAT.** Samples and Prices of WALKER AND CO., Farnborough, Hants.

SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 6s. Stamp size, 2s. 4d. for 3s. 3d. Send Carte or Cabinet and Postal Order, and in about ten days you will receive six Highly-finished Copies, with Original.—FRANCIS AND CO., 2d, Ladgate Hill, London.

JUST PUBLISHED.

THE MINIATURE FRUIT-GARDEN AND MODERN ORCHARD.

By THOMAS RIVERS and T. FRANCIS RIVERS, AND INSECT PESTS,

By H. S. RIVERS.

20th Edition. Price 4s. By Post, 4s. 3d. Published by THOMAS RIVERS and SON, The Nurseries, Sawbridgeworth.

ESTATE SALES.

The Best County Medium for Advertising Sales of Estates is

THE "WORCESTER HERALD,"

ESTABLISHED 1784.

The Leading County Paper. Extensive circulation among the upper and middle classes in Worcestershire and adjoining counties. Advertisers would do well to forward for reference and distribution plans and particulars of Estates, Catalogues of Machinery, Furniture, Books, and other Property advertised in the Columns of the "HERALD."

Sales of Stock and Agricultural Effects.

The "WORCESTER HERALD" is the most effective organ for giving publicity to announcements of this class. It is the leading Agricultural Paper in the County, and Circulates most extensively among Agriculturists in and around Worcestershire.

Farms to Let.

Land Agents, Estate Managers, and all having Farms to Let would do well to advertise in the "WORCESTER HERALD," the Leading County Paper. Specially adapted for bringing such notices before Tenant Farmers. Large circulation. Moderate charge.

Situations Vacant and Wanted.

For producing results the "WORCESTER HERALD" is recognised as a specially good medium. Cheap Rates.

Apply for Terms.

SPECIMEN FREE. Price 2d.

Published Friday for Saturday.

OFFICES:—72, HIGH STREET, WORCESTER.

FARMS, ESTATES, RESIDENCES.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "Midland Counties Herald Office, Birmingham." The Midland Counties Herald always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

Belgian.

BULLETIN D'ARBOICULTURE, et de FLORICULTURE, et de CULTURE MARAICHERE. A monthly horticultural work, with superb Coloured Plate and Illustrations. Published since 1865, by F. BURVE, NICH. F. PAYVARE, E. ROUSSEAU, H. J. VAN HULLE, Professors at the Horticultural School of the Belgian Government at Ghent. Post-paid, 10s. per annum. H. J. VAN HULLE, Botanical Gardens, Ghent, Belgium.

BOILING WATER OR MILK. E P P S'S GRATEFUL-COMFORTING. C O C O A BREAKFAST-SUPPER.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.

WINTER AND SPRING PRUNING. TRIMMING, and THINNING out can be better and quicker done by the STANDARD MANUFACTURING COMPANY'S Celebrated Tools, including the "STANDARD" and "GIANT" TREE PRUNERS, the "MYTIGUTTAH," and other useful appliances, than by any means. They were shown in actual use at the recent Horticultural Exhibition, Crystal Palace, and at the great Agricultural Shows at Bath and Doncaster; thousands of visitors being astonished at their wonderful power and scientific efficiency coupled with great saving of time and labour, and the risk to life and limb reduced. After Stormy Weather, these Tools will be found invaluable for cutting off fractured branches, leaving the ends severed in a vital condition.

Sold by the principal Ironmongers and Seedsmen, the leading Stores, and kindred Trades throughout the world, of whom Illustrated CATALOGUES may be had; or of the PATENTERS and MAKERS, at their works and depot, ST. ALEMMUND'S CHURCHYARD, DERRY.

GARDENING APPOINTMENTS.

- MR. COCKBURN, late Head Gardener, Colthridge Hall, Edinburgh, as Head Gardener to A. STUART, Esq., Fiddell, Bracon.
- MR. GIBSON, late Head Gardener, Ardence, Dunfermline, as Head Gardener to Sir ARTHUR HARRITT, Bart., Pittfhead, Dundee.
- MR. MAUCHLINE, late Head Gardener, Ellary, Ardross, as Head Gardener to A. JONES, Esq., Loranbank, Milton.
- MR. FRASER, late Head Gardener, Edendale, as Head Gardener to Mrs. HOGG, Ardence, Dunfermline.
- MR. D. COVE, as Head Gardener to Mrs. ECHLIN, Pitlochry, Colonsburgh.
- MR. KIDD, late Head Gardener, Ardross, as Head Gardener to Mrs. SHEDDEN, Bouldie Grange, Lymington.
- MR. SHEPARD, as Gardener to G. J. WALLACE, Esq., Newton Hall, Kenneway, Fife.
- MR. A. TROUBART, as Head Gardener to Mrs. FOX TARRANT, Ellary, Ardross.
- MR. W. CLARK, formerly at Gillwell Park, Chingford, Essex, as Head Gardener to Sir T. Fowell Buxton, Bart., Warley Park, Waltham Abbey.
- MR. J. COVILLIE, formerly of Raith, Kircaldy, as Gardener to W. A. Gibbs, Esq., Gillwell Park, Chingford.

CATALOGUES RECEIVED.

- FREDK. GEE, Biggleswade—Bedfordshire-grown Seeds, Plants, & Potatoes, &c.
- W. PAUL & SONS, Waltham Cross—Seeds and Garden Sundries.
- IRELAND & THOMSON, Edinburgh—Garden Seeds.
- ROBERT VITCH & SONS, Exeter—Kitchen Garden and Flower Seeds.
- JAMES DICKSON & SONS, Edinburgh—Vegetable and Flower Seeds.
- JOHN FORBES, Hawick, Scotland—Vegetable and Flower Seeds.
- J. R. PEARSON & SONS, Chilwell Nurseries, Nottingham—Chrysanthemums and Garden Seeds.
- JOHN SHARP & SONS, Bardney, Lincolnshire—Trade Catalogue of Tuberos.
- JOHN R. BOX, East Surrey Seed Warehouse, Croydon—Tuberous Begonias.
- CLARK BROTHERS & CO., Carlisle—Garden Seeds.
- JOHN LEWIS CHILDS, Floral Park, Queen's Co., N.Y.—New, Rare, and Beautiful Flowers.
- THOMAS LAXTON, Bedford—New and Choice Varieties of Garden Seeds, Potatoes, &c.
- W. BAYLOR HARTLAND, Cork—Year-book of Seeds.
- W. DRUMMOND & SONS, Stirling—Vegetable and Flower Seeds.
- JOHN DOWIE, Edinburgh—Garden and Flower Seeds, &c.
- R. SYPDENHAM, Birmingham—Vegetable and Flower Seeds.
- BARR & SONS, Covent Garden, London—Flower and Vegetable Seeds, Plants, &c.
- DODIE & MASON, Manchester—Reliable Seeds for the Garden and Farm.
- KELWAY & SONS, Langport—Manual of Horticulture and Agriculture.
- ALFRED LEGGERTON, 5, Aldgate, London—Garden, Agricultural, and Flower Seeds.
- W. K. WOODCOCK, Barkby Road Nurseries, Syston, Leicester—Chrysanthemums.
- BEN REID & CO., Aberdeen—Spring List of Vegetable and Flower Seeds.

Lambeth Schools at West Norwood.

THE GUARDIANS OF THE POOR OF the PARISH OF LAMBETH intend to appoint a competent and experienced Gardener as WORKING FOREMAN, to undertake the Cultivation and Management of the whole of the Grounds belonging to the above-named Schools, and the Supervision and Control of the Under Gardeners and Ground Labourers employed there; and also to instruct and Train the Boys maintained in the Schools in the practice of Gardening and Agriculture. He must devote his whole time to his duties, and conform strictly to the directions of the Board of Guardians and their Committees. Salary, 30s. per week. Age between 28 and 40.

Printed form of application is to be obtained at this office. Application for the appointment is to be made by means of such form, and in no other manner, and must be sent to me on or before SATURDAY, the 16th instant. Applicants are required to attend here at half-past 4 o'clock on Monday afternoon, the 18th instant. No travelling or other expenses will be paid.—By order of the Guardians.

W. B. WILMOT, Clerk.
Guardians' Board-room and Offices, Brook Street,
Kennington Road, S.E.—January 4, 1892.

PARTNER WANTED, in an established NURSERY and FLORIST'S BUSINESS, in large south of England town, an industrious competent Fruit, Plant, and Cut Flower grower, with good references, to take charge of Nursery department. Nursery on outskirts, and Conservatory in town. Both on lease. Capital required, from £300 to £750.—PARTNER, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a Person willing to JOIN an Old-established NURSERY, as PARTNER, with £500 to £1000. The Lessee has just obtained a new Lease for thirty years at a low rental.—Apply to
F. GARCIA, Florist, Centre Avenue, Covent Garden, W.C.

WANTED, an experienced WORKING MANAGER, for a Fruit Farm at Tisbury. Applicants must be well up in Fruit Growing under Glass and Out-door Fruit Culture, and must also have a knowledge of Keeping Accounts.—Apply, stating wages, to Messrs. CURTIS, SANFORD and CO., Devon Square, Turkey.

WANTED, AT ONCE, for a Market Nursery, a SINGLE MAN, to take charge during principal's absence, and act as LEADING MAN. Must be up to his work. Grapes, Tomatoes, Melons, Cucumbers, &c. Also two or three LADS. None but Market hands need apply. Both on place.—Apply, with full particulars, with age, experience, and wages required, to R. FOULGER, Holly Bank Nurseries, Potters' Bar.

WANTED, a thorough and experienced HEAD WORKING GARDENER, in a large establishment of about four or five bars, where Grapes, Cucumbers, Melons, Feenches, Tomatoes, &c. are grown exclusively for Market. None but those whose character will bear the strictest investigation for capability of production and management need apply.—Apply to
FEATHERBY, Vineries, Gillingham, Kent.

WANTED, as HERBACEOUS GROWER, by a well-known firm in the north, a young man to fill this position. Must have had several years' experience in similar position. Salary £50. Full particulars to R. N. C. *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

WANTED, as UNDER GARDENER, a young man, for the Houses.—One that is used to Stove and Greenhouse Plants, Ferns, Chrysanthemums, Fruit-Houses, &c.—Wages, 15s. per week, bothy, and vegetables. Full particulars.—J. WATLEY, The Gardens, Sherfield Masor, Basingstoke.

WANTED, an Outside WORKING FOREMAN, used Laying Out New Grounds, Planting, &c. Also a young MAN for the Houses, used to Plants and Fruit Growing.—Apply by letter only, WM. TAYLOR, Bentley Priory Gardens, Stanmore.

WANTED, at once, a married MAN as FOREMAN in a nursery, thoroughly experienced, accustomed to grow Palms, Ferns, and general stuff, also Out Flowers for Market. Cottage found, good wages, full particulars, stating age and family, to HART and SONS, Florists, Guildford.

WANTED, a practical, industrious, WORKING FOREMAN, for Fruit and Plant Houses. Must be energetic and trustworthy. A North of England or Scotchman preferred. Wages, £1 per week, bothy, coal, light, and vegetables.—G. F. GLEN, The Gardens, Bramley, East Grinstead.

WANTED, a married MAN, as FOREMAN, used to Nursery work, to take charge of about 25 acres in the country, under Nursery manager. Wages, 21s., with House and Garden on the ground. State particulars of age, family, and references, to Box 50, P.O., Hull.

WANTED, a MAN who has a knowledge of Herbaceous Plants, and who can take charge of a stool ground. State wages required, and apply to B. MALLER and SONS, Burnt Ash Lane Nurseries, Lee, S.E.

WANTED, a MAN, well up in Growing Cucumbers and Out Flowers for Market.—J. W. BAKER, 7, Osborne Road, Brixton, Enfield Highway, N.

WANTED, young MAN, Inside and Out. Wages, 17s. per week. No bothy. Reference required.—JNO. COUPLAND, The Hall Gardens, Penny Bridge, Ulverston.

WANTED, a strong active young MAN, single, for pleasure grounds. One used to soylth work. Wages 17s. Apply, stating age, to H. W. PERRIN, Woodpie, Epsworth, Guildford, Surrey.

WANTED, for a Nursery in Scotland, a young MAN, with a general knowledge of Outdoor Nursery Work. Must be experienced in Budding and Grafting.—Apply, with references, stating wages expected, to NURSERYMAN, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a MAN and WIFE (no children), or Widow and Son, as CARETAKERS; man as plain Gardener.—Apply, by letter, to H. H. Mr. Walter Ruck, Stationer, 11, High Street, Maitland.

WANTED, a young MAN, as IMPROVER, where Cut Flowers, Cucumbers, Tomatoes, &c. are grown in quantities for Sale. Wages, 10s. per week, with bothy.—MANAGER, Redland's Nursery, Emsworth, Hants.

WANTED, a strong, good working young MAN, for the Garden, Outside; one used to the work. Wages, 17s., and Bothy. State age and particulars.—HEAD GARDENER, Tiltstone Lo'ge, Tarporely.

WANTED, an IMPROVER.—Must have had some experience in the Houses. Wages, 10s. week.—Apply, Cumberland Park Nursery, Willesden Junction.

WANTED, a JUNIOR SHOPMAN AT ONCE. Apply by letter, stating experience and wages required, to SHEPMAN, Cooper, Taber & Co. Ltd., 90, Southwark Street, S.E.

WANTED, near London, a SHOPMAN, with good experience in Seeds, Bulbs, Flowers, Plants, and Knowledge of General Trade. Good Salesman, active, methodical, and reliable character.—Particulars of service and wages received to B. J. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a JUNIOR CLERK, able to Assist at Counter.—State particulars and wages required, to W. F. GUNN and CO., 3, Stockton Road, Sunderland.

WANT PLACES.

B. S. WILLIAMS and SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BALIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selection for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

To Noblemen and Gentlemen requiring Land Agents, STURGEON, BALIFF, or GARDENERS.
JAMES CARTER and CO., have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. CARTER. Enquiries should be made to 237 and 238, High Holborn, W.C.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

Gardeners, Farm-Baliffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH and CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COXAN), Limited, The Vineyard and Nurseries, Garston, near Liverpool, wish to recommend to any Noblemen or Gentleman who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterspool, near Liverpool.—Full particulars on application to the Company.

Head Gardeners.
JOHN LAING and SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. They will be able to supply any Lady or Gentleman with HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stratstead Park Nurseries, Forest Hill, London, S.E.

GARDENER (HEAD).—Age 36, married, & no family; thoroughly practical. Stove and Greenhouse Plants, Orchids, Ferns, &c. Decorating, Forcing, Hardy Fruit, Kitchen, and Flower Gardens. Testimonials with reference to sobriety, honesty, and ability.—A. R., 21, Fort Royal Hill, Worcester.

GARDENER (HEAD).—Age 46, married. Life experience in all branches, Land and Stock (fifty years as Head). Excellent character and testimonials.—A. B., 3, Ferness Cottages, Stanley Road, East Sheen.

GARDENER (HEAD).—F. GREGSON, Gardener to the Earl of Egmont, will be pleased to recommend to any Lady or Gentleman a practical man, thoroughly experienced, and capable of the Management of Men, and the usual routine of a good establishment.—Cowdray Park, Midhurst.

GARDENER (HEAD), where two or three are kept.—Age 25, married; ten years' experience in large establishments, inside and out. Good references. Addresser.—G. M., 13, Clifton Terrace, Ashville Road, Leytonstone, Essex.

GARDENER (HEAD).—Age 38, married, no family.—ALFRED BARKER, for the past nine years Head Gardener to Right Hon. Earl Dufferin, Adare Manor, Limerick, wishes to re-engage with any Nobleman, Gentleman, or Lady requiring a thoroughly practical Gardener. Has had twenty-three years' experience in some of the largest and best establishments in England and Ireland. Is thoroughly conversant with the requirements of a first-class establishment. Will be highly recommended. For further particulars apply as above.

GARDENER (HEAD), where several under are employed.—Age 40; married, one boy, 12 years. Open to engage with Lady or Gentleman requiring the services of a good all-round practical gardener. Excellent testimonials for the last ten years as head gardener.—W. S., 306, High Street, Acton, W.

GARDENER (HEAD), where several are kept.—Age 30; thoroughly experienced in all branches. Well recommended.—Messrs. BROWN, Worthorpe, Stamford.

GARDENER (HEAD).—Age 39, married; 15 years' experience. Good all-round man. Good testimonials, and excellent character.—STONE, 12, Beach Terrace, Southsea, Hants.

GARDENER (HEAD).—Age 46, married. Life experience in all branches. Land and Stock (fifteen years as Head). Excellent character and testimonials.—A. B., 3, Ferness Cottages, Stanley Road, East Sheen.

GARDENER (HEAD). Age 30.—Mr. E. LPHINSTONE can with confidence recommend his Foreman as above. Fourteen years' general experience in first-class establishments. Highest references.—W. M. SHERWIN, Shipley Hall Gardens, near Derby.

GARDENER (HEAD).—Age 35, married; twenty years of thorough experience in Stone and Greenhouse Plants, Vines, Peaches, Flower and Kitchen Gardens. Excellent testimonials and character.—S. B., West Mill, Buntingford, Herts.

GARDENER (HEAD WORKING).—Age 28; fourteen years' practical experience in all branches. Excellent references and testimonials as to character and abilities.—GARDENER, Scuttercine, Mordford, near Hereford.

GARDENER (HEAD WORKING).—Age 29, married, one child; fourteen years' experience in all its branches. Good characters and recommendations.—F. MITCHELL, Albionbury House, Huntingdon.

GARDENER (HEAD WORKING).—Single; ten-worthy, intelligent, and thoroughly practical in all departments. Abstainer. High testimonials. Home counties preferred.—J. H., 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING).—Age 29. W. GOWER, Gardener to A. Akers Douglas, Esq., Chilton Park, Madstone, can with confidence recommend his Foreman, W. Andrews, to any Lady or Gentleman requiring the services of a thorough practical and reliable man.

GARDENER (HEAD WORKING), or good SINGLE-HANDED.—Age 31, married, thoroughly experienced in all branches. Good character.—J. P., 8, Chertsey, near Rickmansworth, Herts.

GARDENER (HEAD WORKING).—Age 29, single; thoroughly experienced in all branches; excellent references and testimonials as to character and abilities.—Address, stating particulars, GARDENER, 5, Upper Pellipar Road, Woolwich.

GARDENER (HEAD-WORKING), where two or more are kept; age 30, married.—A gentleman wishes to recommend his present gardener to any lady or gentleman requiring a good all-round man. Highest references.—Address, in first place, to E. FRANCIS, The Gardens, Forest Hall, Uxbridge, Essex.

GARDENER (HEAD WORKING).—Age 31, married, no family; thoroughly experienced in all branches of Gardening. Good character.—GARDENER, Great Fosters, Egham, Surrey.

GARDENER (HEAD), or good SINGLE-HANDED; age 40, married.—Mrs. KENNARD can thoroughly recommend her gardener. Life experience in Gardening. Ten years' good character. Leaving through a death.—G. HENLEY, Thatched Cottage, Hampton Wick.

GARDENER (SINGLE-HANDED or otherwise).—Age 40; married, no family; both total abstinence. Thoroughly experienced in all branches.—GARDENER, 31, Bruce Road, High Barnet.

GARDENER (SINGLE-HANDED, or otherwise).—A young man of good experience. Full particulars.—J. R., 31, Thorne Street, Wandsworth Road, S.W.

GARDENER, where two are kept, or FOREMAN, in a good establishment.—Age 15, single; previously with Mr. Palford, Bramley Park.—MISTEAD, 4, Haulers Villes, Folke Road, West Hamet.

GARDENER, in Flower and Kitchen Garden.—Age 23; married when suited. No objection to pony and trap.—F., Millford Cottage, South Hayling.

GARDENER, where two or more are kept; age 31, married.—A GENTLEMAN is anxious to recommend his Gardener. Five years' excellent character. Family going abroad.—C. GENTLE, Lea Green, Croydon, Derby.

GARDENER (SECOND).—Age 23; ten years' experience inside and out. Good references.—H. H., The Gardens, Farnham Castle, Surrey.

GARDENER (SECOND), Inside, where six or eight are kept, or FIRST JOURNEYMAN in a large establishment.—Age 25; nine years' experience, principally under Glass, in good places. Good character and testimonials.—W. H., The Gardens, Moorhill Manor, Godalming, Surrey.

GARDENER (SECOND).—Age 22; over eight years' experience inside and out; excellent characters.—F. T., 3, Lyndhurst Road News, Hampstead, N.W.

GARDENER (SECOND, or UNDER).—Age 21; good knowledge inside and out. One year and six months' good character.—CHALLIS, 38, Ravenshaw Street, West Hampstead, N.W.

GARDENER (SECOND, or SINGLE-HANDED).—Age 24; eight years' experience in Stone and Greenhouse Plants, also Flower-gardening, Vines, Tomatos, Cucumbers, &c.—W. HAWKINS, Daisy Bank, Knap Hill, Woking.

GARDENER (UNDER).—Age 19; six years' experience, inside and outside. Strong and willing.—W. A., 1, Alpha Cottages, Staines Road, Hounslow.

GROWER (SOFT-WOODED), or FOREMAN in Small Nursery.—Age 31; experienced in Growing Pot Stuff and Cut Flowers for Market. Good references.—Wages, &c., to F., 47, Dempster Road, East Hill, Wadsworth.

To Nurseriesmen.

PROPAGATOR.—Age 23; nine years' experience in Stone and Soft-wooded Stuff for Market. Good references.—B., 41, Wellington Street, Strand, W.C.

PROPAGATOR and GROWER.—Roses, Rhododendrons, Clematis, Bedding and General Nursery Stuff. Practical experience in some of the leading Nurseries.—H. L., 55, Natal Road, Streatham, S.W.

PROPAGATOR or FOREMAN.—Age 25; nine years' nursery experience. Ferns, Palms, Stone, Softwooded, and General Growing; Wreaths, Bouquets, Decorations, Sales, &c.—ALCOCK, 67, Victoria Road, Burton-on-Trent.

FOREMAN, or PROPAGATOR and GROWER.—Married; nineteen years' experience in Growing large quantities of Plants and Cut Flowers for Markets such as Double Ferns, Cyclamens, Bonvardias, Roses, Chrysanthemums, Palms, Ferns, Eucharis, and plants usually found in Nurseries. Well up in Bouquets, Wreaths, Crosses, &c. Excellent testimonials. State wages given.—C. S., 5, Hextable Cottages, Hextable, Kent.

FOREMAN, age 29.—Mr. G. THOMSON, Gardener, Easney, Ware, Herts, should like to recommend his Foreman, H. Carpenter, to any Gardener in want of a good man. Well experienced. Two years in present situation. Active. Abstainer.

FOREMAN, in the Houses, in a good Establishment.—Age 26; good character from present and previous employers.—H. SHETLER, Heathlands, Maybury, Woking.

FOREMAN (Inside, or GENERAL).—Age 27; two years' Foreman in large establishment. Excellent testimonials. Abstainer.—FOREMAN, 23, Cadogan Street, Cadogan Square, S.W.

FOREMAN, in the Houses, in a good establishment.—Over two years in present situation as Foreman. Good character from present and previous employers.—J. WELLS, Sherfield Manor, Basingstoke.

To the Trade.

FOREMAN, or GROWER.—Age 32; abstainer. Well experienced in Tomatos, Cucumbers, Mushrooms, Chrysanthemums, Pot Plants, Bedding Stuff, Bulbs, Cut Blooms, Building and Heating.—J. B., *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN in the houses, or SINGLE-HANDED, where there is glass, age 25; married when suited. Good character from present place.—W. G. WORSFOLD, Rose Cottage, Hasleley, near Warwick.

FOREMAN, or MANAGER.—Understands Vines, Cucumbers, Tomatos, Chrysanthemums, Stems, Soft-wooded Plants.—A. A., Albert House, St. James's Road, Box Hill-on-Sea.

FOREMAN.—Mr. W. REEVES, Hatfield Park, Cuffham, Surrey, has great pleasure in recommending his Foreman, A. Child, to any Gardener requiring the services of a steady, industrious man, with a good knowledge of the profession.

FOREMAN.—Age 26; thirteen years' experience in good establishment. Excellent Fruit and Plant Grower, including Orchids. Good characters.—W., Cornysborough, Maiton, Yorks.

FOREMAN, in a large establishment; married when suited.—J. HARRIS, Tubney House Gardens, Abingdon, can confidently recommend his Foreman, H. Gibbins. Two and a half years' present place, four previous.

To Nurserymen.

FOREMAN.—Married; fourteen years' experience in Growing for Market, Foliage and Soft-wooded and Cut Flowers. Four years in present place. Good references.—GARDENER, Malver's House, Grove Park, Camberwell Grove, S.E.

FOREMAN (HOUSE), where two or three are kept.—Mr. W. DAVIES would be pleased to recommend J. Hamer as above. Abstainer.—Wingfield Park Gardens, Darby.

FOREMAN, in good establishment.—Age 30; fifteen years' good experience. Excellent testimonials and references.—ASHWELL, Bedford Road, Morhaegher, Sandy, Bedfordshire.

JOURNEYMAN, in the Houses.—Age 21; good character. Bath preferred.—S., Bloomsbury Nursery, Timperley, Cheshire.

JOURNEYMAN (FIRST).—N. E. OWEN, Gardener to Lady Sutton, Conisburgh Abbey, Whitechurch, Salop, can confidently recommend the above to any Gardener requiring one.—S. ROBINSON, Narborough, Leicester.

JOURNEYMAN (FIRST), in the Houses, under Foreman, in a good establishment.—Age 22; both preferred.—H. MIDDLETON, The Gardens, Break-spere, Herefield, Middlesex.

JOURNEYMAN (FIRST).—Age 24; nine years' experience in Fruit and Plant Culture. Two years' character.—H. HARRIS, The Gardens, Hatchford Park, near Cobham, Surrey.

JOURNEYMAN.—Age 24; Fruit Houses preferred, under a good Foreman.—B. TARRY, Ketton Hall Gardens, Stamford.

JOURNEYMAN (SECOND or THIRD), in Houses, in a good Garden. Over seven years' experience. Fourteen months in last place. Both preferred. Total abstinence.—G. CARTER, The Graces, Somerleyton, Lowestoft, Suffolk.

JOURNEYMAN; age 21. Five years' experience inside and out.—E. ASHROX, Gardener to Lord Howard of Glossop, can with confidence recommend a big, strong young man as above.—Glossop Hall Gardens, Glossop, Cheshire.

JOURNEYMAN in the Houses.—Age 19. EDWIN BECKETT, gardener to H. H. Gibbs, M.P., will be pleased to recommend a young man as above, who has lived under him the last five years. Strong, active, and willing.—W. CHILDS, The Garden, Aldenham House, Elstree, Herts.

JOURNEYMAN.—Age 20, German. Orchids, Palms, &c. Worked in Belgium and England. Well recommended. At present, with Messrs. Vincke-Dujardin, Bruges, Belgium.—J. H., *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

IMPROVE, under a good Gardener, both preferred.—Age 19; five years' experience. Good character.—C. F., Bloomsbury Nursery, Timperley, near Mouchester.

TO GENTLEMEN, &c.—Young man wants a Job on Estate, as CARPENTER, &c. Used to Greenhouse Building, Reparing, Glazing, &c.—A. F., 3, Bonmouth Terrace, Folkestone.

TO GARDENERS, &c.—Situation wanted, in a good Garden, by a Gardener's son (age 18). Fair knowledge of in and outdoor Work. Excellent testimonials.—REDDAN, Eynsham, St. Neots.

TO GARDENERS.—Young man (age 22) seeks situation in Gentleman's Garden. Two and a half years' experience in Outdoor Work.—A. CHEESMAN, Watersfield, Pulborough, Sussex.

TO GARDENERS.—Situation wanted by a young man (age 21), in the Houses, under a good Gardener's Gardener. Good knowledge of the work. Good references.—J. BELCHER, Kingham, Chipping Norton, Oxon.

TO NURSERYMEN and FLORISTS.—Advertiser seeks re-employment as Grower of Soft-wooded Stuff, Palms, Ferns, &c. In or near London preferred.—BALDWIN, 2, Victoria Road, Broad Lane, Tottenham.

TO MARKET GARDENERS.—Situation wanted as FOREMAN, by a man who thoroughly understands all branches of the business.—FOREMAN, 8, Tramway Avenue, Chiswick.

TO MARKET and FRUIT GROWERS.—MANAGER.—Age 43, married; experienced in Grapes, Peaches, Tomatos, Cucumbers, Plants, and Cut bloom; also Outdoor Fruit and Vegetables. Excellent references.—J. M., 1, Milligan Terrace, Ayleston Park, Leicestershire.

SHOPMAN, or MANAGER.—Age 32; thorough knowledge of Seed, Bulb, Plant and Flower Trade. Good references. State particulars.—W. HARRIS, Hammerwood, East Grinstead, Sussex.

SHOPMAN (ASSISTANT).—A young Man, having completed four years' apprenticeship in the Seed Trade, seeks engagement as above. Salary not so much an object as getting into a good Retail Establishment.—J. Mieser, Hurst & Son, Houndsditch, London, E.

SHOPMAN (ASSISTANT).—Age 25; nine years' practical experience in Seeds and Bulbs. Good references.—Z., *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

HOLLOWAY'S OINTMENT and PILLS.

As winter advances, and the weather becomes more and more inclement and drying, the earliest evidences of ill-health must be immediately checked and removed, or a slight illness may result in a serious malady. Relaxed and sore throat, quinsy, influenza, chronic cough, bronchitis, and most other pulmonary affections will be relieved by rubbing this cooling Ointment into the skin as nearly as practicable to the seat of mischief. This treatment, simple yet effective, is admirably adapted for the removal of these diseases during infancy and youth. Old asthmatic invalids will derive marvellous relief from the use of Holloway's remedies, which have wonderfully relieved many such sufferers, and re-established health after every other means had signally failed.



THOMAS GREEN & SON, LIMITED,

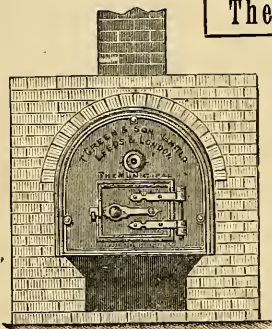
SMITHFIELD IRONWORKS, LEEDS, AND SURREY WORKS, BLACKFRIARS ROAD, LONDON, S.E.,
HORTICULTURAL ENGINEERS TO HER MAJESTY THE QUEEN, call Special Attention to their Patent Wrought-Iron Municipal or Angular Chambered and Tubular

HOT-WATER BOILERS,

And others with SHELVES, and Hollow or Ordinary Cast-iron GRATE BARS.

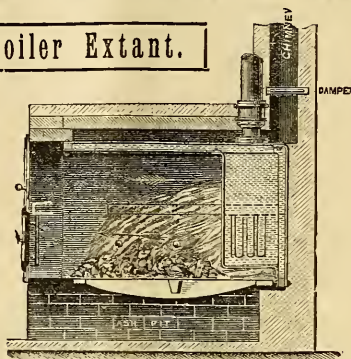
SADDLE BOILERS, With WATERWAY BACKS and WELDED BOILERS, any of which are specially adapted for Heating Greenhouses, Conservatories, Churches, Chapels, Schools, Public Buildings, Entrance Halls, Warehouses, Workshops, &c. They are the neatest, cheapest, most effective, and durable of any extant. The MUNICIPAL and TUBULAR ones are remarkable for their great heating power, slow combustion, and the length of time the fire will burn without requiring attention. These Patterns secured the FIRST and HIGHEST PRIZE—a SILVER MEDAL—at the Royal Horticultural Society's Exhibition, South Kensington, London, June 1, 1881.

The Best Boiler Extant.



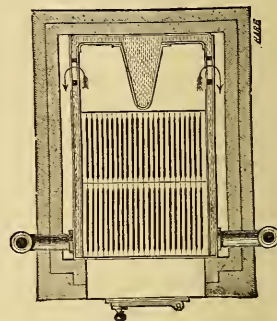
— FRONT ELEVATION —

The longitudinal section gives a view of the fire-box, water space, flues, &c.



— LONGITUDINAL SECTION —

The front elevation shows it set in brickwork, which is necessary for this class of boiler.



SECTIONAL PLAN.

SIZES AND PRICES.

	3 ft. 2 in. long by 2 ft. 0 in. wide by 2 ft. 0 in. deep		1000 ft.	Price £15 0 0
MB 1	4 0 " by 2 0 " "	Calculated to	1280	" 21 0 0
MB 2	5 0 " by 2 0 " "	heat 4-in. piping	2200	" 32 0 0
MB 3	6 0 " by 3 0 " "	as follows:—	4000	" 60 0 0
MB 4	8 0 " by 3 0 " "		7000	" 85 0 0
MB 5	8 6 " by 4 0 " "			

TESTIMONIALS.

MESSERS. THOS. GREEN AND SON, LTD., NORTH STREET, LEEDS.

Re HEATING APPARATUS.

Borough Engineer's Office, Municipal Buildings, Leeds, January 9, 1886.

GENTLEMEN,—I have great pleasure in bearing testimony to the efficiency and satisfactory working of the Hot-water Heating Apparatus you erected in these public buildings. The buildings are four storeys high, and we have a total length of about 28,000 feet of piping in them, varying in size from 1½ in. to 6 in. diameter, with their connections, &c. The several offices and rooms can all be in operation at one time or separately, and the heat regulated by means of the valves to the temperature required, even in the coldest weather. Two of your Patent Municipal Pattern Boilers, No. 4, work the whole of this piping easily, although we have three of them fixed. They are very powerful and economical in the consumption of fuel, and I am pleased to be able to report of them and the apparatus so favourably.

I am, Gentlemen, yours truly, THOS. HEWSON, Borough Engineer.

GENTLEMEN,—The large Municipal Boiler which you sent me last year is doing its work satisfactorily; it is heating 5000 feet of 4-inch pipe in one of my vineries, and I am quite sure that it has power to work a much greater length, while in cost of fuel it compares favourably with my other Boilers.

Morley House, Ragot, St. Saviour's, Jersey, November 10th, 1886.

Yours faithfully, (Signed) G. W. BASHFORD.

MESSERS. THOS. GREEN AND SON, LTD., LEEDS.

AND HUNDREDS OF OTHER REFERENCES CAN BE GIVEN IF REQUIRED.

LOOK TO YOUR BOILERS,

And replace INEFFICIENT and DEFECTIVE ONES by

WEEKS'S PATENT DUPLEX UPRIGHT TUBULAR,

THE CHAMPION BOILER OF THE AGE.

It is unparalleled for POWER, ECONOMY, and DURABILITY, the WATER-BARS alone being equal to many Boilers.

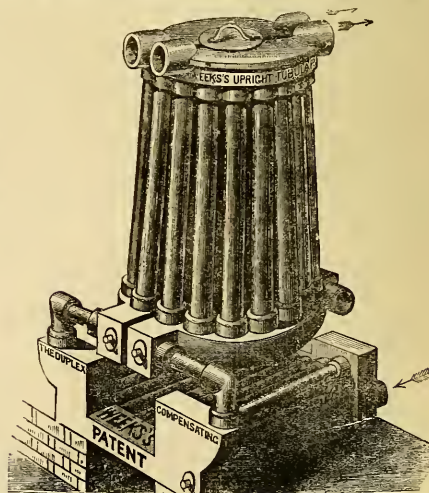
A TEN YEARS' GUARANTEE given with all Duplex Boilers (subject to printed conditions) when fixed by the Patentees.

FULL PARTICULARS AND PRICES ON APPLICATION TO

J. WEEKS & CO.,

Horticultural Builders, Hot-water Apparatus Manufacturers and Patentees,

KING'S ROAD, CHELSEA, LONDON, S.W.



GARDENERS' CHRONICLE

No. 2664.

ESTABLISHED 1841.

No. 264.—VOL. XI. {THIRD
SERIES.}

SATURDAY, JANUARY 16, 1892.

{Regt. as a Newspaper.} PRICE 3d.
{WITH SUPPLEMENT.} POST-FREE, 3d.

CONTENTS.

Analysis of Spanish Grape	76	Multiple parentage in	87
Soil	76	Ferns	87
Agavecum sesquipedale	84	Nectarine and Peach trees,	82
Ar-nem in American	84	experiments with	82
Apples	84	New plants	83
Beans	84	New tying material, a	83
Birds of the commons and	84	Nursery notes	87
woodlands	84	Obituary	87
Rodogran, Anglesey	85	Coombe, Mr. B.	89
Brussels Sprouts	85	Date of Clar case	81
Campbor in Formosa, the	85	Orchid-houses	79
production of	85	Orchid notes	84
Charred refuse	83	Pelargoniums at Bowood	81
Chrysanthemums for as-	83	Perfume plants in Aus-	73
hibition and usefulness	84	tralia	73
Clove tree at Zanzibar, the	81	Philadelphia microphyll-	81
Colonial notes	76	lus	86
Corn, introduction of	74	Picea nigra	81
Cultural notes	82	Pruning, and the canker	81
Education of gardeners	83	in fruit trees	83
technical	82	Societies	81
question, the	80	Ascot and District Chry-	81
Florists' flowers	86	santhemum	81
Flower garden	79	Blackheath and Lewis-	81
Foreign correspondence	77	ham Horticultural	81
Forestry	85	Linnæan	81
Fruits under glass	78	National Rose	81
Hardy fruit garden, the	79	Royal Horticultural	83
How to make the best of	84	United Horticultural	81
to roses in fruit culture	79	Penicill and President	81
India	76	Vine borders, heat for	83
Kitchen garden, the	79	Wallflower seed	83
Lagerania virginiana	85	Warwick Castle	81
Lectures on horticulture	83	Week's work, the	78
Maidenbair Ferns	77	Winter vegetables	80

ILLUSTRATIONS.

Lagerania virginiana	85
Picea nigra, group of, in	85
Karlens Park, Cassel. (Sup-	85
plement.)	85
Philadelphia microphyllus	81
Warwick Castle and the river	81
Avon	81

NOTICE.—CHANGE OF MANAGEMENT.
—I have appointed Mr. H. C. FOLL as MANAGER of my Nursery, Seed, and Florist Business. All communications should be addressed to—
W. CROSSLY, 13, Vicar Lane, Leeds.

Illustrated Catalogue for 1892 now ready, free on application.

BY INSTRUCTIONS FROM THE EXECUTORS
of Sir G. MACLEAY, the REMAINDER of PLANTS (excepting Fernery) will be DISPOSED OF by the GARDENER at Pendell Court, Bletchingley, Surrey.

VALUABLE SILVER MEDALS offered to Exhibitors during 1892. All Amateurs and Gardeners should see KELWAY'S MANUAL for 1892 for particulars; is post-free. Gratis to customers. For details see larger advertisement.—Langport, Somerset.

CHRYSANTHEMUM SEED, carefully hand-hybridised from the choicest varieties. The best in the world. One packet, 6s.; three packets, 12s. Remit by International Money Order.
T. H. SEAUDING, Orange, N. J., U.S.A.

IRELAND and THOMSON have now posted their general VEGETABLE and FLOWER SEED CATALOGUE for 1892 to all their customers and friends. If not received, another copy will be sent on application.
Seed Warehouse, 81, Princes Street, Edinburgh.

CHRYSANTHEMUMS.—Our Illustrated CATALOGUE will be sent free on application.
15 First Prizes. (10 this year.)
5 Gold Medals for Chrysanthemums.
REID and BORNEMANN, Sydenham, London, S.E.

FOR SALE, RED DUTCH CURRANTS, extra strong seed, 3 years, at 2s. per dozen, 12s. per 100, 100s. per 1000, packing free, for cash with order.
THOMAS EVES, The Nurseries, Gravesend.

LARCH.— $\frac{1}{2}$ to $\frac{3}{4}$ and 3 to 4 feet, clean, healthy stuff, all twice transplanted. Prices on application to G. FHOIST, Nurseries, Bampton, Devon.

TO THE TRADE.—CARTERS' WHOLESALE CATALOGUE OF VEGETABLE and FLOWER SEEDS, ROOTS, and SUNDRIES, has now been posted to all their Customers.
Messrs. CARTER would wish to be informed where copies have not reached their destination.
237 and 238, High Holborn, London, W.C.

Amariyllis.
B. S. WILLIAMS and SON are now offering splendid Bulbs of this popular plant, at very low prices, previous to re-potting, in consequence of want of room.
Named varieties from 42s. per dozen.
Seedlings 30s. per dozen.
Victoria and Paradise Nurseries, Upper Holloway, London, N.

Sharpe's Victor Potatoes.
W. W. JOHNSON and SON, SEED GROWERS and MERCHANTS, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample.
Price, per cwt. or ton, on application.

DOBBIIE'S CATALOGUE and COMPETITORS' GUIDE for 1892.—25th Annual Edition, 160 pages, illustrated. Described by one of the greatest authorities in England as "the most useful list published in the trade."
Ready on January 1, and will be sent gratis to all who apply for it and enclose 3d. to cover postage.—DOBBIIE and CO., Seed Growers and Florists, Rothsay, Scotland.

W. D. BUNDAY, of Covent Garden Market, 31 and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPES, &c. Good references.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maids Vale, London, W.

CUT FLOWERS.—ARTHUR L. BULLEN, Wholesale Flower Salesman and Grower, 33, Exeter St., Covent Garden, 271 and 272, Flower Market, Covent Garden, W.C., and Highfield Nursery, Bromley Common, Kent.
CONSIGNMENTS of CHOICE FLOWERS SOLICITED.

ORCHIDS A SPECIALITY.—Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants.
W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

Vegetable and Agricultural Seeds.
H. AND F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

CHRYSANTHEMUMS.—Proved NOVELTIES in EARLY, JAPANESE, INCURVED, and other Select Varieties. New LISTS free. Gave great satisfaction last year.
A. J. A. BRUCE, The Nurseries, Chorlton-cum-Hardy, Manchester.

ROSES! ROSES! ROSES!—Plant now 100 strong dwarf, H.P. Roses for 27s. 6d.
The finest in the Trade.
Send for Sample Book, N. Cash with Order.
CATALOGUES free on application.
C. H. GORRINGE, Roselands Nursery, Eastbourne.

A STRONG HEDGE.
A rare good lot of strong SCOTCH THORN QUICKS, $\frac{1}{2}$ to $\frac{3}{4}$ feet, unselected, 15s. per 1000; selected, 17s. 6d. per 1000.
FOTHERINGHAM and CO., Nurserymen, Dumfries, N.B.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS.
CATALOGUES free on application.
FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

LILIES OF THE VALLEY for forcing. Warranted Best Berlin. 30s. per 1000; 3s. 6d. per 100. Low quotations to the Trade.
J. JAMES, Hampton Wick, Middlesex.

WANTED, CONES and SEEDS of CONIFERAE in good varieties.—State prices and quantities to R. ERBE, 9, Woodsons Terrace, Dartmouth Park, London, N.W. Also send Trade Price, Lists of Seeds, Bulbs and Plants.

SUTTON'S PRIMULAS.—For full particulars of 30 varieties of THE BEST PRIMULAS, See

SUTTON'S "AMATEUR'S GUIDE IN HORTICULTURE FOR 1892."
Price 1s., post-free; gratis to customers ordering goods value 25s. and upwards.

SUTTON'S SEEDS GENUINE ONLY
DIRECT FROM SUTTON and SONS, THE QUEEN'S SEEDSMEN, READING.

Notice.
NEW INCURVED CHRYSANTHEMUM, MRS. ROBINSON KING.
I hereby certify that I have SOLD the whole of my CERTIFICATED STOCK to MR. ROBERT OWEN, Floral Nursery, Maidenhed, (Signed) W. H. HOTHAM (Kaiser of Mrs. Robinson King), Nethelm, East Yorks. Plants distributed early in February.

CHRYSANTHEMUMS.—Our new Illustrated LIST, now ready, includes every novelty really worth having.
J. K. PEARSON and SONS, Chilwell Nurseries, Notts.

Price Cob Filbert Trees.
MR. COOPER, F.R.H.S., of Western Elms, Reading (late of Calcut Gardens), is the Largest Grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good Trees now ready for distribution.
Descriptive Price LISTS, &c., on application.

10,000 EUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 6s. to 15s. per dozen. Less by the 1000. Cash with Order.
J. J. CLARK, Goldstone, West Brighton.

BEGONIA SEED.—Sow now.—Box's strain is best and cheapest. Single, 1s.; 2s. 6d.; and 5s.; Double, 1s. 6d., 2s. 6d., and 5s. per packet. TUBERS also. Special List and Pamphlet gratis.
JOHN R. BOX (for 10 years Laing's sole Partner), Begonia Grower, Croydon.

To Florists.
FRENCH FLOWERS, direct from the Gardens.—An enormous saving. ROSES, MIMOSA, MIGNONETTE, MARGUERITES, ORANGE BLOSSOM, &c. Sample basket, carriage paid to London, for 10s. Postal Order.
The RIVIERA FLORAL SUPPLY, Nice.

RASPBERRY CANES.—Norwich Wonder, Carter's Prolific, also Eastoll, strong and well rooted.
ALBERT BATH, Vine Court, Sevenoaks, Kent.

Seeds.
CHARLES TURNER'S Descriptive and Priced CATALOGUE of KITCHEN, FLOWER, GARDEN, and FARM SEEDS, will be sent free on application.
The Royal Nurseries, Slough.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Descriptive CATALOGUES, post free on application.
FLETCHER BROS., Ottershaw Nurseries, Chertsey, Surrey.

Trade Order of Large Palms.
W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application.
W. ICETON, Putney, S.W.

J. WEEKS and CO. HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Acclimatisation Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Gardens. Patentees of the Duplex Upright Tubular Poles.
King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE R. 10, Victoria Road, Putney, W.M. THOMSON and SONS, Clarendon, Galsburgh, N.B.

SALES BY AUCTION.

Wednesday Next.

7500 Grand Bulbs of *LILIUM AURUM*, 1600 *LILIUM SPECIOSUM*, 1000 *LILIUM*, and 1500 *L. SPECIOSUM RUBRUM*, just received from Japan, in splendid condition. Also 5000 fine Pearl TUBEROSES, 7000 South-African TUBEROSES, 5000 *AMARYLLIS* species, 2000 *LILIUM HARBUR*, 200,000 Fresh KENTIA, and COCOS SKEDS, &c., &c.

MR. J. C. STEVENS will include the above in his SALE BY AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 20.

On view morning of Sale, and Catalogues had.

Wednesday Next.

A choice Collection of BORDER PLANTS, 600 Standard and Dwarf ROSES, to name, HARRY ORNAMENTAL SHRUBS and CONIFERS, IRIS, GLADIOLI, SPIRÆE, fine plants of Eucharis, 10,000 CLEMATIS and CROWNS of LILY OF THE VALLEY, *LILIUM CANDIDUM*, and a large quantity of DUTCH BULBS.

MR. J. C. STEVENS will sell the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 20, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Wednesday Next. Palms, Ferns, Roses, and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 20, at half-past 11 o'clock, GREENHOUSE FERNS; DOUBLE and SINGLE BEGONIAS; PALMS in variety; STANDARD and HALF-STANDARD ROSES; English-grown LILIES in variety; HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS; CRIMUM ASIATICUM, &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

IMMENSE CONSIGNMENT FROM JAPAN.

273 Cases just received, in splendid condition, comprising 120 *LILY OF THE VALLEY*, including 900 extra large Bulbs.

500 *LILIUM SPECIOSUM ALBUM KRETZERII*, 275 " *RUBRUM*, 315 " *AURATUM MACRANTHUM*.

20 CASES of JAPANESE IRIS, containing 600 CROCI, and gorgeously coloured varieties.

3 CASES of JAPANESE TREE PEONIES, consisting of 385 grand varieties, in all 50 splendid double varieties.

The Sale will also include 300 lots of HERBACEOUS PLANTS, BEGONIAS, DAHLIAS, CAIMANTIS, PICOTÉES, PERENNIALS, 1600 lots of HYACINTHS, TULIPS, NARCISSUS, and other DUTCH BULBS; 50 lots of English-grown LILIES, and 65,000 KENTIA SEEDS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, January 21, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

20,000 SEEDS of PHENIX RECLINATA, from South Africa. 94,500 KENTIA SEEDS, from Norfolk Island, South Pacific. The whole just arrived in grand condition.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on THURSDAY NEXT, January 21.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. CHARLESWORTH, SHUTTEWORTH & Co., of Epsom, and 213, Park Road, Clapham, S.W., to SELL BY AUCTION, at their Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, January 22, at half-past 12 o'clock, a choice assortment of well-grown and rare ORCHIDS, consisting, amongst others, *Zygopetalum grandiflorum*, Bot. Certificate, R.H.S., August 25, 1891. A distinct species of similar growth to *Z. crinitum*, and flowers of equal size to those of that species. Sepals and petals pale green, with longitudinal lines of chocolate colour; lips pure white, thick in texture, and studded with short papillæ. Maxillary Sanderiana in flower, Cattleya Schilleriana, Oncidium globuliferum, very rare; Epidendrum O'Brienianum, a Veitchian hybrid, erectum x radicans, extra fine plant in spike; Tainia sesafolia, described in the *Gardening World*, November 22, 1890; Pescatorea Klabohorum, Epidendrum prismatocarpum, long bulbous variety; Cattleya Skinneri, alba, splendid plant, fine buds; *Chamaelelepis*; *Odontoglossum facatum* in spike, *Ornithidium densum*, Ad. Lehmann, *Vanda Parishii* Martiana, *Odontoglossum Ruckerianum*, *Oncidium Phalaenopsis*, *Cattleya*, rare *Odontoglossum*. Rose albæ, fine plant in flower; 23 bulbs, 5 leads, 2 spikes; Epidendrum septrum, *Lelia* grandis tenebrosa, a seedling *Cypripedium*, *Chantia* x *barbatum*; *Lelia* prestantis, &c. All the plants offered are in a wonderfully fine state of culture, and will flower within a measurable distance.

On view morning of Sale, and Catalogues had.

Working.—Preliminary Notice.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at the Well Birch Nursery, near Woking, Surrey, at an early date, a fine assortment of NURSERY STOCK, in excellent condition for removal, comprising a grand assortment of specimen Shrubs, Hollies, Aucubas, Yews, Rhododendrons, Cupresses, Fruit Trees, &c. Further particulars will appear next week.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 12, Bull Ring, Birmingham, of BULBS, PLANTS, NURSERY STOCK, &c., every WEDNESDAY and FRIDAY, at 4.30 p.m. Sales of choice Cut Flowers. Fresh Entires invited. Account Sales and cheques daily. Emptyies and labels found.

MR. THOMAS B. JAMES will SELL by AUCTION, at his commodious Sale Rooms 12, Bull Ring, Birmingham, on THURSDAY N.E.T. January 21, at half-past 11 o'clock, a large CONSIGNMENT of LILIES, direct from Yokohama, comprising 3000 *Lilium aurum*, 1500 *L. laocliam rubrum*, 500 *L. album Kretzeri*, 1500 *L. longiflorum*, 500 *L. p. 1* sari album, 1000 *L. tigrum* splendens, 1000 *Jos. 1*ies (Chinese Sacred Lily), also 20,000 Lily of the Valley (Berlin and Dutch Crosses), 250 *DIELTZA SPECIABILI*, 4000 *HEMEROCALLIS* in variety; 12,000 *SPHIREA JAPONICA*, 3 *PALEMATIA*, and other varieties; 25,000 KENTIA SEEDS, together with 10 cases of 8-size DUTCH BULBS; also 50 RHODODENDRONS, 500 SPRUCE, PLANTS in Pots, and numerous other things.

On view morning of Sale, and Catalogues post-free. Commissions carefully executed and promptly despatched. N.B.—Wanted weekly, CUT FOLIAGE of Begonias, Crotons, and other Decorative Plants.

The Royal Victoria Nurseries, Holdenhurst Road, SPRINGBOURNE.

Estate of the late Mr. Finch White. MESSRS. REBBECK BROS. are instructed by the Executors of the late Mr. Finch White to SELL BY AUCTION, at "The Mart," Bournemouth, on FRIDAY, January 22, 1892, at 3 for 3.30 P.M., in one lot, the above important long Leasehold ESTATE and NURSERIES.

BUILDING ESTATE AND NURSERIES, carried on so successfully for many years by the late proprietor; an area of nearly 4 acres, situated within half a mile of the Bournemouth East Railway Station, in the most popular district, where there is a large demand for houses, workshops, &c. The buildings on the property which will be included in the Sale, consist of a pair of Semi-detached Cottages; 1 Brick-built Stable with large Loose Box; 2 Cart Sheds, with large Loft and Storage Rooms over. The Conservatories, Greenhouses, Hothouses, Potting sheds, Boiler-house, Pits, and other erections for the purposes of the business are not included in this lot, but parties who may have the option of taking them, as well as all the Stock-in-Trade in and about the Premises and the adjoining Nursery at a valuation. The Property is held under lease for an unexpired term of about sixty-five years, at the very low annual ground rent of £24.

Particulars, Plans and Conditions of Sale may be obtained of Messrs. J. and W. H. DRUITT, Solicitors, Town Hall Chambers; and of the Auctioneers, "The Mart," and Gervis Place, Bournemouth.

WANTED, a NURSERY, 6 Greenhouses, 1 Acre of Land. Must be preferred. Must be genuine. Price low—State particulars to F. C. *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, TO RENT, on LEASE, three or four ACRES of LAND, suitable for Nursery Purposes. Without Stock preferred. Send full particulars to—J. S., 2, Beach Terrace, Exning, Suffolk.

To Market and Cut Flower Growers. (Folio 7568.) LONDON DISTRICT.—TO BE LET, either as a whole or in two portions, a LARGE MARKET NURSERY, comprising about 10 acres being covered with glass. A Lease for 21 years will be granted. Only small Stock planted out to be taken, remainder optional. Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

NURSERY TO LET, in South of England, near town of 150,000 inhabitants, consisting of 22 houses (about 2000 ft. run), all well heated and in good condition. Mushroom houses, sheds, three dwelling-houses, hotby, about 10 acres of land, chiefly planted two years since with fruit trees, &c. The above is a chance seldom to be met with, and every facility will be given for a suitable tenant. —ALPHA, *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

London, 12 miles from.—(Folio 7562.) CAPITAL MARKET NURSERY.—10 Greenhouse as at modern and well-heated. Stables, &c., and 1 acre of Ground. Long lease. Rent only £4. Price and full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

FLORIST AND MARKET-GARDEN BUSINESS TO LET on Lease. Good locality; growing population (Kent), close to railway station. Or growing, offer PARTNERSHIP to a suitable person with small capital at his disposal. Apply to J. *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO FLOREST.—FOUR ACRES (or more) of LAND, to LET on LEASE, with Option of Purchase. No better land could be obtained in the district. Situated 10 miles from London, and near Railway Station.—Apply to Mr. H. MOORE, 59, Bishopsgate Street Within, E.C.

MIDLAND COUNTIES.—TO BE SOLD (Folio 7561), in an important town, an old-established General NURSERY BUSINESS. Long Lease. Low rental. Capital required, about £2500. Apply to PROTHEROE AND MORRIS, Auction and Estate Office, 67 and 68, Cheapside, London, E.C.

FOR SALE, in a Main Road, Two Newly-erected Greenhouses, 20 feet by 12 feet, and 35 feet by 3 feet. Good chance of a Jobbing Gardener. Must be sold immediately. Cheap. Good reasons for Sale.—2, Dunsford Road, South Wimbledon.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this Journal of November 21, executed by F. H. and SON, 50, Finsbury Square, London, E.C., and Broxborne, Herts. Photo Illustrated Book sent for inspection on receipt of two stamps.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application. Call or write for Prospectus.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

KELWAY'S ILLUSTRATED MANUAL of Horticulture and Agriculture for 1892. See larger advertisement for details.—KELWAY, Langport, Somerset.

2000 MAIDENHAIR FERNS for Sale. Good stuff in 32 or 24-pots. Started or dormant. J. SADDINGTON, Nurseryman, Richmond, Surrey, London.

ASPARAGUS PLUMOSUS NANUS. Freshly-gathered 1 Seeds, ready for immediate delivery. ROMER PRICE and CO., 14, Castle Street, Long Acre, W.C.

150,000.—Special Offer of Kentias. W. ICETON has a large quantity of the above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £20 per 1000; in 60's, well-established, at £20 per 1000.

W. ICETON, Putney, S.W.

NEW CHRYSANTHEMUMS. CARTERS' LIST of the BEST SORTS for 1892.

Now ready, gratis and post-free, on application to the Queen's Seedsman, 237 and 238, High Holborn, London, W.C.

Seed Potatoes. H. AND F. SHARPE invite the attention of the Seed Trade to their line selected stocks of SEED POTATOES, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other growers.

Seed Growing Establishment, Wisbech.

Seed Potatoes.—Seed Potatoes. MYATTS PROLIFIC, the earliest of all Kidneys, which every one with early land should grow. Potatoes dug in July and August are always worth 100 per cent. more than later sorts. Price, 12s. per ton, grown in Lincolnshire.

MAGNUM BONUM, later field, for main crop. Price, 70s. per ton, grown in Lincolnshire. Apply to W. N. WHITE and CO., Ltd., Covent Garden, London, W.C.

For Exhibition! BROAD BEAN, BIDDLES' MONSTER LONGPOD.—Extra long, fine quality. Per quart, 1s. 6d. CARROT, BIDDLES' SCARLET PRIZETAKER, Intermediate, the finest exhibition carrot growing. Per oz., 1s. ONION, BIDDLES' GIANT SPINNING.—Too well known as a prize-winner to need further recommendation. Per oz., 1s. BIDDLES and CO., THE PENNY PACKET SEED CO., Loughborough, Leicestershire.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited, THE VINEYARD AND NURSERIES, GARSTON, NEAR LIVERPOOL, Have just received large and fine importations of the following

ORCHIDS, CATTLEYA AUREA, CATTLEYA CIGAS SANDERIANA (including C. aurea and C. HARDYANA), CATTLEYA TRIANÆ of the finest type (including some of the pure white forms), ODONTOCLOSSUM VEXILLARIUM, ODONTOCLOSSUM MIRANDUM, ODONTOCLOSSUM WALLISII, ODONTOCLOSSUM LUTEO-PURPUREUM.

The Company have also secured a fine lot of the NEW and BEAUTIFUL COCHLODA NOETZLIANA. Full particulars on Application to the Company.

FOR ORCHIDS, AND GARDENERS
to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

VINES.—VINES.—VINES.
We hold a fine Stock of the above, both Fruiting and Planting Canes. Names and prices sent on application.
JOHN FEED AND SONS, Roupell Park Nurseries, Norwood Road, London, S.E.

Raspberry Canes and Currant Trees.
BAUMFORTH SEEDLING, 40s. per 1000; **SEMPER FIDELIS**, 30s. per 1000. Sample 100 of either sort 6s. **RED CURRANT TREES**, 8s. per 100. Cash with order. Free on Rail. Apply—**R. H. BATH**, Wisbech.

Fruit Trees a Specialty.
APPLES, PEARS, PLUMS, STRAWBERRIES, and all kinds of Small and Hardy Fruits grown in immense quantities. The best of the Old and New Varieties either to Grow for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most complete issued, 6d. Ordinary List free. **JOHN WATKINS**, Pomona Farm Nurseries, Withington, Hereford.

Many Acres of Lilies of the Valley!
T. J. JANNACH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of specimens. Time of sending out, November 1 to May 1. Prices and terms on application.
T. JANNACH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

HARRISON AND SONS, SEED GROWERS.
Leicester, have posted to all customers their GENERAL CATALOGUE OF SEEDS for 1892. If any one has not received the same, please communicate to that effect, and to their desires of becoming customers a copy will be sent, post-free, on application.
HARRISON AND SONS, Royal Midland Seed Warehouse, Leicester.

HARRINGTON'S "EARLIEST OF ALL" POTATO.
A new introduction. The earliest Potato in cultivation, and may be depended upon for producing a heavy crop. The flesh is yellowish-white, and is of delicious flavour when cooked. This Potato is especially suited for frame culture.
Price, 3s. per stone.
JOHN HARRINGTON, Seedsmen, Hertford.

FOR SALE, "clearing-out" STEPHANOTIS, covering 30-foot house, 30s.; 56 NIPHETOS ROSES for cut blooms, 5s. each. Several hundred ROYALDIAS, Alfred Noemer, 2s. per dozen; 200 Double White Winter King GERANIUMS, strong plants, taking stock, from 4s. per dozen; splendid RASPBERRY CANES, 1s. per 100. Would EXCHANGE for SEEDS, BULBS, BOX, TREES, &c.
W. COOMBS, Belstone, Devon.

PERNS! PERNS!—Trade.—Greenhouse and Store, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large A. cuneatum, in 48s, 6s. per doz. Large Ferns, 10 saleable kinds, Arnica Sieboldii, Primula Solanum, super stock, all in 48s, 6s. per doz. Palms, Ficus, Erica hymenalis, and Cyclamen, in 48s, 12s. per dozen, for bloom and fine foliage cannot be better. P. tremula, and A. cuneatum, selected bushy, for putting on, 16s. per 100. Facked free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

"GOOD THINGS" from HARTLAND, Cork.
For 1892.—AURICULA, Empress of India, try it for colour which is deep indigo, magnificent, 2s. 6d. per packet. COSMOS bipinnatis alba, White Pearl, from America, beautiful, 6d. per packet. POPPY, Snowdrift, double frimbriated bloom, like halves of cut tissue paper; thousands of packets now in circulation through famous London wholesale firm, 1s. per packet. PHLOX Drummondii grandiflora, mixture, the finest in Europe; see coloured plate in *Garden*, from specimens grown from Hartland's unique mixture, 6d. and 1s. per pkt. BROCCOLI, April Beauty (Hartland), the best and earliest variety in any part of Europe, 1s. per packet. SUNFLOWER, Hartland's Soleil d'Or, plants, 1s. each, 7s. 6d. per dozen, post-free.—**WM. BAYLOR HARTLAND**, Seedsmen and Florist, 24, Patrick Street, Cork.
"Year Book" for 1892, now ready, kindly write for it.

BARR'S SEEDS, BULBS, AND PLANTS.
VEGETABLE SEEDS.—All the best sorts only; and a great deal of valuable information. Cultural and descriptive CATALOGUE FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 3000 species and varieties of the most decorative kinds, for all sorts of decoration, with important remarks. CATALOGUE FREE ON APPLICATION.
BULBS.—Gladolus, Lilies, Anemones, Ranunculus, Hyacinthus coccineus, Tigris, and all other sorts for Spring Planting. LIST FREE ON APPLICATION.
SPECIAL LIST, free on application—Michaelmas Daisies, Perch and Sunflowers, Double and Single Peonies, Iris (tall and dwarf), Oriental Hyacinths, Carnations, &c.
BARR AND SON, 12, King Street, Covent Garden, London.

BEGONIAS A SPECIALTY.—Awarded Four Gold Medals, and Gold Cup, and all First Prizes. Seed saved from Prize Plants. Our Begonia Seed and bulb catalogue, all previous years. Choicest mixed, single or double varieties, 1s., 2s., 6d., and 5s. per packet. Collections (Seed)—single, named varieties, separate, 5s. 6d.; 6 ditto, 3s. 6d.; 12 ditto, named angles, from 12s. to 42s. per dozen; and named seedlings, 12s. to 21s. per dozen; bedding, choicest, 4s., 5s., 6s., and 8s. per dozen; choicest named doubles, from 42s. per doz.; and bedding, 4s. to 30s. per dozen; choicest mixed, for bedding, 4s. and 12s. per dozen. Catalogues on application.
JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill, London.

CHARLES NOBLE

HAS FINELY BUDDED
RHODODENDRONS, named kinds.
ANDROMEDA FLORINDA.
AZALEA, finest Ghent kinds,
Ditto, Seedlings,
Ditto OCCIDENTALIS.
RHODOA CANADENSIS.
DWARF ROSES, H. P., B., and TEAS.
THUIOPSIS BOREALIS
THUJA LOBBII
Ditto, AMERICANA
CUPRESSUS LAWSONIANA
HYPERICUM CALYCINUM
PORTUGAL LAURELS, 2 to 3 feet.
HARDY HEATHS.
CLEMATIS, 3 and 4 years old.
The General Assortment of NURSERY STOCK will be found superior in every way.

BAGSHOT, January, 1892.

Select VEGETABLE,
Choice FLOWER,
The best qualities at
Moderate Prices.

Delivered Free by Rail or Parcels Post.

The Best SEED POTATOS, Garden Tools, Sundries, &c., &c.

Illustrated Descriptive Catalogue, No. 403 POST FREE ON APPLICATION.

Dicksons Seed Growers, Chester.
(Limited)

For PLEASURE AND PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow.
74 ACRES IN STOCK.
See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Soils.

ROSES. Hundreds of Thousands.
RUSHES. Packing and Carriage Free for Cash with Order.
8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.
ORNAMENTAL TREES, 91 ACRES.
4 ACRES OF GLASS.

CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS VEGETABLE, FLOWER, and FARM.

DESCRIPTIVE LIST, FREE.
RICHARD SMITH & CO., WORCESTER.

SHARPE'S STANDARDS SEEDS

NOW READY.

SHARPE'S ILLUSTRATED DESCRIPTIVE CATALOGUE for 1892.

Post-free on application to

CHARLES SHARPE & CO.,
Seed Farmers and Merchants, **SLEAFORD.**

ASPARAGUS, of fine quality—for forcing and planting: 2 yr. old, 2s. 3d. per 100; 3 yr. old, good roots, 3s. per 100; ditto, selected, 4s. per 100; 6d. per 100 less for quantities of 1000 and upwards. For forcing, 4 yr. old, 5s. per 100; 5 yr. old, 6s. per 100; 10s. per 100; ditto selected, 12s. 6d. per 100; 6 yr. old, extra fine, 15s. per 100. Cash with order. My Asparagus always makes top price at Covent Garden.
Send the following unsolicited testimonial:—"Please send me another 200 of 5 yr. old A-Paragus Roots. I may say that the last 200 were the best lot of forcing roots I ever bought, and my employer says the quality is excellent.—**C. H. PERKINS**, The Gardens, Milton Abbey, Bradford."
J. J. CLARK, Market Gardener, Goldstone, Brighton.

Seeds.—Carriage Paid.—Seeds.
DICKSON AND ROBINSON'S
DESCRIPTIVE CATALOGUE for 1892.
Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOS; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application.
COLLECTIONS OF VEGETABLE SEEDS, from 5s. to 81s.
COLLECTIONS OF FLOWER SEEDS, from 2s. 6d. to 81s.
Seed Warehouse, 12, Old Millgate, Manchester.

Seeds! Seeds!! Seeds!!!
VEGETABLE and FLOWER SEEDS, saved from
CHOICE SELECTED STOCKS.
Everyone with a Garden, and every Market Gardener, should send for a CATALOGUE before purchasing elsewhere.
SPECIAL LOW QUOTATIONS to Large Buyers.
B. L. COLEMAN,
Seed Merchant and Grower, Sandwich, Kent.

TRADE OFFER OF PALMS.
COCOS Weddeliana, in thumbs ... at 20s. per 100.
" " " in 60s, ... at 55s. per 100.
KENTIA Fosteriana and Belmoreana, in thumbs, at 20s. per 100.
" " " in 60s, ... at 80s. per 100.
" " " in 48s, ... at 24s. per doz.
" " " in 32s, ... at 48s. per doz.
SEAFORTHIA Elegans, in 60s, ... at 42s. per 100.
" " " in 48s, ... at 25s. per 100.
W. Icton has a fine Stock of Asparagus plumosus canus, in 48s and 60s; Pandanus Veitchii, Dracaena Lindenii, and Ficus elastica.—**W. ICTON**, Putney, S.W.

WM. PAUL AND SON respectfully invite inspection of the following TREES and SHRUBS, now on Sale. Prices (on application) very reasonable, and quality unexceptionable as to roots, tops, and stems:—

BEECH, purple, best variety ... 12 to 18 feet.
" common ... 12 feet.
BIRCH, Silver and others ... 12 to 14 feet.
ELMS, four sorts ... 12 to 18 feet.
LIMBURNUMS ... 9 to 10 feet.
LABURNUMS ... 12 to 16 feet.
MOUNTAIN ASH ... 12 to 16 feet.
NORWAY MAPLES ... 12 to 18 feet.
PLAINS ... 12 to 18 feet.
POPLARS, six sorts ... 12 to 18 feet.
SYCAMORE ... 12 to 18 feet.
THORNES, Paul's Double Scarlet ... 12 to 14 feet.
(The finest Trees in the Trade.)
FLOWERING SHRUBS, various ... 4 to 5 feet.

ARBOR-VITÆ, American ... 6 feet.
AUCUBAS ... 3 to 44 feet.
BOX, of sorts ... 3 to 5 feet.
CEDRUS ATLANTICA ... 10 to 16 feet.
" DEODARA ... 8 to 12 feet.
CUPRESSUS LAWSONIANA ... 8 to 7 feet.
HOLLY, Variegated ... 8 to 12 feet.
" Green, named sorts ... 6 to 12 feet.
FIR, Scotch ... 6 to 9 feet.
" Austrian ... 3 to 8 feet.
LAURELS ... 3 to 7 feet.
OSMANTHUS ... 2 to 4 feet.
PICEA PINSAPO ... 6 to 8 feet.
RHODODENDRON PONTICUM, ch ... 2 to 4 feet.
" long ... 2 to 4 feet.
" Hybrid ... 2 to 4 feet.
" Named sorts ... 2 to 4 feet.
YEWES, Common, and others ... 3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and Pyramids.
APPLES and PEARS, Horizontal-trained.
CHERRIES and PLUMS, Flat-trained.
ASPARAGUS for Forcing.

PAUL'S NURSERIES, WALTHAM CROSS.
South Entrance, 4 minutes' walk from Waltham Cross Station
West Entrance, 3 minutes' walk from Theobald's Grove Station
Great Eastern Railway.

H. J. JONES,
Begs to draw attention to the Great Bargain he is now offering in
BEGONIAS,

Absolutely the best value for money ever offered. Try them, if not satisfied, cash returned.

SINGLE BEGONIAS FOR BEDDING.
These have been selected with great care, and may be relied upon to give a grand display.

Very choice, all colours mixed, per doz., 3s.; per 100, 20s.
Very good, to colour ... 3s.; ... 20s.
Very choice, selected to colour ... 4s.; ... 26s.

SINGLE BEGONIAS FOR POT CULTURE.

All the varieties offered under this heading are quite up to exhibition standard, and remarkable value for money.

12 finest selected mixed colour, 4s.
6 finest selected Fawn, Bronze, Terra-cotta, Buff, Apricot, and Dark Orange, 4s. 6d. A unique collection.

12 fine selected, in 12 distinct colours, 6s.
12 very fine selected, in 12 distinct colours, 9s.

12 My very best selected, equal to the finest named varieties, usually offered at 5s. each, in 12 lovely colours, 12s.

DOUBLE BEGONIAS FOR POTS OR BEDDING.
6 fine selected Seedlings, 6s. 6d.; 12 for 12s.

6 extra fine selected, suitable for exhibition, 12s.; 12 for 24s.

Unbloomed doubles—60 per cent. of them will be fine double flowers—8 for 12s.; 12 for 4s.

Begonia Seed, single, 1s. and 2s. per packet; double, 1s. 6d. and 2s. 6d. per packet.

All free for cash with order.

RYECROFT NURSERY, HITHER GREEN, LEWISHAM

CLEARANCE SALE of PALMS, DRACENAS, &c.

Strong Small Palms, averaging 10 to 12 inches high, of SEAPORTHIA ELGANS, LATANIA BORBONICA, ARECA SAPIDA, CORYPHA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of each, 14 plants in all, 5s.; 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.

Price per 100 or 1000 on application.
* LATANIA BORBONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.

* CHAMÆDORIS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.

* Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.

* DRACENA CANIFOLIA, 5 to 6 feet high, 21s. each.

* Ditto ditto 4 feet high, 15s. each.

* PHOENIX TENUIS, 3 feet high, 5s. each.

* Ditto ditto 2 feet high, 18s. per dozen.

* DRACENA INDIVISA, 3 feet 6 inches high, 5s. each.

* Ditto RUBRA, 2 feet high, 18s. per dozen.

* Ditto CONGESTA, 2 feet high, 18s. per dozen.

* SEAPORTHIA ELGANS, in 60s. for 18s., strong, 6s. doz.

Price per 100 on application.
Those marked * are Packed Free, but NOT Carriage Paid.

W. OWEN, 106, Stamford Hill, N.

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standards, Pyramids, and Wall-trained), Apples, Pears, Cherries, Peaches, Filberts, and Plums; 20,000 noble tall standard Victoria Plums and Damsons six years old. The trees are without blemish, twice transplanted, splendidly rooted, and intended for the tenants and hedgerows on the Estate. Guaranteed true to name. The superb Rhododendrons, specimen Shrubs, and Hollies, secured but recently regardless of cost: 2000 Maiden, Standard, and Dwarf Roses, 40,000 Black and Red Currants, four years old; and forty kinds of Gooseberries, 6000 Raspberries. Price, half their value. See Catalogues, Removing:—LAND STEWARD, Hon. GERTRUDE JONES, Churchfield, Cradley, near Malvern.

GEORGE JACKMAN & SON, WOKING NURSERY, SURREY,

INVITE INSPECTION OF THE FOLLOWING WELL-GROWN STUFF:—

FRUIT TREES.—A fine stock of Apples, Pears, Plums, and Damsons, in Standard, Pyramid, and Dwarf-trained trees; also Dwarf-trained Apricots, Peaches, and Nectarines.

ROSES.—A large Collection of Dwarf and Standard Hybrid Perpetual and Tea Roses, in all the leading varieties; also Tea Roses, in pots, for forcing.

RHODODENDRONS.—Choice named varieties set with flower-buds; also Hybrid Seedlings and Potunciums.

CONIFERS.—Fine stuff, in various Sorts, for Lawn and Shrubbery planting.

SHRUBS.—Ornamental and Flowering, adapted for Belts, Shrubberies, Screens, &c.

CLIMBERS.—Including their celebrated Clematis, suitable for Walls, Trellis-work, Rockwork, &c.

ORNAMENTAL TREES.—For Parks, Avenues, Streets, and Private Gardens.

FOREST TREES.—In large quantities, for Coverts, Woods, &c.

CATALOGUES FREE ON APPLICATION.

LANDSCAPE GARDENING.—A leading Feature. Plans designed, and Advice given as to Laying-out, Planting, or Renovating Parks, Cemeteries, Recreation Grounds, and Private Gardens.

GROUND REQUIRED FOR BUILDING. TO BE SOLD, CHEAP.

- 1000 PINUS AUSTRIACA, 2 to 3 and 5 feet.
- 1000 LAURELS, bushy, 4 to 7 feet.
- 500 MOUNTAIN ASH, 10 to 15 feet.
- 500 LABURNUMS, 8 to 10 feet.
- 200 SPANISH CHESTNUTS, 8 to 10 feet.
- 500 POPLARS, ITALIAN, 12 to 18 feet.

JOHN PEED & SONS,

The Nurseries, Mitcham Road, Streatham, S.W.

Special Cheap Offer to the Trade and large Planters.

ISAAC MATTHEWS AND SON have large quantities of the under-mentioned trees to offer cheap:—10,000 RHODODENDRONS, Early, White, Scarlet, Pink, and other varieties, fine plants; and 500,000 Potuncium and Seedling Hybrids, various sizes, from 1 to 4 feet, by the 100 or 1000; 500,000 THORN QUICK, four and six-year old, extra strong; COMMON ASH, 3 to 4 feet and upwards; MOUNTAIN ASH, 6 to 12 feet; BIRCH, 8 to 9, 9 to 10, and 10 to 12 feet; HORSE CHESTNUTS, from 3 to 10 feet; also a large quantity of Horse Chestnuts, 12 to 15 feet, and specimen trees for avenue-planting. **ENGLISH YEW, ELMS, and HORNBEAMS, 8 to 10 feet; AUSTRIAN PINES, fine trees, 3 to 8 feet; recently transplanted POPLARS, varieties, 6 to 12 feet; SPRUCE, for Christmas Trees, also for Forest Planting; AUUCUBAS, HOLLIES, BOX, CUPRESSUS, IVIES, LAURELS, &c.**

CATALOGUES on application.
The Nursery, Milton, Stoke-New-Trent.

BARR'S SURPLUS CLEARANCE SALE OF DAFFODILS

Prices greatly reduced. Bulbs in prime condition for Potting, Bedding, and Naturalisation. Detailed Priced LIST on application.

Per 1000, 15s., 25s., 42s., 63s., 84s., and 105s.

BARR'S CLEARANCE SALE OF HYACINTHS, TULIPS, POLYANTHUS-NARCISSUS, CROCUS, SNOWDROPS, CHIONODOXA, SCILLAS, SNOWFLAKES, and other Spring-flowering Bulbs, ALL IN PRIME CONDITION. PRICES GREATLY REDUCED. LIST ON APPLICATION.

Important Descriptive LISTS now ready, free on application:—

CONFERENCE MICHAELMAS DAISIES, and PERENNIAL SUNFLOWERS.
GLADIOLUS, CARNATIONS, PICOTEEs, PINKS, HELLEBORES, and LILIES.
SINGLE PÆONIES, DOUBLE PÆONIES, HELLEBORES, and IRIS.

BARR & SON, 12, King St., Covent Garden, London.

KELWAY'S MANUAL.

Ready January 1, 1892, 130 pages quarto. 1s., post-free. Gratis to Customers.

Handsome volume for presentation. Practical for use. Thirty-second Edition, still further improved and enlarged. Phototype and Wood Engravings. Cultural articles and full descriptive matter. For Contents see *Gardeners' Chronicle*, December 26, p. 755.

INCLUDES the CHOICEST SEEDS, and GLADIOLI, ESPECIALLY for EXHIBITION. Indispensable to every Amateur. Tables useful to the Gardener and Farmer are included.

Fifty-seven Gold and Silver Medals, London and Paris, awarded to the Produce of our

SEEDS, PLANTS, AND BULBS.

KELWAY & SON, Langport, Somerset.

F. C. HEINEMANN,

SEED GROWER,
ERFURT, GERMANY.



ILLUSTRATED CATALOGUE

FRESH & SELF-GROWN SEEDS,
ENGLISH EDITION, is
NOW READY.

Includes all the FINEST NOVELTIES of the Season, and may be had post-free on application (id. post-card). Please quote *Gardeners' Chronicle*.

My business is the Oldest and Largest of Erfurt that supplies private Gardeners and Amateurs only. More than 60,000 parcels are sent yearly to all parts of the World.

I OFFER MY

SEEDS AT MUCH LOWER PRICES

than any English or Continental Seed House of good repute, and guarantee, besides, self-grown, genuine, and fresh Seeds only.

It is an established fact that the greater part of all Seeds Sold in England or America is grown in Germany, especially in and near Erfurt, the Garden Town of Germany.

Furnishing you with my Catalogue, I place my stores at your very door, and enable customers thousands of miles away to obtain their supplies as safely and cheaply as if they had called in person at my establishment.

Ordered Seeds will arrive in Great Britain within a few days, and are offered and sent Package and Postage Free.

DIRECT CORRESPONDENCE. NO AGENTS.

F. C. HEINEMANN,
SEED GROWER,
ERFURT, GERMANY.

BEGONIA ODORATISSIMA (BAUMANNI).

*The First Sweet-scented, Large-flowered
BEGONIA.*

Per Packet, 1s. 6d.

Et gravé from a photograph lent by Mr. VICTOR LEMOINE.

NEW CHRYSANTHEMUMS.

H. CANNELL & SONS

Wish to inform all lovers of the above that they are sending out nine new kinds:

Mrs. Robinson King,
Baron de Prailly Improved,
Kentish Yellow,
Miss Cannell,

Emma Hitzeroth,
Eva Hoyte,
Colonel W. B. Smith,
Miss Watson,

Mr. Geo. Lloyd.

Selected with their usual great care and caution. Never has there been a season requiring such acute, cool, and practical knowledge concerning new varieties. Seedlings and sports are as numerous as butterflies, and all are said to be more beautiful. On referring to history, it will be found whatever we have enquired in our Catalogue have, with but few exceptions, always attained the highest degree of excellence, and especially for exhibition—Jubilee set as an instance. Never have we felt so confident of a set doing so as we are of the above. With our numerous collection and great stock, we do not aim to grow and show them to a high degree. Nevertheless we are sure they will cause a great and agreeable surprise when exhibited for our Prize at the next Great National Chrysanthemum Show.

Our CATALOGUE, sent post free, will be found to contain descriptions of the numerous kinds that have been exhibited and shown great promise, and will undoubtedly be of the utmost importance to all those who are desirous of gaining notoriety next season.

SWANLEY, KENT.

SANKEYS' famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM _____ To _____

_____ THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.

_____ 1892.

Please send me "THE GARDENERS' CHRONICLE" for _____ Months,

commencing _____, for which I enclose P.O.O. _____

Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.
Jan. 16, 1892.

SEAKALE for FORCING, large, superior
Selected Crowns, 75s. per 1000; under 600, 5s. per 100.
Cash with orders.—Address, ALFRED ATWOOD, Market
Grower, 21, Shillington Street, Battersea, S.W.

Now is the Time to Plant Peonies.

G LADIOLI are also ready, 20 large bulbs,
named exhibition sorts, 10s. For Priced Lists see
KELWAY'S MANUAL for 1892, 1s. post-free; gratis to
customers.—KELWAY AND SON, Langport, Somerset.

ANTHONY WATERER invites an
inspection from intending Planters to the following
well-grown TREES, having stout, clean stems, with
handsomely-furnished, well-balanced heads, and from
frequently transplanting are splendidly rooted, the girth
of the stem is taken at 4 feet from the ground.

ACACIA BRESSONIANA, 10 to 14 feet, girth 3 to 4 inches.
ACER DASYCARPUM, 14 to 20 feet, girth 4 to 8 inches.
" WIERII LACINIATUM, 10 to 14 feet, girth 3 to 5 inches.
" NEGUNDO VARIEGATA, Standards, 8 to 10 feet.
" REITENBACHII, 12 to 14 feet, girth 4 to 5 inches.
" SCHWEDLERII, 12 to 15 feet, girth 4 to 5 inches.
" WORLEYII, 12 to 14 feet, girth 3 to 6 inches.
ASH, Mountain, 12 to 14 feet, girth 4 to 5 inches.
BEECH, Purple, Pyramids, and Standards, 10 to 20 feet, girth
4 to 8 inches.

BIRCH, Silver, 12 to 14 feet, girth 3 to 5 inches.
CERASUS SEROTINA (American Bird Cherry), 12 to 16 feet,
girth 4 to 7 inches.

CHESTNUTS, Horse, 14 to 20 feet, girth 6 to 11 inches.
" Double White, 14 to 16 feet, girth 6 to 8 inches.
" Scarlet, 12 to 15 feet, girth 4 to 5 inches.
" Spanish, 12 to 14 feet, girth 4 to 5 inches.
ELMS, English, 10 to 12 feet, girth 3 to 6 inches.
" Guernsey, 16 to 18 feet, girth 7 to 9 inches.
LIMES, 12, 16, and 20 feet, girth 3 to 10 inches.
" EUCHLOA or DASYSTYLA, 12 to 14 feet, girth 4 to 6
inches.
" Silver-leaved (Tilia argentea), 12 to 14 feet, girth 5 to 6
inches.

LIQUIDAMBAR, 6 to 10 feet.
MAELE, Norway, 12 to 16 feet.
OAK, English, 12 to 14 feet, girth 4 to 5 inches.
" Scarlet American, 12 to 14 feet, girth 4 to 5 inches.
PLANES (English-grown), 12 to 16 feet, girth 4 to 6 inches.
POPLAR CANADENSIS NOVA (the true variety), 12 to
16 feet, girth 6 to 7 inches.
SYCAMORE, Common, 12 to 17 feet, girth 4 to 7 inches.
" Purple, 14 to 16 feet, girth 6 to 7 inches.
THORNS, Double Pink, 8 to 10 feet.
" Scarlet, 8 to 10 feet.
" White, 8 to 10 feet.
TULIP TREES, 8 to 10 feet.
WALNUT, Common, 10 to 12 feet.

WEeping TREES.

BEECH, Weeping, Pyramids, and Standards, 8 to 15 feet.
MAELE, Weeping, Purple, Pyramids and Standards, 7 to 12 feet.
BIRCH, Young's Weeping, Pyramids and Standards, 8 to
14 feet.
" Cut-leaved Weeping, Pyramids and Standards, 10 to
12 feet.
ELMS, Weeping, Pyramids and Standards, 7 to 14 feet.
LARCH, Weeping, Pyramids, 8 to 10 feet.
POPLAR, Weeping, Pyramids and Standards, 10 to 12 feet.
Knap Hill Nursery, Woking, Surrey.

FRUIT TREES AND ROSES!

VAST QUANTITIES TO OFFER,
of the usual excellent quality.

HUGH LOW & CO.,
Bush Hill Park Nursery, ENFIELD.

WHOLESALE SEED CATALOGUE.

We have now published our Wholesale Catalogue of

VEGETABLE & FLOWER SEEDS

Containing also the best NOVELTIES of the SEASON, and
LIST of over 150 varieties of choice Fern spores. MAY BE HAD
ON APPLICATION. Any of our customers not having received
one by post will oblige by letting us know, when another
shall at once be posted.

WATKINS & SIMPSON,

BULB and SEED MERCHANTS,
EXETER ST., STRAND, LONDON, W.C.
Seed and Trial Grounds—Fulham and Twickenham, Middlesex.

W. L. LEWIS & CO.,

Orchid Growers and Importers,
CHASE SIDE, SOUTHGATE, LONDON, N.
Have just secured a large

COLLECTION OF ORCHIDS,

Among which are many fine SPECIMEN PLANTS, and
marked varieties of CATTLEYAS, ODONTOGLOSSUMS,
DENDROBES, &c. Every Plant guaranteed true to name.

Write for SPECIAL PRICE LIST.
About 20 Specimen Plants of LELIA ELEGANS for SALE.
Collector guarantees varieties as excellent.
New and Rare CYPRIPEDIUMS in Stock.

CANNELL'S BECONIAS.

THREE GREAT VICTORIES:

The Temple, Crystal Palace, and Edinburgh, last year.

At the first-named Great Show we were awarded by the Royal Horticultural Society, as a mark of great excellence, a Gold Clock, an unprecedented and highest prize yet given to this family. Like all our plants and seeds there are none to equal them for real excellence, and as a proof we have received probably more First-class Certificates of merit for double varieties than all other growers put together; for full particulars see our Floral Guide, a book of reference, and contains the most accurate information on flowers throughout the world, and is valued for such in preference to all others. Sent post free to intending purchasers.

MR. W. NELSON, Ficksberg, Orange Free State, South Africa, September 2, 1891.

"I have just returned from a tour of some 600 miles through the Free State and Transvaal, and as I had, as a matter of course, a copy of your Floral Guide with me, I feel that I ought to thank you for the rich stores of solid and interesting information contained therein. Many were the hours which it helped to while away, it being so thoroughly characteristic of true British flora."

MR. G. SEUR, Rhinebeck, New York, U.S.A., November 21st, 1890.

"DEAR SIR,—Last season my son was working for H. Low and Sons, and on returning to America brought me a paper of Double Begonia seed from your house, and also from other growers. Their seed did not come up, but what a surprise yours was! I had some such as were never seen here before—notably a white 4 tooth, and as fine as any Hollyhock, heating others into a cocked hat."

SWANLEY, KENT.

FRANK CANT'S ROSES.

CHEAP AND GOOD.

Standards, from 21s. per dozen.

Dwarfs, from 6s. per doz., or 40s. per 100.

SEND FOR CATALOGUE.

BRASWICK NURSERY, COLCHESTER.

PLANTING SEASON.
HARDILY-GROWN
FOREST, FRUIT,
& ALL OTHER
TREES & PLANTS,
EVERGREENS, ROSES, &c.
NURSERIES 400 ACRES:
VERY EXTENSIVE STOCK. Inspection Invited.
Priced Catalogue sent Free.
DICKSONS THE NURSERIES
(LIMITED) **CHESTER.**

HENDER'S PETUNIAS.

The Grandest Strain grown. Seed saved entirely from large flowers, beautifully mottled and striped, 1s. and 2s. per packet. PRIMULA—Large frilled flowers, mixed, carmine, rose, white, and blue, special strain, 1s. 6d. & 2s. 6d. per packet. BEGONIA—Saved from the best-named Double and single flowers, 1s., 2s. 6d. and 6s. per packet.
HENDER AND SONS, Nursery, Plymouth.

LAPAGERIAS

LARGE SPECIMENS ON SALE BY

FISHER, SON & SIBRAY

Nurserymen, Seedsmen, and Florists,

HANDSWORTH, near SHEFFIELD.

LAPAGERIA ALBA (Handsworth Variety)—
3 and 4 shoots, 4 to 5 feet long ... 12s. 6d. each.
5 " 6 " 5 " 6 " ... 30s. 0d. "

6 " 8 " 6 " 7 " ... 30s. 0d. "

LAPAGERIA RUBRA, a fine dark variety—
4 and 5 shoots, 4 to 5 feet long ... 10s. 6d. each.
6 " 7 " 5 " 6 " ... 12s. 6d. "

7 " 8 " 6 " 7 " ... 21s. 0d. "

LAPAGERIA MACULATA, carmine-red,
inside the bell spotted with white, flowers very large
and well reflexed, distinct. Was awarded the Gold
Medal at the Manchester Royal Botanic and Horticultural
Society's Autumn Exhibition of 1887—

4 and 6 shoots, 4 to 5 feet long ... 12s. 6d. each.
9 " 10 " 10 " 12 " ... 31s. 6d. "

10 " 12 " 10 " 14 " ... 42s. 0d. "

LAPAGERIA PROFUSA, bright glossy red,
flowers in clusters, good habit, highly recommended.
Was awarded First Class Certificate at the Manchester
Royal Botanic and Horticultural Society's Autumn
Exhibition of 1887—

6 and 8 shoots, 5 to 7 feet long ... 31s. 0d. each.
8 " 9 " 7 " 9 " ... 50s. 0d. "

LAPAGERIA GIGANTEA, very dark crimson
colour, immense size—
3 and 4 shoots, 4 to 5 feet long ... 15s. 0d. each.
5 " 6 " 6 " 7 " ... 30s. 0d. "

GREENHOUSE RHODODENDRONS,

42s., 48s., 60s., and upwards, per dozen.

SPECIMENS, in VERY LARGE POTS, 21s. to 42s. each.

LARGE TREES, for Street Planting. One
of the Large Stocks in the World to select from. List
of Sorts, with prices, sent on application.

ORNAMENTAL TREES in Great Variety.

DECIDUOUS SHRUBS, Ornamental and
Flowering.

EVERGREEN TREES and SHRUBS, including
Hollies, Aucubas, Laurels, Box, Rhododendrons, &c.

CONIFERÆ, a large assortment—Retinospora,
Yews, Green and Variegated, &c.

PLANTS, suitable for Window-Boxes and
Permanent Bedding.

ROSES.

CLIMBING PLANTS, including Clematis,
Roses, Ampelopsis, Ives, &c.

The following CATALOGUES may be had,
in their respective seasons, free on application:—

No. 2—NURSERY STOCK, comprising—

Fruit Trees. One of the largest collections in
Europe, consisting of Apples, Pears, Plums, Cherries,
Apricots, Peaches, Nectarines, &c., in all sizes and
shapes.

Forest Trees of every description, and of all sizes.

Large Trees for Avenues, Streets, or Park planting, &c.
Quick and Hollies for Gapping and making new
Fences.

Ornamental and Weeping Trees. An immense
assortment, of all sizes.

American Plants, consisting of over 300 named
varieties of Rhododendrons; also portulaca in quantity,
for Game Courts, &c.

Evergreen, Coniferæ, and Deciduous-flowering
Shrubs of all the leading sorts, in large quantities.

Climbing and Twining Plants. A choice selection,
including Clematis, Ampelopsis, Ives, Honeysuckles, &c.

No. 3—FRUIT TREES, DESCRIPTIVE.

No. 6—VEGETABLE AND FLOWER SEEDS.

No. 7—GARDEN TOOLS and REQUISITES.

No. 9—AGRICULTURAL SEEDS.

No. 10—BULBS (IMPORTED), WINTER-FLOWERING
PLANTS, &c.

No. 12—ROSES, DESCRIPTIVE.

No. 13—ORCHIDS, STOVE and GREENHOUSE PLANTS.

No. 14—BEDDING and BORDER PLANTS.

A LARGE COLLECTION OF WINTER-BLOOMING
AND DECORATIVE PLANTS.



NOW READY.

**SHARPE'S
TRADE CATALOGUE**
OF
GARDEN and FARM SEEDS
for 1892,

Post-free on application to

CHARLES SHARPE & CO.,

Seed Farmers and Merchants, SLEAFORD.

FERNS A SPECIALITY
The finest & most interesting Collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy, Exotic & British
EVERY ONE interested in FERNS SHOULD
SEND FOR OUR partially descriptive.
CATALOGUE FREE ON APPLICATION.
also our ILLUSTRATED CATALOGUE No. 21.
Price 1/6 post free.
W. & J. BIRKENHEAD
FERN NURSERY, SALES, MANCHESTER.

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE and SELECT STOCK IS NOW
OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of
Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,
THE NURSERIES,
SAWBURIDGEWORTH, HERTS.

ESTABLISHED
OVER A CENTURY.
ALL KINDS OF
NURSERY STOCK.
SEEDS and BULBS
(GROWN and IMPORTED).
ALPINE and HERBACEOUS PLANTS.
J. BACKHOUSE & SON,
YORK.
CHOICE INDOOR PLANTS.
PALMS, ORCHIDS, FERNS, &c.
IN GREAT VARIETY.
PARK, ROADWORK, & ESTATE
PLANTING.
OVER 100 ACRES
OF NURSERY.

FOR
FRUIT TREES
OF ALL KINDS,
WRITE TO
Geo BUNYARD & CO
MAIDSTONE, KENT.
WHO CULTIVATE 800 KINDS
TRUE TO NAME.
ILLUSTRATED LIST
68 STAMPS.
LIST OF NAMES
GRATIS.

BUYERS SHOULD COME and VIEW THE STOCK.

The Best of the Season.

WEBBS' RELIABLE NOVELTIES.

For Descriptions and Full Particulars see

WEBBS' SPRING CATALOGUE

Beautifully illustrated with six coloured plates and hundreds of engravings, post-free, 1s., which is allowed off subsequent orders.

Seedsmen by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales.

WORDSLEY, STOURBRIDGE.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(BIDDLES & Co., Proprietors),

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete Seed Catalogue and Guide, which will be sent gratis and post free on application.

3000 Varieties catalogued, 500 Illustrations.

EXTRA STRONG FRUIT TREES.

Trained VICTORIA PLUMS, 8 to 10 feet high and wide. Standard APPLES, large heads.

Bush and Pyramids of both the former, 6 to 8 feet. WALLNUTS, very strong Trees. Fine GOOSEBERRIES and CURRANTS.

JOHN FEED & SONS,

The Nurseries, Mitcham Road, Streatham.

Established 1818.

JOHN SHARPE & SON,

SEED FARMERS AND MERCHANTS,

BARDNEY AND READING,

HAVE NOW POSTED THEIR

ILLUSTRATED WHOLESALE CATALOGUE

Seedsmen, and other large Purchasers, who may not have received a copy, are invited to communicate with the undersigned—

JOHN SHARPE & SON,

BARDNEY, LINCOLNSHIRE,

And TOWN HALL CHAMBERS, READING,

(Mr. J. H. MULLARD, Branch Manager.)

VEITCH'S NEW LETTUCES

Are most desirable acquisitions, and should be grown in all gardens.

VEITCH'S PERFECT GEM CABBAGE LETTUCE.

The best variety for summer use. A most distinct, compact growing variety, of a rich deep green colour, forming very early a close, solid heart, beautifully crisp, juicy and tender, and of excellent flavour.

Per packet, 1s. 6d.

VEITCH'S GOLDEN QUEEN CABBAGE LETTUCE.

A small early variety of a beautiful and pleasing golden colour, literally all heart, and of a particularly delicate flavour.

Per packet, 1s. 6d.

VEITCH'S SUPERB WHITE COS LETTUCE.

A magnificent self-folding variety, grows to an immense size, is of superior quality, very crisp, and fine flavoured.

Per packet, 1s. 6d.

For full description of the above and other Choice Novelties, see *SEED CATALOGUE* for 1892, forwarded gratis and post-free on application.

JAMES VEITCH & SONS,
Royal Exotic Nursery, CHELSEA, S.W.

Williams' WORLD-RENOWNED PRIMULA

GOLD MEDAL STRAIN.

In Sealed Packets, bearing our Registered Trade Mark, without which none are genuine.

BEST QUALITY. POST FREE.



Per packet—s. d.
Williams' Superb Red, White, and Mixed 1 6 & 2 6
Williams' Mixture of 6 varieties ... 1 6 .. 2 6

For other varieties, see *ILLUSTRATED SEED CATALOGUE*, Gratis and Post-free on application.

J.B. Williams & Son,
UPPER HOLLOWAY,
LONDON, N.



THE

Gardeners' Chronicle.

SATURDAY, JANUARY 16, 1892.

WARWICK CASTLE.

THE history of Warwick and of Warwick

Castle is so intimately interwoven with historical events in the Middle Ages, that those who have made only a superficial study of those stormy times in our country must know something of the renowned Guy, the most noted among many famous Earls of Warwick, and also of the stately grandeur of the Castle which has for centuries been the home of some of the first families of England's aristocracy.

There seems to be no authentic record as to the time when the oldest portion of the present Castle was built, but after the Norman Conquest it was greatly enlarged and beautified, and built into something like its present form; and since that time many additions have been made—notably the fine polygon tower, dedicated to Earl Guy, which has walls 10 feet in thickness, a base of 30 feet in diameter, and rises to a height of 128 feet. This was built in 1394, by Thomas Beauchamp, the then Earl of Warwick, who was the son of one of the commanders who led the van of the English Army at Cressy. The view from the summit of this tower, which is reached by 133 steps, is of great extent and beauty. In the distance are seen the spires of Coventry, and the ruined towers of Kenilworth, the Shropshire Hills, and the Saxon Tower on the Broadway Hills, with the pretty and fashionable town of Leamington in the near distance, and the venerable towers of many a village church showing between and above the luxuriant trees of the park. Volumes might be written of the doings of the Earls of Warwick, of the great events which took place in the vicinity; but enough has been written to show that, by reason of its antiquity and historical associations, it holds an unique position among the old homes of England. We may here enumerate the crowned heads who are known to have visited Warwick:—Queen Anne, Queen Elizabeth, and Queen Victoria, who was accompanied by the late Prince Consort.

The gardens and grounds, which more nearly concern our readers, as we saw them in August of last year, formed a pleasing sight. The principal entrance to the castle and grounds from the town is through a massive archway with huge folding doors, passing through which, the visitor enters a sunken road, cut deep in the rock. Stately trees rise from the top of the rocks on either side, forming a leafy canopy overhead; while from the base of the trees a sloping bank of Ivy reaches to the edge of the rocks, from which point the long trailing shoots of Ivy stray downwards, till in some places they have

CLIMBING DELICATESS CUCUMBER.

TO THE TRADE.

100 packets, of ten seeds ... 25s.
50 packets ... 13s.
10 packets ... 4s.
1 packet ... 6d.

For description, see my Wholesale CATALOGUE, which can be obtained on application.

Electros will also be lent, if desired.

J.C. SCHMIDT
ERFURT,
GERMANY.



reached the road. This forms a picturesque and striking entrance, and one not easily forgotten.

An abrupt turn of the road brings the visitor in sight of some of the oldest portions of the Castle. On the right rise the ponderous walls of Guy's Tower, referred to above; and on the left is Cesar's Tower, which, built 800 years ago, has withstood the attacks of many besiegers. It still continues, to all appearance, as firm as the rock on which it stands. The two towers are connected by a strong embattled wall, in the centre of which is an arched gateway, secured by a second gateway at the end of the arch. In front of this is the old moat, with an arch thrown over at the gateway, where a drawbridge was formerly situated. Passing the double gateway, the visitor enters the inner court. On the left stands the irregular castellated mansion of the feudal barons of Warwick. The spacious area of the court is clothed with the richest of green turf. On the right are two extremely old and quaint-looking Scotch Firs, in keeping with all that is ancient around them. Opposite the entrance to this court is a colossal artificially-raised mound, which connects the battlements on the right with the Castle on the left. This mound was made nearly a thousand years ago by Princess Ethelfleda, who erected a watch-tower on its summit, from which to observe the movements and keep in check the warlike tribes around.

Passing from the environs of the Castle, a long straight walk leads to the flower garden and pleasure-grounds. On either side of this walk are fine stretches of turf, bordered on one side with a Yew hedge, clipped with mathematical accuracy into the form of a cube. On the other side, on the grass at the bottom of a gentle slope, stands a fine thriving specimen of the English Oak, which was planted by Queen Victoria, June 16, 1858; and a short distance from this point is a Wellingtonia, which was planted at the same time by the Prince Consort; and near by is a promising tree of *Cedrus atlantica*, which was planted by Princess Mary of Teck in October, 1889. Near the above-mentioned trees are many fine specimens of Yew, a tree which thrives at Warwick. Traversing the walk already mentioned, we come upon the terraced flower-garden. This was laid out by the late Robert Marnock. The whole of the beds are edged with Yew and Box, which is kept clipped into regular form. On the upper terrace, in the centre of the flower-garden, is a large conservatory, with a front of glass and masonry, and a ceiled roof. This was originally built to hold the celebrated Warwick Vase.

This house also contains a remarkably fine specimen of *Dicksonia antarctica*, having a trunk 14 feet in height, and 18 inches in diameter at the base, everyone of the numerous large fronds being in perfect health. *Chamaecyparis exelsa* is also represented by a huge thriving specimen, and a plant of the graceful *Acacia plumosa* was fully 15 feet in height. Ivy-leaved *Pelargoniums* occupied the front stages, and these were flowering profusely. On the terrace, in front of the conservatory, an avenue consisting of Orange and Camellia trees, in tubs, were arranged with very good effect. The scene presented to view from the terrace is one that is not easily surpassed in loveliness.

At the foot of the terrace are the flower beds, bright in the season with the glow of many colours; then comes a lower terrace with groups of Roses and flower beds, and immediately in front, for a quarter of a mile in length, is a broad open lawn without beds of any kind, but bordered on either hand by noble Cedars and

Limes extending to the banks of the river Avon, which passes in its course the walls of the Castle closely. On the opposite side of the river, groups of trees rise here and there, which, from the terrace above, appear like a continuation of the avenue of trees just referred to, and as these belts of trees are continued in the distance they gradually curve to the right till they appear to almost meet in the distance; from this point the tops of other trees form an undulating surface, which sweep upwards on either side of the central cavity and extend as far as the eye can reach.

Much of the bedding consisted of bold combinations of *Pelargoniums*, sometimes of zonals, sometimes *Pelargonium peltatum* in variety together with the former. *Clematis Jackmani* is also made use of with very good effect as a bedder.

The Roses near here were in fine condition, their strong healthy appearance and fine blooms showing they were well cared for. Other beds, filled with *Dianthus barbatus*, and *Amaranthus melanocephalus* ruber, each with suitable edgings, contributed variety, and added to the general effect.

From the flower garden the Cedar Walk is traversed. This is lined on either side by a row of grand specimens of Cedar of Lebanon, which grow with such luxuriance here, and it is generally admitted that at no other place in England can so many fine Cedars be found. The trees at Warwick have assumed that table-like form so characteristic of the species when aged, and the branches spread out to a tremendous length, while one of the trunks measures 26 feet in circumference at the base. They are said to have been among the first brought to England. At the end of this walk, we get a fine view of the Mount, which is reached by a winding walk, and from which a panoramic view of great extent and beauty is obtained. We pass onwards. At the base of the Mount to the Castle walls, which, from this point, runs in a line with the river, the walls towering majestically above the stream. Near this point are Lord and Lady Warwick's terraces, whereon many rare shrubs and choice herbaceous plants are fixed, the positions being so warm and sunny that many plants not usually hardy enough to withstand the winters of the midlands, remain uninjured. On the opposite side of the castle, near the entrance, is a charming and secluded roseroy, also a piece of Marnock's work, and it is well worthy of him. The Roses are trained over iron pillars and chains, and some varieties thrive well under such conditions; but many of the best kinds literally refuse to grow when trained close on iron supports—endeavours will be made in the future to remedy this defect.

Both the Earl and Countess of Warwick have long been ardent collectors of trees and shrubs, and have at various times, when returning from their foreign travel, brought back many rare and beautiful trees and shrubs, such as are seldom met with in English gardens. The grounds abound in delightful walks and shady drives, bordered with green sward, and overhung with the long-spreading branches of Cedars, Limes, Planes, Beech, Stone Pines, and Laburnums. A fine avenue of *Cedrus Deodora*, Yews of unusual dimensions, and other subjects not often met with, among which may be mentioned *Salisburia adiantifolia* (the Maidenhair tree), *Catalpa syriacifolia*, *Abies Lowiana*, *Paulownia imperialis*, *Cercis siliquastrum* (Judas tree), *Cistus ladaniferus* (Gum Cistus), *Sciadopitys verticillata*, *Aristolochia siphon* (a deciduous climber), and *Buddleja globosa*. These, to-

gether with a great variety of Conifers of the ordinary description, completes a scene rich in sylvan beauty.

THE KITCHEN GARDENS.

One of the kitchen gardens is situated in a warm sheltered spot on the site of a once-famous vineyard, where so far back as the time of Henry IV. the Grapes were brought to great perfection, and a few Vines of the same variety are still growing in it. Every foot of this garden is closely and judiciously cropped with vegetables. The principal kitchen garden is enclosed by high walls, well furnished with fruit trees, the southern aspect being covered by Apricot, Peach, and Nectarine trees.

GLASS-HOUSES.

The glass-houses occupy a large portion of the walled-in space, and consist of two substantially built ranges, well heated and ventilated, but unfortunately some of the houses are rather too lofty to be well adapted for plant growing, unless large plants for exhibition are required; for that purpose they would answer admirably, but in spite of this weakness they are a fine compact lot. The vineries are four in number; one was occupied chiefly with Muscats, another with Black Hamburgs, the other two with late varieties. Alicante, Gros Colmar, and Lady Downe's were carrying heavy crops, which gave promise to finish well. The Vines in the Muscat and Hamburgh-houses, though not carrying such a weight of fruit, had many fine bunches, the latter being of a beautiful colour. The Peaches were over in the two houses devoted to their culture, but space was found for one tree of Pine-apple Nectarine, and which was carrying some very fine fruits of that excellent variety. Other large houses were occupied by Tomatos and Cucumbers, and a mixed collection of stove and greenhouse plants. I may here remark that in the borders in front of the fruit-houses were layered some thousands of Malmaison Carnations, and of which a goodly number of bushy plants were also growing in pots.

Much, of course, was observed which cannot be incorporated in the present notice; and one could not but remark on the excellent condition in which the whole place is kept by Mr. H. Dunkin, Lord Warwick's head gardener.

NEW OR NOTEWORTHY PLANTS.

CYPRIPIEDUM COWLEYANUM.

C. CURTISII ♀ × C. NIVEUM ♂. (New Garden Hybrid.)

THIS, one of the handsomest of hybrid *Cypripediums* that I have yet seen, was raised in the gardens of F. G. Tautz, Esq., Diddon House, Hanger Hill, Ealing, by his indefatigable gardener and Orchid grower, Mr. John C. Cowley, by crossing C. Curtisii with the pollen of C. niveum. The foliage is fairly intermediate between the two named, that is to say, in strength and general appearance it approaches C. Curtisii, but the foliage is thicker, the markings obscure, and a tinge of purple shows on the under side. The scape is covered with hairs, brownish in colour; the bract (like all the segments of the flower) is also ciliate, and possesses some purplish spots; and the ovary is of a green colour, tinged with brown. The flowers, in their massive proportions, bear much resemblance to those of C. Curtisii, but the petals are wider, and the colouring is different; in fact, the shape of the flower and the spotting have a greater resemblance to that of *Marshallianum* × (C. venustum pardinum × C. concolor), which flowered some time ago with Mr. Tautz (*Gard. Chron.*, April 16, 1887), but the ground is white,

and the spots are darker and more closely set together than in *C. Marshallianum* ×. The reverse side of the flower is wholly white, with a slight tinge of green on the middle of each; the purplish spotting of the petals showing through at the edges. Regarding the front of the flower, the upper sepal, which is white, and is slightly concave in form, with about fifteen clear dark purplish-crimson lines, more or less dotted, and tinged with rosy purple between them, radiating from the

where about an eighth of an inch in length is white, and unspotted. The white lower sepal is furnished with a few purplish lines. The face, sides, infolded lobes, and interior of the lip, are of a bright rosy-purple colour, and the stamens are dark purple, with a white margin on its upper edge. *J. O'Brien*.

CYPRIPEDIUM, ENSION (HARRISIANUM × BARBATUM DIFLORUM) (CROSSII).

A second crossing with a form of *C. barbatum* has

ties of true *Harrisianum* have. It was raised and flowered in the gardens of Chas. Winn, Esq., Selly Hill, near Birmingham, where there are many better hybrids approaching maturity. *James O'Brien*.

PERFUME PLANTS IN AUSTRALIA.

THE cultivation of perfume-yielding plants in Australia is not by any means a new idea. It was



FIG. 15.—VIEW OF THE RIVER AVON AND WARWICK CASTLE. (SEE P. 71.)

base almost to the edge, so as to leave only a narrow white margin wholly unspotted or tinged. The petals, which are not so much deflected as in *C. Curtisii*, are ovate-oblong, their tips curving slightly backwards; they are white, and almost the whole of their surface is covered with small dark purplish-crimson or claret-coloured spots. The base of the petals is tinged with claret colour, which, at a little distance, gives them a shining purplish-crimson colour. The white ground between the spots is more apparent at the tips of the petals,

of course resulted in producing a flower of smaller size than that of *C. Harrisianum*, and with more of the aspect of *C. barbatum*, but it may only be likened to a small form of that known in collections already as *C. Harrisianum vivicans* ×; and it is probable that the cross may have been effected before, but the raisers have included it with the *C. Harrisianum*, of which there are a large number of varieties already. The present variety, however, is a neat flower, with a more shiny surface and a more rosy hue over the petals and dorsal sepal than the varie-

suggested many years ago, and a member of the family representing the well-known house of Piesse & Lubin visited Australia, and took special interest in the subject. It seems, from a paragraph in the *Chemist and Druggist*, that a fresh attempt in this direction has been made in Victoria, where, at Dunolly, the Government has had for some time an experimental flower-farm, for the purpose of growing flowers for use in the preparation of perfumes. Mr. Bosisto, who has done so much for the development of the products of the *Eucalypti* in pharmacy, and

who was referred to in connection with Eucalyptus farming in the *Gardeners' Chronicle* for January 2, 1892, p. 18, on visiting the farm recently, spoke of the French perfume manufacturers, and expressed a hope that a similar industry might grow upon Victorian soil. In considering the establishment of such an industry in Australia, Mr. Bosisto said two questions would arise: "First, have we in Australia any indigenous plants or flowers adapted for the purpose? Second, will the cultivation of imported perfume plants pay? We are not, as is generally supposed by strangers, surrounded with bush-flowing plants, rich in colour, peculiar in appearance, but devoid of fragrance. Many may be so classified. We have a few woods, barks, leaves, and flowers, resins and balsams, containing aromas. Some may be said to be rich and rare; even in the Eucalypti, few leaves of a tree excel the *Citridora* of Queensland. How few aromas excel those of the Wattles or the *Pittosporum* of Victoria, or the *Boronia* of West Australia. From August to December the Wattle varieties are in bloom, scattered over the colony, loading the air with their bouquet, and supplying flowers, not by the pound weight, but literally by the ton. Although the *Pittosporum undulatum* in its forest-home does not bear an abundance of flowers, yet under cultivation the trees become covered with blossom. The *Boronia megastigma*, which is a small shrub, supplies flowers abundantly under cultivation, richly endowed with perfume. The Musk-tree (*Olearia argophylla*), so abundant in many parts of Victoria, supplies an otto, durable in scent, frangipani-like. If our people farmed these odoriferous plants, they would supply new perfumes for Europe, and create an industry in which their young families could find employment. The *Pittosporum* and Musk could be planted around sections of land, and the *Boronia* cultivated in the garden or by the acre. The necessary knowledge to treat the parts of a plant for the scent-product is certainly diversified, but it is not beyond the reach of persons of ordinary intelligence."

We agree with our contemporary in its remarks on the above subject, that there may be some prospect of success in the introduction of new perfumes, but, so far as those already supplied by France are concerned, that there is little or no hope of remunerative competition from the Victorians.

BEAN CULTURE.

ALTHOUGH we have about 350,000 acres of land under Beans in this country, and import from 2½ to 3½ million cwt. of Beans from abroad, it is strange how small is the proportion of the ripe seeds of the Bean tribe used for human food here, compared with other countries. The French Bean and the Scarlet Runner are popular vegetables in their young state, but our home produce and imports of Beans are principally devoted to feeding live stock, for the ripe pulses are very seldom used at table. Beans and Peas are almost alike in the proportions of the two nourishing substances, legumin and starch. The kidney Bean is nearly twice as nutritious as Wheat. The seeds of the field Bean and the Broad Bean or Windsor Bean contain 33 per cent. of starch. On the Continent, and in most Spanish countries, Haricots and "Fleagolets," as they are termed, are the common and ordinary food of the people.

The French consider Haricots far superior to any other *legume*, and in many countries of Europe, as also in North America and Asia, they are cultivated to a much greater extent than in England, and by every cottager who possesses a piece of garden ground, for their ripe seeds, of which they make various kinds of dishes, and consider them of as much importance in their domestic economy as our poorer classes do Potatoes. In India, China, and Japan, various pulse are largely used for food. These comprise different species of *Phaseolus*, *Ervum*, and *Lathyrus*. No Hindoo takes his usual meal without having some of the pulses served up in one or other of the dishes. They enter largely into their food, and as they contain much nitrogenous and nutritious matter, they supply, to some extent, the want of more

substantial meat. When broken into the cotyledons and husked, they are called *dal* in India, this generic designation denoting the split condition in which they are commonly prepared for use, the word being cognate with the English *deal* and *dole*, and the German *theilen*, to divide.

Dried pulse are considered by Payen to be of equal value, weight for weight, with meat, and containing less water.

The Bean farms in the northern provinces of China are very extensive, as the Beans are not only cultivated for food, but grown for pressing oil from. The Chinese Beans are of a smaller size than those grown in Europe, and there are very many kinds; some with white, black, green, red, and spotted seeds.

The white Beans are used for expressing edible oil, and the black ones are crushed for oil for lighting purposes. The extent of the production may be estimated from the fact of 179,570 tons of oil-cakes from these Beans having been imported at Swatow in 1890, to be used as manure for the Sugar-cane fields. The yellow Beans found all over China are used to make Bean-curd, a kind of cheese prepared from the caseine, largely consumed by the Chinese, when vegetables are not very plentiful. To make it the Beans are boiled and coagulated by a solution of gypsum, the curd gradually acquiring the taste and smell of cheese. It is sold in the streets of Canton and other cities, and forms no inconsiderable portion of the food of the people. The green Beans (*Phaseolus angulatus*) are manufactured into vermicelli, or used as a confectionery. In Japan the production of Beans annually exceeds 16,657,000 bushels, and they import 824,500 cwt. from Corean ports. Cakes are there made of Beans, flour, and sugar, which are of a dark reddish colour, and brittle. The Soy Bean (*Soja hispida*) is an extensive article of cultivation in the East, and an important source of food in Tibet and India. It is best known as the source of the sauce called "Soy," so largely employed in the East, and of which considerable quantities are imported into Europe and America, entering into the composition of most of the popular sauces sold. The Soy Bean contains 28½ per cent. of nitrogenous matter, against 25 per cent. in ordinary Beans. Beans boiled all night are sold in the Arab bazaars of Egypt in the morning, and eaten for breakfast with butter and lemon juice. P. L. S.

INTRODUCTION OF CONIFERS.

(Continued from p. 52.)

BETWEEN 1820—1829 many of Douglas's grand discoveries were made, thus: *Pseudotsuga Douglasii* (1827), *Pinus Lambertiana* (1827), *P. ponderosa* (1827), *Abies Webbiana* (1822), *A. cephalonica* (1824), *Pinus excelsa* (1827, Wallich), *P. Gerardiana*, *Cupressus torulosa* (Wallich, 1824).

BETWEEN 1830—1839, *Picea orientalis* (?), *Cedrus Decodara* (1831), *Abies Menziesii* (1831), *A. amabilis*, *A. grandis*, *A. nobilis*, *Pinus contorta*, *P. monotaica*, *P. insignis* (1833), *P. Coulteri*, and *P. Sabianiana* (all by Douglas); *P. austriaca* (Lawson, 1835); *Abies Pinsapo* (1839), and *Pinus Ayacahuite* (Hartweg, 1838); *Cupressus macrocarpa* (Hartweg).

BETWEEN 1840—49, *Cedrus atlantica* (1841), *Cupressus Goveniana* (1846), *Pinus sembroides* (Hartweg, 1846), *Sequoia sempervirens* (Hartweg, 1846), *Keteleeria Fortini*, *Pseudotsuga Kempteri*, *Pinus Bungeana*, and *Cryptomeria japonica* (Fortune, 1846), *Pinus monophylla*, *P. muricata* (Hartweg), and *P. tuberculata* (1847), *Fitzroya patagonica* (1849).

BETWEEN 1850—59, *Cupressus Nutkensis* (1850), *Larix Griffithii* (1851), *Abies concolor* (W. Lobb, 1851), *Abies magnifica* (Jeffrey, 1851), *Tsuga Albertiana* (Jeffrey, 1851), *Pinus Jeffreyi* (Jeffrey, 1852), *P. Balfouriana* (Jeffrey, 1852), *Libocedrus decurrens* (Jeffrey, 1853), *Sequoia gigantea*, *Thuja gigantea*, and *Abies bracteata* (W. Lobb, 1853), *Sciadopitys verticillata* (T. Lobb, 1853), *Pinus Sieboldi* (Siebold, 1853), *Pinus densiflora*, and *P. Massoniana* (Siebold, 1854), *Cupressus Lawsoniana* (W. Murray, 1854).

BETWEEN 1860—69, were *Pinus Koraiensis* (J. G.

Veitch), 1861; *Abies firma* (J. G. Veitch); *A. numidica*; *Thuja Standishii* = *japonica* (Fortune). Between 1870—79, *Abies brachyphylla*, A. Mariesi, A. Sachalinensis, and A. Veitchii (Maries), 1879.

ORCHID NOTES AND GLEANINGS.

A FINE LELIA ANCEPS.

A SPECIMEN of this in the gardens of T. F. Blackwell, Esq., The Cedars, Harrow Weald, possesses thirty spikes, bearing more than one hundred flowers, and is a fine object. The plant has been grown from a small piece by the gardener, Mr. J. Dinsmore; and some time ago the original specimen was broken up, and another, almost as good as the one in question, taken from it. In these specimens Mr. Dinsmore has managed to have the least number possible of unproductive back bulbs, there being, on the average, about one spike of flowers to every three bulbs, and thus a great show of flowers is obtained from plant of a moderate size. J. O'B.

CYPRIPEDIUM YOUNGIANUM X.

A hybrid raised out of *C. superbiens* by the pollen of *C. Roebelinii* (philippinense var.), and quite intermediate in character. It was described by Mr. Rolfe in *Gard. Chron.*, August 16, 1890, p. 183. *Reichenbachia*, t. 31.

MILTONIA HYBRIDA BLEUANA.

A hybrid raised by M. Bleu from *Miltonia vexillaria* by pollen of *M. Roezlii*, and remarkable not only as a beautiful hybrid, but as the first hybrid *Olostoglossum*. *Reichenbachia*, t. 32.

AUSTRALIAN ORCHIDS.

MR. R. D. FITZGERALD has just published the fourth part of the second volume of his most painstaking and useful work. It is of folio size, containing drawings of the plants and copious analytical details, together with observations on the life-history and mode of fertilisation of the flowers, of very great value and interest to botanists. The species figured are mostly terrestrial, and not of special horticultural value. The species of *Caladenia* and *Thelymitra* are remarkable for their nearly regular flowers, which, nevertheless, are fertilised by insects. *Dendrobium speciosum*, a very handsome species, once common near Sydney, is now nearly extinct. The seed, it appears, never grows. Mr. Fitzgerald notes that he has seen millions of seeds in the most favourable localities without success. Are we to infer from this that the plant is becoming extinct from natural causes? If so, the collectors who enable us to grow it in our gardens must not be branded as exterminators. The work is printed at the Department of Lands, Sydney. The species figured in the last part are *Pholidota imbricata*, *Diuris bracteata*, *D. cuneata*, *D. epulata*, *D. Sheaffiana*, *D. platychlus*, *Caladenia Menziesii*, *Leptocarpus fimbriata*, *Prasophyllum densum*, *P. ansatum*, *P. transversum*, *P. longisepalum*, *P. imbricatum*, *P. filiforme*, *P. rufum*, *P. viride*, *P. Woollii*, *P. reflexum*, *P. laminatum*, *P. Eriochilum*, *Dendrobium speciosum*, *Caladenia gemmata*, *C. ixioidea*, *Thelymitra variegata*, and *T. antennifera*.

CATTLEYA LAMINATA.

Many thousands, "*miliers*," of *C. Warocqueana* (syn. *labiata*) have recently been introduced by the Horticulture Internationale of Brussels. The *Journal des Orchidées* tells us that three collectors are employed by the firm above mentioned, and many hundreds of natives. The three collectors are MM. Silver, Claes, and Van der Ley, the last-named being posted at the port to watch over the embarkation of the plants. Twenty-five thousand plants are promised for this month of January, half of which are already bespoke. It is allowable even for free-traders to hope that some restriction will be placed by the several Governments on the ruthless

collection of such plants. It is an important question to ask whether it is not an abuse of our privilege to exterminate any created thing in this manner.

ODONTOGLOSSUM VEXILLARIUM.

Of this Orchid the following story is told in *Reichenbachia* at t. 29, 2nd series. "The late Professor Reichenbach described the species under somewhat difficult circumstances: having had a bloom lent to him by a friend, after a promise was made to him on the following five heads, viz., not to show it to anybody else, not to speak much about it, not to take a drawing, not to have a photograph made, not to look oftener than three times at it." "With respect to the culture of this grand Orchid, beautifully figured at t. 29, much," says Mr. Sander, "has been written. We have found it quite an easy plant to cultivate, and even a rapid grower. Care must be taken to keep it quite clean, and to water the plants only when they are dry. If you have any doubt about their being dry enough, wait a day longer. Always grow the plant in a temperature as near 60° Fahr. as possible and close to the glass, taking care that enough shading is employed in the hot days of spring and summer. If the plants are kept too hot they become infested with thrips, and in winter, if the temperature falls much below 60° Fahr. for any length of time the leaves become spotted, and decay all the apices."

SACCOLABUM COELESTE.

This lovely Siamese species first flowered in 1885 in the Burford Lodge Collection, and was described by the late Professor Reichenbach, in the *Gardeners' Chronicle* for May 30, p. 692. It is quite distinct from the majority of *Saccolabiums* in bearing upright flower-spikes. The flowers are white, with the segments azure tipped, puce, or sapphire. *Saccolabiums* grow with marvellous rapidity, emitting from amongst the leaves new roots in abundance, which grow with great vigour and freedom, apparently absorbing the fertilising air to great advantage. After a time the rain suddenly ceases, and then sets in a scorching dry heat often attended by forest fires, in which epiphytic plants suffer first, and most severely. *S. coeleste* must be grown in a stove temperature of about 65° to 70° F. in winter, and 70° to 75° F. in summer, and even more heat is desirable when the plants are in active growth. The plant should be placed in clean potsherds and sphagnum moss in baskets or pans, and suspended near the glass. A beautiful figure is given in *Reichenbachia*, t. 30, 2nd series.

ORCHIDS AT ROCHESTER, NEW YORK.

Mr. Kimball is an enthusiastic cultivator of Orchids, and his enthusiasm is ably seconded by Mr. Geo. Savage, who has had charge of this fine collection for a good many years. All the plants are in grand health, and perhaps more robust than ever this season, *Cattleyas*, *Lælias*, and *Dendrobiums* being particularly fine. Most notable among the many fine things in bloom was a wonderful spike of *Renanthera Storrei*, a fine dark form of *Vanda Sanderiana*, and a large finely-marked flower of *Cypripedium praestans*, and *C. Celia* ×, a Rochester seedling. The latter is very distinct and pretty. A span-roofed house, about 85 feet long, is filled with *Cypripediums*, mostly *insigne*, showing over 1700 spikes, which will produce a grand display when fully opened. A new *Cypripedium*, named *imperiale*, is flowering in this house. This plant has been in the Rochester collection for some years, but has never flowered until now; unfortunately, the flower came deformed, but it showed sufficiently well to warrant its being very distinct and finely coloured. It is a species, but at first sight looks not unlike *C. Sedeni*. Mr. Kimball informed me the plant was brought from Borneo by a ship captain, who presented it to Mrs. Morgan, of New York. Shortly after this, the Prince Imperial met with his death in Zululand; she then named it *imperiale*, in commemoration of him, and some time before her own demise, presented the plant to Mr. Kimball, in whose possession it has been since. *Traveller*.

BIRDS OF THE COMMONS AND WOODLANDS.

(Continued from p. 11.)

FORESTERS.

There is one other family of birds characteristic of the woodlands—the woodpeckers. There are three species: the first is large and green, and the commonest of the three; this is the bird whose curious laughing cry is so well known. The other two are white and black; one is called the greater spotted woodpecker, and the other the lesser spotted woodpecker. They have a curious habit of attracting attention by rattling their strong bills against the bark of a tree, so as to make a curious vibrating sound. Birds of this family are most wonderfully adapted to the life they lead, climbing the trunks of trees. They have two toes turned forward, and two backward, giving them great additional power for running up and down the stems. Then the feathers of the tail have stiff quills, so that they can gain considerable support from them; and their bills are very strong, so that they can more easily excavate the holes in which they lay their eggs. The whole bird is as perfect a piece of machinery as possible.

A LAND OF SONG.

We have mentioned a good many of the birds which are to be found on our commons and woodlands, and it is impossible not to be struck by their variety. Many of the larger species are, no doubt, regularly persecuted, and their numbers kept down; but the smaller birds are much more numerous here than on the Continent. The reason for this is partly to be found in the fact that England is admirably suited to their requirements—it is so very green. Then, again, we do not eat small birds in the way they do in other countries. And the abundance of small birds is, I believe, in no small measure due to the very cause of the scarcity of the larger ones. The gamekeeper, who, in his zeal and ignorance, butchers every creature large enough to be called "vermin," preserves his woods and coverts during the nesting season with the utmost care; and thus he enables hundreds of small birds to bring up their young unmolested. It is to these small species, it must be borne in mind, almost entirely that we owe the chorus of song which we hear round us every summer. The amount of song varies greatly according to the time of year; it is fullest and loudest in spring. As the summer proceeds, the birds, one by one, become silent, for as soon as the young have become independent, the moulting season commences; but towards the end of August a few of them recommence singing, and you may again hear the chiff-chaff repeating his everlasting two notes from the top of the very same tree on which you saw him in March, when the leaves were coming out.

The willow-wren and other warblers all sing a little in early autumn, but their songs are neither so rich nor so powerful as in spring, and by the end of September most of them have retired to warmer lands, and have left our woods and commons to resident species. The leaves have now begun to fall, and until next spring the woods will be quite silent, except for the occasional song of a robin or wren, now and then interrupted by the harsh scream of the jay, or the call-notes of parties of small birds searching for food. *A. H. Macpherson*.

BODORGAN, ANGLESEY.

HAVING heard much of Sir G. E. Meyrick's gardens at Bodorgan, I determined to visit them whilst staying in that part of Wales last autumn, the day chosen was none of the best, a furious wind blowing off the sea, with rain falling at intervals; such a condition of the weather gives one some idea of the difficulties gardeners have to contend with in that part of the country. All pit and frame lights were made secure against the wind by being wedged or weighted down. The Conifers at Bodorgan have

been for many years celebrated for handsomeness and fine development. These trees stand surprisingly well against the fierce gales from the sea, but as they grow taller the growth becomes denser, and except where they are protected by other kinds of taller trees, their future growth will be for the future more gradual. The majority are, however, of fine dimensions, *Picea Smithiana*, *Pinus insignis*, and *Arucaria imbricata* are splendid specimens, standing well almost close to the sea-front. *Retinosporas* and the *Cupressus* are finely grown. Particularly noteworthy are several beds of dwarf Conifers, chiefly with some kind of golden variegation. These were planted in front of the mansion, the object being to produce a good effect during the winter season whilst the family are residing there. These plants remain undisturbed the year round. The well kept carriage-drive is flanked on either side by large Conifers, whilst choice species are interspersed upon the broad margins of the well-kept turf, good shelter being thus afforded them. On a fairly sheltered wall is an immense plant of *Choisya ternata*, which is evidently quite at home judging by its lustrous deep green foliage. Pears and Apples were a somewhat thin crop, the trees standing in need of much shelter from the sea winds, otherwise in most years much harm is done before the fruit is fully grown. Fruit trees in glasshouses were bearing heavy crops. Here are to be seen some examples of Ewing's glass walls, and my opinion was that they are not constructed in good proportion, being too narrow for their height; they afford, however, good shelter and are to be valued on that account. The head gardener, Mr. Gray, has commenced an improvement with a portion of these which, if still further carried out, will afford him much additional space. He has removed the fruit glass wall and extended the area enclosed by the glass several feet in width, thus obtaining a good length of roof at the ordinary slope. At the same time it affords full light. This wall case is planted with Peaches and Nectarines, the fruit trees outdoors being most untrustworthy, hence the need for glass protection. Moor Park Apricots were a fine crop, the fruits of fine size, so also were Peaches, both upon the glass walls in the old style. Morello Cherries fruit abundantly upon the open walls. The vinerias have been gradually replanted, and are now coming into an excellent bearing condition. Muscats were finely finished and the bunches large, as were those of Madresfield Court, Black Hamburg, and Lady Downe's Seedling, the Vines vigorous and sturdy, and promising well for the future. Numbers of houses are devoted to the growing of plants, a chief feature being the large and healthy stock of late autumn and winter-flowering plants. Of these *Poinsettias*, *Calanthes*, double and single *Primulas*, and *Gesneras*, are largely grown, and looked promising. The *Camellia* plants were healthy and of large size. *Paucetratums* and *Eucharis* are grown in large numbers, and upon the roofs of the warm houses *Stephanotis* and various species of *Allamanda* are establishing themselves; so also the red and white *Lapagerias* in cool ones. A clearance of all the climbing plants had to be made some few years ago owing to their being much infested with mealy-bug. Mr. Gray upon taking charge made a determined effort to rid the place of this pest, and he has been very successful.

Of Orchids a healthy collection is being worked up of useful species. Well-furnished foliage plants of a useful size are grown, consisting of *Crotons* in good variety, and chiefly upon single stems, but *Dracaenas* mostly. Dwarfly-grown plants of *Clerodendron fallax* were good examples of what may be done with this showy autumn stove shrub. The tuberous *Begonias* were thriving splendidly, and the fancy kinds of *Coleus* were still gay. An excellent plan had been hit upon for the culture of *Adiantum cuneatum*. The main stock of this useful Fern was planted out, and that too in large numbers. In some cases the beds were several plants deep, in others only single rows were set out at the fronts of the plant houses and over the hot water pipes; in each instance, however, they were close to the glass, the

growth wiry and hard, and the pinne small, which enhances their durability when cut from the plants. This plan of growing Maidenhair Fern in quantity struck me as being an excellent one for furnishing large quantities of fronds with little labour. Everywhere were observed cleanliness and good order, and the important work of painting the woodwork of the houses, &c., receiving proper attention. H.

COLONIAL NOTES.

THE CAPE BOTANIC GARDEN.

AFTER a long period of misery for the officials, as we learn from a Cape journal, this garden is now placed on a more satisfactory financial footing. In future, says the *Cape Argus*, it is to be under the control and management of the Town Council, the Government continuing its annual subsidy of £500. The Botanic Garden originated in proposals made to the Government by Dr. James Adamson, and a few of his friends interested in horticulture and in botany, especially Dr. Ludwig Pappé, Mr. R. H. Arderne, and Messrs. Kotzé, Clarence, Ross, Fairbairn, and Rutherford. Something of the same kind had been proposed long before, and discussed in the public papers, and mainly on the suggestion of James Bowie, a collector of plants was sent out by the Royal Garden at Kew. The Commissioners were appointed May 5, 1848, and immediately opened a subscription-list, appointed as gardener a local nurseryman of the name of Draper, and set to work in earnest to lay out and plant up the area cut off for their use from the Government Gardens. Draper laid out the land with some skill, seeing that it was nearly a perfect flat, and took advantage of such large trees and plants as he found existing.

The early records show that things were done in a very primitive way. Crops of Potatoes and forage were grown by Draper and his coloured labourers, and sold on the market to assist the funds subscribed and the Government grant of £300 per annum, and it was not until late in the year 1848 that the collection of plants was commenced by purchase from the executors of Baron Von Ludwig of some of the stock accumulated by him. For reception of these, a small greenhouse, of quaint and ornamental design, resembling a birdseye, was constructed. This and other expenditure landed the Commissioners in debt. They also took over the seed-stock of Thomas Draper, and thus began the seed-selling business which has continued to the present year. In 1849, Karl Zeyher, the celebrated botanical collector, was added to the staff, to name and label the plants, obtain seeds and cuttings, and to bring in bulbs and plants from the veld. He was also "to prepare a *Hortus siccus* and seed collection, to instruct apprentices in theoretical and practical botany, and attend to such visitors and strangers as may require botanical information." This highly scientific and extensive commission was rewarded with the wonderful stipend of £7 10s. per month.

The garden was from the first supported by Government in a very inadequate manner, and from *Personalities of Botanical Collectors at the Cape*, p. 21, 8vo, 1887, we find that "The projectors found themselves obliged, in February, 1850, to dismiss Zeyher, whose qualification was botanical knowledge rather than business aptitude, and find an ordinary gardener who understood how to turn the place into a nursery, and make it pay for itself. Dr. Berthold Seeman, knowing little of the hard necessity of the case, was perhaps more witty than just when he wrote in reference to Zeyher, on his visit in 1851, that the Committee had just 'passed a resolution that their Botanic Garden could do without a botanist.'" To Zeyher succeeded James M'Gibbon, an enterprising Scotchman, born at Elgin, and apprenticed in the Duke of Sutherland's garden there. During the long period of his service up to 1881, he carried on the business of the garden with great ability and business

tact, on a kind of partnership system with the Committee, and accumulated a handsome competence. Latterly returning to England, he died at Richmond, in Surrey, about 1886.

Much of the present appearance of the gardens is due to Mr. M'Gibbon's labour. He raised great numbers of Australian shrubs and trees from seeds obtained from Baron F. von Mueller, and planted them, if anything, too thickly in the previously bare grounds of the garden. On his resignation, Professor MacOwan, who had for many years been the friend and correspondent of Harvey and Sonder, was appointed by the Commissioners in 1880, in hope of restoring the garden to a fitting status among botanical establishments. The great herbarium of Zeyher, after remaining in the possession of Dr. Pappé till 1863, had been purchased by the Government, and a portion of it ordained by Dr. Harvey, about the year 1864. The charge of this collection, which had lain *perdu* ever since its return from Harvey's temporary possession, was added to the duties of the new Director. The radical defect of the institution, however, was the utterly insufficient subsidy of £500 per annum to meet an expenditure of about £1400. No scientific enthusiasm could supply that balance of £900. It was, therefore, impossible for any scientific work to be done, save out of business hours, and the whole energies of the staff were incessantly directed to the one object of making money enough to pay the wages and repair dilapidations. This has been done during the present régime for the last ten years, and unlike almost every similar institution in the colony, the garden is this day not one penny in debt. The Director says it is mainly the head gardener's doing; the head gardener turns the statement the other way; as men who have, under circumstances of great difficulty and discouragement, worked together manfully in perfect mutual trust, and kept the institution going by sheer dint of industry. Any further economy was impossible, when everything had been pared down to the quick. There was absolutely nothing to be done but to abolish his office, and reconstitute the garden on lower lines. It was no longer to be a botanical establishment, but merely a town *pleasure* of flowers and shady walks. The necessities of the Agricultural Department were at the same time drawing largely upon the Director's time. The gardens had long been a sort of headquarters, whither came multitudes of queries and complaints on cultural matters. These now poured in from the department, until it became obvious that scientific knowledge and experience were very little wanted in the garden, and very much wanted outside it. The professional charge of the garden falls now to Mr. Henry J. Chalwin, undoubtedly the most experienced horticulturist in the colony, as a department of Municipal concern. The Director will have only one more report to make, and that, we venture to say, of a different kind from the nine sharp-edged documents previously issued. He then goes over to the Agricultural Department in Burg Street, as Government botanist or consultant, or adviser, in matters belonging to his special art and mystery. Thither also, we understand, goes the Cape Government Herbarium, if, indeed, it can be got into the limited space available. We trust that in all these new arrangements the claims of botany will not be forgotten. Parks and pleasure gardens are eminently desirable, but the interests of humanity require that the botanical side of the question be not overlooked.

INDIA.

SAHARUNPUR BOTANICAL GARDENS.

In the annual report for 1890-91, the Superintendent gives an interesting account of his endeavours to meet with flowering shoots of the Sugar-cane in N. India, and to obtain from this source true seed for the propagation of Cane, in the manner that has attracted so much attention in the West Indies. He has so far met with success, that he has obtained seed and grown seedlings from it.

The experiment may have to extend over a series of years before new or improved varieties appear; but its enormous importance is recognised alike by the scientific world and all persons practically interested in the sugar industry. The inquiry has brought to light the highly instructive fact, that the flowering habit of the Cane is well known to native agriculturists, and that superstition leads them to jealously destroy what the man of science labours to preserve and turn to far-reaching uses.

Numerous fruit trees, vegetables, and useful plants of exotic origin are under observation and culture in the gardens, and additions are constantly being made. The beneficial effect of the Saharanpur and Lucknow gardens on horticulture in Upper India is capable of easy verification by anyone who moves about the country, and notes the progress which gardening and fruit growing are making among the native community.

The Sugar-cane has been attacked in Java by a disease, supposed to be of fungoid origin, which threatens to extinguish the sugar industry there, and the Dutch Government therefore went to the expense of deputed Mr. Kobus to visit India with a view of collecting and introducing the Indian varieties into Java, in the hope that they would be found proof against the disease.

Mr. Kobus recognised all the *paunda* varieties (the class of Cane only grown in India for eating purposes) as being the same as grown by the Dutch in Java for sugar manufacture. The *ek* or *ganna* varieties (the class grown in India for sugar manufacture), were entirely new to him, and as they are so very distinct from the *paunda* class, and also very much harder than the latter, he left India in great hopes that these would be found to possess the disease-resisting qualities wanted.

ANALYSIS OF SPANISH GRAPE SOIL.

The following analysis represents the composition of a good Grape soil from the neighbourhood of Morril, in the south of Spain, and the results will be useful to those interested in the production of Grapes:—

Water lost at 212° F.	770
*Organic matter and combined water	2,220
Oxide of Iron	4,673
Alumina	2,432
Lime	1,019
Magnesia	984
Potash	268
Soda	610
Phosphoric acid	970
Carbonic acid ..	440
Sulphuric acid	trace
Chlorine	903
†Silica and insoluble silicates	87,373
.....	100,000

*Containing nitrogen 045

†Containing coarse sand, separated by washing 44,369

Stones left on $\frac{1}{2}$ inch-hole sieve 32,07

Gravel left on $\frac{1}{4}$ inch-hole sieve 15,74

47,81

The soil largely consisted of stones, there being in round numbers 43 per cent. of small stones and gravel having a light brown ferruginous appearance. To those acquainted with soil analysis the above results would indicate, as they certainly do, a really poor soil when compared with our English soils of average fertility. Thus, in the proportions of nitrogen and phosphoric acid the figures are quite one-half what we should find in a soil of average quality, but in regard to potash this soil stands out prominently in richness, and there can be little doubt that one of the greatest qualifications for a good Vine-producing soil must be the presence of plenty of potash in a readily available form. The distinguished French chemist Ville, in his book on manures, lays particular stress upon the importance of potash for Vines. He says: "Where potash is lacking, the leaves do not attain their full development; in the month of July they become red and spotted with black, after which they become dry and are easily

reduced to powder under pressure of the fingers." Further he adds, "if potash be deficient, little or no fruit makes its appearance;" and, lastly, he recommends that Vines should be manured in the autumn. It would be interesting to hear what Vine growers have to say in reference to these remarks. How far do they find it necessary to manure Vines? What manures, or mixture of manures, give the best results? And at what time of the year should these fertilisers be applied? [For these details see Barron and Thomson on Vine culture, or the weekly instructions given in our columns. En.] Compared with farm crops, Grapes, consisting largely of water, with but little nitrogen and mineral matters, cannot be considered an exhausting crop. If the soil is suitable, the situation favourable with plenty of natural sunlight or artificial heat, comparatively little manure should be required. It is true that, with our lower temperature, the soil is colder, and requires some nitrogenous compounds, such as cow-dung, dried blood, or fish guano to assist Nature; but on the Continent, with a warmer climate, such fertilisers would have to be very cautiously employed, or the results would be disastrous, and there would be too much leaf, and but little fruit.

As regards potash, however, the addition of frequent small dressings is likely to be attended with good results, especially if it can be applied in the condition of wood-ashes, particularly when derived from the burning of small twigs and branches, which are richer in potash and phosphoric acid than hard and older logs of wood, in which silica and lime predominate in the ashes. In the absence of wood-ashes, sulphate of potash may be recommended as preferable to muriate of potash.

Where Vines show indications of failure, notwithstanding careful attention and manuring, it would be desirable to have fresh soil, and for this purpose obtain some of the famous red soil so characteristic of the best Worcester Hop gardens—or from Kent or Devonshire. It would be interesting to know if this has been done to any extent, and with what results. Of late years the production of Grapes has been greatly increased, and in the Channel Islands especially—perhaps, in Guernsey—the attention given to this special cultivation seems to be increasing in a most remarkable manner. John Hughes, F.C.S., *Agricultural Analyst*, 79, Mark Lane, E.C.

MAIDENHAIR-FERNS.

(Continued from p. 51.)

CULTURE.

Adiantums are frequently grown in a close moist atmosphere, the consequence is that they are liable to damp off during the winter. This particularly applies to the cuneatum section. These will succeed better if grown in a light open position, where the air can pass through them. They should be potted in a good loamy compost, and will be found to do better than when peat is used. By growing them well exposed to the light, and shading only during the brightest sunshine in summer, the plants will grow more compact, and the fronds will be harder and last well either when cut or where the plants are used for decoration. All of those referred to in this group may be raised from spores, and will make more compact and better-furnished plants than those obtained by divisions.

The above remarks also apply to the Scutum group, excepting A. Farleyense, which, of course, owing to the absence of spores, can only be increased by divisions. The best time to do this is in the spring, while the plants are in active growth. I prefer small plants with short fronds for breaking up. These will start away better than old plants with large fronds, as it is not so easy to obtain healthy young roots, or to retain the fronds when large plants are divided. This beautiful Fern succeeds best when potted in a rough, porous compost, and good drainage; water may then be given freely without fear of the soil getting sour. I believe this

Fern is frequently allowed to suffer from drought. Although it is not advisable to keep Ferns saturated with water, as some do, they should never be allowed to get dry enough to cause the fronds to wither. Most of those included in the decorum group may also be propagated from spores, the exception being A. Veitchii, which may be treated in the same manner as A. Farleyense, but the crowns are larger, and not so numerous, and in breaking them up, it should be seen that each division has a good crown, and that they are not broken or cut through the centre of the crowns.

In the Capillus-veneris group all may be readily increased by division, but such as Mariess, Williamsi, or even the ordinary form of Capillus-veneris, may be more readily increased from spores. All those belonging to the type will succeed well under cool treatment, but to keep the fronds fresh and green through the winter, the temperature should not fall below 45° or 50° Fahr. A. Williamsi should also be grown in a cool-house; Fergussoni should be grown in the stove. All the macrophyllum group require stove treatment; bipinnatum and Seemannii may be divided, and the others can be propagated from spores. All are somewhat delicate, and require great care to keep the foliage fresh and healthy. The Hispidulum group are all very free-growing, and do not require much heat. I have not raised aneitense from spores, but all the others come freely enough. The larger-growing sorts included in the Polyphyllum group all have spreading rhizomes, and require a good surface; for large specimens, pans are preferable to pots—in fact, all the Adiantums which have spreading rhizomes do better in shallow pots. A peaty compost will suit those included in this group, and all except A. formosum require stove treatment. As these large-growing sorts are not wanted in large quantities, sufficient stock may be obtained by divisions, though seedlings make prettier plants, but they do not come very free. A. caudatum and A. lunatum may be raised from spores, but the other two will give plenty of stock from the proliferous fronds. All like a moderate stove temperature, though A. ciliatum is often included with greenhouse Ferns. All the Adiantums are benefited by a little liquid manure during their growing season. Pteris.

FOREIGN CORRESPONDENCE.

THE PUBLIC GARDENS AT MONTE CARLO.

QUITE a botanical reservation encircles the magnificent casino of Monte Carlo—a building which is a salient feature directly fronting the sea, viewed from either the ocean or the land. The grounds are really a horticultural museum of ever-green trees, plants, and shrubs. Of course, the eyes of the directorate have been all along fixed upon plants that retain their foliage all the year, so as never to let Monte Carlo have the appearance of a "fall." As a fact, there is no winter here. In their search for evergreens, and to procure as much variety as possible, the administration has imported specimens from every quarter of the globe—the Latin-American Republics, China, Japan, Siberia, &c. Laying out the grounds, multiplying and planting the species, attendance, &c., have cost enormous sums. Not so many years ago the same place was as wild and rocky as an African coast. And to think that all this has been done out of part—a large part—of the proceeds of the gaming-tables! It shows how the passion for chance-gain (very much of a chance—and an extremely doubtful one—at Monte Carlo) can be made to pay for big works of ornamentation. The vice has proved a blessing in one respect—in beautifying greatly a locality, turning a rugged grass and bush-patched spot into model gardens.

The staff of the casino consists of as many as 400, and of these sixty are engaged in maintaining the gardens, thirty being in the propagating department. J. Vandendaele is the chief gardener. He is from

Belgium—a state which sends out some of the ablest florists and botanists. A good many of the workmen are Italian, from just over the near frontier. They have miserably poor pay—from 3½ to 5 francs daily; the latter sum being considered quite good. The first-named amount is the average; that means from 4 dols. to 4½ dols. per week, and out of that pittance they have to pay for everything. Living is not cheap in the neighbourhood; they just manage to exist—how, they can best tell. Thus, for a lodging, two will sleep in the same room, paying 9 or 10 francs each per month—usually 4 dols. for the pair—each putting up with the inconveniences of strange bed-fellows. As to hours of labour, during the short days they work from 7 in the morning till 5 in the evening; and have their joy at the approach of spring and summer considerably damped by knowing that the long days mean toil from 5 to 7 o'clock. It is hard, yet they will say that even this is better than living in poverty-stricken Italy.

In another division of the grounds which go to form the permanent horticultural Exposition of Monte Carlo, covering a large space, there are hundreds of varieties, and thousands upon thousands of plants, some carefully labelled. A great number of the plants, however, are not named (not one of the extensive varieties of Roses, for example), and many of the name-plates are weather-beaten to unrecognisability.

It is not easy to obtain particulars in this country. Directly a native man of business is approached and asked a few questions, he immediately regards you with suspicion, and, if he holds the idea that you are a writer for journals, he forthwith treats you as an advertising tout. He thinks you are engaged in some underhand trick to get an advertisement, and will be presently sending in a surprise bill of costs; or he sees in you a canvasser for subscriptions, or fears that he may be put under an obligation which will be disagreeable to him. In vain you assure him that there is nothing to pay, that, on the contrary, you ought to pay him something for the information; but, recollecting his unpleasant experience with some organs of the press, he cannot conceive how English periodicals can publish particulars about him without demanding pay for it. G'r.

NURSERY NOTES.

ORCHIDS AT MESSRS. HUGH LOW AND CO.'S NURSERY.

ALREADY the fine importation of Vanda Lowii, which Messrs. Low's collector so carefully brought over at the end of last year, is beginning to make a show, one of the specimens with fine growths, and still in the native vase in which it was established in its own country, having three spikes of unusually bright and richly-marked flowers, the bright yellow, spotted with crimson, of the two odd flowers at the base of the largest spike making a striking contrast to the dark, blood-red and white of the rest of the flowers on the long chain-like raceme. The whole of the plants are rooting vigorously, and have been got over better than any previous lot. Of Vanda Sanderiana there is a small batch, but the tale of this importation is the reverse of that of the Vanda Lowii, for out of 3500 shipped, only some fifty survived the journey. The Phalenopsis houses, which are always a fine sight at the Clapton nurseries, are bristling with hundreds of flower-spikes, and among those in bloom are the rare Phalenopsis Cynthia, P. leucorrhoda, and a splendid form of P. Schilleriana—a perfect model of a flower—which the collector marked as being the nearest to a blue one which he had seen, and which is of a dark purple rose colour, is quite a new tint for the species, and which would doubtless get much darker in bright weather.

Another fine Orchid, of which there is a quantity at Clapton in flower or bud, is Angraecum sesquipedale; and in the house set apart for the lesser Angraecums, is the usual show for flower on the numerous plants

of the neat little *A. citratum*, *A. hyaloides*, and other species.

The Cattleya Eldorado varieties, both white and coloured, and *C. Percivaliana*, are making a good show, and some of the forms are very richly-coloured, but beyond these there are few other Cattleyas in bloom, although the later-flowering ones are in fine condition, and promising well for flower, the stock of *C. Mossiae* alone having been reckoned to bear between 4000 and 5000 flower-sheaths, and as these have not flowered in the country before, there should be fine novelties among them, if they are of the same type as those formerly got over by Messrs. Low.

An importation of *Saccolabium bellinum* has a great number of that quaint and pretty plant in bloom, the range of variety both in size and colouring being very extraordinary, for to compare the extremes, one would scarcely take them for the same species. The *Cypripedium-housea* have in flower, *C. Thetis* ×, *C. Amesianum* ×, *C. nitens* ×, some fine *C. Harrisianum* ×, the true *C. Sedent. candidulum* ×, *C. philippinense*, *C. bellatulum*, *C. tonsum*, and others; and in the large *Dendrobium-house*, the *D. Wadianum* are fast coming on, and here also in bloom is a lot of the curious *D. pycnostachyum*, *D. Ainsworthii* ×, &c. In other houses are a large batch of that handsome and delightfully fragrant winter-flowering Orchid, *Vanda Amesiana*; a quantity of *Odontoglossum Pescatorei* in bud, *Vanda lamellata*, some *Sophranopsis grandiflora*, *Odontoglossum Rossii majus*, *Oncidium anisiferum*, *Platyclinis glumacea*, *P. Cobbiana*, &c.; and showing flower are several plants of the pure white *Trichopilia suavis alba*.

THE WEEK'S WORK.

FRUITS UNDER GLASS,

By J. RIDDELL, GARDENER, CASTLE HOWARD, YORK.

MELONS.—When early Melons are desired, and seed has not yet been sown, no time ought to be lost in getting a few started. If a continuous supply of fruit be wanted, it is necessary to include varieties which ripen both early and late, and although it is unnecessary for me to enumerate the kinds, so many good ones being in cultivation, yet some of the older sorts are hard to beat for certain purposes and for earliness, and I have never found one to equal *Malvern Hall*. The best size of pot for raising them is either 2½-inch or 3-inch, and instead of crocks for drainage, a few leaves will answer quite as well, as the plants are only temporary occupants of their seedling-pots. A compost of loam, leaf-mould, and a little bone-meal, or any other form of plant-food prepared from this material, will be an excellent medium for the seeds to germinate in, and the plants to obtain support during the earlier stages of their growth, their seeds placed towards the centre of each pot, and covered with about half an inch of the mixture, and the whole plunged in a bed having a temperature ranging from 80° to 85°, will result in seedlings pushing up quickly, if the necessary watering be attended to. The warmth of the atmosphere of the pit or frame in which they are raised should be about 70°, raising or lowering it according to the conditions of the weather, and keeping it uniformly moist. When the young plants have shown themselves, the strongest in each pot should be selected for growing on, and the others pulled out; and as Melon plants generally are weak in the stem at this season, they should have thin stakes placed for their support. It is also very desirable to keep the plants as near the glass as possible, and, when the weather is mild, admit the external air for ten minutes or more every day. All the water used for the roots of the plants ought to be of the same temperature as the soil in which they are growing, and this factor requires to be sparingly applied during the first weeks of their existence. The plan adopted by some in growing and fruiting their first batch of Melons in pots is a commendable one, for a crop is obtained in less time this way than when they are planted out; and the only difference in labour is a little extra attention required in watering. Pots 14 inches in diameter is the size most suitable, and into these the plants may be moved when they have occupied the soil of those in which they were sown. The soil employed at this stage of their growth may be less broken up than

that used for the seed, and a small quantity of superphosphates added to the other ingredients will materially aid the plants to gain strength. These pots, too, should also be given a bottom-heat of 80° to 85°, and liquid manure used should the compost prove insufficient in soluble plant food, in order to secure a vigour in the plants which would enable them to carry two fruits each. As soon as they have reached the trellis their points can be stopped, and two laterals encouraged, one on each side, and all others suppressed. With free-fruited kinds these laterals will show fruit at the second or third joint, and may be stopped at the leaf beyond it. At this period care should be taken to have the soil they are growing in moderately dry, that when the flowers open a good set may be effected; and should this be attained, liberal feeding, a saturated atmosphere, fresh air on all favourable occasions, and a temperature of 70° to 75° at night, with a rise of 20° during summer weather in the daytime, will result in large well-flavoured fruit, provided no insect pests have been allowed a footing on the plants.

FIGS.—The present is a good time for increasing the stock of Figs, if plants of this kind of fruit be required for either forcing in pots or planting out next year. Cuttings put in to root now in a temperature of 65° to 70°, will grow into good-sized plants before the autumn, and free-fruited varieties, like *Black Ischia*, *Lee's Perpetual*, and *Brown Turkey*, will yield a crop in August and September, if the plants are liberally attended to for root-room and the free use of stimulating manure. Pieces of last year's wood with three or four eyes, cut close under a joint, and put in singly into 2½-inch pots containing leaf-mould and sand, and plunged in a brisk bottom-heat, will root readily. As they quickly occupy the soil in these small pots, it will soon be found necessary to transfer them into 6-inch ones; but instead of leaf-mould and sand being used alone, this time loam of a strong nature mixed with wood-ashes, lime, or old mortar, well-broken charcoal, bone-manure similar to that used at Cloudfords, and spent Mushroom-bed compost may be added, and will prove a happy laboratory for the roots to ramify in, and find the food they need. Warmth at the root is the most essential thing in connection with Fig cultivation, and when they can be given bottom-heat, and attention to watering, feeding, and stopping of shoots, no plant is simpler to grow, or will yield a more abundant return for labour spent upon it.

POT VINES.—In order to obtain strong and well-ripened Vines for growing in pots, the eyes should have an early start, so as to secure a long season of growth, and time to be thoroughly ripened, which, in cool seasons like the last, is an important consideration. The old method of raising a stock of them by inserting an "eye" in a slanting position in a 3-inch pot, containing a mixture of good fibrous loam and leaf-mould, with a sprinkling of bone-manure added, is still in practice, and is not unfrequently preferred to that of putting two or three eyes into a round bit of turf of 4 inches in diameter and 2 inches thick, and I have obtained equally good results by both methods. When pots are employed, these should be plunged to their rims in a bed having a temperature of about 85°, affording them water then to settle the soil, and afterwards when needed, of the same temperature as the bed. Usually one watering is enough until the buds start into growth, but an occasional dousing over with warm water by means of a fine-rose pot or the syringe will do them good. The critical period for the Vine eye is, when the nutriment stored up in the bud and the bit of shoot it forms part of is nearing exhaustion, and roots are put forth. Much injury is often done at this stage by affording the eyes much moisture, and by repotting before sufficient rootlets have pushed out into the soil. It is well to bear in mind that every rootlet is surrounded by a quantity of prepared plant food at its growing point, and which has been brought into this condition by the action of the acids given off by their organs of nutrition; therefore, should the soil be shaken from the roots, the labour of manufacturing more food by this means must take place previous to the plants deriving any benefit from the shift, and results in a check to the Vines. Once the roots are able to avail themselves of the supply of food in the soil, active growth of the cane will take place, and then is the time to transfer them to 6-inch pots, using a compost for this, and subsequent shifts, of about two-thirds fibrous loam, and making up the other third with spent Mushroom-bed, lime rubbish,

and Thomson's Vine and Plant Manure. Small stakes to support the canes will be required when this stage is reached. Watering must be done with care for a time, and a temperature of 65°, and a saturated atmosphere maintained during bright weather in the structure, air being admitted on all favourable occasions. The only difference between this system of raising Vines from eyes and that of using cuttings for the purpose is in the first stage. The turves are placed in a hotbed bottom upwards, and two or three eyes put into each towards the centre, and attended to in the way of watering until they arrive at the stage for potting them, the strongest growth from amongst them being retained for the Vine, and the weaker two pulled out, all other treatment being the same as that recommended for pot-raised ones. The summer treatment of pot-Vines will be made the subject of subsequent remarks.

PLANTS AND THEIR CULTURE,

By R. MILNER, GARDENER, PENRICE CASTLE, SWANSEA.

THE ROSE-HOUSE.—Roses of all kinds should now be pruned, the woodwork washed with soap and water, or repainted if that be needed, clearing all the old fastenings of bast, &c., from the trellis, and the glass at the sides and on the roof washed with clear water. If the borders in which some of the Roses are planted become impoverished, it will be advisable to shovel off the surface, and replace it with a rich compost of fibrous loam, rotted manure, and 4-inch bones, to something more than the depth to which it has been removed, and afford it a dressing of Thomson's Manure after the plants have got well into growth. Should the borders require watering, this should be done in a manner that will thoroughly moisten them; and before the surface-dressing of soil and manure is applied, dress the walls with hot lime-wash, to which some flowers-of-sulphur are added. Syringe the plants with tepid water on all favourable occasions, which will help them to break freely. The temperature may be kept from 41° to 50° at night, with a rise of 5° or 10° by day, until signs are observed that the plants are beginning to break generally, when there may be a slight increase.

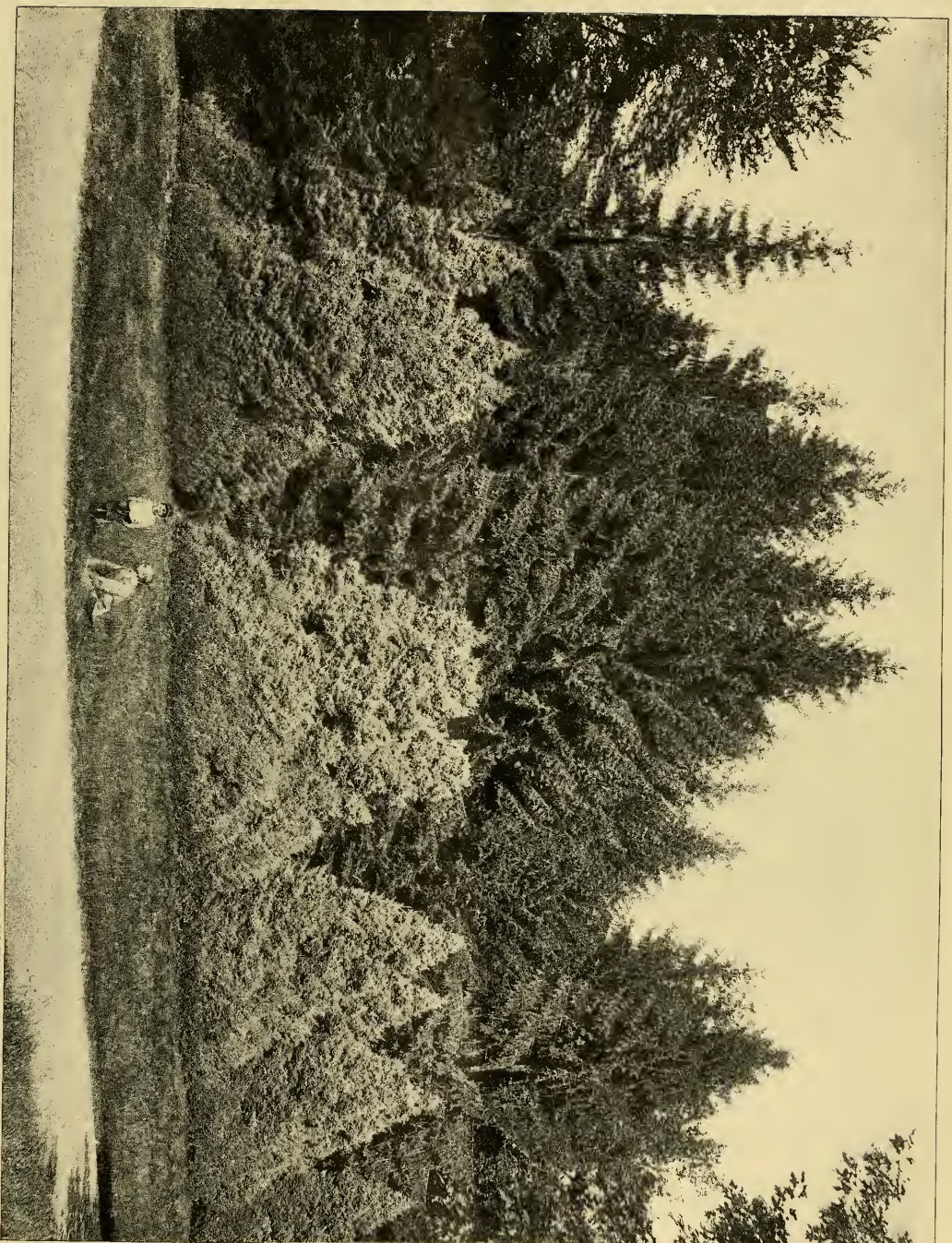
THE GREENHOUSE.—Any varieties of Chrysanthemum, of which cuttings have not been obtained, it will be advisable to place in a little warmth, to cause cutting-shoots to break away; and, if new varieties are to be obtained, they should be bought forthwith. The earliest cuttings will have taken root, and should be placed on a shelf, well up to the glass, in a cool Peach-house or vinery.

PETUNIAS.—Cuttings of Petunias may now be put in to strike for furnishing the conservatory in early summer. The cuttings speedily root in a hot-bed. When well-rooted, pot them in 3 or 4-inch pots in a mixture of loam and leaf-soil and some leaf-sand, and as growth proceeds tying out and pinching the shoots.

MIGNONETTE.—The late-sown plants will now be found of much use, and it will be necessary to keep them well up to the glass to prevent weak growth, and to be careful in affording the plants water, as if this be applied in too large quantities at a time, the plants are liable to damp-off.

FUCHSIAS.—Where cuttings were not taken in the autumn, a few of the old plants should be brought into a little heat, to start them into growth, and provide cuttings for an early strike. Cuttings which were taken in the autumn, and are still in the cutting pots, may now be potted into 4-inch pots, placing them in a little warmth, to get established; and to induce rapid growth, they should remain in heat for some time afterwards.

BOUGAINVILLEA GLABRA.—Undoubtedly this is one of the most useful of flowering plants, accommodating itself on a trellis, or close under the roof of the house, or on wire trellises of any form, or as a bush; and when it is not grown in a high temperature, the plant will last in bloom for a considerable time during the summer. It is often found in the stoves, but it does much better in an intermediate-house, the blooms lasting much longer than if grown in the higher temperature of the stove. If planted in a border, a space of about 3 feet wide by 2½ feet in depth and some 4 feet in length will be sufficient, having some 6 inches of drainage placed at the bottom, covered with round turves, and filling in with a compost consisting of good fibrous loam, a



PICEA NIGRA (THE BLACK SPRUCE), AT WILHELMSHOF.

liberal addition of sharp sand, and a few half-inch bones, having the whole well incorporated together; and during the operation of filling-in, make it fairly firm, which proceeding is productive of sturdy growth in the plant. After planting it, and until the roots have taken full possession of the soil, the watering should be moderate in amount. When the shoots begin to break, it is much better to rub off the weakly ones, so as to throw the strength of the plant into those which are left. Old-established plants should be hard-pruned in, and sufficient tepid water should be poured on to thoroughly moisten it, and those which do not require to be repotted into large-sized pots or tubs, should be top-dressed with the materials given above.

THE ORCHID HOUSES.

By H. A. BURDEREY, ORCHID GROWER, HIGHCHURCH, BIRMINGHAM.

THE EAST INDIA-HOUSE.—No plant of *Phalenopsis* bearing spikes of bloom must be permitted to suffer from want of water, the loss of leaves after flowering being then greater than usual. Liquid manure in a weak state may be applied to these plants with advantage, and decaying vegetable matter placed under the stages, such as tree leaves or tan; sprinkling it with salt, if slugs be feared, is an assistance to growth. As a preventive of spot, I would advise the use of abundant fire-heat, and a free circulation of air from outside, taking care not to let the temperature fall below the point given in my last Calendar; and damping down the house more or less, in accordance with outside conditions, and the degree of artificial heat. *Phalenopsis*, *Oncidium*, *papilio*, and *O. Kramerianum* are really hot-house Orchids, and succeed in the warmest house suspended near the glass, and not too thickly shaded at any time, as then growth becomes well-matured, and the plants will pass through the winter without injury. The other occupants of the East India-house should be kept quiet, and receive as much water as will maintain them plump; and those that are growing should be steadily kept moving. If it be found necessary to bring *Dendrobium Wardianum*, *D. nobile*, *D. Findleyanum*, and *D. retrocarpum* into flower at an early part of the season, place them at the highest and most airy part of the house, and water the plants very carefully at first, but it is best if they have been kept cool to remove them first into a house somewhat less warm than this one.

MASDEVALLIAS.—These handsome evergreen Orchids are frequently observed in an unsightly condition from blackened foliage. Thrips are sometimes blamed for this mischief, but the more general cause of it is insufficient warmth, and too great moisture in the winter. *Masdevallias* are considered cool-house Orchids, yet I would advise the winter quarters of some *Masdevallias* to be warmer than those usually afforded for the general collection, and more especially of the *Chimera* section. *M. tovarensis* and *M. trochilus* should have more warmth. It is safer to err on the side of warmth than that of cold and dryness. A shady position, and a temperature of 5° warmer than that afforded *Odontoglossums*, suits *Masdevallias* best.

DIASAS.—A house set apart for *Diasas* is not necessary; in fact, they are rarely found growing well with other cool Orchids, but suitable places for the plants may be found, until danger from frost is past, on greenhouse shelves close to the glass, and where the temperature is kept at about 40° to 50°. Keep them free from thrip, and water them sparingly, and in the spring place them in a cold frame, and afford them water and air abundantly. *Diasas* should be potted in peat and sand directly flowering is past.

CATTLEYS.—*C. gigas*, *C. aurea*, and *C. labiata*, which are to flower during the coming season, must be kept in a dry position near the glass, affording the plants enough water to insure plumpness in the pseudobulbs, nothing more, the warmth being kept at 55° to 60°—a few degrees less will do no harm if the atmosphere be dry, but remembering that a plant in feeble health will not stand much drought.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, GARDENER, BARNHAM COURT, MAIDSTONE.

ADVANTAGE should be taken of favourable weather to push on with the planting of all kinds of fruit trees, notwithstanding that the autumn is the best season for the purpose. Having decided upon the

spot where the tree or trees are to stand, drive a stake into this position to the depth of about 2 feet; this is to denote exact position of tree. Around this stake a circular hole should be dug out to a depth of not less than 18 inches, the subsoil broken up, and if found to be of a retentive nature, plenty of mortar-rubble, brickbats, corks, stones—such as are raked from kitchen-garden seed-beds—should be added, thereby making the soil drier, and therefore warmer. If it is a maiden tree to be planted, the hole should not be less than 6 feet across, and made convex at the bottom, like a saucer turned upside-down; this will give the roots a downward tendency, which is a point of great importance in the case of large trees. The size of hole may seem to some to be very large in the case of such a small tree, yet I can safely say one will be thoroughly recompensed for doing it thus well. In the case of larger trees, 8 to 10 feet is not a bit too much, for unless one has a thorough knowledge as to what kind of soil the roots are likely to push into, he cannot be said to thoroughly understand the tree. If an old tree has been grubbed up where the new one will go, I would advise the taking out of several barrow-loads of the old soil, replacing it with some good rich earth, such as Cucumbers have grown in, or from a rich part of the vegetable garden. Generally, no manure is required to be incorporated with the soil, unless it be very poor, or the trees are large, and have been root-pruned, and which are likely to crop heavily; in this case a little well-rotted dung may be used with advantage. See that all roots are nicely cut, and jagged wounds made smooth; the larger roots to be cut in a slanting manner, from top to bottom. We always, before finishing off, pour a large can of water about the roots, the better to settle the soil about them; it is better than much treading, which may be done a few days afterwards. If hard, frosty weather continue, see that plenty of manure is wheeled out, to be applied as advised in a previous Calendar.

THE KITCHEN GARDEN.

By G. WYTHES, GARDENER, STON HOUSE, BRENTFORD, W.

SOWING SEEDS.—The digging and trenching of ground should be forwarded when the land is not too wet, some of the warmest borders being got in readiness for seed sowing. I do not advise the sowing of seeds of any kind in large quantities as yet, the risk of loss being too great; but some of the earliest varieties of Peas may be sown on a border with a south aspect, and well laid up to the sun, sowing thicker than usual. No wrinkled Peas should be sown at this early date, unless in very favoured gardens in the southern shires. Amongst early Peas, I have a liking for Veitch's Chelsea Gem, William Hurst, English Wonder, and William I, giving the seeds a coating of red-lead previous to sowing them and spreading them out thinly for a short time for the lead to get hard. A little trouble taken now often gives a good return in earliness, and in heavy soil the drills should be filled-in with a soil lighter than the staple, which may consist of the sifted soil from the potting-shed, or the covering of exhausted Mushroom-beds. After this is done, put in Spruce or Yew twigs on the east side of the rows as a shelter. The rows of Peas should run by preference across the border from front to back. Early December-sown Peas are showing above ground, and will need to be dusted over with fine dry wood-ashes, to protect them from slugs; mice must be trapped, and the rows protected with twigs, as advised above; for the dwarfest-growing Peas, old Birch-broom twigs are useful, keeping the haulm off the ground, and the pods from being eaten by slugs.

Broad Beans may now be sown. The small early Mazagan Bean was formerly much used; sown for early crops it is prolific of pods, and is nice when eaten young, but the flavour is not of the best. Early Longpod and Beck's Gem, are excellent—the latter very dwarf, and prolific; and the former may be sown in boxes or pots, in a temperature of 55° or 60°, and when a few inches high, placed in a cold frame, planting them out at the end of February. Beans treated in this manner and planted carefully, come in as soon as those sown in the autumn, and the loss from mice, &c., is avoided. If Celery is required at a very early date, sow a pan of seed, and keep warm till germinated, and less so for one month afterwards. The plants must be pricked off into other pans before they spoil by overcrowding, and they must always be kept near the roof-glass to avoid

drawing. A mild hot-bed of leaves chiefly, should now be made, and frame put on it, and sowings made of Brussels Sprouts, Cauliflower, Cabbage, Onions, Lettuce, and Celery. When any of these get into the rough leaf, they should be pricked out on to other slight hotbeds to be covered up at night with mats, and nice staff for planting-out will be obtained some weeks before the plants from the first sowing in the open are ready. A mild hotbed should be got ready for sowing Carrots and Radishes, and planting Potatoes. Radishes may also be sown thinly on the Potato bed. In frosty weather these hotbed frames should be well covered up at night, and the lining of fermenting material renewed from time to time.

THE FLOWER GARDEN.

By H. W. WARD, GARDENER, LONGFORD CASTLE, SALISBURY.

RAISING PLANTS FROM SEEDS: SEEDS TO SOW.—As advised at p. 15 of the current volume of the *Gardeners' Chronicle*, there are several plants which play an important part in the summer flower beds and borders which are annually raised from seeds, some of which being of rather slow growth in their early stages should be sown about the middle of the present month. Foremost among these is the tuberous-rooted *Begonia*, which is destined to become a popular bedding plant, seeing that a large number of plants may be raised from seed in the course of one year, and the great variety of colour found in the flowers, if the seed be saved from well-developed flowers and plants of sturdy free-growing and flowering habit. Moreover, *Begonias* are a capital wet weather plant.

PREPARING THE SEED PANS AND POTS.—The first step to be taken in this direction is the preparation of a due supply of crocks for the drainage of the pots and pans. This is best done by placing a $\frac{1}{2}$ -inch, $\frac{1}{4}$ -inch, 1-inch, and 1½-inch sieves one above the other in the order named, the top sieve being filled with well-broken potsherds; give it a few shakes, emptying those retained in the top sieve in a heap by themselves, repeating the operation with each of the other three sieves until the desired quantity of crocks of the several sizes is secured, putting the contents of each sieve separately for use. In order to secure perfect drainage, place one large piece of crock (hollow side down) over each hole in the bottom of the seed-pans, &c., and over this put about 2 inches deep of the various-sized crocks in the order named, finishing off with the smallest pieces and a handful or two of half-rotted leaves or moss. Knowing that due weight is not always given to the manner in which the above simple though important details are carried out, and also that it is by attending to small details that success is achieved, I revert to the matter here. Fill the pans or pots thus crocked to within half an inch of the rims with fine soil, consisting of three parts light rich loam and one of sweet leaf-mould, with a good dash of sand added, making the same quite firm, and watering it through a fine-sprayed rose at least half an hour before sowing the seed evenly over the surface; then place the pans in heat—a forcing-house or hotbed, prepared in the manner described in last week's *Gardeners' Chronicle*, p. 41—and cover them with a square or two of glass, and sufficient moss to exclude light and air. As soon as the seedlings appear, the moss of course should be removed, and the glass slightly tilted up, to insure them to light and air, shading with a sheet of paper from sunshine during the bright part of the day. As soon as the plants are large enough to get hold of, prick them out in pans or shallow boxes prepared, as described above, at a little more than 1 inch apart, pressing the soil gently about the roots, and afterwards watering through a fine rose to settle the soil, returning to heat and shading as before. *Begonia* seed being so very minute should not be covered with soil. The same remark may be applied to *Nicotiana*, *Lobelia*, and other very small seeds. Seeds of *Acacia lophantha* and other similarly large hard-coated seeds germinate quicker if steeped in a saucer of warm water placed on the hot-water pipes for twenty-four hours before being sown, the seed being covered with a $\frac{1}{2}$ -inch thickness of fine sandy soil when sown.

SHAKING THE SNOW OFF CHOICE TREES AND SHRUBS.—In the event of being visited by a heavy fall of snow, Cedars, Thuias, Cupressus, Irish Yews, and such-like trees upon which snow may accumulate should be relieved by shaking the branches whilst the fall lasts and as soon as it is over.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, JAN. 21.—Linnæan.

SATURDAY, JAN. 23 { Royal Botanic.
Wakfield Fxton.

SALES.

WEDNESDAY, JAN. 20 { Greenhouse Ferns, Roses, Palms,
and Dutch Bulbs, at Protheroe
& Morris' Rooms.

THURSDAY, JAN. 21 { 14,400 Lillies auratum, Iris, Paeo-
nies, and Heriaceous Plants, at
Protheroe & Morris' Rooms.

FRIDAY, JAN. 22 { Imported and Established Or-
chids, at Protheroe & Morris'
Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—37°.6

H.R.H. THE DUKE OF CLARENCE.—Heart-felt sympathy will be felt by all classes of the community for the members of the Royal Family under the distressing circumstances attendant upon the death of the elder son of H.R.H. the Prince of Wales on Thursday morning last.

THE opening meeting for the year of the Royal Horticultural Society on Tuesday took place under somewhat chilling auspices. The Drill Hall is not a cheerful place, even at midsummer, and in midwinter it is very much the reverse. Nevertheless, there was an excellent show of Apples from Messrs. BUNYARD, a fine lot of exhibition Onions from Mr. DEVERILL, Banbury, a bright display of well-grown Chinese Primulas from Messrs. CANNELL, a remarkable show of cut Orchids of which note is made in another column, and a pretty group of Lachenalias from Mr. LEACH, of Albury Gardens, which demonstrated the utility of these plants for conservatory decoration at this season. The afternoon meeting, at 3 p.m., was poorly attended, not only on account of the unfavourable weather, but by reason of the numerous committee and other business meetings, which are held on these Tuesdays, and which, however convenient, render these days very laborious to those whose business it is to attend some or all of them. Roses, Carnations, the Education Question, the forthcoming Fruit Show in the autumn, and other matters, absorbed the attention of those present, so that it is not to be wondered at that the audience gathered together to hear Mr. IGGULDEN's excellent paper on "Winter Vegetables," was by no means large.

Those who were at leisure, and who did summon up sufficient courage to sit in a cold draughty building, were amply rewarded by hearing an interesting and thoroughly practical paper read. Mr. IGGULDEN was not present in person, and therefore his essay was read by the Secretary, the Rev. W. WILES. Mr. G. PAUL occupied the chair.

Mr. IGGULDEN opened his subject by remarking

that, as a nation, we do not sufficiently appreciate or realise the value of vegetables, from a dietetic and medical point of view. Choice vegetables, he said, may be had in plenty, if facilities were forthcoming; and even for winter use, twenty-eight distinct kinds were available, and of these only nine were beyond the reach of the average gardener. But, Mr. IGGULDEN continued, much depended upon the cooks, who appeared to be the natural enemies of the gardener. They made excuses of various kinds, and rather than see that the vegetables provided for them by gardeners were produced in a proper manner at their employer's table, many of them would be conveyed through the cook's agency to the waste tub. Mr. IGGULDEN, in the interest of gardeners, strongly denounced the conduct of cooks in this respect, and thought that employers should enquire more carefully into the subject.

Of green crops, Mr. IGGULDEN considered Chou de Burghley a valuable vegetable for use in January and February, especially if sown in April, and treated as Broccoli. Several kinds of the ordinary Cabbage, too, might with advantage be grown for winter use. The seed should be sown in June, and the plants got out early. Brussels Sprouts, with small firm buttons, were preferable to those of larger but looser character, and the plants should be put out at least 3 feet apart. Savoy, Borecole, and Broccoli, were considered good winter vegetables; and in the event of severe weather setting in, Mr. IGGULDEN was of the opinion that it paid to lift and replant Broccoli, and even Savoy, in vineries or frames, if these conveniences were available. Veitch's Self-protecting Autumn, although rather a tender variety, he had found most useful when lifted and protected as advised, and had been able to maintain a succession of heads until January, by which time Snow's Winter was generally ready for use. Leeks, the essayist thought, were not so much grown or used as a vegetable as they should be, and Cardoons and Celeriac were eulogised as being both useful and palatable when properly cooked. Spinach, too, in Mr. IGGULDEN's opinion, was invaluable for winter use, but too many people looked upon it as a high-class vegetable. According to his experience, it should be grown in a rather sheltered position, and a dusting of soot before and after sowing would be beneficial. Sowing the seed too late was the frequent cause of failing to produce a good crop of winter Spinach. Spinach-leaved Beet formed a good substitute where Spinach could not be grown successfully. Endive was indispensable, the Improved Broad-leaved Batavian being much the best for this purpose; and a good supply of Carrots, of the Horn varieties, may be had all the year round without frames, by making a sowing on a warm border in July, in addition to the usual spring sowings. Jerusalem Artichokes, too, were easily grown; as also were tubers of the so-called Chinese Artichoke (*Stachys tuberosa*), but the latter, he thought, would never become a popular vegetable—cooks did not take to it.

Potatoes, Mr. IGGULDEN stated, were seldom cooked as they should be, and the incompetency of the cooks in this matter frequently got the gardeners into trouble that they did not deserve. Mr. IGGULDEN advised employers to provide their gardeners with frames, mats, &c., for protection if they desired an unlimited supply of fresh vegetables during severe winters.

Mr. BUNYARD in the discussion which followed, concurred with the majority of Mr. IGGULDEN's remarks, and mentioned, among other things, a new Cabbage, named "Christ-

mas Cabbage," as being a capital winter vegetable. It originated in France, but was hardy, solid, of a dark green colour and rich flavour. He also thought it very important not to sow seed of Salsify and similar crops too early, this frequently causing the roots to "bolt."

Mr. WYTHES remarked, that he still found the old Walcheren Broccoli as good as any, and he regarded Spinach as a most valuable winter vegetable.

Mr. A. DEAN was glad Mr. IGGULDEN had blamed the cooks in regard to Potatoes, because, as a raiser of Potatoes, he felt it was not always the fault of the tubers, as many people supposed. He did not think it absolutely necessary that Spinach should be sown in sheltered places, inasmuch as in his district it was grown in open fields. A hearty vote of thanks to Mr. IGGULDEN for his paper concluded the meeting.

The Education Question.

THE subject of education for gardeners, though it did not come formally before the meeting of the R.H.S. on Tuesday last, was a subject of conversation among those present, and if we may judge from the correspondence which reaches us, is exciting general attention, a most satisfactory thing to witness. There seems to be a general agreement that whilst a practical training from the beginning is absolutely essential, means should also be devised to quicken the intelligence and increase the knowledge of the rising generation, so as to enable them to meet the new conditions of the times. The question now occupying so much attention is at least two-fold, and comprises the education of the coming race of professional gardeners, and the diffusion of knowledge among those who, by reason of their age and other circumstances, cannot be expected to begin at the beginning, but must receive their mental food in a condition ready for immediate consumption. The two things are widely different, and require corresponding diversity of treatment. The County Councils and School Boards have to provide for the future in the instruction of the young in elementary first principles, and for the present, by demonstrating to the adult the most approved methods of cultivation, and the most suitable varieties to be grown under different conditions and in various localities. The two aims must, in our opinion, be kept distinct. Also other matters must be borne in mind. Practical gardening as such is as fully advanced, if not more so, in this country as in any other; but, admitting this much, it may be doubted whether, if we eliminate the advantages that our present practitioners have over their predecessors in the superior means at their disposal, they have made any substantial advance. From a purely practical point of view, we may ask whether the young gardeners of the present day are any better than their forerunners? From this special standpoint it is not to be expected that they could be; and yet progress is demanded on all sides, and at the same time the ranks of the gardening community are overstocked, so that the weakest must go to the wall. New openings must be sought to provide for the necessities of those who are hampered by existing circumstances. How is that progress to be effected? how are these new openings to be developed, or if developed, how utilised, if our young gardeners are not so educated as to be able to adapt themselves to new conditions?

Another point must be borne in mind, and that is the urgency of foreign competition. It

often happens to us to come in contact with young men from the garden-schools of the Continent, and we are bound to say that in intelligence and general knowledge they are much superior to the general average of the corresponding class of our own countrymen, and no wonder, for till lately we have made no provision for their education. We know it may be said that the youths of whom we speak are picked men, and it is also said that they do not make such good workmen as the Englishmen; but are our people to be always brawlers of wood and drawers of water? Are they to be debarred from the prospect of rising in their profession, and of becoming the directors of other people's labours as these young men do? Some of the foreigners of whom we speak are as highly educated in the scientific branches of their profession as are our own University students. We say this from positive knowledge of both classes. Moreover, they have the great additional advantage of having been trained to practical work. But what prospects, it may be asked, are open to these educated and trained gardeners? Are they to settle down in a cottage, rub down the pony, milk the cow, clean the windows, and make themselves generally useful "at a very modest salary?" If this is to be the fate of the majority, of what use will be their education? and will not their training be beyond the needs of the case? Would not discontent be engendered, and the future be worse than the past? Again, reverting to what we see elsewhere, we do not dread any such results. The lazy and the ignorant and the incompetent will, no doubt, be no better off than they are now, and probably even worse, but for the intelligent, the industrious, and the educated, opportunities arise, and will do so more frequently in the shape of curatorships, directorships, estate managers, stewards, and the like, to say nothing of the openings afforded by the plantations in our various colonies. Whether we look to the prospects of the men themselves, to the urgent necessity there is for turning our home-lands to better advantage, or to the developing the resources of our Colonies, we see the urgent necessity both for a higher technical education, and a wider and fuller dissemination of gardening knowledge generally. The opportunity is now in the hands of the County Councils among other bodies. Most earnestly do we hope they will avail themselves of it for the benefit of horticulture and agriculture—that is, of the people generally, and the advantage of those who have to earn their bread in the pursuit of those occupations.

PICEA NIGRA.—Every visitor to Cassel and the world-famed Wilhelmshöhe Park, and the less-known but not less beautiful Karlse Park, is struck by the beauty of the variety *Picea nigra*, commonly called "Wilhelmshöhe variety," or "Wilhelmshöhe Black Spruce." Of bluish tint, and very compact growth, this tree forms a perfectly pyramidal head. The accompanying illustration (see supplementary sheet) represents a large group of these trees in the Karlse Park, Cassel, in front of a large group of the common Spruce, *Picea excelsa*, the compact-growing bluish *Picea nigra* forming a beautiful contrast to the tall-growing, gloomy-looking *Picea excelsa*. The trees figured are about 30 feet high; they often attain 35 to 40 feet, but their beauty is then usually much diminished. *Picea nigra* is of rather slow growth, and is, therefore, well adapted for smaller parks and gardens, and it is seen to the best advantage when 20 to 30 feet high; it then forms a compact pyramid, as regular as if cut by the gardener's knife. Up to this size the six or eight

main branches become so procumbent as to touch the ground, and to throw out roots. When this is accomplished, the apices of the branches begin to grow upright; the branches now become independent plants, grow luxuriantly, while the main-stem of the old tree, year by year, grows more slowly, till it dies, while a whole colony of young plants is formed around it. There are wonderful examples of this in the Wilhelmshöhe as well as in the Karlse Park, the trees here figured just showing the first signs of this process. *C. Wissenbach, Cassel.* [Our correspondent obligingly sent specimens, which we recognised as the ordinary Black Spruce of N.E. America, and in this we were confirmed by the opinion of Prof. Sargent, who was present at the time. The epithet "Mariana," used as a varietal name, is only a synonym. *En.*]

LINNEAN SOCIETY.—An Evening meeting will be held on Thursday, January 21, at 8 p.m., and the following papers will be read: 1, "Additional notes on the Tick Pest in Jamaica," by D. MORRIS, M.A., F.L.S.; 2, "On the Development of Cautchouc, containing cells of *Eucommia ulmoides*, Oliver," by F. E. WEISS, F.L.S.; 3, "On the Lichens of Manipur," by Dr. JEAN MÜLLER.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The last quarterly meeting of the year was held at the Caledonian Hotel on the evening of Monday, January 11, Mr. NATHAN COLE in the chair. Nine new members were elected, bringing the benefit membership to 423. Four new honorary members joined during the year, bringing the number of these up to 55. Sickness has been very prevalent, seven members being on the funds at the present time, and four deaths have occurred during the year. The committee earnestly ask the co-operation of the members in inducing others in the profession to join this very useful society. The annual meeting will take place on Monday evening, March 14, at 8 o'clock.

THE PRODUCTION OF CAMPHOR IN FORMOSA.—For some time past it has been stated that, in consequence of the great demand for Camphor in the manufacture of smokeless powder, the supply has been decreasing, and fears have been entertained lest the Camphor trees should become extirpated. Referring to the supply of Camphor from Formosa, a correspondent to the *New York Shipping List* entirely refutes the fears that have been thus entertained. He says:—"The trees in the island of Formosa are numbered not by the hundreds of thousands, but by the million. At the present time there is enough Camphor in Formosa to supply all Christendom for a century, yet, notwithstanding these facts, the output of the entire island in 1890 was only about 60 tons. The Camphor expert selects a tree, and scrapes into the trunk in different places, using an instrument somewhat resembling a rake, with teeth of curved, gouge-shaped edges, that cut pulling. This scoops out the wood in little crescent-shaped chips. A tree is not considered to be worth anything for Camphor purposes until it is fifty years old. The yield of a tree is unequal, being greater in and about the roots than higher up the trunk."

THE EMIGRANTS' INFORMATION OFFICE has drawn up the following items of information on the prospects of emigration to the Colonies and to South America at the present time. The ordinary emigrant without means should not go to Canada during the winter, but should be prepared to arrive in April, when the busy season commences. In New South Wales, Victoria, and to a less extent in South Australia, harvest prospects are favourable, and farm and station hands are in some demand, but mechanics are not wanted, except in a few districts. The Queensland Government have withdrawn their assisted passages, and free, nominated or indentured passages can be obtained now only by farm labourers, ploughmen, gardeners, and female servants. A Government Labour Bureau has been lately opened in the Colony. There is no demand for mechanics, and many carpenters, plumbers, and general labourers have been out of work. Western Aus-

tralia offers free and reduced passages to certain classes of emigrants. Work there has been much brisker than for some time past, and there is still a demand for a limited number of farm labourers, men in the building trades, miners, and labourers on railways and public works. In Tasmania the chief demand is for miners, farm labourers, and a few country blacksmiths; the new silver mines at Zeehan, on the West Coast, have given employment to considerable numbers of miners, railway navvies, and small traders. New Zealand still fails to attract as many emigrants as might be expected from its great agricultural, pastoral, and mineral resources, and its excellent climate, and some settlers have lately been leaving the colony. In various districts, however, there is still a demand for farm and station hands, and for miners. Cape Colony and Natal offer reduced passages to mechanics, female servants and others, for whom there is still a limited demand. In all the above-mentioned Colonies there is a demand for small capitalists, farmers, fruit growers, and female servants; and in most of them any competent workman with a little money should obtain work, even in the absence of any special demand. There is no opening at present in Mashonaland for ordinary labourers or artisans, and the journey up country, especially during the present rainy season, is expensive, and not without danger; the Port of Beira is unhealthy, and the route by that port has been notified as at present impracticable. Persons are again most strongly warned not to go to Brazil, where many cases of destitution have lately occurred among British emigrants, and yellow fever has been prevalent. The present conditions of the Argentine Republic also are unfavourable to British settlers. Branch offices are now organised at Bradford, Yorks, Bury St. Edmunds, Cardiff, Devizes, Hereford, Glasgow, Leamington, Liverpool, and Reading, mostly in connection with Free Public Libraries, and where all information can be obtained; also at the *Emigrants' Information Office, 31, Broadway, Westminster, S.W.*

A NEW TYING MATERIAL.—Under the name of "Taroba," the proprietor of McArthur's Nursery, Maida Vale, London, W., imported a new material for tying plants, and the trial having been satisfactory, it is resolved to use nothing else there for that purpose. It is a product of Mauritius, and its qualities, as alleged, are, that it is the cheapest, handiest, and most durable thing ever introduced to use for the purpose, as it stands wet or drought equally well. So far as we can judge by inspection of the material, and the ties made with it a long time ago, it is worthy of a trial on a large scale.

ASCOT AND DISTRICT CHRYSANTHEMUM SOCIETY.—Mr. FRED J. PATTON, Hon. Sec., informs us that the Chrysanthemum show of the present year of the above will be held on Tuesday and Wednesday, November 2 and 3.

THE CLOVE TREE AT ZANZIBAR.—With reference to the recent alterations in the Zanzibar Clove trade, which has attracted some attention in the daily press, it would seem that the declaration of the duty to be levied on the Clove, would apply to all the organs of inflorescence, as buds, flower-stems, fruits, seeds, &c. What the object of the measure can be, seems to be unknown, unless it is either to increase the value of other parts of the Clove plant besides the buds, or, contrariwise, to discourage the exportation of all other parts except the buds.

NATIONAL ROSE SOCIETY.—An adjourned meeting of the General Committee of the above will be held, by kind permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 19th inst., at 3 o'clock. The following matters will receive attention, viz., the Chester schedule, dates and time of Committee meetings, and other business.

THE BLACKHEATH AND LEWISHAM HORTICULTURAL SOCIETY.—The twenty-fourth annual meeting of the above Society was held at the Institute, Lee, on Monday evening last, the chair

being taken by Mr. NETTLEFOLD, in the absence of the President, Mr. John Penn, M.P. There was a good attendance of members. The Treasurer, Mr. M. N. Butanshaw (Chairman of Committees), and Vice-Presidents were unable to attend, owing to an accident and other causes. The following gentlemen were elected as new Vice-Presidents:—Rev. S. Bickersteth, M.A. (Vicar of Lewisham), R. Escombe, Esq., and Dr. H. C. Burton. New Patron:—The Dean of Rochester. The Hon. and Right Rev. the Lord Bishop of Lichfield (late Vicar of Lewisham) has kindly consented to remain a patron of the Society. Several Votes of Thanks were passed, including the Special Prize givers, Treasurer, President, Mrs. Penn (for the use of her grounds), Auditors, Press, retiring Committee, the Secretary, Mr. C. Helmer, and his Assistant, Mr. A. Helmer. The balance of £27 4s. 8½d. has been obtained, in spite of bad weather, at the annual exhibition. The dates for the exhibition this year are July 7 and 8.

THE ROSERY.

BRIAR STOCKS FOR STANDARDS.

"R. D." very reasonably called attention to this important matter at p. 355, vol. x., of the *Gardeners' Chronicle*. There are few more important within the entire range of gardening. For notwithstanding the abuses and ridicule that have been heaped on standard Roses, they still survive, and are likely to do so, if for no other or better reason, assuredly for this, that they bring the Roses to within easier reach of our enjoyment. Neither as a matter of fact do standard Roses run naturally into mops, however persistently skilled writers trundle them in that direction; on the contrary, very many of them, in spite of the strong set of the tide of fashion against them, insist on evolving into things of beauty and joys for a good many years, though not for ever.

But I am anticipating. I mean to write of stocks, the bases, and not of the finished standard Rose and its beauty and usefulness in the garden. "R. D." attributes most of the losses among Briars to drought, and I largely agree with him, though hardly with the reasons he assigns, differing from those who attribute the mortality of their stocks during the closing summer to the severities of the previous winter. He triumphantly asks, if the cold could kill twenty, thirty, fifty out of a hundred—why not all? Why, indeed, but the same query may with equal or greater pertinence be put as regards dryness at the roots, for it is conceivable that Briars in heaps may partially protect each other from cold but their roots in the air would be equally and alike dried. The best antidote to both lies in the early collection and prompt planting of Briars for budding. "R.D.'s" illustration of September collection, though probably a month too early—is opportune and important, as pointing to the importance of, say, October planting. The soaking of dry roots before planting was a practice held in high esteem by the older cultivators. The practice of puddling, now almost fallen into disuse, the object of which was to make the mud and water stick longer to the roots, was almost universal in the olden times. Thrusting in the pond, doubtless, also revived the parched roots on the Briars, a question that is assuming there were any fibres to revive. But the latter is the mystery of mysteries about Briars for budding. They have a hardy stem, but no roots proper, and the marvel is to me not that so many perish, but that any live. How to enlarge the percentage of the living, and reduce that of the dead or dying, I have found nothing so useful as early selection and prompt planting. I may also remark in passing, that our Briars never grew more vigorously nor showed fewer deaths than last summer. This goes a long way to prove that it could hardly be the cold that killed them elsewhere.

But my chief object in writing of stocks now is to emphasise the importance of early planting. Vir-

tually they are rootless, and the early autumn is the time when the root production reaches its maximum power, in stem, sucker stem, or root stock. Hence the wisdom of utilizing this power through early planting, and planting where the stock is to remain for budding. The waste of root-producing force and energy through inlaying and future disturbance is incalculable, and responsible for twenty-five per cent. of the losses that occur among Briars.

By planting early in their permanent quarters, all such losses will be avoided. And, besides, the average vigour and strength of the Briar will be greatly raised, and the number of their roots multiplied. After October the root-producing power becomes more feeble, sinking to a minimum, perhaps, in January and February. Spring-produced roots, again, are less fibrous as well as less numerous than those produced in the early autumn. *Rosa*.

CULTURAL NOTES.

THYSANACANTHUS RUTILANS.

This old occupant of the stove is, of all plants that bloom during the winter and early spring months, the most graceful and beautiful, and one peculiarly adapted for indoor decoration. As a table plant, its tubular blooms suspended on long, thread-like stalks, that spring from the top of the stem, show to great advantage on a white cloth by artificial light. Three or more plants grouped on a small table make a pretty object in the drawing-room, or when stood on wall-brackets; in fact, any elevated position is good. Considering the ease with which it may be grown, and the length of time it lasts in bloom, *Thysanacanthus rutilans* is just one of those plants that should find a place in every collection of stove plants, however choice. We strike the cuttings in the month of March, placing them singly in thumbs in a brisk bottom-heat, and when rooted, they are potted into large 60's, and finally into 48's and 32's. When 6 inches high, the tops are pinched out, when three or four branches form. Although a stove plant, it grows well in a common frame during the summer months. A compost of loam and leaf-mould in about equal proportions, with sufficient silver-sand to promote good drainage, and the potting done firmly, suits its needs. It should be afforded soot-water and Clay's Fertiliser occasionally. *D. Elkins, Treasurers House, Cirencester.*

ARALIAS.

Few plants have a higher value as decorative subjects than the stove and greenhouse *Aralias*, and more especially is this so as regards the stove kinds; for what can be more elegant, graceful, and beautiful than *A. Veitchii gracillima*, with its palmately divided leaves and narrow segments, so richly coloured with bronzy-green above and reddish beneath? *A. Veitchii* has long been a favourite with gardeners, and is held in much esteem for the embellishment of dinner tables, for which purpose it is exceedingly useful, and is only rivalled by the more narrowly-divided foliaged ones mentioned above. *A. elegantissima* is likewise a handsome plant, that grows with an erect stem, and has long slender petioles of a dark green shade, speckled with white, the leaves being palmate, and divided into narrow segments, which are serrate at the edges. *A. Guilfoylei* has pinnate leaves made up of leaflets, varying from five to seven, and these are broadly margined with creamy white, which renders the plant exceedingly ornamental and telling. *A. Guilfoylei* is a very free-growing variety, strikes readily from cuttings, and it is therefore often employed or used for a stock to graft others on. All the *Aralias* referred to like a brisk stove heat, and should be potted in sharp sandy soil mixed with leaf-mould or peat, and if kept clean in their foliage they are sure to do well. The chief insect that affects them is the thrip, which if not destroyed or got rid of immediately it appears, very quickly disfigures the leaves, and renders the plants quite unfit for use. Tobacco smoke is the safest and best remedy, as

sponging the leaves, unless it be carefully done, injures them; but, if carried out properly, brightens and improves its appearance. *A. Sieboldii* is a greenhouse kind, and in favoured spots is sufficiently hardy to live out-of-doors, where, if planted in a sheltered place, it forms a noble and striking object, so fine and bright are its leaves. As a pot plant, too, it is very useful, young seedlings of from two to four years old being the most serviceable, as they have fresh healthy foliage almost down to the base of the stems. The variegated form, *A. Sieboldii variegata*, is almost equally enduring, and a more choice thing, as its leaves are broadly marked or margined with creamy white, which, contrasted with the deep glossy green, is very rich looking. Unfortunately, this variety keeps somewhat scarce, as it has to be propagated or increased by cuttings or portions of root; but by heading an old plant back, it soon makes fresh shoots from the sides. *J. S.*

HOME CORRESPONDENCE.

TECHNICAL EDUCATION.—Now that a great impetus has been given to the cultivation of fruit in this country with the Allotments Act in force, and the Small Holdings Bill—to the passing of which thousands are looking forward with great expectations—promised, I am sorry to see such a damper put on the so-called technical education as that of the letter from the Director of the Royal Gardens at Kew to the Vice-Chairman of the Middlesex County Council, which was published in the issue of the 2nd, as it is, I think, likely to do great harm to the cause of fruit and other small cultures. If allotments and small holdings of land are to be of full use to the persons renting them, as they ought to be, and a great blessing to the whole nation, which must benefit those occupying, or who will occupy the land, must be taught how to make the best use of it, and garden crops afford the means of producing the greatest amount of that kind of food which people in cities and towns stand in the most need of, and yet get so little at present. Mr. Dyer writes as if horticulture as a whole hinges on [pot] plant-culture, whereas that is but a very secondary part of it, and if men possess the knowledge of that only, they are of little use in a garden. As to the beneficial effects likely to result by holding classes in horticulture in villages and small towns, everything will depend upon how much "technology" is introduced, and how much practice, the great thing being to make the lessons and teaching as practical as possible by having living trees and branches when fruit culture, pruning, grafting, &c., are being treated of, and the same with other subjects all through the course. This has been the method I have pursued, and I find that the liveliest interest has been excited, and great attention paid, as instead of following by the ear and mind alone, those composing the class I have had the honour of endeavouring to teach can see the operations or modes, and take the whole in. *J. Sheppard, Woolverstone Park, Ipswich.*

LECTURES ON HORTICULTURE.—Judging from the tone of various articles in this and in contemporary journals, it seems to me that considerable misconception prevails as to the real scope of lectures. It has been asserted "that gardeners must learn their profession in gardens or nurseries, and that no man can hope to learn his profession by being lectured at." No one who knows anything of the conditions of gardening will seek to deny this, but neither will anyone with a true conception of the matter ever imagine that horticultural lecturers will ever be required to work under such absurdly impossible conditions. These lectures are being organised with an entirely different aim in view than that of clashing with practical work, but distinctly to go hand in hand with practice by endeavouring to supply the knowledge of theoretical facts which underlie the art of gardening, and to systematise to some extent and make available the mass of facts which a gardener, if he means to reach any status other than that of a mere labourer, must assimilate. Further, some writers have ridiculed entirely the idea of teaching a gardener anything whatever besides what he can pick up in a garden by his unaided intelligence. This must appear an utter absurdity to the great majority of the gardening community. If a man had to be simply a hewer of wood and drawer of water

throughout his career, then there might be some truth in the statement, but it is obvious that some of the young men of to-day must in the future fill important and responsible positions, and surely in such positions men cannot but be benefited by possessing a knowledge of many things, which, though they had been ever so desirous to attain, they could not have acquired in the usual course of training in a garden. Take such subjects as elementary Latin, plan-drawing, or botany. These subjects cannot be taught to gardeners in the gardens where they are receiving their practical training, nor have the majority of youths who select gardening as a profession any knowledge of them previously, yet they are of the utmost importance. Certainly lecturers on horticulture do not profess to teach Latin, nor can they give their students a complete course of plan-drawing or botany, yet they can readily impart much valuable information on the principles of landscape gardening, the fertilization of flowers, principles of propagation, &c., enough to give men, at least, an intelligent conception of the subject to stimulate effort, and prepare the way for fuller knowledge. *Excelsior.*

THE EDUCATION OF GARDENERS.—I have read with great interest, and I am entirely of the same opinion as your correspondent "Hopeful," in a recent issue of the *Gardeners' Chronicle*, that the inducements now held out to gardeners and others who are connected with the trade are inadequate as an inducement to study necessary to make them masters of their business. In nine cases out of ten the wages offered in any branch of the trade are only just enough to live upon; and it is very often the case that ignorant and uneducated men get a situation simply because they have influential friends who will recommend them, thus excluding the more experienced man, and this is more so among persons not engaged in the horticultural trade. I will take, for instance, the wage of an ordinary mechanic, which is from 30s. to £2 a week; now I consider that a gardener has a great deal more to learn and study than a mechanic, and yet he receives about one-half the wages of one. The same also with young men who are engaged in nurseries, who, as a rule, only receive 18s. a week. If £1 is paid, it is considered very handsome. There is a great drawback in the nursery branch, owing to the number of Germans who come over, and who are able, by reason of their great frugality, to work for next to nothing. I have had about thirteen years' experience in the trade, and have done almost everything, from crocking pots to keeping a set of books, and I have during that time come in contact with men of all branches of the profession, and the universal opinion is that the pay is not enough to encourage and allow of advantage being taken of the various means of scientific education in horticulture now available. *Shopman.*

— On this subject, my ideas are altogether different from your correspondent "Hopeful," p. 620, vol. x., of the *Gardeners' Chronicle*, who seems to have written in a desponding frame of mind. True, education is of great importance to us all, for the time is near when even the lowest grade of workmen will possess it; but, even then, those who have made influential friends, and can secure the benefit of their assistance, will then, as now, succeed the best; and at this, none will complain but those who have never been able to make a friend with influence. "Hopeful" says that gardener's situations are secured not by merit but by favour, a statement at variance with my experience, and one which casts an unjust aspersion upon all who take an active interest in recommending gardeners for situations. I know Messrs. Dicksons of Chester, and believe Messrs. Veitch of Chelsea, will not enter the name of an under or a head gardener on their books, with the object of finding either a situation, before they are assured that their characters will bear investigation, and their experience is of a standard to make them worthy of patronage. Further, I venture to predict that if "Hopeful" can produce recommendations to prove that he possesses one-half of those qualifications he says he does, a nurseryman will soon be found who will give his case a very favourable consideration. Notwithstanding the value of education, I would advise young gardeners to concentrate their efforts somewhat, for being a proficient in a few subjects is unquestionably better than to attempt to master many, and not succeed in doing so. Yet I admit I fail to realise how any man, positively possessed of such varied and high-class qualifications, could do other than rise above

his brethren. Although education is becoming every year of more importance, young gardeners cannot do better than first to acquire the art of cultivating all the productions of a garden, for without this knowledge no other will be of much avail to raise them even to a comfortable position in their profession. *Thomas Reid, Woodcote, Newport, Salop.*

CHARRED REFUSE.—Last winter there was, in the *Gardeners' Chronicle*, a controversy going on respecting the properties of charred refuse and burnt earth, and in my opinion more may be advantageously said upon the subject. Last year I tried various experiments with charred refuse, with results more or less satisfactory. A trial of it on outdoor Tomatoes showed, that with these plants its effects were good. When we planted out the Tomatoes, about half the plants were placed in a good quantity of the material, with the result that we had plenty of ripe fruit in the autumn, in spite of much rain and dull weather, and onwards to Christmas from partly ripe fruits cut off and ripened indoors. Those planted on the same aspect (south-west) without charred refuse, failed completely, scarcely ripening a fruit, besides growing much to leaf. I used the materials with the soil in which Strawberries were grown in pots, but affording less of it. I have found that it answers admirably for early forcers, but in the case of Strawberries late forced, I have discontinued its use, as red-spider seemed to attack them very freely before the crop had finished. The burnt earth may or may not have been the cause of this trouble. Another case which deserves notice was that of an early batch of Cinerarias, when at their final shift about 30 per cent. of charred material was used for about half the number of plants; and, as a matter of fact, these are now in full bloom, while those plants which got no burnt refuse, the treatment being exactly the same in both cases, will not be in flower for one month or six weeks. This strengthens the argument of those who hold that the use of this substance hastens the flowering period of plants, and tends to the early ripening of the fruits of the Tomato. *G. B. Claydon, Holbecks Park, Hadleigh.*

EXPERIMENTS WITH NECTARINE AND PEACH TREES.—A large tree, about eighteen years old, of Rivers' Elruge Nectarine had been early forced for several years, and did not fruit satisfactorily, chiefly owing to its position in the house, where but very little sun reached it. Eventually the foliage was attacked by the "silver leaf disease" on some of its lower branches, and it was determined to replace it with a younger tree. The tree accordingly was lifted on October 28, 1890, and temporarily laid in with its roots just covered with soil near some tall trees; here it remained until February 9, 1891, enduring all the severe weather, including 32° of frost on one occasion without any protection whatever. While re-arranging another house, I found room for one more tree, and having only the above specimen at hand, it was decided to give it one more trial. With this intent, the lower branches which were diseased were cut off, and found to be dead in the centre. The head was considerably reduced, and the tree planted in the vacant space on February 9; it flowered very freely in the month of March, and set a heavy crop of fruit. The fruits were left at about 9 inches apart all over the tree, and ripened well, although they were rather small, and more fruit by far was carried than in all the previous six years, thus proving that Nectarines will stand severe frosts without any injury if the wood be perfectly ripened. Up to this date I have seen no more of the "silver-leaf disease," although traces of this malady may still remain in the main branches to reappear at some future time. To fill up the vacancy in the early house when this tree was removed, I selected a nice tree of Crimson Gaiety Peach, about six years old from the bud, which had been grown in a late Peach-house without fire-heat. The tree had not begun to shed its leaves when it was removed on October 30, 1890, and when the house was closed for forcing on November 18, a quantity of green leaves were still to be found upon it. Owing to the unripe state of the wood at the time, I did not expect that it would fruit that season; in this, however, I was deceived, and although some of the flower-buds dropped, as did those of other trees in the house which had been forced early for several years, it ripened a heavy crop. Judging from this instance alone, it would seem to be unnecessary to have the trees at rest before beginning to force them. *W. H. Divers, Ketton Hall Gardens, Stamford.*

PRUNING, AND THE CANKER IN FRUIT TREES.—I read with much interest the remarks of Mr. Hudson and Mr. G. Woodward, in your issues of January 2 and 9, at pp. 20 and 53 respectively, concerning the pruning of fruit trees, in which I notice Mr. Woodward's treatment of fruit trees coincides with that of Mr. Hudson, and the results obtained are the same. What induces me to write, however, is, that my experience in regard to pruning and canker is the reverse of that of both your correspondents. I have a plot of land planted with fruit trees—mostly pyramidal Apple and Pear trees, which are planted rather closely, and consequently I was obliged to prune rather severely; but not being satisfied with the crops of fruit produced, I determined to give a portion of the trees more space, and allow their branches to extend. I selected six Apple and six Pear trees for the experiment, and pruned them very sparingly for two successive seasons; the consequence was, that those trees became very much affected with canker, more especially the Pear trees and Lord Suffield Apple—so much so, that in pruning during the winter of 1889 many of their branches had to be cut back into the old wood, and the cankered portions of the main stem of the trees dressed. This season those trees proved almost fruitless, but they have made nice clean growths of young wood, and the canker is disappearing. Possibly the nature and composition of the soil (mine is stiff loam) in which fruit trees are planted have much to do with the amount of pruning required in the different localities or zones. *J. Charlton, Farnley Grove Gardens, Corbridge-on-Tyne.*

HEAT FOR VINE BORDERS.—A few years ago it was the common practice to afford heat to Vine borders of houses that had Vines in to be forced, the general way being to pile fermenting materials consisting of leaves and stable-dung, which in the most cases did more harm than good, as the weight of it consolidated the soil, excluded the air, and held an excess of moisture in the soil, rendering it unfit to support healthy growth after a time. Others again, where expense was no object, went in for placing hot-water pipes in vaults, channels, or gutters below, and I remember seeing some very fine and highly-coloured Muscats shown, I think, from Deepdene, near Dorking, many years ago, that were produced and grown under that system; but experience has proved that it was not worth following, and I do not suppose that any borders are now to be found that are warmed in that way. The consensus of opinion among the more advanced gardeners now is that artificial bottom-heat is unnecessary; but though that is so, it is very important to conserve what is in the ground by affording the border a very light covering. The best material for the purpose is freshly fallen leaves, and if they can be held in position by corrugated iron roofing, old lights, sail-cloth fastened down, or anything of that kind to ward off rain and snow, the border and roots will be kept in a snug healthy state. The proper time to apply the leaves and cover up an early Vine border in the way referred to, is, as soon as leaves can be raked together in the autumn, as the earth is still warm, and the leaves are good non-conductors. Short litter or half-rotted leaves are very good for later vinery borders, and the visible stems of Vines should be protected with something or other, as when sap is moving, frost often does much harm, and should be kept out of the borders and away from the stems outside the vinery wall. Horse-droppings, or short stable-dung, may be used on Vine borders with good effect, if not overdone; and it is excellent to leave on or apply as a summer mulching, as it is light, loose, and open, and does not, therefore, unduly obstruct the passage of air, which is almost as essential to the soil and roots as it is to the tops. This fact proves how opposed to the well-being of a Vine is a mass of hot manure spread over its roots, sealing the soil against the ingress of air, and which it takes long exposure to sweeten or improve. *J. S.*

WALLFLOWER SEED.—Whilst the present exceeding scarcity of Wallflower seed is undoubtedly largely due to the severity of the previous winter, it is equally certain that much of the scarcity arises also from the attacks of a kind of mould or fungus, which most seriously harms seed-vessels and plants, especially in damp seasons. This fungus has become very prevalent in the well-known Wallflower district of West Middlesex, where hundreds of acres of plants are grown for the production of bloom. The year preceding the last, the stock of seed had been growing less in bulk and deteriorated in quality, because so much of it was imperfectly matured, as

well as being discoloured. It seems now almost obvious that to secure at once good seed and a good class of strain, it will be beneficial for the market growers of Wallflowers of the true blood-red type, to charter some one resident in a warm dry part of the country to grow the stocks specially for them. The flowers do not suffer so much as the seed-pods, as the attack of the fungus commences with the decay of the blooms. It is the practice of the large growers to save a number of the plants of the best dark variety for seed, cutting the flowers of all the rest, and it has happened that in such case no seed has resulted, and the grower of 20 acres, perhaps, of plants, has after all had to buy from some more fortunate neighbour. Of course, in a locality where no other Wallflower is grown it is more easy to keep a stock pure than healthy, especially on the strong Middlesex clay. Wallflowers are almost naturally drought-loving plants, and prefer a gravelly soil. For seed production, seed should not be sown till May, whereas market growers sow in March. The fungus passes from the seed-vessels down the stems, blackening and killing the plants absolutely. *A. D.* [In all these cases of decay caused by mould, the sulphate of copper solution might be tried with success, partial or complete, according to the time that had elapsed before dressing the plants, and the extent or degree of the attack of the fungus. *Ed.*]

BRUSSELS SPROUTS.—There seems to exist in the minds of those who market in a small way at this time of the year the impression that a Savoy Cabbage, for instance, is more profitable to purchase than is the same value of Brussels Sprouts. It does not often perhaps occur to those persons to test the relative quantities of produce after these respective members of the Cabbage tribe are cooked and served to table; the result is, however, in favour of the Brussels Sprouts, for the waste is trifling, whilst as compared with the Cabbage, the comparison is all Lombard Street to a China Orange. Brussels Sprouts have proved to be a capital as well as a most profitable crop, so far, this winter. The weather has done them no harm, the frost has not been so severe as to influence flavour, and the demand has been truly enormous. Market growers, as well as vegetable consumers, owe a debt of gratitude to Brussels Sprouts. *A. D.*

TALL TREE OF LOUISE BONNE PEAR.—In your issue of the 2nd inst. Mr. Hudson, in his remarks on Apples and Pears, says of the above variety, "Upon one tree the fruit was scabby; it is a tall one, and much exposed—so tall, in fact, that we had to cut off its top, and that may have had something to do with this failing." The cutting off its top may be put aside; but the fact that the tree is tall and exposed is significant. The roots will be found far down in the gravel, and perhaps nothing contributes so much to the spotting and cracking of Pears as having the roots in an uncongenial subsoil. *Will Toyler, Hampton, Middlesex.*

PELAGONIUMS AT BOWOOD.—At Bowood at the present time Mr. Nelson has, in a large house, a very good lot of the above in flower, nothing being so much appreciated at Bowood as large masses of scarlet, pink, and white. Amongst some of the best noticed were Mr. W. E. Gladstone, Dr. Urton, Quilame, of the Belgians, Silver Queen, Madame Quilame, Coconette, Souvenir de Margude, W. H. Cannell, Aurora Borealis, and Henri Jacoby. All of these bore splendid trusses, and very fine pips. I also observed a number of Meg Merrilies, which Mr. Nelson values very much; Carew Underwood was also in very good condition for the season. *W. A. C.*

ANGRÆCUM SESQUIPEDALE.—To correct an error in the notes on Orchids at Davenham in a recent *Gardeners' Chronicle*, in speaking about *Angræcum sesquipedale*, it is stated that I once flowered a spike with thirteen flowers on it, but should read "a plant with thirteen flowers on it." Perhaps readers of the *Gardeners' Chronicle* may remember Mr. Sander recording the same fact in these columns a few years ago, but he there said twelve flowers, which he admitted was a mistake when he saw the account, as he counted the thirteen flowers. Of course, a plant with so many flowers on it is rarely seen. *Abraham Bradshaw.*

CHRYSAETHUMS FOR EXHIBITION AND USEFULNESS.—May I be allowed a word or two on this important subject, which I hope will find favour

with some of the many readers of this paper. In no few cases do we find trained specimens condemned on the ground of their presenting a too formal appearance. Now, I would ask all my intelligent brethren of the craft, which looks the most formal, plants grown in 8-inch pots with two mop-like blooms, or plants grown in 11-inch pots, dwarf-trained, with say fifty blooms of fair size. In my humble opinion, Chrysaethum societies ought to give greater encouragement to specimen plants, and much less to cut-flowers, which have very little value except upon the show tables. Such large blooms are costly to produce, and when they are produced, I think it cruel to treat them in such a manner. Not so with the trained plant, which has much besides to recommend it. At the exhibition it has an imposing effect, and at home it is none the less effective. Supposing we have a stage to brighten up in the conservatory, say 12 feet by 3 feet, it will take about seventy plants in 8-inch pots, which must be grown of various heights, to enable the gardener to arrange them nicely, and you cannot mix other plants with them when grown in this manner. Now we will look again at the specimen plant, and see what we can do with it. It will take four nice trained plants to fill the same space, and, if the colours are well-assorted, and a few *Primulas* and *Maidenhair Ferns* added, it will be admitted that the latter is the more pleasing effect; and there is, moreover, a saving of 10s. in pots alone, to say nothing of labour in potting, watering, and carrying about. *J. A.*

ARSENIC IN AMERICAN APPLES.—The daily press is taking up this subject, and apparently endeavouring to produce a "scare" as baseless and imaginary as scares generally are. It is represented that American Apple growers are in the habit of syringing the fruit with arsenic and other deleterious compounds, which render it poisonous. There will not be many of your constant readers who will not smile at these statements, as they will be aware that the syringing is applied to the leaves before the fruit is set, and that consequently no harm can accrue to the latter. That the English fruit sent to market compares disastrously with the fruit sent from America, Canada, and Nova Scotia might, and one would think must, some day lead our home growers to study the why and the wherefore. When they do, they will probably find that in the syringing (now so much animadverted) lies the secret of success. *J. B. Thomas.*

HOW TO MAKE THE BEST OF TEN ACRES IN FRUIT CULTURE.

The first requisite is the right man, and that man must have the qualifications of a solid business man. To make money in fruit-growing requires business talent, and it is a great mistake to imagine that a person lacking in business ability will ever make a successful fruit cultivator. Next to that business ability he requires a knowledge of the business he is engaged in. I will not dwell upon this, although it is a current idea among city people that every man is a born farmer and fruit grower. If you want to find a man who thinks he knows all about agriculture and fruit growing, it will be necessary for you to go in search of him in the centre of some densely-populated city. The men who have followed this business all their lives know very little about it. Although, as I have said, this is a very common idea, it is a mistake. The fruit grower needs a practical knowledge of his business in addition to business qualifications. He also requires pluck, and must be willing to work, and fight weeds eight months of the year. He must hate weeds with an undying hatred, and manifest that hatred every day of the week except Sunday. Having got the right man, the next thing is to locate him in the right place. In the first place I would locate that man near some source of fertilisers. It is necessary to put him near some town or village of considerable size, because, to get the best results out of 10 acres, requires no inconsiderable application of fertilisers. I would also have him near a local market. It is rather a difficult thing to make a fortune out of growing fruit and shipping it exclusively to distant markets. I have myself a very deeply-rooted aversion to wearing out my life in the

behalf of express companies and carriers, and commission men. Yet that is about the history of our business. The carrying companies and commission men have been making money fast, and we have been getting very little. By being located near a local market, we can very largely get rid of that trouble, but it is seldom that a local market alone is sufficient for us, and it is therefore also desirable to be near a good shipping point, one at which there is competition, more than one way of reaching the outside market. From this point, for instance, you have, as a rule, only the steamboat to connect you with Toronto. At the Falls we have a variety of ways: we commonly send our fruit into Toronto, just past your door, as cheap, or even cheaper, than you send yours at the present time. We ship very largely through St. Catharines and Port Dalhousie, and we get it to Toronto just as cheap as the people of Port Dalhousie. Then we have as alternatives this route and the Great Western railway line. It is a great advantage to have a variety of ways of reaching the market. Now, having the right man in the right place, which is near some town or village, you must have for the next thing the right kind of soil, which is a very essential thing. It is quite possible in a small plot where the soil is not right, to make it right, but it would be rather a large contract to undertake to make 10 acres, not naturally adapted to the requirements of the fruit grower, suitable for them. I think it was Henry Ward Beecher who said he never respected a mountain so much as he did after he had attempted to make one, and I would not advise any one to try and make 10 acres of hard clay or very poor sand or swamp into a fruit farm, because you have to compete with men who have suitable soils for the profit of the business, and to do so with any hope of success, you must start on even terms with them. If you start with a bad soil, the chances are that the business will be a failure as a matter of profit; and, as it is evident that the produce of ten acres of land in fruit culture would be more than a single family would consume, it is as a matter of profit we are considering this question. Now we have the right man in the right place, with the right soil, and he goes to work. Another one thing is this, and in this I have failed, though I generally try to practice what I preach: if you are not able to fertilise ten acres properly, sell five and fertilise the other five. Fruit growing requires a great deal of manure, and it is my experience that a great many of the artificial fertilisers are a failure; indeed, I have never yet been able to get 10 dols. back from a 10 dols. expenditure in that line. The preparation of ground for fruit culture is a different thing from preparing it for the ordinary crops. If you wished to secure a good ordinary farm crop of Oats or Barley, you would probably not cultivate very deeply, but with fruit the ground requires to be more deeply and thoroughly worked because the fruit will occupy the same ground year after year, even in the case of Strawberries probably two or three years, and I have never yet been able to turn in manure so deeply that these plants would not find it, so you need not be at all alarmed about cultivating too deeply. The soil should be very deeply cultivated and thoroughly worked, and all the weeds eradicated as far as possible before planting. In planting Raspberries, Gooseberries, and Currants, plant in squares, so that you can cultivate crosswise. Raspberries you put 5 to 6 feet asunder, and about 4 feet in the row, so you can cultivate both ways. With Gooseberries and Currants you may plant closer—it will depend on the richness of the soil; but, as far as possible, get cross-cultivation, by which you will find the expense of cultivation very much reduced, and the results will be better. In some cases, of course, you plant in rows. At the outset, you can plant a vegetable crop between your Gooseberries, Currants, and Raspberries, or Grapes. In Grapes I am favourable to the idea of making the rows somewhat wider asunder, by which you can get through readily with a wagon with manure, and you can utilise the space between by getting a crop early in the season, because some vegetables will be allowable in the case

we are speaking of now. In regard to the varieties of fruit to be planted, that will depend very much on the kind of soil you have. If your soil is entirely sandy, you cannot plant so largely of some varieties as you otherwise could. With a sandy soil my crop of Currants would be less, and my Raspberries greater. One of the things that the possessor of ten acres would be very likely to plant at the outset is Strawberries. I would not advise, however, that any one should do what I have frequently seen done, to plant these with a row of Grapes, because there would be a good deal of difficulty in taking the Strawberries out later on. I do not fancy planting them in the rows. To make a success of planting Strawberries, the soil requires to be made very rich. Another crop is Gooseberries. From Currants I have been able to make almost as much per acre as from any other fruit I have ever grown. No matter how cold the weather, you are almost sure of a crop of Currants, although this year I have a very poor one; but we never

and I get the retail prices and my baskets back. I have no baskets or crates lost or stolen. I can pick my berries at 3 o'clock in the afternoon, and at 6 o'clock in the evening I am home with the money in my pocket. Blackberries can be sold at good prices, and are grown with profit at a few points, but I would not recommend generally the culture of them even on this Niagara peninsula. I have never made a great success of them, but some men have, so it is not for me to say because I have failed with a certain fruit, that no one else will make a success with it; and I find that other people in other places do succeed. Quinces can be grown on a ten-acre plot; they can be planted closely, as I stated before, and other things can be grown between while they are young. I would grow Plums also, especially if I had some clay. I have an immense crop on my trees, and I never fail in having a crop of some kind, although mine is sandy soil, on which we have to fight the

of fruits will prevent the growth of weeds. We can keep weeds down very easily where the land is in thorough cultivation.

THE SECRETARY.—Which would you rather have—ten acres of fruit planted and cultivated in the manner you have described, or a hundred acres of ordinary farm without any fruit?

MR. MORREN.—Well, of late years, farming has been rather a poor business, and it would hardly be fair to make a comparison. It would be a mistake to think that you would get from ten acres of fruit the same profit as from one hundred acres of ordinary farm land with one-tenth of the expenditure; but in farming one hundred acres there is a considerable investment for implements and buildings, and it is difficult to get your interest out of it. If you bring that down to ten acres, of course there are a great many advantages. You may do with a less expenditure for buildings, &c., and there will probably be less hard, heavy labour, but you must not run away with the idea that you can do that without expense. The fertilisation, planting, and caring for 10 acres of fruit, so as to get a profit, is going to take considerable. I think it would be well in a 100-acre farm to devote ten acres to fruit; but if I lived 10 or 15 miles from any market I would be sorry to drop 90 acres of it and devote the remaining 10 to fruit. *Twenty-second Report of the Fruit-growers' Association, Ontario.*



FIG. 16.—LAGENARIA VIRGINALIS: FLOWER AND FRUIT WHITE.

LAGENARIA VIRGINALIS.

This is one of the novelties of 1891, introduced into commerce by Messrs. Dammann & Co., seed growers, of San Giovanni, near Naples, and who have kindly furnished us with the figure. It is one of the handsomest varieties of *L. vulgaris*, with large bottle-shaped fruits, which, contrary to the usual green colour of *L. vulgaris*, are waxy-white and, being seen from a long distance, form a distinct attraction in a garden. The young fruits are edible, and which, when properly cooked, have a fruity flavour. The large blooms are snow-white, and highly decorative. We publish the illustration as appropriate to that given in our last issue from the Royal Gardens, Kew.

FORESTRY.

FORESTRY FOR DEER.

THE open and propitious weather which we experienced in Great Britain and Ireland during the last autumn was highly suitable for the planting of forest and ornamental trees, and in all cases where the ground is naturally dry, or rendered so by a thorough system of drainage, the work if properly executed cannot fail to prove highly satisfactory. Young plantations, however, should be well protected in the early stages of their growth by efficient fences, to prevent cattle and sheep from entering and browsing upon the twigs of the trees, and for want of this precaution, I regret to say many plantations may be found here and there throughout the country that are sadly neglected in this way. The materials used for forming and maintaining fences vary considerably in different parts of the country, so that the planter should exercise his judgment on the spot and act accordingly. I may, however, remark, that in some parts barbed wire has been used for repairing dilapidated fences, but as such has proved over and over again to form a source of danger to man and beast, the system should be discontinued. During dry frosty weather the felling and removal of heavy timber should be prosecuted, as the stuff can be removed at a cheaper rate when the roads are hard and firm in place of being in a soft muddy condition. During inclement weather when out-door work is at a standstill, the hands can be employed to the best advantage cutting up wood into various sizes of scantlings, boarding, and planking, for estate and other purposes.

The stuff should then be placed in a shed, open at both sides to admit a free current of air, but roofed on the top to keep it as dry as possible. When the

get a total failure, and generally get good crops when we give them careful attention, and fight against the worms, which we must do. Just here I may say that I met with a difficulty this year. Hellebore has been the remedy all along, but the hellebore I got this year is so very mild that the Currant worms will be killing the bushes next year. I have planted and grown Raspberries very largely, and make as much money with them as with any fruit. I plant so as to cultivate both ways, and I use cultivators with knives. The sacker question is no matter of difficulty with me. I have been able to get very large returns from Raspberries. I find that although you may get more Strawberries to the acre, Raspberries will give you 10 or 12 cents a basket as readily as Strawberries will 6, and I have always realised readily with Raspberries. One reason perhaps is, that I compete with our American friends in their own markets. Nearly all the Raspberries I grow are sold in the United States. In that I have the local market I have just been contending for, and in operating the local market I have followed the plan of taking orders from private families, which I can very readily do where I am known;

circulo. I would also grow Pears in a limited area like this. Plums, Pears, and Quinces can be grown where your space is limited, because, by giving the care and cultivation I have spoken of, a great deal can be accomplished in a small space where the land is rich. Now, in dealing with 10 acres, you must remember that you are to be confined to that area, and you must not at once plant the entire area with fruit, because the fruit must be renewed from time to time. One of the secrets of success in small-fruit cultivation is the renewing of your cultivation very frequently; with Raspberries and Gooseberries perhaps once in seven years, and oftener in the case of Strawberries, and it is always desirable to have some space reserved for that purpose, which may be used otherwise in the meantime. Anyone who would succeed in the growing of small fruits must be prepared to do an immense amount of cultivation as compared with the ordinary farmer, who puts in his crop of corn or Potatoes, and cultivates it once or twice. I find it necessary to cultivate my ground twelve or fifteen times a year, and to hoe nearly as often, though hoeing is not necessary so often, because if the ground is rich, the shading

wood is seasoned in this way it seldom contracts black ink spots which is a fungus that lays the foundation for rot and decay.

During frosty weather, ground should be prepared for spring planting, and in all cases where large sized plants are to be used, capacious pits should be dug to allow the roots to be spread out to their full length in a uniform manner from the base of the stem without crossing each other. I have sometimes had this sort of work done in a very efficient manner by contract. Of course, the cost varies a little according to the size of pits required and the texture of the soil, but pits about 16 inches wide and one spade deep cost about 1s. per 100, but in cases where the subsoil is of a hard, impervious nature the cost is often from 1s. 3d. to 1s. 6d. per 100. Nothing, however, accelerates the healthy and rapid growth of young hardwood plantations like trenching the ground to admit air and heat, by which means the cold dormant particles of the subsoil are converted into food for the roots. I have had this sort of work done by contract at an average rate of about £3 per acre. When the subsoil is of a very hard impervious nature, it should be broken up to the depth of about 20 inches, and in this case the cost of trenching will be rather more. In overhauling and renovating established plantations, it is often necessary to make up blanks, where they have occurred by deaths or accident, and in doing so, a good large size of plants or young trees should be used; and in trenching the ground or digging the pits, care should be taken to remove all old roots and wooden chips from the soil as the work proceeds, in order, as far as possible, to lessen the risk of fungus growths in the soil, which in due time would attack the roots of the young trees, and cause their death. In this case it is also an advantage to open the pits in early winter, and allow the stuff excavated to lie in a rough state around the edge of the pit, exposed to the influence of the weather, by which means it will become pulverised, cleansed, and sweetened by spring, and in cases where the soil has become exhausted—indeed, I had better say in any case—it is an advantage to add a little fresh soil to the staple to promote the growth of the trees at the start. Old roots, fragments of wood and rubbish should be collected into heaps and burned, and a small quantity of the ashes or charred scorie mixed with the soil at the spots where the trees are to be planted. This increases the fertility of the soil, and gives porosity, and is a very safe manure for all sorts of trees, including Conifers.

When young trees are planted in proximity to old-established trees, they are apt to suffer damage by the encroachment of the roots of the latter, but in order to prevent this, a deep narrow channel should be cut around the young specimen at a reasonable distance from the stem in order to prevent the roots of the established tree from rubbing the stranger of its legitimate food. After the young tree has become established, these channels should be filled up with the stuff excavated. By putting these simple rules into practice, I have been repeatedly successful in establishing fine young trees, to show contrast and variety and improve woodland scenery. Young trees planted in such positions are apt to be peeled and eaten by hares and rabbits, but trees with bare stems may be protected in a cheap and efficient manner by simply placing some small branches in an upright position, about 2 feet high, around the stem, and tying them with a piece of tar twine or willow twig. Trees, however, that are feathered from the ground upwards had better be protected by forming a cage of wire netting a reasonable distance from the plant; and should the soil be of a dry light texture, a mulching of Fern or tree leaves will prove beneficial. I need hardly say that in many cases it is absolutely necessary to stake and tie the trees to keep them in their proper position until such time as the roots take to the soil.

FORESTRY IN 1891.

Taking a retrospective view of forestry for the year

now past, trees and plantations in Great Britain and Ireland, with few exceptions, are in a healthy, progressive condition; prices of timber, on the whole, have been fairly well maintained, and in some cases the prices realised at public sales for trees of matured growth and good quality have been in excess of the estimated value of the lots, and, as usual, fine sound Larch trees in this respect topped the list. I find that good sound Larch, whether in Scotland, England, or Ireland, never fails to command a ready sale and good price; consequently, planters should keep this in view at the time of forming their new plantations. Particular attention should also be paid to the raising of plants from sound seed of full size collected from trees in perfect health, such as we find in Ireland and some parts of Scotland.

Although the cones of the Larch are ripe at this season, yet they should be left upon the trees during winter to be matured by frost, which also loosens the scales to a certain extent and allows the seed to be the more easily extracted. Nature's mode of extracting the seed is by alternate bursts of sunshine and spring showers, consequently the nearer we can follow her unerring ways in this respect the more likely are we to attain success. In my early days, the cones of the Scotch Fir in the natural forests of Braemar and Glentworth, were commonly collected in the month of February, and past experience and observation tells me to still adhere to that practice. *J. B. Webster.*

FLORISTS' FLOWERS.

TREE CARNATIONS.

THESE are very useful as cut flowers during late autumn and early winter, and a few are even now to be had. As long as the Chrysanthemums last (which this year was up to Christmas, though the quality of the flowers at that time was very poor), we were never at a loss for some flowers in almost any colour; but even in the full flush of the Chrysanthemum bloom, Carnations bated not a jot of their value. Our flowers are brought on in a house with a temperature of 50° to 55°, and the perfume, which is delicious, is retained by the flowers when cut if they are put in a warm room. Some persons fail to recognise the difference between ordinary border Carnations, so called, and the perpetual-flowering or Tree Carnations. The ordinary border Carnation is simply a herbaceous plant, which in its season throws up a flower-stem, furnished with a terminal flower, and a number of lateral stems each terminated by a smaller flower. These may or may not form seed-pods, and at the end of the season the stem dies down, leaving a tuft of growths at its base, technically termed "grass." Each of these growths, if layered, will form an independent plant, forming an increase sometimes as much as twenty-fold. Some varieties are not nearly so productive, and I have known plants which would not form any grass, others only one or two growths.

A Tree Carnation throws up a central flower stem exactly as the other does, but instead of the stem dying down, side-growths are produced from it, and the plant will in time form a bush with a central woody stem, and in that state continue to produce flowers all the year round. Many years ago, I tried, with three dozen of plants, to have at least one plant with a flower or flowers upon it every day in the year, and I succeeded. For a large part of the year, we cut a flower every morning. It is this persistent habit of flowering that makes the Tree Carnations so useful; whereas the ordinary border varieties, flowering as they do at the very warmest season, soon pass out of bloom. A member of our Carnation and Picotee Society, not aware of the distinctive character of the summer and winter flowering types, enquired how he could get the Carnations to flower in winter; he added, "I can easily get blooms in July and

August." To obtain a succession of flowers it is well to propagate plants from now onwards till the month of April. I put in cuttings of the small side-growths on January 5, and shall not lose more than five per cent. They are planted a dozen or thereabouts in 5-inch pots, which are well-drained, and filled with three parts ordinary potting soil, and about 1 inch at the top consists of finely-sifted yellow loam, one part leaf-mould, and one part white sand; and on this is laid a very thin layer of sand. The cuttings are put in at equal distances apart all over the surface of the sand. The best place to propagate Carnations at this early season is the propagating-house, if a temperature of 50° or a little more at night can be afforded it, the bottom-heat being 85° to 90°. The pots are best plunged under a hand-light, or in a cutting-frame, as it is necessary that the cuttings be kept plump until roots are formed, and this is best done by keeping them close. The lights should be removed, and the glass on the inner side wiped every morning, to remove the condensed moisture. It will be found that some varieties form roots more freely than others. The pretty rose-pink variety, Miss Joliffe is one of these, and it is also of comparatively dwarf habit, making a nice compact plant by the end of the growing season. When it is seen by the new growth made that the cuttings have roots, all that are in this state should be taken out of the frame, and be placed on a shelf near the glass roof, still in the same place, where they will become well established, and in two weeks afterwards they may be potted singly in small pots. It depends very much upon the treatment these young plants receive in this early stage of their growth, whether or not they will grow into large healthy specimens by the end of the year. In January, February, and March, the weather is usually cold, and young Carnation plants are apt to become drawn in houses where it may even be dangerous to admit much fresh air, so that the best position for them is near the glass roof, and not far from the ventilators. Green-fly should be promptly destroyed by dipping the plants in a solution of soft-soap, 3 oz. to 1 gal. of water; and as soon as the plants have fairly filled the pots with roots, they should be shifted into larger ones. The potting-compost should consist of fibrous loam of good quality, three parts fibrous peat, one part rotted stable-manure, one part of leaf-mould, and a portion of coarse white sand. Any sufficiently open compost might answer, but the above is admirable. The main point in their culture is to keep the plants steadily growing, and to do this effectively, they should be gradually inured to the temperature of a cold frame by the end of the month of April, and in a month more the entire collection may be turned out-of-doors in a position exposed to the sun at noonday. In hot weather the soil dries up quickly, and the cultivator must be careful not to let the plants suffer from dryness at the root. *J. Douglas.*

PHILADELPHUS MICRO-PHYLLUS.

THIS beautiful new Mexican shrub is the smallest *Philadelphus* we have, and at the same time the most distinct member of the genus. Although it has not yet been before the public ten years, it has rapidly come to the front, not only for shrubberies, but it makes a remarkably pretty rock plant, which, perhaps, is the best position for it, and especially if a suitable background can be formed for it; its fragrance is far more agreeable than that of the stronger-growing species. Not being a strong grower, it must not be cut in so hard; in fact, very little pruning is necessary, only the weak shoots from the centre of the plant being removed, so as to allow of a circulation of air through the twigs. The best way to increase the stock is by cuttings taken in August, and made about 3 inches long, leaving a bit of the old wood at the heel, putting them into well-drained cutting-pots of sifted peat, loam, and sand, and making sure

that they are quite firm at the base; a good watering overhead should then be afforded the cuttings, to settle the soil round them, and the pots plunged in close propagating-cases inside the propagating-house, in a temperature of 60°. When roots have formed, the pots should be taken to a more airy position, to harden them off for planting in nursery rows. The soil in which it thrives best is free loam, with a good addition of leaf-mould. In whatever position the plant is placed, it should get plenty of sunlight, so that the shoots will become thoroughly ripened. In appearance it very much resembles the Myrtle; and its leaves, which are opposite, and of a light greenish colour, are produced very plentifully along the slender shoots (fig. 17); the white flowers, which

crossing we know full well, two forms being first combined in each of the parents, another cross may obviously conjoin four. Mr. Lowe, however, asserts positively on the strength of his record, that the sowing of four forms together at one operation yielded a number of offspring which demonstrated the fertilisation of one archegonium or female cell by spermatozooids engendered upon three prothalli other than that which carried the mother cell in question. This upsets not only the general belief, based upon the observations of such botanists as Suminski, Hofmeister, Mettenius, and others, that a single spermatozoid suffices to fertilise the ovum or mother cell, but also that of the difficulty of transference of the spermatozooids from one prothallus to another. Since,

prothalli, they could not cross a gap, however small, and therefore self-fertilisation can only take place under normal conditions. If, however, a drenching shower happens, we can easily see that any travelling spermatozooids might be swept away; and, considering the great number produced by each prothallus, the water would probably be swarming with them, in which case all that would be needed for a multiple cross would be a greater receptivity on the part of the archegonia than that with which they have hitherto been credited. Incidentally, I may point out that such receptivity is further implied by Mr. Lowe's observation, that from these mixed sowings he "never" gets forms true to any one of the parents, which means either that every archegonium is cross-fertilised, or that the parental forms yield diverse progeny without any crossing whatever, which we know to be the case in many instances, and of which he gives no contrary evidence. The natural expectation, however, would be that such a flooding as described would carry the bulk, if not all, of the spermatozooids straight into the soil, to avoid which, the surface, at any rate, must be somewhat retentive. So far, I think, then, we have arrived logically at two points for the guidance of would-be hybridists—1stly, that a volume of water is needed when the antheridium is bursting, to ensure cross-fertilisation; and, secondly, that a loamy surface would give a better chance than the open one of broken pot-material frequently used. Probably, however, the best plan of watering would be to immerse the pots for a short time in warm water, so that it oozes upwards through the soil, and just reaches the prothalli. The spermatozooids under such circumstances would be free to travel abroad as far as their locomotive vigour permitted, and would not be immediately sucked into the yawning chasms of the soil beneath.

The difficulty of systematising research into this question of multiple parentage is increased by the impossibility of identifying the prothalli of the different varieties, those even of different species presenting no plain distinctive characteristics. Ferns, too, however carefully isolated, are almost sure to bear other spores than their own, these being shed upon them from neighbouring plants; hence it is next to an impossibility, when the prothallus stage has been reached, for any individual to be singled out as undoubtedly of this or that variety; and consequently, if it be manipulated with a view to cross-fertilisation, and an unexpected result is obtained, there is no scientific certainty as to how that result was arrived at. A suggestion, therefore, regarding the *modus operandi* best suited to meet this difficulty may not be unwelcome. I would propose then, that, instead of sowing the varieties together, they be gathered as carefully as possible, and sown equally carefully, separately, in small pots. We thus may be certain that the large majority, if not all, of the prothalli in each pot, will be of one variety. When the prothalli have developed, stand the pots in warm water (70° or 80°), as above, until the undersides of the prothalli are submerged. In five or ten minutes we may assume that in that water we shall have a number of spermatozooids of one definite variety. Take now the pot of prothalli which we desire to cross with these, and treat it the same way, only not partially submerging the prothalli, but simply water-logging the soil. If now we close the orifice of the first pot with the thumb, and pour the water from it into the second, we should certainly expect to get a percentage of crosses, of the origin of which we may be sure, and the evidence regarding which would be of scientific value. By systematic transference of this sort, we also know the sexes of the varieties; thus, if we flood the prothalli of a muricatum form with the water from a crested form and get a crested muricatum, we know that muricatum was the mother plant and cristatum the father, while with the higgledy-piggledy system we cannot know this. That at any rate is something gained. Then, as regards the question of multiple parentage, it is clear that by experiments on the lines indicated, i.e., by mixing the fertilising water obtained from several pots instead of one, definite



FIG. 17.—*PHILADELPHUS MICROPHYLLUS*. (SEE P. 86.)

measure half an inch to three-quarters of an inch across, are borne singly towards the top of the branches very freely, and are useful for cutting.

MULTIPLE PARENTAGE IN FERNS.

Mr. E. J. Lowe's very interesting article in your issue of September 19, and his equally interesting collection of the plants therein alluded to which was exhibited at the Drill Hall, Westminster, on the 8th, merits the very special attention of all connoisseurs of Ferns, whether British or exotic, as well as that of hybridisers generally. Though it is difficult for the biologists to accord full credence to the multiple parentage of the plants described and shown, no doubt can exist in the minds of those who are familiar with the very marked parental forms employed, that many of the offsprings bore the salient features of three or four of those forms combined. That such combinations can be obtained by a double

however closely the spores may lie, the resulting prothalli must either have room for their root-hairs to reach the soil or perish, and these root-hairs consequently isolate that portion of the prothallus from which they spring from any other; while the rest or broader portion of the prothallus, on the other hand, if crowded by its neighbours, grows more or less upright, and consequently as this bears the mother cell or cells in its sinus, an appreciable gap obviously must exist between such cell or cells and the neighbouring prothalli behind and before.

The best chance of cross-fertilisation is, therefore, from the sides. When, however, we have a fourfold cross, three neighbours must contribute their influence, and this implies such a heterogeneous and broadcast scattering of spermatozooids that could only be brought about by a general flood represented by a copious overhead watering at a critical period. Clearly, if the spermatozooids can only travel in moisture (of which more anon), and do so normally in the dew-like humidity which, under congenial conditions, is always seen upon the undersides of the

results might be obtained and data formulated which would settle the point one way or another.

In view of the great inherent capacity of variation apart from crossing which Ferns possess, and which was demonstrated at the last Fern Conference by the writer, it will be imperatively necessary in pursuing research into this question to choose very marked and different forms such as those upon which Mr. Lowe has been working, and of course in this case extreme abnormalities, apart from any question of beauty, should be selected. For those, however, who may take up crossing on horticultural and not scientific lines, I cannot too strongly counsel the most careful selection of perfect and symmetrical types as parental forms. Let them, as cattle breeders, dog fanciers, and horticulturists do, cross and breed for improvement sake, and with the sole object of enhancing the decorative beauty of the plants they manipulate. Let them, too, consign ruthlessly to the rubbish heap all imperfect progeny, of which there are sure to be many, growing on only the best. If this be done steadfastly with our British Ferns we shall see in time most of our species not only equalling, but excelling the best exotics, just as a few of them, especially the Shield and Lady Ferns have done already in their finest forms; but if it be not done, and unsightly imperfect forms without an atom of beauty in them be grown on into exhibition specimens, they will swamp the good ones, and prevent our lovely native Ferns from earning their rightful position, i.e., the place of honour in every British conservatory whose owner has an eye for delicacy of form in foliage as a fitting foil to the brilliancy of colour in flowers.

Reverting to the question of the transference of the spermatozooids from one prothallus to another the possibility of the existence of arrangements for cross-fertilisation in Ferns on lines similar to those known to exist in phanerogamous plants, should not be lost sight of. The mere fact that the first-formed antheridia on a prothallus throw off their spermatozooids long before the archegonium is developed while the later ones do so long after it has been fertilised, points to such a conclusion. We have ourselves observed an antheridium in the act of bursting, and scattering its contents at a time when the prothallus which bore it carried also a rooted seedling; while, on the other hand, antheridia often begin to appear upon prothalli when such prothalli are quite small and immature. Again, even in sterilised culture, by the time the prothalli are developed, a considerable amount of minute insect life is found to have been engendered or self-imported among them; and considering the extreme smallness of the spermatozooids themselves, it is by no means impossible, and certainly not improbable, that they may be carried by insect agency far beyond their own radius of locomotion. Hence cross-fertilisation, which among normal plants would have no traceable effect, may occur in Nature much more frequently than has been believed; and the results of which only now come into the area of vision through the wide abnormality of the forms artificially brought together by Mr. Lowe. *Charles T. Drury, F.L.S., F.R.H.S., Fernholme, Forest Gate.*

SOCIETIES.

ROYAL HORTICULTURAL.

JANUARY 12.—Considering the time of year, and the severe weather which prevailed, there was a nice, if small, display of bloom at the Drill Hall, Westminster, on the above date, but a very meagre attendance of the general public. Orchids, of which special mention is made elsewhere, were fairly well represented, as also were Chinese Primulas and Lachenalias. Apples and Onions, too, were shown in capital condition.

Floral Committee.

Present: W. Marshall, Esq., in the chair; Messrs. G. Paul, H. Herbst, H. B. May, F. Ross, W. C. Leach, C. J. Salter, W. Furze, C. Noble, H.

Turner, B. Wynne, J. Frazer, N. Davis, J. T. Bennett-Poe, and G. Gordon.

Chinese Primulas were the principal features that came before the committee, a large batch being sent by Messrs. H. Cannell & Sons, Swanley. The plants did credit to the firm from which they came, showing a dwarf vigorous habit, with blooms of a large size. Peach Blossom is a variety of a delicate pink colour, that calls for special comment, and the same may be said of Pink Queen. Other noticeable kinds were Swaney Mauve, White Perfection, Kentish Fire, and Eynsford Purple.

Mr. W. C. Leach, gr. to the Duke of Northumberland, Albury Park, Surrey, staged a collection of Lachenalias in pots, which attracted some attention. The pots were well filled with foliage and flowers, and showed to advantage the value of Lachenalias for decorative purposes during winter.

A spike of bloom, with foliage, of a winter-flowering Canna named Alphonse Bouvier, which came from Mr. G. Paul, the Old Nurseries, Cheshunt, was much admired, the flowers being of a very rich crimson hue.

Messrs. Veitch & Sons, Chelsea, staged a box of their Winter Gem Begonia, and three baskets of branches of *Daphne mezereum grandiflora*, *Hamamelis japonica*, *Zuccararia*, and *H. arborea*. The shoots, which were laden with bloom, had been cut from the open ground, which at this time of the year augured well for their usefulness.

Mr. W. Duncan-Tucker, horticultural builder, Tottenham, showed samples of a new sash-bar for glasshouses, specially constructed to prevent drip.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. James O'Brien, C. J. Lucas, Baron Schroder, T. B. Haywood, H. Ballantine, T. W. Bond, H. M. Pollett, S. Courtauld, Lewis Castle, E. Hill, F. Sander, H. Williams, J. Douglas, and J. Jacques.

Owing to the frost, most of the exhibits, which it had been intended to send as plants in flower, were cut by the various exhibitors, who, fearing to risk the plants, exhibited them as cut flowers.

Baron Schroder sent spikes of a number of choice *Ochids*, including the finely-spotted *Odontoglossum crispum* Schroderianum *Phaio-Calanthe* Sedeni ×, an unique form of yellow *Cypripedium* insigne in the way of C. J. Sander; various fine forms of C. Lee-annum ×, and C. nitens ×; a very large C. Lathamianum ×, the very handsome and rare *Odontoglossum Wattianum*, *Laelia anceps* Sanderiana, and other varieties of *L. anceps*.

Chas. Ingram, Esq., Elstead House, Godalming (gr. Mr. T. W. Bond), exhibited a new hybrid *Cypripedium* of great merit; the flower is large and bold, the upper sepal flat and circular, nearly black at the base, the dark colouring extending into the ½-inch wide pure white margin, in purplish lines. The petals and labellum are coloured much like the pollen parent, but they are darker, and the whole surface of the flower is smooth and shining. Mr. Ingram also exhibited C. venustum Spicerianum ×, C. J. Lucas, Esq., Warnham Court, Horsham, sent cut flowers of a noble form of the old but not common *Laelia furfuracea*, and which was distinguished as *L. Lucas* variety; its colour is bright rosy-crimson, and the flowers much larger than in the type. Mr. Lucas also exhibited a fine form of *Pescatorea Klatschiana*, a plant usually found difficult to manage successfully; also *Laelia* anceps Sanderiana, *L. a. Stella*, *L. a. Hillii*; the bright yellow *Dendrobium aureum zeylanicum*, a very fine form; *Cypripedium Ainsworthii* × C. Sedenii candidulum, &c.

The Right Hon. Joseph Chamberlain, M.P., Highbury Moor Green, Birmingham, forwarded a four-flowered spike of *Laelia anceps* Sanderiana.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, staged *Cypripedium Calypso*, Oakwood var. (Boxalli atratum × Spicerianum), a very fine hybrid. The lip and petals are much the same as those organs in a good C. Lee-annum ×, and the large broad white upper sepal is green at the base, and with a dark maroon band up the middle; from the base radiate feathered bands of rosy-purple. It is a very handsome flower, and a credit to the raiser. Mr. Cookson exhibited spikes of two fine hybrid *Calanthes* (*vestita rubra* × Williams), which the Committee desired to see on the plants when next bloomed.

Messrs. F. Sander & Co., St. Albans, staged cut specimens of new or rare *Orchids*, of which the best was *Cypripedium Lee-annum princeps* ×, which re-

sembled *Maerelei* variety, but the markings common to both on the large white dorsal sepal were brighter, and in the spots not merging into lines. Messrs. Sander also showed C. Sedeni virginale × C. Lee-annum Maereleianum ×, Macfarlanii × (C. calophyllum × Spicerianum); a new *Angraecum* × *polyurum* with white flowers with long curiously-twisted tails; *Cypripedium Lowryanum* × (C. Ashburntonia × venustum); a fine form of C. nitens, raised at St. Albans, and called C. nitens, St. Albans var.; the noble white *Laelia anceps* Schroderiana, &c.

Messrs. Charlesworth, Shuttleworth & Co., of Heaton, Bradford, sent a plant of the handsome *Odontoglossum Rosii* albens, one of a very large form of *Laelia prestantis* (Heaton var.), and one of *Maxillaria Sanderiana*.

Messrs. Pitcher & Manda, the United States Nurseries, Hextable, Swanley, Kent, staged plants of *Cypripedium Germianum* (villosum × hirsutissimum), and C. Godseffianum (Boxalli × hirsutissimum).

H. M. Pollett, Esq., Ferneide, Bickley, Kent, exhibited a *Cypripedium Parksianum* ×, a hybrid between C. Spicerianum and C. marmorophyllum; and C. confusidense, a pretty hybrid (Hooker × Lawrenceanum).

Messrs. James Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed another good hybrid in *Laelio-Cattleya Cassiope* (exoniensis × pumila?), a very neat-growing plant, with a proportionately enormous bright rosy-crimson flower; and another fine and interesting production, *Epidendrum Endressio-Wallisi*, which, as its name implies, was obtained by crossing the stately E. Wallisi with the pollen of the neat, dwarf white and violet-flowered E. Endressio, and the result has been a beautiful intermediate variety, which will be more admired when exhibited on the plant.

Mr. John Crook, gr. to W. H. Evans, Esq., Forde Abbey, Chard, Somerset, sent bunches of flowers of *Cologneya corrugata*, and spikes of *Angraecum eburneum* vires. Mr. W. Iggulden, gr. to the Earl of Cork, Marston House, Frome, forwarded a three-flowered portion of a spike of *Vanda Cathcartii*, a grand species, and showing evidence of fine culture.

G. Douglas, Esq., Dalkeith, N.B., sent *Laelia anceps* Ballantini, the nearest ally and rival of the beautiful L. a. Amesiana; and Messrs. Heath & Son, Royal Exotic Nursery, Cheltenham, staged a new hybrid *Cypripedium*, which it is intended to call C. Swinburnei × (C. insigne Maulsi × C. Argo Maosii). It is a very distinct hybrid, and strikingly pretty. Its dorsal sepal is green, distinctly margined with white, the green being handsomely spotted in lines with dark purplish-crimson, and the petals have spotting of the same colour. When stronger it will develop further points and beauty, no doubt.

Fruit and Vegetable Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. J. Lee, R. D. Blackmore, F. T. Rivers, J. Cheal, G. Jabez, F. T. Saltmarsh, W. Warren, G. Bunyard, A. Dean, W. Bates, G. Wythes, J. Willard, H. Balderson, J. A. Laing, A. H. Pearson, G. T. Miles, and Dr. Hogg.

This committee had a very fine collection of Apples brought to their notice by Messrs. G. Bunyard & Co., Maidstone. The collection comprised 110 dishes, and the fruit, as a whole, was of a high-class nature, being exceptionally well-coloured. Among other varieties, Mère de Mésange, Peasegood's Nonsuch, Reineette du Canada, Lene's Prince Albert, Twenty Ounce, and Gloria Mundi, were particularly noteworthy, and a dish of the Catillac stewing Pear was also noticeable.

Mr. A. Dean, Kingston, staged a dish of home-grown King of Tomkins County Apple, and some importations of the same kind purchased from a shop for comparison. The latter, we need scarcely say, were decidedly inferior to the former, both as regards size and flavor. Mr. Dean, likewise, showed a dish of bright-colored Apples, grown in a Surrey cottage garden, for naming, which however could not be accomplished.

Seedling Apples were sent by Mr. W. C. Leach, Albury Park Gardens, and Mr. J. Holmes, Paston Rectory, Peterborough; Mr. Leach also staged two bunches of Mrs. Pearson Grape, and one bunch of Gros Colmar, as grown on Lady Downe's.

A dish of Thoroughbred Pears came from Mr. J. Moore, Seymour Cottage, Sutton; and Tomatoes from Mr. G. Wythes, Syon H. use Gardens, Brentford.

Mr. H. Deverill, Banbury, sent a capital collection of Onions of enormous size. The bulbs, too, were

very solid and firm. Conspicuous among other varieties we noticed Royal Jubilee, Rousham Park, Advancer, Anglo-Spanish (very large), The Lord Kiefer, and Improved Wroxton.

List of Awards.

ORCHID COMMITTEE.

To Messrs. J. Veitch & Sons, Chelsea, for *Lælio-Cattleya* Casiope x and *Epidendrum Endrostachys* x.
To C. J. Lucas, Esq., Hortham, for *Lælia surfaacea*, Lucas var.
To G. Douglas, Esq., Dalkeith, for *Lælia anceps* Ballantine.
To Norman C. Cookson, Esq., Wylam-on-Tyne, for *Cypripedium calypso*, Oakwood var.

Awards of Merit.

To Chas. Ingram, Esq., Gillingham, for *Cypripedium gigas* x.
To H. M. Pallett, Esq., for *Cypripedium encephalodes* x.
To Messrs. Chiversworth, Shuttleworth & Co., Bradford, for *Odontoglossum Rossi* albens.

Botanical Certificate.

To Messrs. F. Santer & Co., St. Albans, for *Anglicum polytrichum*.

FLORAL COMMITTEE.

MEDALS.

To Mr. W. C. Leach, Albany Park Gardens, for a group of *Lachenalia*.
To Messrs. H. Canuell & Sons, Swanley, for a group of *Primulas*.

Awards of Merit.

To Messrs. H. Canuell & Sons, for *Primulas* Pink Queen and Peach Blossom.
To Messrs. G. Pail & Son, Chesham, for *Canna* M. Alphonsa Bouvier.

FRUIT AND VEGETABLE COMMITTEES.

MEALS.

To Messrs. Geo. Bunyard & Co., Maidstone, for a collection of fruit.
To Mr. H. Derrill, Cobhill, Barbary, for a collection of *Onions*.
To Mr. W. C. Leach, Albany Park, Guildford, for seedling Apple, Albany Park Nonsuch.

BERLIN.—The flower market in Berlin presents, year by year, greater variety in the subjects grown, and in particular, Orchids are observed in greater numbers. Also many old well-known plants which had almost vanished from general cultivation have reappeared in large quantities, as, for instance, *Poinsettia pulcherrima*. It is to be hoped that the time is coming when Australian and Cape plants will again be obtainable. The enormous trade done with Italy in cut flowers, the production of which is impossible in the North, compels the gardener to turn his attention to the culture of other plants, and *Ericas*, to the number of forty species, are grown in large numbers, where, not so long ago, not ten species were cultivated. The cultivation of foliage plants has greatly increased, and in Berlin it is mostly *Palms* which are raised, and of these, *Coccol Weddelliana*, *Kentia Forsteriana*, and *K. Belmoreana* are great favourites, they being amongst the most enduring plants for rooms. *Carnations*, of which many novelties of good quality have been raised, are cultivated to a great state of perfection. On the contrary, the culture of the *Cineraria* has much declined.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

CIDER APPLES.—Will any of our readers kindly inform C. E. whether Tanner's Red is in quality, growth, bearing, and freedom from canker, or other disease, a more desirable variety than Kingston Black? From whence may grafts of it be obtained? Is it a desirable fruit for Devonshire? Or should both varieties be employed for the growers and the general good?

WHY SHOULD COKE BE WATERED BEFORE FIRING?
—Will some scientific or practical reader kindly enlighten me as to the rationale of the above practice? Also what fuel suitable for hot-houses furnaces is best, say for a saddle boiler? Weight for weight, which fuel gives out most heat? Is it coal, or coke, or wood? Is anthracite better than common coal? If so, why? This is now a seasonable subject, and information is desired by *A. Stoker*.

Obituary.

MR. B. COOMBE.—We regret to announce the death of Mr. Benjamin Coombe, which occurred at Victoria, Texas, U.S.A., on December 16, 1891. Although a comparatively young man, he had held responsible charges in some of our best private establishments, including Chatsworth, Stancliff, and Aldebrook, which latter situation as Head Gardener he relinquished to take charge of the estate of Señor Dorado, Buenos Ayres, but owing to revolutionary troubles he returned home a few months ago; he had gone out again to Texas with the view to acquire a nursery business there when the fever attacked him, and from which, after a short illness, he died.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.				Inches.	fms.	Percentage of possible Duration for the season.	
	Day-deg.	Day-deg.	Day-deg.	Day-deg.				
1	7	0	69	7	39	1	7	13
2	5	0	67	6	26	0	25	15
3	6	0	67	6	26	0	25	15
4	6	0	73	9	3	1	4	0
5	6	0	73	10	29	2	5	0
6	5	0	51	11	25	5	4	0
7	5	0	57	8	27	6	5	0
8	5	0	55	9	25	5	0	8
9	6	0	43	14	24	5	5	0
10	5	0	44	14	24	3	7	1
11	7	0	44	20	29	5	4	0
12	4	10	44	13	15	2	7	0

FRUITS AND VEGETABLES.

SPITALFIELDS, Jan. 12.—Quotations:—English Apples, 3s. to 5s. per bushel; American do., 12s. to 16s. per barrel; foreign Tomatoes, 1s. to 2s. 6d. per box; Seakale, 1s. to 1s. 6d. per punnet; Curly Kale, 6d. to 1s. per bushel; Cabbages, 1s. 6d. to 2s.; Savoy, 2s. to 2s. 6d.; Cauliflowers, 6s. to 12s. 6d. per tally; Greens, 1s. 6d. to 2s. 6d.; Turnips, 2s. 6d. to 3s.; Carrots, 2s. to 3s. 6d.; Parsley, 2s. to 2s. 6d. per dozen bunches; Spinach, 1s. 6d. to 2s. 6d. per bushel; Turnip-tops, 2s. to 2s. 6d. per sack; Parsnips, 4d. to 6d. per score; Endive, 1s. to 1s. 6d.; Cabbage Lettuces, 6d. to 1s.; Leeks, 1s. 9d. to 2s. 6d.; Beetroot, 4d. to 6d. per dozen; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; English Onions, 5s. 6d. to 6s. 6d. per cwt.; Horseradish, 4s. to 5s. per case; Belgian do., 5s. 6d. to 6s. 6d.; Dutch do., 5s. to 6s. per bag of 110 lb.; Celery, 4d. to 1s.; Horse-radish, 1s. to 1s. 1d. per bundle.

BOROUGH, Jan. 12.—Quotations:—Savoy, 3s. to 4s.; Broccoli, 10s. to 15s. per tally; Spinach, 2s. 6d. to 4s. per bushel; Brussels Sprouts, 1s. to 1s. 6d. per half sieve; Greens, 2s. to 3s.; Turnips, 1s. 6d. to 1s. 9d.; Carrots, 1s. to 1s. 6d. per dozen bunches; English Onions, 6s. to 7s. 6d. per cwt.; Apples, 2s. 6d. to 6s. per bushel; Canadian do., 10s. to 20s.; Newtown Pippins 15s. to 28s. per barrel.

STRAFFORD, Jan. 12.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done as under:—Savoy, 3s. to 5s. per tally; Greens, 1s. to 1s. 6d. per score; Carrots, 2s. to 3s. per dozen bunches; Cauliflowers, 9d. to 1s. 2d.; Turnips, 2s. 6d. to 3s. 6d. per tally; Parsnips, 2s. to 3s. per dozen bunches; do., 40s. to 60s. per ton; Carrots, household, 36s. to 45s. do.; do., cattle-feeding, 30s. to 32s. do.; Parsnips, 1s. to 1s. 6d. per score; Mangels, 10s. to 20s. per ton; Sweden, 22s. to 25s. do.; Onions, English, 120s. to 130s. do.; do., Dutch, 5s. to 5s. 6d. per bag; do., Ports, 6s. to 7s. 6d. per case; Apples, English, 2s. to 5s. 6d. per bushel; American, 11s. to 13s. per barrel; Brussels Sprouts, 1s. 2d. to 1s. 6d. per half-sieve; do., 2s. to 2s. 6d. per sieve; Horse Radish, 10d. to 1s. 4d. per bundle; Celery, 8d. to 1s. per roll.

NOTICES TO CORRESPONDENTS.

ATHROTAXIS: *R. H. S. A. laxifolia*, figured in *Gardeners' Chronicle*, November 7, 1885, p. 585.

BOOKS: *D. L. & Co.* The publisher's name is almost invariably mentioned—the price is not, for two reasons—one, that we do not know what it is; the other is, that such a matter being a pure matter of business, should be advertised. We surely do enough for the publisher by giving a notice.—INSECTS THAT INFEST GREENHOUSE PLANTS: *W. R. Miss Ormerod's Manual of Injurious Insects, and Methods of Prevention*. Swan, Sonnenschein & Allen, Paternoster Square, London; and J. Menzies, Hanover Street, Edinburgh.

CENTUS DEORARA: *W. B.* Please send the photograph for our inspection.

HONEYDEW: *D. M.* It is either the excretion of insects, or the exudations from the plant itself—perhaps both at one and the same time. See *Journal of the Royal Horticultural Society of London*, vol. iv, 1874.

NAMES OF PLANTS: *C. S. Leeds*, 1, Polypodium irioides; 2, Aloe verrucosa; 3, A. socotrana; 4, Maranta bicolor.—*W. Higgins*, 1, Laetrea decomposita; 2, L. aristata; 3, Adiantum Paccotti; 4, Davallia solida; 5, Asplenium bulbiferum; 6, Adiantum cultratum; 7, Platycerium alcicornis; 8, Polypodium aureum; 9, Iris foetidissima variegata; 10, Woodwardia radicans.

PEAS AND BEANS TO PROTECT FROM MICE AND BIRDS: *Constant Reader*, Damp the seeds and roll them about in red lead powder until they become well coated with it. Put the green shoots and leaves of common Furze through the chaff-cutter, and strew the chaff along the drills on the top of the seeds. Netting is a good protection against the depredation of birds; or, covering the soil above the seeds with fine thread, supported 6 inches above the soil by means of forked sticks.

SPRAYING FRUIT TREES: *A. B. C.* There need not be the slightest apprehension as to any injurious consequences to the consumer, provided that the spraying be carefully done at the right season. No sane person would be so stupid as to spray the nearly ripe fruit.

COMMUNICATIONS RECEIVED.—Dr. Urban, Berlin.—Dr. Pax, Berlin.—D. T. F.—J. C.—J. A.—E. C.—Smithsonian Institution.—P. Mcowan.—W. G.—Joseph Hippone, Cologne.—A. M. C. Jongkind Conick.—Lucine Linden.—C. A. P.—Dr. Dummer, Berlin.—H. Chickering.—Pennsylvania.—H. E.—Secretary, York Gala.—H.—J. H.—W.—J. W.—J. W.—J. R. J.—P. R.—M.—W. O.—C. J. W.—A. P.—Dr. Krawlin.—J. H.—P. W.—F. G.—PHOTOGRAPHS RECEIVED.—D. L. & Co.

W. WOOD & SON'S

NEW YEAR'S

"SPECIALITIES."

The Cheapest House in the Trade for
ORCHID BASKETS
Our Own Manufacture, of all Descriptions and Sizes.
Send for New Illustrated CATALOGUE, giving prices.

PEAT, THE FINEST ORCHID,
THE COUNTRY PRODUCES.
FOR HARD-WOOD AND STOVE PLANTS,
OUR PEAT IS UNQUALLED.

Special Prices Carriage Paid to any Station in the United Kingdom.

RHODODENDRON PEAT,
15s. per Ton F.O.R. Hants.

FRESH GREEN SPHAGNUM.
Short, thick, full-headed Moss; just the sort for Orchids.
2s. 6d. per Bushel.

SPECIAL OFFER,
TO CLEAR GROUND,
Broken Fibrous Peat, in truck loads, 6s. 6d. per yard;
Decayed Leaf Soil, 3s. 6d. per sack. In trucks on
Rail near London.

W. W. & S.
PRIZE MANURES.
USED ALL OVER THE WORLD. NO EXHIBITOR
SHOULD BE WITHOUT.

WOOD WOOL, Superfine, Pure White,
14s. per cwt.
SUPERIOR WADDING IN COLOURS.
A Ship Just Arrived, of

SHELL SHINGLE.
LOAM, RICH SURREY.
VERY FIBROUS.

COCOA-NUT FIBRE.
G. E. R., 16s. per Truck of 2 Tons.
G. N. R., G. W. R., L. & N. W. R., and M. R., 1s. 6d. per ton extra.
L. B. & S. C. R., S. E. R., L. C. & D. R., 3s. per ton extra.

TOBACCO PAPER, RAG, & JUICE
Samples and Price on application.

W. W. & S. NEW IMPORTED
ARCHANGEL MATS,
Large Size and Full Weight.

RAFFIA, the very Best Plaited.
W. W. & S. Fertilising Moss.

GUANO. TRY OUR IMPROVED
FISH GUANO.
Unequalled in quality and price, 16s. 6d. per cwt. All our
other PRIZE MANURES at special low trade prices.
BONES, and all other MANURES, at Market Prices.
W. W. & S. "COMBINATION," for
Vine Borders, 27 7s. per Ton.

The Largest
BAMBOO CANES, 200,000 in Stock, of all
Importers sizes, in black & white.
SILVER SAND, Coarse Crystal, Medium, and Fine.
Direct from Pits.

SEND FOR WOOD'S SECOND EDITION
ILLUSTRATED CATALOGUE.

W. WOOD & SON, F.R.H.S.
ESTABLISHED 1850. Chief Office—
WOOD GREEN, LONDON, N.

HILL & SMITH,
BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN
TREE GUARD,
"The Porcupine."

The maximum of utility and
the minimum of cost.
Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.
"The Whittier, Herefordshire,
"Dec. 23, 1887.
"DEAR SIRS,—I have now had
an opportunity of trying
your FORTUNE TREE
GUARDS, and they seem
quite to answer my pur-
pose, so you may send me
50 more as before. I en-
close cheque for your ac-
count."

Yours truly,
R. H. GREEN
Messrs. Hill & Smith.

WINTER AND SPRING PRUNING,
TRIMMING, and THINNING OUT can be better and
quicker done by the STANDARD MANUFACTURING COM-
PANY'S Celebrated TOOLS, including the "STANDARD" and
"GIANT" TREE FRUNTERS, the "MYTICUTTAH," and
other useful appliances, than by any means. They were
shown in actual use at the recent Horticultural Exhibition,
Crystal Palace, and at the great Agricultural Shows at Bath
and Doncaster; thousands of visitors being astonished at their
wonderful power and scientific efficiency, coupled with great
saving of time and labour, and the risk to life and limb
avoided. After Stormy Weather, these Tools will be found
invaluable for cutting off fractured branches, leaving the ends
severed in a vital condition.
Sold by the principal Ironmongers and Seedsmen, the leading
Stores, and kindred Trades throughout the world, of whom
Illustrated CATALOGUES may be had; or of the PATENTERS
and MAKERS, at their works and depot, ST. ALKMINUS'S
CHURCHYARD, DEREY.

STOCK	SIZES	Inches.	Inches.
14x12	20x15	14x12	20x15
16x12	20x16	16x12	20x16
18x12	22x16	18x12	22x16
20x12	24x16	20x12	24x16
16x14	20x18	16x14	20x18
18x14	22x18	18x14	22x18
20x14	24x18	20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet
and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered
free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
33, St. John Street, West Smithfield, LONDON, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

ROBERTS'S (IMPROVED) PATENT
STOVES

TERRA-COTTA! PORTABLE! FOR COAL!
Pure and ample heat, 24 hours for about 1d.,
without attention.

For Greenhouses, Bedrooms, &c.
GREENHOUSES Heated 24 Hours for about One Penny.
Pumphlets, Drawings, and authenticated Testimonials sent.
See in use at Patentees',
THOMAS ROBERTS, 34, Victoria St., Westminster, S.W.

CARSON'S PAINT
Patronised by 20,000 of the Nobility, Gentry,
and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES,
Greenhouses, Frames, &c.
1 Owt. and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.;
15, VICTORIA STREET, WESTMINSTER, S.W.;
and BACHELOR'S WALK, DUBLIN.—Resident for Cash.

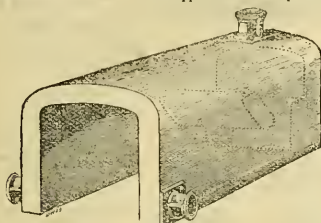
BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, and GREENHOUSES in ALL STYLES.

GARDEN FRAMES in GREAT VARIETY.

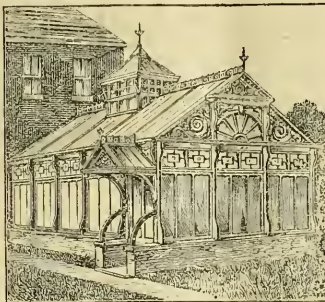
BOILERS of all makes and sizes supplied at the cheapest rates.

VALVES, PIPES, and FITTINGS always in Stock.

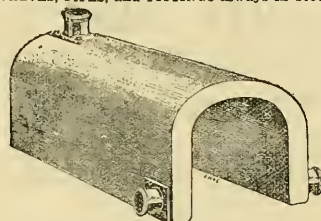


Our Celebrated No. 4
CHECK END BOILER.

To heat from 300 to 5000 feet of 4-inch piping.
CATALOGUES of all our Manufactures, including HORTICULTURAL BUILDINGS and APPLIANCES, POULTRY, and KENNEL REQUISITES, &c.



Estimates on Application.



No. 7.—PLAIN SADDLE BOILER.
To heat from 100 to 200 feet of 4-inch piping.

CUCUMBER-FRAME LIGHTS.

6 feet by 4 feet, painted and glazed ... 14s. 0d. each.
6 feet by 4 feet, unpainted and unglazed ... 5s. 6d. ..
Carriage paid on all Orders of 40s. value.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, &c.; VENTILATING GEAR and VALVES.

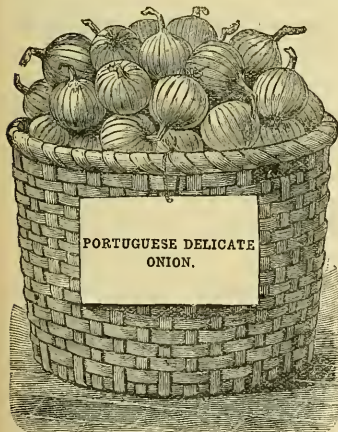
In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London."

Telephone, No. 4763.



PORTUGUESE DELICATE
ONION.

The Only unequalled Onion for Show Purposes.

Of Broomsize Size, and excellent fine flavour.

Per Packet, 1s. 6d., to be sent in Postage Stamps.

"A great many of the Portuguese Delicate Onion weighed over 2 lb. last year; it is certainly one of the best in cultivation."

Mr. JAMES HAIRE, Orchard Gardens.

"Your Portuguese Delicate Onions are the most satisfactory, measuring 17-18 inches around. I gained six Prizes with them."

Mr. ROBERT CROSBIE, Corra Mill.

LORENZ'S CELEBRATED SEEDS, ERFURT.

Before you Order your Seeds for the Spring, read

LORENZ'S ILLUSTRATED CATALOGUE,
For Owners of Gardens and Amateurs.

With TWO COLOURED PLATES of NOVELTIES, and some
Hundreds of Beautiful Engravings.

And you will Buy Your Seeds of Much Better Quality,
and at Cheaper Rates, than from any other Firm.

The ENGLISH EDITION of

LORENZ'S ILLUSTRATED CATALOGUE
Is NOW READY, and will be Sent Post-free on Application.

Postage for Letters to Germany, 2½d.; Postcards, 1d.

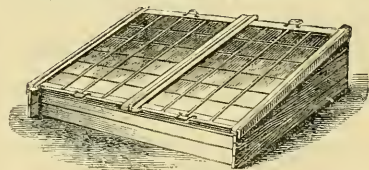
CHR. LORENZ,
SEED GROWER and MERCHANT,

Seedsmen by Special Warrant to H.M. the Empress of Germany,
H.M. the King of Saxony, H.M. the King of Bavaria, H.M. the
King of the Netherlands, H.M. the King of Roumania, H.M. the
King of Servia, H.R.H. the Grand Duke of Hesse, H.H. the Duke
of Anhalt.

100-103, JOHN STREET, ERFURT, GERMANY.

All Flower and Vegetable Seeds are Supplied Post-free, and arrive
within 10 days after receipt of Order.

GREAT REDUCTION in FRAMES OUR WELL-KNOWN MAKE.



PORTABLE CUCUMBER FRAMES.

These Frames are made of the Best Materials, and can be put
together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
1-light, 4 ft. by 6 ft. ...	CASH	2	0	0
2 " 8 ft. by 6 ft. ...		3	0	0
3 " 12 ft. by 6 ft. ...	PRICES,	4	2	6
4 " 16 ft. by 6 ft. ...		5	5	0
5 " 20 ft. by 6 ft. ...	CARRIAGE	6	7	6
6 " 24 ft. by 6 ft. ...	PAID.	7	10	0

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.

London Agent, Mr. H. SKELTON, Seedsmen, &c., 2, Holloway Rd., N.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO

THE LONGFORD WIRE CO.

(LIMITED),
WARRINGTON.



BOTANY FOR BEGINNERS. An Introduction to the Study of Plants. By MAXWELL T. MASTERS, M.J., F.R.S., late Lecturer on Botany at St. George's Hospital. With upwards of 100 Illustrations. Price 3s. 6d.

London: BRADBURY, AGNEW, & CO. (Limited), Bouverie Street, E.C.

AGENTS WANTED FOR THE SALE OF NATIVE GUANO. The Best and Cheapest Manure for all Farm and Garden Crops. — **THE NATIVE GUANO COMPANY, LIMITED,** 29, New Bridge Street, Blackfriars, London, E.C.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

"I am very pleased with your Silicate Manure. The effect upon the Vines is very marked, for they ripen and colour much better. Your Manure has given me great satisfaction for Tomatoes; it is all you claim for it."

(Signed) THOMAS PRICE,
Gardener to the Bishop of St. Asaph.

Prices in Sacks, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¼ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

THE "CLIMAX" INSECTICIDE.

The Cheapest and Best of all Insecticides.

As a Wash for Plants for destroying all kinds of Insects and Parasites, which infest the foliage and roots, such as Green and Black Fly, Mealy Bug, Scale and Thrip, Red Spider, American Blight, Woolly Aphis, Caterpillars, Wood Lice, &c.

Price in tins—½ Pint, 1s.; 1 Pint, 1s. 6d.; 1 Quart, 3s.; ½ Gallon, 5s.; 1 Gallon, 9s.; 5 and 10-Gallon Drums, 8s. per Gallon. Carriage Paid.

Testimonials and Particulars sent free on application.

PREPARED SOLELY BY

THE BOUNDARY CHEMICAL CO., LTD.,
LUTON STREET, LIVERPOOL.

THE "STOTT" SPECIALTIES

For Destruction of Insect Pests.

Patent Distributor, Patent Spraying, Patent Sprayers.

KILLMRIGHT,

2-oz. Sample posted free on application.

Testimonials and Price LISTS on application. Retail from Ironmongers and Seedsmen. Wholesale and Retail from the Stott Distributor Co., Ltd., Barton House, Manchester

RICHARDS' NOTED ORCHID and other

SELECTED PEATS (from his Own Garden), SOILS,

MANURES, & every description of

GARDEN SUNDRIES.
G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E.

Write for Samples and Price List. Post free.

CHIEF PEAT DEPOT: RINGWOOD, HANTS.

EPPS'S selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do, Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT**, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C.N. FINE REFUSE, fresh SPAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.**
The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. **SELECTED**, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. **SECOND QUALITY**, 4s. per sack; 5 for 22s. 6d. **BROWN FIBROUS PEAT** for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. **PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM**, each 2s. 6d. per sack; 5 for 10s. **PREPARED ROTTING COMPOST**, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to **THE FORESTER, Jordan Wood, near Bexley, Kent.**

ORCHID PEAT; best quality; **BROWN FIBROUS PEAT** for Store and Greenhouse use, **RHODODENDRON and AZALEA PEAT.** Samples and Prices of **WALKER and CO., Farnborough, Hants.**

SAVE HALF THE COST.

GARSDIDE'S BEDFORDSHIRE COARSE AND FINE SAND

Is admitted by the leading Nurserymen to be the Best Quality obtainable in the Trade.

Consumers should Buy Direct from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus save half the ordinary cost. NO TRAVELLERS OR AGENTS.

Apply direct to the Proprietor for Samples and Price free on Rail or Canal. All Orders executed with the utmost promptness and under personal supervision. Special Railway Rates in force to all parts. All kinds of PEAT supplied at the lowest possible prices. Sample Bag sent on application to **GEO. GARSDIDE, Jun., F.R.E.S., Leighton Buzzard, Beds.**

"Nothing Succeeds like Success."

HUGHES' (SOLUBLE) FIR TREE OIL

The most reliable and best of all Insecticides for destroying Insects and Vermin on Plants and Fruit Trees, also on Animals, and Birds; and as a Disinfectant & Bleacher in Washing Clothes. Full Directions on the Labels of each Bottle.

Sold by Seedsmen & Chemists, 1/6, 2/6, & 4/6; ½-gallon 7/6, 1-gallon 12/6, or less in larger quantities.

A Treatise on FIR-TREE OIL as an insecticide, its application to Plants and Animals, sent post free on application to the manufacturer, and increased to **E. PRIFTHS HUGHES, Victoria-st., Manchester.**

Wholesale from all the London Seed Merchants and Patent Medicine Houses.
NEW YORK—A. ROLKER & SONS.

For Green and Black Fly, American Blight, Camellia Scale, Red Spider, Mealy Bug, Brown and White Scale, Worms, Wood Lice, &c.

"PICRENA," THE UNIVERSAL INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.

15s. I have thoroughly tested a sample of a new insecticide which you were so good to send me. At the rate of 1 oz. to a gallon of water at a temperature of 98°, I find it kills Green Fly immediately. Double this strength, or 2 oz. to a gallon at 120°, seals the face of Scale of all sorts in a few seconds; while 3 oz. to gallon at same temperature effectually dissolves Mealy Bug, and so far as I have yet observed, without the slightest injury to leaf or flower, and it is withal a most agreeable compound to work with. All our insect remedies are applied through common syringe, or garden engine, a much severer test of efficiency than when applied by hand-washing or spray—I remain, dear sir, yours truly. (Signed) A. MACKENZIE, of Messrs. Methven & Sons.

Victoria and Paradise Nurseries, Upper Holloway, London, January 7, 1888. "GENTLEMEN—I have given your Insecticide, 'Picrena,' a good trial in competition with many others. I am pleased to say that I have found it to be more effective in destroying Mealy Bug and other insects than anything we have ever used. It ought to command a good sale. (Signed) B. S. WILLIAMS."

Sold by Chemists, Nurserymen, and Florists, in Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in Tins (1 and 2 gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and upwards, 8s. per gallon.

Prepared only by **DUNCAN, FLOCKHART & CO., Chemists to the Queen Edinburgh.**

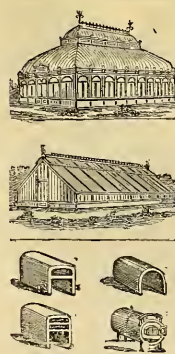
May he had from B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, London; and from **WILLIAM EDWARDS and SON, 157, Queen Victoria Street, London.**

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other light, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake for American blight, and as an emulsion when paraffin is used. Has cleared many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from **PRICE'S PATENT CANDLE COMPANY (Limited), London.**

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of—**WATSON and SCULL, 39, Lower Thames Street, London, E.C.**

CHAS. FRAZER'S EXORS.—Conservatories, Orchard-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. **HOT-WATER BOILERS and HEATING APPARATUS**, for large or small Greenhouses and Glass-paned Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Fencing Codes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free on application to **PALACE PLAIN HORTICULTURAL WORKS, NORWICH.**



JAS. BOYD & SONS,
HORTICULTURAL BUILDERS
and HEATING ENGINEERS,
PAISLEY.

HORTICULTURAL STRUCTURES

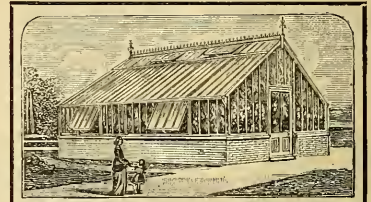
of every description,
in either Wood or Iron,
or both combined.

Wooden Chapels,
Shedding, Loosies,
Tennis Courts,
Cottages, &c.

Hot-water Apparatus
for warming
Buildings of every
description.

Illustrated Circulars
Post-free.

Complete Catalogue, 3s.



THIS GREENHOUSE erected and heated complete, in 20 parts of the country, best materials and workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid—1-light frame, 4 x 8, 36s. 6d.; 2-light frame, 6 x 8, 58s.; 3-light frame, 12 x 6, 85s. 6d.; Span-roof Frames, 12 x 4, £4 7s. 6d.; 9 x 6, £3 10s.; 16 x 6, £9 10s.

HARDY BRUIN & CO., Graham LEICESTER, Street.

"DUROLINE"

(Transparent Wire Wove Roofing)

SUBSTITUTE FOR GLASS

UNBREAKABLE. FLEXIBLE.

LARGELY USED IN ALL PARTS OF THE WORLD.

Government Officials, Fire Insurance Surveyors, Architects, Engineers, and numerous Experts have testified on oath that "DUROLINE" is preferable to and much safer than Glass for Roofs, Skylights, and other similar erections.

See Report "London County Council v. The New Wire Wove Roofing Co., Ltd." May and June 1891.

INVALUABLE FOR FARM BUILDINGS.

Extensively used on the estates of H.R.H. The Prince of Wales, The Duke of Westminster and Sutherland, and thousands of others.

SAMPLES AND FULL PARTICULARS OF THE SOLE PATENTEE'S AND MANUFACTURERS

THE NEW WIRE WOVE ROOFING CO., LD.

75a, Queen Victoria Street, LONDON, E.C.

The Original and Only Makers of the

GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TREATMENT, With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.

Every other kind of Boilers, Scakes, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 " ..	0 3 6	16 " ..	0 9 0
6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two columns, the lowest charge will be 20s. If set across three columns the lowest charge will be 30s. Page, 6s; Half Page, £4 10s.; Column, £3.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 28 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths, and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months: Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

THREE MILLIONS

HAVE BEEN PAID BY THE

RAILWAY PASSENGERS ASSURANCE COMPANY,

FOR

ACCIDENTS OF ALL KINDS.

64, CORNHILL, LONDON.

W. D. MASSY, Secs.
A. VIAN,

FREE GRANTS OF LAND IN MANITOBA and other PARTS OF CANADA.—The reports (illustrated) of the twelve British Tenant-Farmers who visited Canada in 1890, and other pamphlets issued under the authority of the Imperial and Dominion Governments, containing maps and full information as to land regulations, bonuses granted to settlers, openings for capital, demand for labour, rates of wage, cost of living, and all other particulars, may be had post-free, on applying to the High Commissioner for Canada (Mr. J. G. COLMER, C.M.G., Secretary), 17, Victoria Street, London, S.W.; or, to Mr. JOHN DYKE, Canadian Government Agent, 15 Water Street, Liverpool.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.



WARNE'S
(LATE MATTHEW)
CELEBRATED WESTON
FLOWER POTS
AND
HORTICULTURAL
POTTERY.

CONWAY G. WARNE,
Royal Potteries, Weston-super-Mare

ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,
AND ALL GARDEN SUNDRIES.

SEND FOR A
PRICE LIST

from the Largest Manufacturer in the Trade,

H. G. SMYTH,
21, GOLDSMITH STREET,
DRURY LANE, W.C.

HEATING APPARATUS
BUY DIRECT FROM
THOS. W. ROBINSON,
STOURBRIDGE,
DENNIS PARKINSON WORKS
PRICE LISTS
FREE
THE MANUFACTURER
THE IMPROVED
EXPANSION JOINT
HOT WATER PIPES
"THE BEST OF ALL"
TELEGRAMS:—"ALPHA"
BRETTLE-LANE
HOT WATER JOINTS

GO TO BLACKBURN & HOMER

43, WELLINGTON STREET,
COVENT GARDEN, W.C.,
FOR

MATS, MATTING,
RAFFIA, Orchid PEAT,
BAMBOOS, BONES,
FIBRE DUST, CORK,
AND ALL OTHER
GARDEN REQUISITES.

WATERPROOF GOODS OF EVERY DESCRIPTION.

FLORISTS' WIRE a Specialty.

Sole London Agents for Kempton's Floral Gum.

Open at 4 a.m. on Market Mornings.

AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

THE AMERICAN GARDEN,

WHICH INCLUDES:—
THE AMERICAN GARDEN ... 18th Year. United
THE GARDENERS' MONTHLY ... 32nd Year. ONE
and HORTICULTURIST ... 44th Year.
THE FLORAL CABINET ... 19th Year.

Making the Largest, Best, Oldest, Liveliest, Handsomest
Gardening Magazine in America.

THE LEADING AMERICAN JOURNAL FOR
HORTICULTURAL ADVERTISEMENTS.

Subscription Price for England
and Countries in the Universal Postal Union, 10s.

E. H. LIBBY, Publisher, Times Building,
New York, U.S.A.

Agents for Great Britain and Ireland:—
STEEL AND JONES, 4, Spring Gardens, Charing Cross,
London, S.W., to whom Orders for Advertisements and Subscriptions
may be sent. A Specimen Copy post-free for 10d. (stamp).

REVUE de HORTICULTURE BELGE
et ÉTRANGÈRE (Belgian and Foreign Horticultural
Review)—14th year.—Among the principal Contributors:—
A. Allard, P. André, C. Ballet, F. Burench, F. Crépin,
O. de Kerchove de Denterghem, P. E. de Puyot, A. M. C.
Jongkioot Coninck, J. Kicks, T. Moore, C. Naudin, B. Oliveira,
H. Ortgies, E. Pynsart, E. Rodigas, O. Thomas, A. van Geert
Son, H. J. van Hulle, J. van Volsem, H. J. Veitch, A. West-
meel, and P. Wolkenstein.

This illustrated Journal appears on the 1st of every month,
in parts of 24 pages, 8vo, with two coloured Plates and numerous
Engravings.

Terms of Subscription for the United Kingdom:—One year,
14s. payable in advance.

Publishing Office: 134, Rue de Bruxelles, Ghent, Belgium.
Post-office Orders to be made payable to M. E. FYNAEET,
Ghent.

THE IMPROVED TREE-PRUNER, Coppin's
Patent, Awarded Certificate of Merit from the Royal
Horticultural Society. Used in the principal Parks and Gar-
dens in the United Kingdom and Germany. Lists, &c., free from
Patentees.—GEO. COPPIN AND SONS, Addington, Surrey.

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE and SMITH'S COKE delivered in Truck-
loads to any Station in England and Wales.—Address,
G. J. EYESON, 28, Corporation Street, Birmingham.

SIX CABINET PORTRAITS, 3s.; three for
2s. Twelve Carte Portraits, 2s. 6d.; six for 1s. 4d.
Eight-inch Enlargement, 3s.; three for 6s. Stamp size, 24 for
1s. 6d.; 100 for 3s. 6d. Send Carte or Cabinet and Postal Order,
and in about ten days you will receive Highly-finished Copies,
with Original.—FRANCIS AND CO., 29, Ludgate Hill, London.

BOILING WATER OR MILK.

E P P S'S
GRATEFUL—COMFORTING.
C O C O A
BREAKFAST—SUPPER.

CATALOGUES RECEIVED.

REID & BORNEMANN, Sydenham, S.E.—Chrysanthemums.
RICHARD CLEAVER, Lichfield—Garden, Farm, and Flower Seeds, &c.

FISHER, SOX, & SIBRAV, Handsworth Nurseries, Sheffield—Kitchen Garden and Flower Seeds.

FRANK DICKS, Deansgate, Manche't—Reliable Seeds.
JOHN L. CLUCCAS, Ormskirch—Garden Seeds, Garden Sundries, &c.

WOOD & INGRAM, Huntingdon—Vegetable, Flower, and Farm Seeds.

BIDDLES & CO., Loughborough—Flower and Vegetable Seeds, Bulbs, &c.

DICKSONS, Waterloo Place, Edinburgh—Garden Seeds.
J. BACKHOUSE & SON, York—Garden Seeds.

HOWDEN & COMPANY—Vegetable and Flower Seeds.
WM. CLIBRAN & SONS, Altrincham—Vegetable and Flower Seeds.

WILLIAM FELL & CO., Royal Seed Nursery, Hexham—Spring Seed Guide.

JARMAN & CO., Chard—Seed Manual.
ARMITAGE BROTHERS, Nottingham—Seed Catalogue.

PARTNERSHIP.—WANTED, as WORKING PARTNER, an energetic practical SINGLE MAN, with some knowledge of Plants and Fruit, to develop and extend a newly established Nursery Business in a first-class position. Capital required about £250.—Apply, to P. ROSE, Parkview Nursery near Eatham, Kent.

Partnership.—To Nurserymen and Others.
PARTNER REQUIRED, by an established Nurseryman, within 12 miles of London.—Nursery with 16 Houses, 1500 feet of Glass. A rare opportunity. For full particulars, apply to J. G. HAMMOND, Junior, Seething House, Great Tower Street, E.C.

WANTED, a HEAD WORKING GARDENER, in Hertfordshire. Married. Thoroughly experienced practical man. Must have been Head in last place. Wages, 25s., and cottage; no extras.—N. M., Mr. J. W. Vickers, 5, Nicholas Lane, E.C.

WANTED, February 13, a HEAD WORKING GARDENER (2 under). Married; abstainer and without family preferred. Thoroughly experienced with Vines and Store Plants, and used to the country. Churchman. State age, wages (Cottage and Garden found), number of family, length of situations, with references for leaving, and experience.—S., Kirby Frith Hall, Leicester.

WANTED, a HEAD GARDENER, without family; Wife, Laundry. Also a GARDENER; Wife, Dairy. Also a married, SINGLE-HANDED MAN, without family.—Apply, by letter only, to B. S. WILLIAMS and SON, Victoria Nursery, Upper Holloway, N.

WANTED, a SECOND GARDENER.—A young man, with a good knowledge of plants, who thoroughly understands store and greenhouse plants, including Orchids. Apply by letter, stating age, wages, two last situations, and how long in each, to B. J. W., Mr. Boardman's Library, Bishop's Stortford, Herts.

WANTED, a reliable and experienced MAN to take charge of the greenhouses. One who understands the growing and propagating in quantity of bedding stuff and general soft-wooded plants, including Chrysanthemums, the forcing of Bulbs, Lilies, &c. Must have good testimonials, and be thoroughly experienced. Wages and full particulars to LAXTON BROTHERS, Nurserymen, Bedford.

WANTED, a good WORKING GARDENER, with man under him. Unmarried; to board and live in the house. Must have a good character for honesty and sobriety; churchman; must understand Vines, &c.—Miss BAYLEY, Wilmington Lodge, Hassocks, Sussex.

WANTED, UNDER GARDENER, single, accustomed to Plant Growing and Propagating, and attending to the Houses, also to Work in the Gardens. Wages, 15s. Bothy on the Premises, with gas, coals, and milk. Tall man preferred. Four men kept. Apply, HEAD GARDENER, Thos. Christy, F.L.S., Malvern House, Sydenham, stating last situation (where character will be taken from), height, &c.

WANTED, an UNDER GARDENER, to take charge of fires. Must be active and willing, to be useful inside and out. Wages 18s. per week, no bothy. State age, experience, &c.—HEAD GARDENER, Lavant House, Chichester, Sussex.

WANTED, a young MAN, as CHRYSANTHEMUM GROWER only, with assistance for Market. A permanent situation and a thorough practical energetic man.—State age, experience, references, and salary required, to WILLIAMSON, Florist, Smithfield Market, Manchester.

WANTED, a GROWER, thoroughly experienced in growing all kinds of Bulbs, Ferns, Hard and Soft-wooded Plants, General Nursery Stock, &c.—Full particulars, with reference or testimonials, to W. CROSSLEY, 13, Vicar Lane, Leeds.

WANTED, an experienced MAN, to take charge of the Landscape and Jobbing Department. Must be able to Draw Plans, get out Estimates, and Manage efficiently a Staff of Men; must also have a knowledge of the General Nursery Stock.—Apply by letter, stating full particulars, to R. S. WILLIAMS and SON, Victoria and Paradise Nurseries, Upper Holloway, N.

WANTED, as GENERAL FOREMAN.—A thorough practical man, who understands inside and outside routine and capable of Managing Men.—One used to Marketing Surplus Produce preferred. Good Cottage. Ke. found.—Apply, by letter only, to BENJ. G. STONE, Estate Agent, Elkington Hall, Louth.

WANTED, an UNDER FOREMAN, in Fruit and Rose Department. Must be well up in Budding, Grafting, and Lyeving, and know Fruit Trees and Roses well.—Apply, stating wages required, to WILLIAM BARRON and SON, Elvaston Nurseries, Borrowash, Derby.

WANTED, a FOREMAN, for the Houses.—Two youths under him. Wages £1 per week, no bothy.—Send full particulars to N. WORMELOW, Tump, Herefordshire.

WANTED.—A young MAN, experienced in growing Cucumbers, Tomatoes, Cut Flowers for Market. Able to take charge in employer's absence. Abstainer preferred. Bothy on place. Good character indispensable. Apply, with full particulars, age, and wages required to GILBERT DAVIDSON, Ammanford, R.S.O., South Wales.

WANTED, several active MEN, in a Market Nursery, where Grapes, Tomatoes, and Cucumbers are the chief things grown.—State age and experience to JOSEPH ROCHFORD, Turnford Nurseries, Turnford, near Broxbourne, Herts.

WANTED, several young MEN, in the Nursery Work. Apply personally, to WILLIAM ICKTON, Nurseriesman, Putney.

WANTED, a young MAN, with some knowledge of Vines, in a Market Nursery. Wages, 20s.—JOHN WARD, Watford Nursery, Leytonstone, E.

WANTED, a SHOPMAN, for a London Wholesale House. State age, experience, and salary required, to G. G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, an INVOICE CLERK, used to the Seed Trade. Wages, £1 per week.—J. R. PEARSON and SONS, Chilwell Nurseries, Notts.

WANT PLACES.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS

Gardeners, Farm-Bailiffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentlemen with particulars, &c.—St. John's Nurseries, Worcester.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, The Vineyard and Nurseries, Garston, near Liverpool, wish to recommend to any Nobleman or Gentleman who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterspool, near Liverpool.—Full particulars on application to the Company.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

NOTICE.—To GARDENERS REQUIRING SITUATIONS.—Send at once full particulars as to references, with copies of testimonials, &c., to W. CROSSLEY, Nurseryman, Seelham, and Florist, 13, Vicar Lane, Leeds.

GARDENER (HEAD).—Age 46, married. Life experience in all branches, Land and Stock (fifteen years as Head). Excellent character and testimonials.—A. B., 3, Ferness Cottages, Stanley Road, East Sheen.

GARDENER (HEAD), where two or three are kept. Well-up in all branches. Thirteen years' experience. Well recommended.—A. B., Spring Park Lodge, Shirley, Croydon.

GARDENER (HEAD), where several under are employed.—Age 35, married, one boy (twelve years); open to engage with Lady or Gentlemen requiring the services of a good all-round practical Gardener. Excellent testimonials for fourteen years as Head Gardener.—W. S., 308, High Street, Aston, W.

GARDENER (HEAD); age 43, married.—WILLIAM FARR, Patchell Gardens, Wolverhampton, is open to engage with any Nobleman, Lady, or Gentlemen, requiring the services of a thoroughly practical Gardener. His experience has been obtained in some of the best English gardens. Is thoroughly conversant with the requirements of a large and first-class establishment. Leaving in consequence of the death of the late Earl. Excellent references and testimonials.

GARDENER (HEAD), where two or three are kept.—Age 25, married; ten years' experience in large establishments, inside and out. Good references. Abstainer.—G. M., 13, Clifton Terrace, Ashville Road, Leytonstone, Essex.

GARDENER (HEAD).—Age 35, married; twenty years of thorough experience in Store and Greenhouse Plants, Vines, Peaches, Flower and Kitchen Gardens. Excellent testimonials and character.—S. B., West Mill, Buntingford, Herts.

GARDENER (HEAD), where two or more are kept.—Age 40, married, two children. A gentleman can confidently recommend his Gardener, who has been with him two years, thoroughly understanding his business, hard-working, and trustworthy.—W. WOOD, Holmehurst, Redhill.

GARDENER (HEAD); age 33.—J. E. McCLEAVE, eight years Head Gardener to B. Heywood Jones, Esq., Badsworth Hall, Pontefract, is open to a re-engagement in a good establishment. Nineteen years' experience in all branches, testimonials of the highest order.—Catsclough, Winsford, Cheshire.

GARDENER (HEAD).—Age 46, married. Life experience in all branches, Land and Stock (fifteen years as Head). Excellent character and testimonials.—A. B., 3, Ferness Cottages, Stanley Road, East Sheen.

GARDENER (HEAD).—Age 38, married, no family.—ALFRED BARKER, for the past nine years Head Gardener to Right Hon. Earl Donravere, Adare Manor, Limerick, wishes to re-engage with any Nobleman, Gentleman, or Lady requiring a thoroughly practical Gardener.—Had twenty-three years' experience in some of the largest and best establishments in England and Ireland. Is thoroughly conversant with the requirements of a first-class establishment. Will be highly recommended. For further particulars apply as above.

GARDENER (HEAD).—Age 41, one child (age 11), understands Orchids, Land, Stock, Fruit, Forcing, Vegetables, &c. Excellent personal character. BOAZ, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD); Age 30.—Mr. ELPHINSTONE can with confidence recommend his Foreman as above. Fourteen years' general experience in first-class establishments. Highest references.—W. M. SHERWIN, Shipley Hall Gardens, near Derby.

GARDENER (HEAD), where several are kept. Thoroughly experienced in all branches. Age 30. Well recommended.—Messrs. BROWN, Wetherby, near Stamford, Lincs.

GARDENER (HEAD); age 28, married when suited.—Mr. NASH, Bryngwyn, Hertfordshire, will be pleased to recommend William Walder, who has been with him five and a half years as Foreman. Life experience in all branches of Gardening.

GARDENER (HEAD WORKING); thoroughly practical in all branches of the profession. Scotch. Age 39, married, no family.—A GENTLEMAN can with confidence recommend his Gardener as above.—H., 3, Wiessburg Terrace, Hastings.

GARDENER (HEAD WORKING).—Age 37, married, one child; twenty years' practical experience in Plants, Orchids, Fruits, Flower and Kitchen Gardens.—T. FISHER, Sandridge Park, Melksham, Wilts.

GARDENER (HEAD WORKING), where two or three are kept.—Practical all-round man. Good outside power. Good local character and references. Married, no family.—G. L., 5, Shernhall Terrace, Shernhall Park, Walthamstow.

GARDENER (HEAD WORKING).—Age 29, single; thoroughly experienced in all branches; excellent references and testimonials as to characters and abilities.—Address, stating particulars, GARDENER, 5, Upper Pelipar Road, Woolwich.

GARDENER (HEAD WORKING), where one or two more are kept.—Age 23, single. Several years good practical experience; upwards of two years as Foreman in a first-class place. Previously five years as Gardener to Mr. W. Iggleden. First-class testimonials.—HENRY WITHER, The Gardens, Brambley, East Grinstead.

GARDENER (HEAD WORKING).—Age 48, married, no inexperience. Twenty-four years' practical experience as Head Gardener. Sixteen years in last situation. Excellent character.—D. W. BAKER, Butleigh, Glastonbury, Somerset.

GARDENER (HEAD WORKING), where three or four are kept.—Age 39, married, small family; thoroughly understanding the general routine of Gardening. Well recommended. Leaving through death of employer.—HORN, The Gardens, Cedar Lawn, Hampstead Heath, N.W.

GARDENER (HEAD WORKING); age 29, married.—J. THOMAS, The Gardens, Sunbury Court, Sunbury, Middlesex, can thoroughly recommend a good all-round man as above to any Gentleman requiring the same. Seventeen years' practical experience. Five and two years' references.

GARDENER (HEAD WORKING).—Age 80. E. CLARKE, Cannon Hall Gardens, Bardsley, wishes to recommend his Foreman, A. Campin, to any Lady or Gentleman requiring a thoroughly practical man. Fifteen years' experience in good places.

GARDENER (HEAD WORKING), where six or more are kept.—Age 25; first-class experience in all branches, and thoroughly conversant with the requirements of a good establishment. Highly recommended.—J. SMITH, Lower Castle Gardens, Penrith.

GARDENER (HEAD WORKING).—Age 32, married, no family. Thoroughly experienced in all branches of the profession. Highly recommended.—**GARDENER**, 8, North Terrace, Fairlaw Park, Sydenham, S.E.

GARDENER (HEAD, or SINGLE-HANDED), or CARETAKER, by an elderly Man. Over twenty years in last place; leaving on account of the death of his master.—**E. G.**, 267, High Street, Plumstead.

GARDENER (good SINGLE-HANDED).—Age 24. Eight years' experience in good gardens. Well recommended by present and previous employers.—**J. H.**, The Gardens, Blackmore House, Petersfield, Hants.

GARDENER (SINGLE-HANDED, or SECOND).—Ten years' experience inside and out. Good reference.—**A. BEALE**, 38, Gosford Road, Red Hill, Surrey.

GARDENER (SINGLE-HANDED, or where two are kept. —Age 25, single; good experience of Inside and Out. Well recommended.—**E. W.**, Harrold Hall, Beds.

GARDENER (SINGLE-HANDED or otherwise).—Age 25, married when suited.—**G. HANSFORD** would be pleased to recommend his Foreman as above. Ten years' experience in good establishments.—**The Gardens**, Colebourne, near Andoverford, R.S.O.

GARDENER.—Age 42, married, no encumbrance; thoroughly practical in all branches. Wife could and take duties of thorough C.O., Housekeeper, or Caretaker.—**GARDENER**, Railway Servant's Orphanage, Derby.

GARDENER.—Understands Vines, Fruit, Flower and Kitchen Gardens. Can have a good character.—**G. SIMMONDS**, Gore, Upchurch, near Sittingbourne, Kent.

GARDENER, where two or three are kept, or **SECOND**, in large establishment; married when suited.—**J. HARRIS**, Tisbury House, Avington, can confidently recommend his Foreman, H. Gibbins.

GARDENER (SECOND, or SINGLE-HANDED).—Age 21; good knowledge Inside and Out. Life experience. One year and ten months' excellent character.—**CHALLIS**, 38, Ravenshaw Street, West Hamstead.

GARDENER (SECOND), where six or eight are kept, or JOURNEYMAN (FIRST), in a large establishment.—Age 25; nine years' experience, principally under Glass, in good places. Good character and testimonials.—**W. H.**, The Gardens, Moushill Manor, Goslating, Surrey.

GARDENER (SECOND), or JOURNEYMAN, in the Houses.—Age 21; five years' experience. First-class references. House Garden, and previous employers. Both preferred.—**T. GOODALL**, The Gardens, Abbeyfield, Pictou, Sheffield.

GARDENER (SECOND).—Age 22; over eight years' experience inside and out; excellent characters.—**F. T.**, 3, Lyndhurst Road Mews, Hampstead, N.W.

GARDENER (SECOND).—Age 22. Seven years' experience, Inside and Out. Good character.—**F. UPTON**, 28, Prospect Road, Child's Hill, S.W.

GARDENER (UNDER, or good SINGLE-HANDED).—Age 24; eight years' experience in Stove and Greenhouse Plants; also Flower Gardening, Vines, Cucumbers, &c.—**W. HAWKINS**, Daisy Bank, Knappish, Woking.

To Market Growers.

MANAGER, thoroughly experienced in growing in quantity Grapes, Peaches, Tomatoes, Cucumbers, Mushrooms, Ten Edges, Cut Flowers, Palms, Ferns, &c. Well up in management of business. First-class references. Twenty years' experience.—**A. B. Gardener's Chronicle Office**, 41, Wellington Street, Strand, W.C.

To Nurserymen.

PROPAGATOR.—Age 23; nine years' experience in Stove and Soft-wooded Stuff for Market. Good references.—**B. 41**, Wellington Street, Strand, W.C.

PROPAGATOR or FOREMAN.—Age 25; nine years' nursery experience. Ferns, Palms, Stove, Softwooded, and General Growing; Wreaths, Bouquets, and various Sales, &c.—**A. LOCK**, 82, Victoria Road, Burton-on-Trent.

PROPAGATOR and GROWER.—Situation now open required. Ten years' practical experience in all branches.—**E. G. Gardener's Chronicle Office**, 41, Wellington Street, Strand, W.C.

FOREMAN, PROPAGATOR, or GROWER.—Age 25, married; fourteen years' experience in London and Provincial Nurseries; Stove and Greenhouse Plants, Roses, Ferns, Palms, Grapes, Tomatoes, Cucumbers, &c. Well up in Wreaths, Sprays, Decorations, and the Trade generally. Good references.—**A. W.**, 4, Park Cottages, Church End, Finchley, N.

FOREMAN, in the Houses, in a good establishment.—Over two years in present situation as Foreman. Good character from present and previous employers.—**J. WELLS**, Sheffield Manor Gardens, Basingstoke, Hants.

FOREMAN, age 20.—Mr. G. THOMSON, Gardener, Easney, Ware, Herts, would like to recommend his Foreman, H. Carpenter, to any Gardener in want of a good man well experienced. Two years in present situation. Active. Abstainer.

FOREMAN.—Mr. W. REEVES, Hatchford Park, Cobham, Surrey, as great pleasure in recommending his Foreman, A. Child, to any Gardener requiring the services of a steady, industrious man, with a good knowledge of the profession.

FOREMAN, in the houses.—In a good establishment. Thirteen years' good practical experience. First-class testimonials.—**J. WELLS**, The Gardens, Knights, East Finchley, London, N.

FOREMAN (HOUSE), where two or three are kept.—Mr. W. DAVIES would be pleased to recommend J. Hamer as above. Abstainer.—**Wingfield Park Gardens**, Derby.

FOREMAN, in a good establishment.—Nine years' experience. Good testimonials. Total abstainer. Well up in plants.—**H. TARGETT**, 33, Jarvis Road, South Croydon.

FOREMAN, in the Houses, in a good Establishment.—Age 26; good character from present and previous employers. Distance no object.—**H. SHELTER**, Heathlands, Maybury, Woking.

FOREMAN, in a good establishment (Inside or General).—Age 25. Good Plant and Fruit Grower; House and Table Decorations. Ten years' experience.—**YOUDEN**, Ham Green Gardens, Bristol.

FOREMAN or JOURNEYMAN (FIRST).—10 years' varied experience. Disengaged.—**T. B. B. Gardener's Chronicle Office**, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, age 19.—W. COLK, Clewer Manor Gardens, Clewer, can with confidence recommend W. Moss as above. Strong, active, and willing. Both preferred.

JOURNEYMAN, in the Houses; age 20.—W. BAILLIE, Luton Hoe Gardens, Luton, Beds, can recommend a young man as above; three years in present situation.

JOURNEYMAN, in the Houses, or Inside and Out, in good garden.—Age 26.—Well recommended.—**E. HENAGE**, The Gardens, Ecu Ehyding, rid Leeds, Yorks.

JOURNEYMAN (SECOND or THIRD), in Houses, in a good Garden. Over seven years' experience. Fourteen months in last place. Both preferred. Total abstainer.—G. CARTER, The Green, Somerton, Lowestoft, Suffolk.

JOURNEYMAN in the Houses.—Age 19, EDWIN BECKETT, gardener to H. H. Gibbs, M.P., will be pleased to recommend a young man as above, who has lived under him the last five years. Strong, active, and willing.—**W. CHILDS**, The Garden, Aldenham House, Elstree, Herts.

JOURNEYMAN, in the Houses.—Age 21; good character. Both preferred.—**F. S.**, Bloomsbury Nursery, Elmley, Cheshire.

JOURNEYMAN, in the Houses.—Age 19; four years' experience in Fruit and Plants. Last twelve months in last place. Good character.—**W. H. HAVLAND**, Sunnyside Nurseries, Littleover, Derby.

JOURNEYMAN, in the houses or otherwise.—Age 21. Six years' experience; thorough good character. Active, industrious, and obliging.—**GARDENER**, Moreton House, Bideford, Devon.

JOURNEYMAN, in the Houses.—Age 20; five years' experience. Can be well recommended. Left last situation through reduction of establishment.—**B. MARSH**, Sturton-le-Steeples, Lincoln.

IMPROVER, in the Houses, under a good man.—Age 19; five years' experience. Both preferred. Good character.—**C. F.**, 24, Bridge Street, Altrincham, Cheshire.

IMPROVER, or JUNIOR ASSISTANT, in Seed and Bulb Trade.—Age 19; three years' experience. Salary not so much an object as situation in a good firm. Good references.—**S. E. C.**, 41, Wellington Street, Strand, W.C.

IMPROVER, under a good Gardener (Inside and Out).—Age 18. Four years' experience. Good character. Both preferred.—**W. EVERETT**, Holyport, near Maidenhead.

IMPROVER, in a good establishment.—Age 18; has been in a London Nursery. Two years' good character.—**GARDENER**, Broome Park, Canterbury, Kent.

TO GENTLEMEN and GARDENERS.—A youth, age 18, seeks re-engagement under a Foreman in a good establishment. Two years in last situation. Good reference.—**W. W.**, The Gardens, Haslemere, North Wales.

TO GENTLEMEN, &c.—A young Man wants a Job on Estate, as CARPENTER, &c. Used to painting, building, repairing, glazing, &c.—**A. F.**, 3, Bournemouth Terrace, Folkestone.

TO GENTLEMEN, &c.—A young Man (age 23) requires a Position of Trust. Nine years' practical experience in a London Seed Merchant's office. Excellent references.—**B. B. Gardener's Chronicle Office**, 41, Wellington Street, Strand, W.C.

TO HEAD GARDENERS.—A young man, with good all round knowledge, inside and out, seeks a situation as **SECOND**, and take lead in absence of Head. Age 23. Excellent characters.—**W. 10**, Fort Street, Roath, Cardiff.

TO HEAD GARDENERS.—A young married man offers a **TEN POUND BONUS** for situation in Fruit and Plant Houses under good Foreman. Where he could acquire a knowledge of Orchids, House and T. Decorations preferred. Good references.—**F. D. DOWNES**, Anderson's Road, Outlands Park, Weybridge.

TO GARDENERS, &c.—Two young Men, age 24 and 21; the first as **SOFT-WOODED PROPAGATOR**, Fern, Ficus, and Dracena Grower, and other Market Stuff. The other as **JOURNEYMAN**, under a Foreman, or Good Grower; used to the general Market Stuff, also Tomatoes and Cucumbers. Nine and six years' experience. Good characters.—**F. or C. SCOTT**, 247, Neville Road, Upton Park, E.

TO GARDENERS, &c.—A young Man seeks situation.—Vines, Tomatoes, &c.—**W. ARMITAGE**, 2, Carlton Cottages, Reamant Road, Leyton.

TO GARDENERS.—Situation wanted by a respectable LAD, age 17. Fair knowledge of Inside and Outdoor work. Good references.—**C. ADAMS**, Liondon Cottages, Wick Road, Hampton Wick.

TO GARDENERS, &c.—Situation wanted, by a young Man, age 21, as soft-wooded **GROWER**, Ferns, &c. Eight years' experience. Good references.—**A. B.**, 41, Glenhurst Road, Brentford.

TO MARKET MEN.—GARDENER (FIRST HAND).—Age 25, married; Grower of Palms, Dracenas, Crotons, Nepenthes, Cut Flowers, Ferns, Cucumbers, Vines, Tomatoes, Melons, Mushrooms, and is a Handy Man. Can see to Pipes and Glazing.—**H. W. L.**, 84, Charlotte Street, Fitzroy Square, W.

TO NURSERYMEN.—Situation wanted in a Market Nursery by a young Man, used to general Market Nursery work. Seven years' experience.—**G. H. T.**, 41, Swanscombe Road, Chiswick.

TO NURSERYMEN.—Situation wanted, by a practical man, as **WORKING MANAGER**, in Outdoor Nursery, with a view of ultimately becoming Partner.—**A. A. Gardener's Chronicle Office**, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN and FLORISTS.—Advertiser seeks re-engagement as **GROWER** of Soft-wooded Stuff, Ferns, Lilies, Cucumbers, Tomatoes, &c. Good references. Midlands or Manchester preferred.—**FIGUS**, 45, Cotton Hill, Shrewsbury.

TO FLORISTS.—A young man, age 22, seeks situation; to assist in Florist's and Furnishing. West End preferred.—**J. H. B.**, 33, Sydenham Park, Sydenham.

SEED TRADE.—Advertiser open for an engagement. Eighteen years' experience in all branches of the Trade. First-class references.—**SEEDS**, *Gardener's Chronicle Office*, 41, Wellington Street, Strand, W.C.

TRADE.—Re-engagement wanted as **FOREMAN and SALESMAN**. First-class at Wreaths, Crosses, &c. Thorough practical experience in all branches. Disengaged. Age 30.—**M. J.**, Copeland Road, Walthamstow.

KEEPER (HEAD).—Age 40, four children. Good Pheasant Reeler and Dog Breeder. Good references from present and past situations.—**J. ASHFORD**, Warford, Southampton.

TRAVELLER.—Wanted by a traveller, with a first-class connection, covering near the whole of England and Wales, a **COMMISSION on SALE** of general nursery stock, in and about London. Apply, **B. C. Gardener's Chronicle Office**, 41, Wellington Street, Strand, London, W.C.

SHOPMAN or SALESMAN.—Age 28. Fifteen years' experience in Seed, Nursery, Floral, and Corn Business. Good references.—**G. T. R.**, 4, Ward Place, Highfields, Sheffield.

SHOPMAN, or MANAGER.—Age 32; thorough knowledge of Seed, Bulb, Plant, and Flower Trade. Good references. State particulars.—**W. HARRIS**, Hammerwood, East Grinstead, Sussex.

SHOPMAN.—Age 25; ten years' experience. Used to brisk Counter Trade. First-class reference. Two years in last situation.—**A. B. C.**, 137, Dacy Road, Arfield, Liverpool.

SHOPMAN.—Age 23; with London and Continental experience, and having knowledge of French and German. Good references.—**M. Gardener's Chronicle Office**, 41, Wellington Street, Strand.

SHOPMAN.—Age 31; fourteen years' experience in Wholesale and Retail Seed Trade and Nursery; also well skilled. References to present employers.—**PETER**, 41, Wellington Street, Strand, W.C.

SHOPMAN or MANAGER.—Age 28, married. Experienced in Wreaths, Bouquets, Seeds, Plants, Sundries, Bookkeeping, &c. Excellent references, and good salesman. Moderate salary.—**FLORIST**, 93, Acre Lane, Brighton.

CLEIK, or ASSISTANT; age 27.—Advertiser seeks situation as above. Nursery and clerical experience. Good references. South of England preferred.—**Address**, D. 42, Malmesbury Road, Eow, E.

HOLLOWAY'S PILLS.—When inclement weather checks to a considerable extent the action of the bowels an alternative is required to compensate the body by means of other channels. Holloway's Pills can be confidently recommended as the easiest, surest, and safest means of attaining this desirable end without weakening the most delicate or incommuting the most feeble. When from frequently recurring chills or the inhalation of impure air, the blood becomes foul and the secretions vitiated, these Pills press to a ready and efficient means of cleansing the former and correcting the latter. By this salutary proceeding disease is arrested at its outset, its pains and inconveniences averted, and the nervous structures saved from the depressing effects entailed upon them by an illness.

AWARDED TWENTY PRIZE MEDALS

AT INTERNATIONAL EXHIBITIONS AT HOME AND ABROAD.

KEITH'S PATENT BOILERS, THE "CHALLENGE," "VIADUCT," "PYTHON," &c.,

FOR HOT-WATER HEATING, "STAND FIRST," require no building work round them, are entirely water-jacketing, and heat from 50 feet up to 20,000 feet of 4-inch pipe respectively. Many thousands are in use all over the world, and the Boilers are unrivalled in power and economy.

KEITH'S "PYTHON" BOILER, as illustrated below, has 1000 square feet of effective heating surface, with 17½ square feet of fire-grate area; heats about 20,000 feet of 4-inch pipe, and is the Most Powerful and Complete Sectional "Special" Hot-water Heating Boiler in the World.

This Engraving "illustrates the most powerful form of Boiler that has yet been made for Hot-water Circulation."—Extract from *Hood, on Warming by Hot-water*, New Edition, 1891.

KEITH'S BOILERS

are almost exclusively used by Her Majesty's Government, at the Home Office, and for the Heating Work of the Prisons throughout the United Kingdom, in preference to all others.

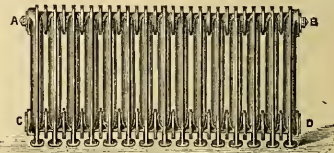
KEITH'S PATENT
RAMS &
Self-acting,

KEITH'S
HYDRAULIC
RAM
SELF-ACTING
FOR
RAISING
WATER

HYDRAULIC
RAM-PUMPS,
For Raising Water.



The very HIGHEST EFFICIENCY attained in Self-acting Hydraulics, by KEITH'S RAMS.



KEITH'S PATENT "UNIVERSAL" RADIATORS,
For Hot-Water Heating. Made in One Piece, and in many Sizes and Modifications. No Joints to Leak. Thousands in use

Manufactured under thirty James Keith's Patents in Great Britain, United States, and Canada.

JAMES KEITH (C.E., Assoc. M.Inst.C.E.), Gas, Hydraulic, Heating, Ventilating, and Consulting Engineer. Established 1823. Contractor to Her Majesty's Government. 57, HOLBORN VIADUCT, LONDON, E.C., ALSO AT EDINBURGH AND ARBROATH.

LOOK TO YOUR BOILERS,

And replace INEFFICIENT and DEFECTIVE ONES by

WEEKS'S PATENT DUPLEX UPRIGHT TUBULAR,

THE CHAMPION BOILER OF THE AGE.

It is unparalleled for POWER, ECONOMY, and DURABILITY, the
WATER-BARS alone being equal to many Boilers.

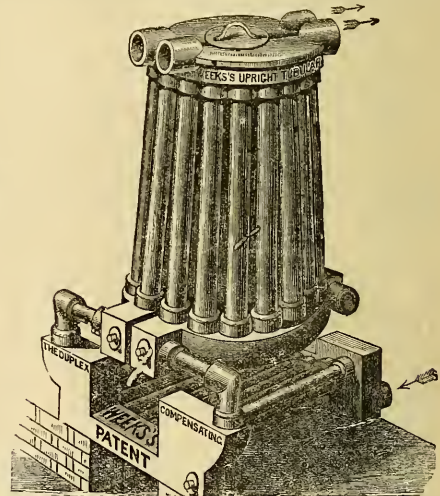
A TEN YEARS' GUARANTEE given with all Duplex
Boilers (subject to printed conditions) when fixed by the Patentees.

FULL PARTICULARS AND PRICES ON APPLICATION TO

J. WEEKS & CO.,

Horticultural Builders, Hot-water Apparatus Manufacturers and Patentees,

KING'S ROAD, CHELSEA, LONDON, S.W.



KEEP YOUR PIPES WARM.

FOSSIL MEAL PIPE LAGGING is the only effective means for preventing Loss of Heat, and Pipes Freezing. CHEAPEST PACKING existing. For Sample and Particulars, write to

MORITZ H. SCHÖNSTADT, 59, FARRINGTON ROAD, LONDON, E.C.

Editorial communications should be addressed to the "Editor," Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, January 16, 1892. Agent for Manchester—JOHN HEYWOOD.

GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2665.

No. 265.—VOL. XI. {THIRD SERIES} SATURDAY, JANUARY 23, 1892.

{Regt. as a Newspaper.} PRICE 3d. POST-FREE, 24d.

CONTENTS.

Apples, Canadian ... 118	Phalenopsis Schilleriana purpurea ... 105
English and American ... 118	Obituary ... 120
Asplenium, useful vars ... 109	Fitch, W. H. ... 120
Berlin Botanic Garden ... 115	Thibaut, L. ... 120
Bordeaux mixture ... 105	Orchid notes ... 115
Burleigh House ... 105	Orchid notes ... 115
California ... 105	Orchid notes ... 115
Carnation, a green ... 115	Phalenopsis Schilleriana, purple var. ... 105
Coke, watering of ... 108	Podocarpus, two new ... 113
Colonial notes ... 108	Room Plants ... 109
New Zealand ... 108	"Rosario's" Year Book ... 115
Trinidad ... 108	Salpêtre ... 111
Cooks and Gardens ... 118	Societies:—
Dahlia, Tom Thumb ... 118	Dundee Horticultural ... 119
Florists' flowers ... 108	Gardeners' Royal Benevolent, The ... 120
The show Auricula ... 108	Royal Horticultural, The ... 120
Foreign correspondence ... 106	Tunbridge Wells Gardeners' Association ... 118
Belin ... 105	Stock-taking for December, and for 1891 ... 114
California ... 109	Technical Education ... 115
Chicago ... 107	Valuable Tree, a ... 115
Concising periodicals, list of ... 118	Weather Summary ... 114
Ghent Horticultural meeting ... 115	Week's Work, the ... 110
Gardeners' Royal Benevolent, the ... 115	Apiary ... 111
Hinge, strong, for glass-house lights ... 119	Flower garden ... 110
Horticultural Club ... 113	Fruits, hardly ... 111
New Bulletin ... 113	Fruits under glass ... 110
Mulberry, the ... 117, 118	Kitchen garden ... 110
New and noteworthy plants ... 104	Orchid-houses ... 110
Thrinax Morrisii ... 104	Plants under glass ... 111
Sempervivum Thomayeri ... 104	Willows as underwood ... 118

ILLUSTRATIONS.

Burleigh House ... 105
Chicago Exhibition ... 107
Thrinax Morrisii ... 112, 113
A hinge for glasshouse lights ... 119

"The Gardeners' Chronicle" in America. The Subscription to America, including Postage, is \$4.30 for 12 months. Agent for America, E. H. LIBBY, Manager, The Rural Publishing Co., Times Building, New York, to whom American orders may be sent.

MRS. JAMES, WIDOW of the late Mr. JAMES, of Bradford Gardens, begs to RETURN her SINCERE THANKS to the subscribers and all those that VOTED FOR HER at the election of pensioners of the Gardeners' Royal Benevolent Society on the 15th inst., and begs to say that she was a successful candidate.

KELWAY'S ILLUSTRATED MANUAL of Horticulture and Agriculture for 1892. 1s., post-free; gratin to Customers.—KELWAY, Leighton, Somerset.

Rasperry Canes and Currant Trees.

BAUMFORTH SEEDLING, 40s. per 1000; SEMPER FIDELIS, 30s. per 1000. Sample 100 of either sort 6s. RED CURRANT TREES, 8s. per 100. Cash with order. Free on rail. Apply—R. H. BATH, Wilsch.

150,000.—Special Offer of Kentias.

W. ICKTON has a large quantity of the above to offer, very reasonable, at from 27 10s. per 1000. Rubra, well-established, 210 per 1000; in 60's, well-established, at 230 per 1000.

W. ICKTON, Putney, S.W.

Sharpe's Victor Potatoes.

W. W. JOHNSON & SON, SEED GROWERS and MERCHANTS, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

Sixteen Splendid FRUITING GRAPE-VINES, 3 feet long, 4 years old, 8s. each, or £3 15s. the lot, tree—Black Hamburgh, 2 EARLY, Leighton, and 7 Gros Colmar. RICHFORD, Broadstairs.

SUTTON'S PRIMULAS.—For full particulars of 39 varieties of

THE BEST PRIMULAS, See

SUTTON'S "AMATEUR'S GUIDE IN HORTICULTURE FOR 1892." Price 1s., post-free; gratis to customers ordering goods value 20s. and upwards.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

ROSES! ROSES! ROSES!—Plant now. 100 strong dwarf, H.P. Roses for 27s. 6d.; or £12 10s. per 1000. The finest in the Trade. Send for Sample Dozen, 5s. Cash with Order. CATALOGUES, free on application. C. H. GORRINGE, Roehampton Nursery, Eastbourne.

CUT FLOWERS.—ARTHUR L. BULLEN, Wholesale Flower Salesman and Grower, 33, Exeter St., Covent Garden, 271 and 272, Flower Market, Covent Garden, W.C., and Highfield Nursery, Bromley Common, Kent. CONSIGNMENTS of CHOICE FLOWERS SOLICITED.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS. CATALOGUES free on application. FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

RASPBERRY CANES.—Norwich Wonder, Carter's Profile, also Fastoff, strong and well rooted. ALBERT BATH, Vine Court, Sevecocks, Kent.

Trade Price Current, 1892. PETER LAWSON and SON, LIMITED, WHOLESALE SEED GROWERS and MERCHANTS, EDINBURGH.

have posted their ANNUAL CATALOGUE OF VEGETABLE and FLOWER SEEDS to their Customers; if not received in any case, a copy will be posted upon application. The ANNUAL CATALOGUE of AGRICULTURAL SEEDS will be published later on, meanwhile special offers will be made when requested.

CHELSEA GEM PEA, the earliest and best Dwarf Marrow Variety. 2s. per quart. Grown and offered by F. MILLER and CO., 267, Fulham Road, London, S.W.; and Daffoch Farm, Spalding, Lincs.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

RED CURRANT TREES.—Good strong 3-yr. old Trees, at £1 per 1000.—Apply, MANN and SONS, Market Gardeners, Whittin, Hounslow.

W. D. BUNDAY, of Covent Garden Market, No. 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPES, &c. Good references.

WANTED, CONES and SEEDS of CONFERT in good varieties.—State prices and quantities to R. ERBE, 9, Woodmoor Terrace, Dartmouth Park, London, N.W. Also send Trade Price, Lists of Seeds, Bulbs and Plants.

WANTED, large plants of ADIANTUM CAPILLUS-VENERIS, and ASPARAGUS PLUMOSUS NANUS, in exchange for ORCHIDS.—Send all particulars to SANDER and CO., St. Albans, Herts.

WANTED, two SEAFORTHIAS, good heads, 5 feet stems; one KENTIA, good spread; two ARAUCARIAS; four CAMELLIAS, three white, and one Lady Hulme's blush, specimens 7 to 8 feet; four specimens AZALEAS. Quote price and particulars to W. CLAPHAM, Rock House, Bramhall Park, Stockport.

WANTED, DAILY, all kinds of CHOICE CUT FLOWERS. Warehouse, 33, Hart Street, Covent Garden, W.C. Boxes and labels found.—W. RAVENHILL.

WANTED, TRAINED FIGS for Wall, 1 to 2 feet stems, Extra-sized Trees; also FRUITING TREES in Pots. Sorts, Sizes, and Prices, to B. S. WILLIAMS and SON, Victoria and Paradise Nursery, Upper Holloway, N.

New Chrysanthemums. CARTERS' LIST of the BEST SORTS

Now ready, gratis and post-free, on application to the Queen's Seedsmen, 237 and 238, High Holborn, London, W.C.

ECKFORD'S CULINARY and SWEET FEAS.—Descriptive CATALOGUE, free on application, from HENRY ECKFORD, Wem, Salop.

DOBBIE'S CATALOGUE and COMPETITORS' GUIDE for 1892.—25th Annual Edition, 160 pages, illustrated. Described by one of the greatest authorities in England as "the most useful list published in the trade." Ready on January 1, and will be sent gratis to all who apply for it and enclose 3d. to cover postage.—DOBBIE and CO., Seed Growers and Florists, Rothsay, Scotland.

Seed Potatoes. H. AND F. SHARPE invite the attention of the Seed Trade to their fine selected stocks of SEED POTATOS, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other growers. Seed Growing Establishment, Wilsch.

A STRONG HEDGE. A rare good lot of strong SCOTCH THORN QUICKS, 2½ to 3½ feet, unselected, 15s. per 1000; selected, 17s. 6d. per 1000. FOTHERINGHAM and CO., Nurserymen, Dumfries, N.B.

10,000 EUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 6s. to 15s. per dozen. Less by the 1000. Cash with Order. J. J. CLARK, Goldstone, West Brighton.

VINES.—VINES.—VINES. We hold a fine Stock of the above, both Fruiting and Planting Cans. Names and prices sent on application. JOHN FEED and SONS, Rouppell Park Nurseries, Norwood Road, London, S.E.

The Best Present for a Gardener. VINES and VINE CULTURE. The most complete and exhaustive Treatise on Grapes and their Culture ever published. New Edition. Price 5s., post-free, 5s. 6d. A. F. BARRON, Royal Horticultural Society, Chiswick.

BEGONIA SEED.—Sow now.—Box's strain is best and cheapest. Single, 12s., 2s. 6d., and 5s.; Double, 1s. 6d., 2s. 6d., and 5s. per packet. TUBERS also. Special List and Pamphlet gratis. JOHN R. BOX (for 10 years Laing's sole Partner), Begonia Grower, Croydon.

Prize Cob Filbert Trees. MR. COOPER, F.R.H.S., of Western Elms, Reading (late of Calcut Gardens), is the Largest Grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good Trees now ready for distribution. Descriptive Price LISTS, &c., on application.

To Florists. FRENCH FLOWERS, direct from the Gardens.—An enormous saving. ROSES, MIMOSA, MIGNONETTE, MARGUERITES, ORANGE BLOSSOM, &c. Sample basket, carriage paid to London, for 10s. Postal Order. The RIVIERA FLORAL SUPPLY, Nice.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Descriptive CATALOGUES, post-free, on application. FLETCHER BROS., Ottersham Nurseries, Chertsey, Surrey.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers. King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE J. VICTORIA ROAD, PUTNEY, WM. THOMSON and SONS, Clonfert, Galashiele, N.E.

SALES BY AUCTION.

Monday Next.

MESSRS. PROTHEROE AND MORRIS will sell by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, January 23, at half-past 11 o'clock, EVERLASTING PEAS, HELIANTHUS, in variety; ANTHEMIS LILIATUM MAJOR, DAHLIAS, Pol-rooted, comprising Cactus, Tompon, and Single; choice Double HOLLYHOCKS, Double and Single PYRETHRUS, Herbaceous PHLOX, CARNATIONS, LILY OF THE VALLEY, a choice collection of Hardy ANEMONES, French ERODIA, a grand assortment of Home-grown LILIES, GLADIOLI, in variety; TIGRIDIAS, SPIREAS, Pearl TUBEROSES, a collection of IRIS, choice BORDER PERENNIALS, and a quantity of SUBTILIS. On view morning of Sale, and Catalogues had.

Wednesday Next—Palms, Ferns, Roses.

MESSRS. PROTHEROE AND MORRIS will sell by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, January 27, at half-past 11 o'clock, a consignment of Plants from Belgium, comprising AZALEA INDICA, CAMELLIAS, PALMS, DRACENAS, FICUS ELASTICA, and others, GREENHOUSE FERNS, Standard, half Standard and Dwarf ROSES, 1,500 FRESIA REFRACTA ALBA, 41 lots of Choice SEEDLING BEGONIAS in fine mixture, BEGONIA and CYCLAMEN SEED, English and Foreign. On view morning of Sale, and Catalogues had.

Thursday Next—Enormous Consignment.

275 CASES of JAPANESE BULBS and PLANTS, in grand condition, comprising—
15,215 LILIAM AURATUM, containing
675 extra fine selected Bulbs.
1,500 LILIAM SPECIOSUM RUBRUM, extra fine varieties.
476 LILIAM SPECIOSUM ALBUM KRETZERII.
550 LILIAM MELPOMENE.
1 CASE of 50 JAPANESE TREE PEONIES, in 10 varieties.
5 CASES, comprising in all 175 ROSES JAPANESE IRIS, in 5 varieties.
1,170 LILIAM TIGRINUM SPLENDENS.
1,440 LILIAM ELATUM.
2,100 LILIAM MEDIOLEDES.
670 LILIAM SPECIOSUM THUNBERGIANUM JAPONICUM.

200 LILIAM JAPONICUM LILY, the Chinese Sacred Lily.
American Pearl TUBEROSES, 100 lots DAFFODILS and other HARDY BULBS, 300 lots of HERBACEOUS PLANTS, also 3000 HYACINTHS, 200 TULIPS, 16,000 Yellow and other CROCUS, 2000 PEARL TUBEROSES, and other BULBS, being the Surplus Stock of a London Seedsmen.

MESSRS. PROTHEROE AND MORRIS will sell by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, January 28, at half-past 11 o'clock. On view morning of Sale, and Catalogues had.

FRIDAY, JANUARY 29, 1892.

NEW ORCHIDS.

CYRTOPODIUM ERICSONII,

MILTONTIA ILLUSTRIS,

New EPIDENDRUMS, New ONCIDIUMS,

New CATASETUMS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. F. SANBER, St. Albans, to sell by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, January 29, at half-past 11 o'clock.

A magnificent NEW CYRTOPODIUM, collected in the old Labatia country. Every plant received is offered.

A New and beautiful Miltonia—MILTONTIA ILLUSTRIS, from the Brazil.

A superb lot of the lovely EPIDENDRUM GODSEFFIANUM. This is certainly one of the most charming Epidendrum ever introduced.

A NEW ONCIDIUM,

evidently free flowering, as the old spikes show.

A most extraordinary batch of CATASETUMS, an Orchid species of remarkable appearance from Upper Burma; together with a grand lot of the Upper Burma variety of

CYRTOPODIUM INSIGNE,

and DENDROBIUM Nobile,

just received in grand condition.

A fine impression of DENDROBIUM DENSIFLORUM, an

DENDROBIUM WARDIANUM.

A GIGANTIC SPECIMEN CATTLEYA, No doubt belonging to the old Labatia section, but found very far away from it. The Specimen has over 150 bulbs, about 120 leaves, and 36 flower-sheaths.

Along with this magnificent Specimen came 14 other splendid pieces, every one of which is offered. They are most distinct in appearance.

20 GRAND MASSES of the OLD LABATIA, among them being some decidedly distinct-looking plants. And many other valuable ORCHIDS, including

ANSELLIA AFRICANA NIOTICA,

DENDROBIUM RICHARDI,

DENDROBIUM CASIOPHE,

CELODENE DATANA GRANDIS, &c.

Also a splendid lot of choice Hybrid CYPRIPEDIUMS, among them being C. Nitidissimum, C. Lathamianum niversum, C. Macfarlanei, C. javanicum-superbites, C. picturatum, C. lo grandis, C. Maynardi, C. albo-purpureum, &c.

On view morning of Sale, and Catalogues had.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 12, Bull Ring, Birmingham, of BULBS, PLANTS, NURSERY STOCK, &c., every WEDNESDAY and FRIDAY, at 4.30 P.M. Sales of choice Out Flowers. Fresh Entries invited. Account Sales and cheques daily. Empty and labels found.

Wednesday Next.

BEGONIA and CYCLAMEN SEED.

From the same raiser whose bulbs were disposed of at our Rooms in December last, The Begonia seed has been carefully hand-hybridised and crossed; it is very heavy, and of strong germinating power, and is of equal mixture of Double and Single. The Cyclamen seed comprises the best mixture of the finest in cultivation.

Also 40 lots of varieties of choice SEEDLING BEGONIAS. MESSRS. PROTHEROE AND MORRIS will include the above in their Sale, on WEDNESDAY NEXT, January 27.

Wednesday Next.

6900 Fls! Bulbs of LILIAM AURATUM, L. SPECIOSUM ALBUM and RUBRUM, and L. LONGIFOLIO. Just received in splendid condition from Japan. 20,000 Fresh PALM SEEDS, 50,000 Clumps and Growers LILY OF THE VALLEY, 100,000 EARLY and SOUTH AFRICAN TUBEROSES, LILIAM HARRISI, L. CANDIDUM, &c., &c.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 35, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 27.

On view morning of Sale, and Catalogues had.

Wednesday Next.

PLANTS and BULBS.

MR. J. C. STEVENS will sell by AUCTION, at his Great Rooms, 35, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, January 27, at 12 o'clock precisely, 500 choice-named STANDARD and DWARF ROSES, a fine collection of BORDER PLANTS, HARDY ORNAMENTAL SHRUBS, EVERGREENS, CONIFERS, &c.; AZALEA, JOLLES, from South Africa, IRIS, ANEMONES, ANARYLLIS, choice NARCISSUS, DUTCH BULBS, &c.

On view morning of Sale, and Catalogues had.

WANTED, TO RENT, a SMALL NURSERY—100 to 800 feet of good Glass, and about an acre of Ground.—Particulars to J. K., 3, Wavne Street, Hall.

London, 12 miles from.—(Folio 7562) CAPITAL MARKET NURSERY.—10 Green-houses, all molars and well-laid, Stables, &c., and 1 acre of Ground. Long Lease. Rent only 21s. Price and full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

TO FLORISTS.—A well-established GENUINE CONCERN for SALE, North London, 13 Greenhouses, over 1 Acre of Open Ground, &c., good residential locality.—Particulars of Mr. J. CLEMMES, Surveyor, 5, Russell Villas, Seven Sisters Road, Stamford Hill, N.

TO Market and Out Flower Growers. (Folio 7569) LONDON DISTRICT.—TO BE LET, either as a whole or in two portions, a Large MARKET NURSERY, comprising about 5 acres, four being covered with glass. A Lease for 21 years will be granted. Only small Stock planted out to be taken, remainder optional. Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

TO BE DISPOSED OF, the long LEASE of a HOUSE and SHOP, in a leading thoroughfare, in one of the principal South Coast Watering-places. Capital opening for a Florist.

For information as to Rent, Premium, &c., address ALPHA, Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

MIDLAND COUNTIES.—TO BE SOLD (Folio 7561), in an important town, an old-established General NURSERY BUSINESS. Long Lease. Low rental. Capital required, about £2500.

Apply to PROTHEROE AND MORRIS, Auction and Estate Offices, 67 and 68, Cheapside, London, E.C.

To Florists and Nurserymen.

FOR SALE, on extremely easy and reasonable terms, a capital FLORISTS BUSINESS, in a commanding position, with six large houses, all heated. Garden Contracts in neighbourhood, &c. Takings about £1000 a year. Close to London. About £200 required.—"H. B. 711," Messrs. Deacon's Advertisement Offices, Lendenhall Street, E.C.

50 GARDEN LIGHTS (Strong), New, 6 feet by 4 feet, including iron bars and 21-oz. Glass, and Painted, 5s. 6d. each, will accept 3s. each for a quantity. D. HORROCKS, Tyldeley.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by FULHAM AND SON, 50, Finsbury Square, London, E.C., and Bealborne, Hertis. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

WANTED,

To PURCHASE, IMMEDIATELY, in any quantity, from 1 lb. to 1 cwt., good

SWEET PEA SEED,

In Mixed and Separate Colours. State price, and quantity to offer, to—

PITCHER & MANDA, The United States Nurseries, HEXTABLE, SWANLEY, KENT.

THE GARDENERS' ORPHAN FUND. NOTICE.

THE ANNUAL GENERAL MEETING of the SUBSCRIBERS to this FUND will be held at the CANNON STREET HOTEL, on FRIDAY, FEBRUARY 5 next, for the purpose of receiving the Report of the Committee and the Accounts of the Fund for 1891-92, Electing Officers for the ensuing year, and for the ELECTION of ELEVEN CHILDREN to the Benefits of the Fund.

The Chair will be taken at 2 o'clock precisely, and the Ballot will close at 4 o'clock.

A. F. BARRON, Honorary Secretary.

Royal Horticultural Society's Gardens, Chiswick, London, W., January, 1892.

P.S.—The Young Papers have all been issued, any Subscriber not having received one is requested to communicate with the Secretary.

NOTE.—In the List of Candidates, Application T. for 1890, read 1891.

FOR SALE, "GARDENERS' CHRONICLE

AND AGRICULTURAL GAZETTE," complete in one book. splendidly bound, net price 18s. 6d. What offers?

R. R., High Street, Princes Risborough, Bucks.

Notice.

NEW INCURVED CHRYSANTHEMUM, MRS. ROBINSON KING.

I hereby certify that I have SOLD the whole of my CERTIFICATED STOCK to MR. ROBERT OWEN, Floral Nursery, Maidenhead, (Signed) W. H. HOTTAM (Baird of Mrs. Robinson King), Nelholme, East Yorks. Plants distributed early in February.

Trade Offer of Large Palms.

W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliage Palms, net price. What offers? W. ICETON, Putney, S.W.

Vegetable and Agricultural Seeds.

H. and F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

CHRYSANTHEMUMS.—Proved NOVELTIES in EARLY, JAPANESE, INCURVED, and other Select Varieties. New LISTS free. Gave great satisfaction last year. A. J. A. BRUCE, The Nurseries, Chorlton-cum-Hardy, Manchester.

STANDARD TRAINED PEACHES and

NECTARINES, fine trees, with bearing wood and fibrous roots.

GRAPE VINES, well-ripened canes—a large stock. WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

FOR SALE, a large quantity of AMPELOPSIS VEITCHI CUTTINGS, not rooted; good, strong wood. Also large dormant plants of MAIDENHAIR FERN and several hundred LILIAM GIGANTEUM. G. HOWES, Merton Gardens, Theford.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have an immense stock of

ORCHIDS,

Both Established and Semi-Established, and they are constantly receiving

IMPORTATIONS

from various parts of the world.

INSPECTION IS VERY EARNESTLY INVITED.

The COMPANY'S Prices are all fixed as low as possible, with the view of inducing liberal Orders.

PRICED AND DESCRIPTIVE CATALOGUE

Post-free on Application to the Company.

THE VINEYARD AND NURSERIES, CARSTON, NEAR LIVERPOOL.

FOR ORCHIDS, and GARDENERS
to Grow Them, apply to SANDER'S, St. Albans. The finest
stock of Orchids in the World.—30 minutes from St. Pancras.

Seeds.—Carriage Paid.—Seeds.

DICKSON and ROBINSON'S
DESCRIPTIVE CATALOGUE for 1892.
Enumerates the Best and Choicest Varieties of VEGETABLE
and FLOWER SEEDS, and SEED POTATOS; MANURES,
INSECTICIDES, HORTICULTURAL IMPLEMENTS, and
GARDEN REQUISITES. Post-free on application.
COLLECTIONS of VEGETABLE SEEDS, from 5s. to 81s.
COLLECTIONS of FLOWER SEEDS, from 2s. 6d. to 81s.
Seed Warehouse, 12, Old Millgate, Manchester.

Fruit Trees a Speciality.
APPLES, PEARS, PLUMS, STRAW-
BERRIES, and all sorts of Small and Hardy Fruits
grown in immense quantities. The best of the Old and New
Varieties either to Grow for Market or Private Consumption.
Special quotations for quantities. Descriptive CATALOGUE
and GUIDE, the most complete issued, 6d. Ordinary List free.
JOHN WATKINS, Pomona Farm Nurseries, Wiltlington,
Hereford.

SEAKALE, extra strong for Forcing, 7s. 6d.
per 100; large Roots for Planting, 4s. 6d. per 100.
Salsify roots, 8s. per 100; Scorzonera roots, 8s. per 100; French
Dandelion roots, 5s. per 100. Grown and offered by—
F. MILLER AND CO., 267, Fulham Road, London, S.W.;
and Daffodil Farm, Spalding, Lincs.

HARRINGTON'S "EARLIEST OF ALL"
POTATO.
A new introduction. The earliest Potato in cultivation, and
may be depended upon for producing a heavy crop. The flesh
is yellowish-white, and is of delicious flavour when cooked.
This Potato is especially suited for frame culture.
Price, 2s. per stone.
JOHN HARRINGTON, Seedsman, Hereford.

CHRYSANTHEMUMS.—Our Illustrated
CATALOGUE will be sent free on application.
15 First Prizes. (10 this year.)
5 Gold Medals for Chrysanthemums.
REID and BORNEMANN, Sydenham, London, S.E.

ROSES! ROSES!! ROSES!!!—The best
and cheapest in the world. 40 Choice Perpetuals for
21s.; purchaser's selection from 400 best varieties; Catalogues
free on application. Two Acres of Roses. 100,000 grand
plants to select from; plant now.
JAMES WALTERS, Rose Grower, Exeter.

BROAD BEAN, BIDDLE'S MONSTER
LONGPOD.—Extra long, fine quality. Per quart,
1s. 6d.
CARROT, BIDDLE'S SCARLET PRIZETAKER. Interme-
diate, the finest exhibition Carrot grown. Per oz., 1s.
ONION, BIDDLE'S GIANT SPRING.—Too well known as a
prize-winner to need further recommendation. Per
oz., 1s.
BIDDLES and CO., THE PENNY PACKET SEED CO.,
Loughborough, Leicestershire.

Seed Potatoes.—Seed Potatoes.
MYATT'S PROLIFIC, the earliest of all
Kidneys, which every one with early land should grow.
Potatoes dug in July and August are always worth 100 per cent.
more than later sorts. Price, 120s. per ton, grown in
Lincolnshire.
MAGNUM BONUMS, later kind, for main crop. Price,
70s. per ton, grown in Lincolnshire.
Apply to W. N. WHITE and CO., Ltd., Covent Garden,
London, W.C.

BEGONIAS.—Davis's New, Rare, & Beautiful.
The Best BEGONIA CATALOGUE published.
Enumerates a magnificent and unsurpassed Collection, with
descriptions, illustrations, and much valuable information on
this now popular flower; post-free. The first grower to issue a
Begonia Catalogue was B. R. DAVIS, Begonia Grower, Yeovil
Nurseries, Yeovil, Somerset.

Now is the Time to Plant Paeonies.
GLADIOLI are also ready, 20 large bulbs,
named exhibition sorts, 10s. For Priced Lists see
KEELBY'S MANUAL for 1892, 1s. post-free; gratis to
customers.—KEELBY and SON, Langport, Somerset.

STRAWBERRIES for FORCING.
Fine Staff for Sale.
ALL THE LEADING SORTS.
Apply, C. SMITH, Dysart House, Fife, N.B.

To Exhibitors, Nurserymen, & Gentlemen Gardeners.
ON SALE, owing to a death, the entire STOCK
of PLANTS of an EXHIBITOR, comprising excellent
specimens of *Lapageria*, *Crotons*, *Dipladenias*, *Eucharis*, *Sten-*
andria, *Bougainvillea*, *Gladioli*, *Yuccas*, *Allamandas*, *Cordelina*,
impatiens, *Ericas*, *Calceatras*, *Kentia Belmoreana*, *Latania* bor-
tonica, *Cycas*, *Palms*, *Ixoras*, &c., all grand specimens, and in
good health.—J. WALSHAW, Ltd., Northgate, Halifax.

"GOOD THINGS" from HARTLAND, Cork,
for 1892.—*AURICULA*, Empress of India, try it for
colour, which is deep indigo, magnificent, 2s. 6d. per packet.
COSMOS bipinnatus, White Pearl, from America, beautiful,
6d. per packet. *POPEY*, Snowdrift, double frimbriated bloom,
like balls of cut tissue paper; thousands of packets now in cir-
culation through a famous London wholesale firm, 1s. per packet.
PHLOX Drummondii grandiflora, mixture, the finest to Europe;
land's unique mixture, 6d. and 1s. per packet. *BROCCOLI*, April
green (Hartland), the finest and purest variety in any part of
Europe, 1s. per packet. *STEFAN*, Hartland's Salad Or, 30s.
plants, 1s. each, 7s. 6d. per dozen, post-free.—WM. BAYLOR
HARTLAND, Seedsman and Florist, 24, Patrick Street, Cork.
"Year Book," for 1892, now ready, kindly write for it.



By Royal Appointment
Nurserymen & Seedsman
to H.M. the Queen, and
His Royal Highness the
Prince of Wales.

*Nurseries &
Seed Farms*

400 Acres.

**PURE & RELIABLE
GARDEN SEEDS
CARRIAGE PAID. CATALOGUES FREE.**
**LITTLE & BALLANTYNE
CARLISLE.**

**THE NEW
EARLY DESSERT APPLE,
COOLING'S
BEAUTY OF BATH,**
Is the handsomest and best-flavoured First
Early APPLE yet introduced, and should be
in every collection.

MAIDENS, 2s. each.
PYRAMIDS, 5s. 6d. and 5s. each.
FAN-TRAINED, 5s. and 7s. 6d. each.
STANDARDS, 3s. 6d. each.
Trade price on application.
Descriptive FRUIT TREE and ROSE CATA-
LOGUE, Post-free on application.
**GEO. COOLING & SONS,
THE NURSERIES, BATH.**

THE GARDEN

GARDENERS should look keenly to their employers' interest
both in Seeds and Plants, for upon these the hope, pride,
pleasure, and satisfaction of the garden entirely rest during
the whole year. We have often seen people admire very
inferior productions and have contented, but the moment they
see something vastly superior, then comes the great surprise
and astonishment that they should have been so long satisfied
with what they have had, and probably bought at a high price.
There are many thousands in this lamentable position all over
the country.

Send for our CATALOGUE, showing you that none can touch
our KENTISH GROWN SEEDS, and sent direct from the
actual growers to the sowers.

Come and See

OUR
PRIMULAS & CYCLAMEN.
They are now grand indeed.

**H. CANNELL & SONS,
SWANLEY, KENT.**

TEA-SCENTED ROSES,
For Potting-on or Planting-out.
FIFTY FINEST VARIETIES, including Ethel Brownlow,
Madame Hoste, Catherine Mermet, The Bride, Grace Darling,
Princess Beatrice, Madame Lambert, Sunset, Comtesse de
Nadailles, Souvenir d'Elise, Madame Faloot, Madame de Watte-
ville, Frances of Wales, Niphetos, Perle des Jardins, &c.
In 5-inch pots, 9s. per dozen; 6s. per 100.
Strong Plants, in 6-inch pots, 12s. and 18s. per dozen; from
90s. per 100. Extra Fine Plants, in 7 and 8-inch pots.
Extra Strong CLIMBING ROSES, of sorts, in pots, including,
Marchal Niel and Climbing Niphetos, from 4 to 10 feet long,
well-ripened for forcing or planting.
Write for Detailed List and Quotations.
EDWIN HILLIER, Nurseryman and Rose Grower, Winchester.

Many Acres of Lilies of the Valley!
T. JANNOCCH, Largest Grower of LILIES
OF THE VALLEY in the Kingdom, offers 3-year-old
flowering Crowns for forcing, and 2 and 1-year-old Crowns for
planting out, of unsurpassed quality. Hundreds of testimo-
nials. Time of sending out, November 1 to May 1. Prices
and terms on application.
T. JANNOCCH (City of the Valley Grower by special appoint-
ment to H.R.H. the Prince of Wales), Dersingham, King's
Lynn, Norfolk.

ANTHONY WATERER invites from
intending Planters an inspection of the following well-
grown and finely-rooted EVERGREENS:—
ABIES CANADENSIS (Hemlock Spruce), 5 to 8 feet.
DOUGLASS, 10 to 15 feet.
" GLAUCOA, 5 to 8 feet.
" HOOKERIANA (Pattoniana), 3 to 6 feet.
CEDRUS ATLANTICA, 4 to 8 feet.
" GLAUCOA, 5 to 6 feet.
" LIBANI (Cedar of Lebanon), 4 to 10 feet.
CUPRESSUS LAWSONIANA ERECTA VIRIDIS, 4 to 8 feet.
" LUTEA (Golden), 3 to 6 feet.
JUNIPERUS CHINENSIS, 3 to 10 feet.
" AUREA (Golden Chinese Juniper), 3 to 8 feet.
PICEA CONCOLOR, 3 to 7 feet.
" GRANDIS, 3 to 8 feet.
" LARICIATA, 4 to 8 feet.
" MAGNIFICA, 3 to 5 feet.
" PUNGENS, 1½ to 4 feet.
" GLAUCOA (Blue Spruce), 1½ to 4 feet.
PICEA AUSTRIACA, 3 to 7 feet.
" LARICIO, 3 to 4 feet.
THUOPSIS BOREALIS, 4 to 7 feet.
" DOUGLASS and VARIETATA, 3 to 8 feet.
THUJA LOBBII (gigantea), 5 to 9 feet.
" OCCIDENTALIS LUTEA (Golden), 3 to 10 feet.
WELLINGTONIA GIGANTEA, 3 to 7 feet.
YEW, Common, 3, 4, 5, and 6 feet.
" Golden, of all sizes, up to 10 feet, in various forms,
Pyramids, Globes, and Standards, in point of variety,
size, and quality unequalled.
" Golden Seedlings, 3, 4, to 5 feet.
" Irish, 3 to 10 feet.
" Golden, 3 to 6 feet.
ACUCIA JAPONICA, 2½ to 4 feet.
HAMBUS METAKE, fine clumps, 4 to 7 feet.
BOX, Green and Variegated, 3, 4, 5, and 6 feet.
HOLLIES, Common, from 3 to 10 feet.
" ALTAICERENSE,
" NORONIS or NOBILIS,
" LAURIFOLIA,
" MYRTIFOLIA,
" SCOTICA,
" Yellow berried, and other sorts
" Variegated, of sorts, 3, 4, 5, and 6 feet.
" Golden Queen, 4, 5, up to 10 feet.
" Silver Queen, 4, 5, up to 10 feet.
" Weeping Perry's (Silver Variegated), on straight stems,
with heads of 10 to 15 years' growth.
" New Golden Weeping.
RHODODENDRONS, 3 to 8 feet.
Knap Hill Nursery, Woking, Surrey.

WM. PAUL and SON respectfully invite
inspection of the following TREES and SHRUBS,
now on Sale. Prices (on application) very reasonable, and
quality unexceptionable as to roots, tops, and stems:—
BEECH, purple, best variety ... 12 to 18 feet.
" common ... 12 feet.
BIRCH, Silver and others ... 12 to 14 feet.
ELMS, four sorts ... 12 to 18 feet.
LABURNUM ... 8 to 10 feet.
LIMES ... 8 to 12 feet.
MOUNTAIN ASH ... 12 to 18 feet.
NORWAY MAPLES ... 12 to 18 feet.
PLAINS ... 12 to 18 feet.
POPLARS, six sorts ... 12 to 18 feet.
SYCAMORE ... 12 to 18 feet.
THORN, Paul's Double ... 12 to 14 feet.
(The finest Trees in the Trade.)
FLOWERING SHRUBS, various ... 4 to 5 feet.
ARBOR-VITAE, American ... 8 feet.
ACUCIAS ... 3 to 4½ feet.
BOX, of sorts ... 3 to 5½ feet.
CEDRUS ATLANTICA ... 5 to 10 feet.
" DEODARA ... 8 to 10 feet.
CUPRESSUS LAWSONIANA ... 6 to 12 feet.
HOLLY, Variegated ... 6 to 12 feet.
" Green, named sorts ... 6 to 12 feet.
FIR, Scotch ... 6 to 8 feet.
" Austrian ... 3 to 8 feet.
LAURELS ... 3 to 7 feet.
OSMANTHUS ... 2 to 4 feet.
" Oak ... 2 to 4 feet.
PICEA PINSAPO ... 6 to 8 feet.
RHODODENDRON PONTICUM, in
" loam ... 2 to 4 feet.
" Hybrids ... 2 to 4 feet.
" Named sorts ... 2 to 4 feet.
YEW, Common, and others ... 3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and
Pyramids.
APPLES and PEARS, Horizontal-trained.
CHERRIES and PLUMS, Flat-trained.
ASPARAGUS for Forcing.

PAUL'S NURSERIES, WALTHAM CROSS.
South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station,
Great Eastern Railway.

SMALL SHRUBS and CONIFERAE.—Abies
orientalis, 4-yr., 40s. per 1000; Cupressus macrocarpa,
1-yr., 30s. per 1000; C. Lawsoniana, 1 foot, 40s. per 1000;
C. erecta viridis, 8 to 9 inch, 30s. per 1000; Betula pumila,
1 foot, 30s. per 1000; Escallonia macrantha, 9 inch, 8s.
per 100; Ivy, Irish, 2-yr., 30s. per 1000; Lilac, purple,
2-yr., 30s. per 1000; Laurestinus, 6 to 8 inch, 7s. per 100;
Oak, evergreen, 3-yr., drilled, 10 inch, 50s. per 1000; Ficus
cumbra, 3-yr., transplanted, 40s. per 1000; P. Nordmannia,
2-yr., transplanted, 60s. per 1000; P. nobilis, 2-year trans-
planted, 6s. per 100; Privet, oval, 1½ inch, 8s. per 1000; ditto,
10 to 12 inch, 14s. per 1000; Retinospora plumosa, 8 inch,
transplanted, 40s. per 100; R. aurea, 6 to 8 inch, 8s. per 100;
R. squarrosa, 8 inch, transplanted, 40s. per 1000; Rhododen-
dron ponticum, transplanted, 10 to 8 inch, 40s. per 1000; 6 to
9 inch, 55s. per 1000; Thuja Lobbi, 10 to 12 inch, 30s.
per 1000; 15 to 18 inch, extra, 40s. per 1000; Veronica Traversii,
8 inch, 7s. per 100; V. Vinifolia, 6 inch, 8s. per 100; Yew,
English, 2-yr., 1-yr., transplanted, 20s. per 1000; Irish Yew,
8 to 8 inch, 8s. per 100.

GARLIES MITCHELL, Nurseryman, Stranraer.

Celebrated for Quality.

WEBBS' SEEDS.

For Particulars of the Best Novelties, see

WEBBS' SPRING CATALOGUE of 1892;

beautifully illustrated with six coloured plates and hundreds of engravings, post-free, 1s. which is allowed off subsequent orders.

THE NEW TOMATO FOR 1892: WEBBS' 'REGINA.'

This valuable novelty is early and very prolific; it is of the greatest service for both open-air and house culture. The fruit is smooth, somewhat round in shape, of beautiful deep colour and delicious flavour.

1s. 6d. and 2s. 6d. per packet, post-free.

Seedsman by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales.

WORDSLEY, STOURBRIDGE.



BUYERS SHOULD COME AND VIEW THE STOCK.

THE NEW FORCING LETTUCE, CARTERS' HARBINGER,



Supplies a want long felt.

Distinct and Beautiful.

Price in Sealed Packets, 2 6 & 5/- each, post-free.

Seedsman by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales.

237
238 HIGH HOLBORN, LONDON

SUTTON'S PRIMULAS.

For full particulars of

30 VARIETIES

OF THE

BEST PRIMULAS,

SEE

SUTTON'S AMATEUR'S GUIDE

IN

HORTICULTURE.

Separate Varieties, from 1s. 6d. to 5s. per pkt.
Superb (mixed) (all the best sorts) 3s. 6d. "
Collection of 14 varieties, 21s.

SUTTON'S SEEDS

GENUINE ONLY FROM SUTTON & SONS, READING.

ALL FLOWER SEEDS POST-FREE.

Williams' PRIMULA

WORLD-RENOUNDED

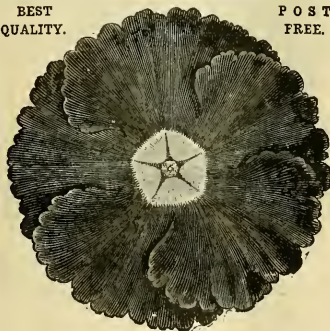
PRIMULA

GOLD MEDAL STRAIN.

In Sealed Packets, bearing our Registered Trade Mark, without which none are genuine.

BEST
QUALITY.

POST
FREE.



Williams' Superb Red, White, and Mixed 1 6 & 2 6
Williams' Mixture of 6 varieties ... 1 6 .. 2 6

For other varieties, see ILLUSTRATED SEED CATALOGUE, Gratis and Post-free on application.

B.S. Williams & Son.
UPPER HOLLOWAY.
LONDON, N.

VEITCH'S Choice Seeds,

OF PROVED EXCELLENCE.

JAMES VEITCH & SONS

Desire to direct attention to the following, for present sowing:—

STREPTOCARPUS, NEW HYBRIDS.

Beautiful Greenhouse Plants, remarkable for their abundance of bloom, which are produced for about four months in the summer and early autumn. The flowers, which are very graceful in form, are trumpet-shaped, and of rich, striking, and varied colours.

Per Packet, 2s. 6d.

BEGONIA,

VEITCH'S CHOICEST HYBRID.

Saved from the very finest and newest hybrids, and is undoubtedly the best strain yet offered.

Per Packet, 1s. 6d.

DOUBLE BEGONIA, CHOICEST HYBRID.

Saved from an unequalled collection, and may be expected to produce a large proportion of well-formed, perfectly double flowers.

Per Packet, 2s. 6d.

PRIMULAS, VEITCH'S SUPERB STRAINS.

Finest Fringed, Red, White, and Mixed.

These are the finest in cultivation, and were awarded a First-class Certificate by the Royal Horticultural Society for superior quality.

Each, per Packet, 2s. 6d.

For full descriptions of the above and other Choice Seeds, see CATALOGUE for 1892, forwarded Post-free on application.

JAMES VEITCH & SONS,
ROYAL EXOTIC NURSERY,
CHELSEA, S.W.



NOW READY.

SHARPE'S TRADE CATALOGUE

OF
GARDEN AND FARM SEEDS
for 1892.

Post-free on application to

CHARLES SHARPE & CO.,
Seed Farmers and Merchants, SLEAFORD.

SEASON 1892. WM. CLIBRAN & SON Beg to inform their patrons that their NEW CATALOGUE OF

SELECT
VEGETABLE
SEEDS

AND

CHOICE
FLOWER
SEEDS

Is NOW READY, and will be sent post-free on application.

It contains Descriptions of all the STANDARD VARIETIES of VEGETABLE and FLOWER SEEDS, with a careful selection of the most promising NOVELTIES.

BUYERS OF GENUINE, RELIABLE SEEDS should send for a copy before placing their Orders.

INSECTICIDES, IMPLEMENTS, TOOLS,
And Miscellaneous Requisites of every description,
for the GARDEN or FARM, supplied.

10 & 12, MARKET ST., OLD-FIELD NURSERIES,
MANCHESTER. ALTRINCHAM.
And Principality Nurseries, Degareway, Llandudno.

LOOK TO YOUR BOILERS,

And replace INEFFICIENT and DEFECTIVE ONES by

WEEKS'S

PATENT DUPLEX UPRIGHT TUBULAR,

THE CHAMPION BOILER OF THE AGE.

It is unparalleled for POWER, ECONOMY, and DURABILITY, the WATER-BARS alone being equal to many Boilers.

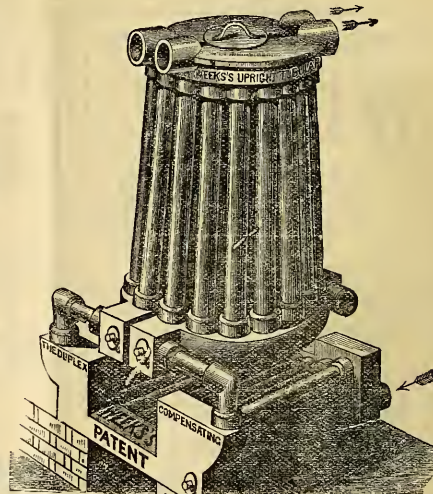
A TEN YEARS' GUARANTEE given with all Duplex Boilers (subject to printed conditions) when fixed by the Patentees.

FULL PARTICULARS AND PRICES ON APPLICATION TO

J. WEEKS & CO.,

Horticultural Builders, Hot-water Apparatus Manufacturers and Patentees,

KING'S ROAD, CHELSEA, LONDON, S.W.



THOMAS GREEN & SON, LIMITED,

SMITHFIELD IRONWORKS, LEEDS, AND SURREY WORKS, BLACKFRIARS ROAD, LONDON, S.E.,

HORTICULTURAL ENGINEERS TO HER MAJESTY THE QUEEN, call Special Attention to their Patent Wrought-Iron Municipal or Angular Chambered and Tubular

HOT-WATER BOILERS,

And others with SHELVES, and Hollow or Ordinary Cast-iron GRATE BARS.

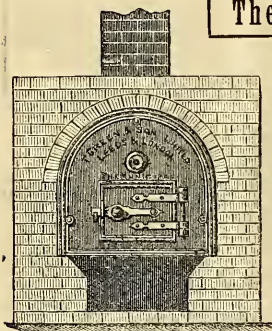
SADDLE BOILERS,

With WATERWAY BACKS and WELDED BOILERS, any of which are specially adapted for Heating Greenhouses, Conservatories, Churches, Chapels, Schools, Public Buildings, Entrance Halls, Warehouses, Workshops, &c. They are the neatest, cheapest, most effective, and durable of any extant.

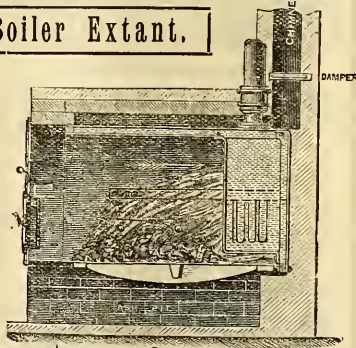
The MUNICIPAL and TUBULAR ones are remarkable for their great heating power, slow combustion, and the length of time the fire will burn without requiring attention.

These Patterns secured the FIRST and HIGHEST PRIZE—a SILVER MEDAL—at the Royal Horticultural Society's Exhibition, South Kensington, London, June 1, 1881.

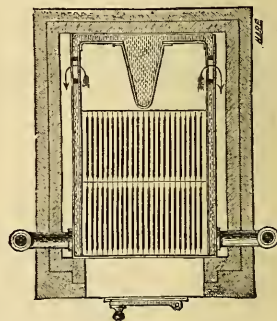
The Best Boiler Extant.



— FRONT ELEVATION —



— LONGITUDINAL SECTION —



SECTIONAL PLAN.

The longitudinal section gives a view of the fire-box, water space, flues, &c.

The front elevation shows it set in brickwork, which is necessary for this class of boiler.

The cross section gives a view of the fire-box, water space and V-shaped back.

SIZES AND PRICES.

	3 ft. 2 in. long	by 2 ft. 0 in. wide	by 2 ft. 0 in. deep			
MB 1	3 ft. 2 in.	by 2	0	Calculated to	1000 ft.	Price £15 0 0
MB 2	4 0	by 2	0	heat 4 in. piping	1280	" 21 0 0
MB 3	5 0	by 2	3	as follows:—	2200	" 32 0 0
MB 4	6 6	by 3	0		4000	" 60 0 0
MB 5	8 6	by 4	0		7000	" 85 0 0

TESTIMONIALS.

MESSES. THOS. GREEN AND SON, LTD., NORTH STREET, LEEDS.

Re HEATING APPARATUS.

Borough Engineer's Office, Municipal Buildings, Leeds, January 9, 1896.

GENTLEMEN,—I have great pleasure in bearing testimony to the efficiency and satisfactory working of the Hot-water Heating Apparatus you erected in these public buildings. The buildings are four storeys high, and we have a total length of about 25,000 feet of piping in them, varying in size from 1½ in. to 8 in. diameter, with their connections, &c. The several offices and rooms can all be in operation at one time or separately, and the heat regulated by means of the valves to the temperature required, even in the coldest weather.

Two of your Patent Municipal Pattern Boilers, No. 4, work the whole of this piping easily, although we have three of them fixed. They are very powerful and economical in the consumption of fuel, and I am pleased to be able to report of them and the apparatus so favourably.

I am, Gentlemen, yours truly, THOS. HEWSON, Borough Engineer.

Morley House, Bagot, St. Saviour's, Jersey, November 10th, 1886.

GENTLEMEN,—The large Municipal Boiler which you sent me last year is doing its work satisfactorily; it is heating 5000 feet of 4-inch pipe in one of my vineeries, and I am quite sure that it has power to work a much greater length, while in cost of fuel it compares favourably with my other Boilers.

I have now five of your Boilers in use, and I cannot speak too well of their heating powers, or their comparatively small consumption of fuel.

Yours faithfully,

(Signed) G. W. BASHFORD.

AND HUNDREDS OF OTHER REFERENCES CAN BE GIVEN IF REQUIRED.



PAULS' NURSERIES, WALTHAM CROSS.

South Entrance, four minutes' walk from Waltham Cross Station (G.E.R.); West Entrance, three minutes' walk from Theobald's Grove Station (G.E.R.).



ROSES.

The Largest and Finest Stock in the Country.

NEW ROSES A SPECIALTY.

Also Books on Roses, by Wm. Paul, F.L.S.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



SEEDS & BULBS

OF BEST QUALITY.

ALSO

MUSHROOM SPAWN, GARDEN MATS, MANURES, INSECTICIDES, and all other GARDEN REQUISITES.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



FRUIT TREES

AND

GRAPE VINES.

An enormous Stock of Fruiting and Other Trees unsurpassed in quality, being vigorous, clean, and true to name.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



HARDY TREES AND SHRUBS.

EVERGREEN, DECIDUOUS, and CONIFERS, in endless variety, kept constantly transplanted.

RHODODENDRONS off Loam.

HARDY CLIMBING PLANTS a specialty.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



CAMELLIAS

The Largest Stock in the Country.

Plants well set with Bloom-buds.

Also,

AZALEAS, LAFAGERIAS, and other GREENHOUSE CLIMBERS.

Descriptive Priced CATALOGUE Free by Post.

Prices strictly moderate; reduced rates for large quantities. Inspection of stock invited. Goods packed by experienced hands for all parts of the world. Gardeners of character and experience recommended.

Important: Observe the Christian Name and Address—

WM. PAUL & SON,
WALTHAM CROSS,
HERTS.

SALE, JANUARY 29th.

NEW ORCHIDS

CYRTOPODIUM ERICSSONI.

A magnificent New Cyrtopodium from the Old Labiata country.

MILTONIA ILLUSTRIS

Lovely New Species from the Brazils.

EPIDENDRUM GODSEFFIANUM,

EPIDENDRUM WATSONI,

ONCIDIUM, SPEC. NOVA,

CATTLEYA LABIATA,

Marvellous masses.

NEW CATASETUMS.

The above will be Sold by Auction,
at MESSRS.

PROTHEROE & MORRIS' ROOMS,

67 & 68, Cheapside, London,

On FRIDAY, JANUARY 29th,

By Order of

MR. F. SANDER.



THE

Gardeners' Chronicle.

SATURDAY, JANUARY 23, 1892.

BRYNGWYN.

IN the park surrounding the mansion of Mr. James Rankin, M.P., two houses preceded the present one. Nothing remains of the earliest of these country seats, but the moat surrounding its site in the lowest and least eligible part of the domain, where no landscape could cheer the eye on account of the low level. The site was, undoubtedly, the most suitable for a moated residence; but it was the worst in all other respects. The gas works, erected for the supply of the house, are now concealed amid the trees which spring on the site of old Bryngwyn. It may be mentioned here that Mr. Rankin's residence stands in the parish of Dewchurch in Herefordshire. The name by which it is designated seems to have strayed from the neighbouring principality of Wales, Bryngwyn being a Welsh word, signifying "white valley," though why this spot should be called so it is difficult to conceive, the rocks hereabouts consisting of old red sandstone of the characteristic colour which lends warmth to the landscape of a large part of Herefordshire.

Opposite the present mansion is a sandstone hill, whose colour is concealed by the deep green foliage of the Oaks and Elms, which, with Larch and various exotics, cover it; and at the foot of this hill, within the boundary of the pleasure garden, is the second house, which is, in part, a ruin covered with climbers, while another part of it is occupied by Mr. Nash, who, as head gardener here, has shown his taste alike in the Ivy-covered walls of his dwelling and in many other directions. When the old house was dismantled, it was a good idea to leave the outer walls intact, and plant them with Jasmine, Cydonia japonica, Sweet Briar, and several sorts of Ivy, including Hedera palmata—an indifferent climber, but with large leaves—a handsome variety for ruins. A sort of trellis, formed of Larch poles, has been carried round the house with excellent effect, the poles being completely hidden by Ivy which hangs in luxuriant festoons, amid which the eye detects the ruin behind. Mr. Nash's front-door, with its evergreen Yew porch, is something to envy, or at any rate to admire and imitate. One walks through a doorway in the ruin, and there, on the right, is the porch, and in front of it is a lawn occupying what was once a principal room of the now dismantled house. The old walls, hung with creepers and planted with Ferns, surround the lawn, and a narrow flower border under the wall forms its margin. I hope this rather minute description will assist those who own old ruins to render them as ornamental as that at Bryngwyn. The old Elizabethan mansion, which bore the name just mentioned, has been replaced by

Mr. Rankin by a much larger and handsomer house in the early English style. The old house is now an ornament of the garden, seen from the windows across a wide space devoted to a lawn covering many acres. Naked walls are rarely tolerable, and even the warm and pleasing sandstone of which the house is built, is improved by its drapery of creepers. Not to name them all, what can be more noble in appearance than the *Magnolia grandiflora*? It is the Exmouth variety which commenced flowering in August, and would continue to do so I was told on October 3, till stopped by frost. Another shrub in the house, more fastidious as to soil and site, and not seen where the one is stiff, or the other low, is *Photinia serrulata*, 20 feet high, having coriaceous leaves and terminal panicles of small white flowers. *Escalonia macrantha*, with its shining leaves, flourishes on the same wall. The terrace in front of the house, dry and sunny, and well lifted above the park, is a singularly attractive spot, from which the beauty of the lawn and pleasure grounds may be surveyed. In the flower-beds on the terrace, when I saw them last summer, a variety of yellow *Chrysanthemum* is used as a better yellow and safer plant than *Calceolaria*. Mr. Nash is by no means superstitious in adhering to old and customary ideas and plants when he can replace them by better, which he has succeeded in doing in the use of the *Chrysanthemum*, and in some other instances in his ornamental gardening.

On the east side of the house, at the boundary of the lawn, a gravel walk leads to a conservatory, and thence to a rosary and other ornamental grounds, and to the kitchen garden. There are many different methods of covering a wall and beautifying a flat surface of bricks, but without disparaging other plants which may be used for the purpose, nothing can be better than the different varieties of Ivy, differing, as they do, in colour and habit—golden, silvery, or variegated, with leaves deeply cut or otherwise, and of various sizes as well as shapes. The wall just noticed is Ivy-clad, with a border in front brightened by single Dahlias and other flowers. On the right hand, in passing along this path from the house, are baskets of wire, placed on the margin of the lawn, and edged with Ivy, with Clematis covering the handles, and each basket delights the sense of smell, as well as sight, since it is planted with such sweet flowers as Mignonette, Heliotrope, Tobacco, Stock, and Salvia patens. It is certainly a very pleasing walk, and, hard as it may be to hit on anything new in the art of arranging plants, on which so many minds are always engaged, one may perhaps claim a spice of novelty for the embellishments of this path.

The lawn is extensive, slopes pleasantly from the house towards the ruins, where it ends, and the ground begins to rise. On such a lawn there is space for the largest timber trees, sweet Chestnuts among them. Among many beautiful clumps of shrubs, there is one margined with *Daphne Mezereum*, which grows very luxuriantly here. Another is composed of Ghent Azaleas, edged with *Andromeda floribunda*, which flourishes exceedingly, as most things do on the rich sandstone soil of Herefordshire, where Apples, Hops, and pastures are all in perfection, and woodlands, gardens, and cornfields are as good. Other clumps are of Clematis Jackmani, edged with Japan Honeysuckle; *Tritonia uvaria*, blazing alone; *Ilycinthus candicans*, China Roses, edged with Rudbeckia; *Rhododendrons*, Golden Yews and Conifers, and various shrubs; and, not to be overlooked, a raised bed of Mrs.

Turner Pelargonium, edged with Gazania. The grandest object on the lawn is a tall and spreading Oak of noble dimensions, with a lofty trunk, such as only rich land could produce. This tree alone would furnish the wainscot of a spacious room. The Wellingtonia, from seed brought from California, grows here as freely as the Larch. A specimen planted eighteen years ago measures 55 feet high by 5 feet in girth. On the side of the hill above the ruins there are some stately trees; one of these is a Larch, 80 feet high, with branches drooping to the ground, and spreading 100 feet. There are some big Acacias and great Scotch Firs near it; but perhaps the handsomest of these giants is a Spruce, 10 feet in girth and 85 feet high, and feathered to the ground. In parting the branches in order to get to the trunk, I disturbed a wood-pigeon, sitting hard on two eggs in a nest about 6 feet from the ground, the nest being well secured from observation till the sanctum within the branches was entered. Another of the great Larches stands 100 feet high, and has a circumference of 13 feet at 5 feet from the ground. The bracken on the hill grows 7 feet and 8 feet high. The Yews feather to the ground; and in striking contrast to this sturdy tree, the Birch grows naturally on the hill. The Portugal Laurel fruits here freely, when old, as in the case of a fine specimen covered with red berries, and 20 feet in height. Our walk in this direction terminated at a quarry in the side of the hill, which furnished stone for the building of the house, and has now been turned into a fernery, and provided with a summer-house and rustic bridges.

Returning to the house, we visited the spacious flower garden on the south-east side, where all sorts of flowers are grown in beds and borders, in delightful profusion, without formality. We were too late for the Roses, which, in summer, make a great display, trained in arches and otherwise. Much more might be added on the beauty of Bryngwyn, but these few remarks on its salient features must suffice. H. E.

NEW OR NOTEWORTHY PLANTS.

THRINAX MORRISII, Wend.* (Figs. 20, 21.)

This Palm is one of the few species of *Thrinax* with nearly sessile fruits. Its nearest ally is *T. pumilio*, Mart., from which it differs in the greater number of segments of the lamina, and in the shortness of the lamina itself. The lamina of *T. pumilio*, Mart. (according to a plant received by Loddiges in 1845, and now full grown), is 10 cm. longer, its segments 10 mm. wider, the basal segments nearly as long as the central, and not glaucous beneath; its seed is quite perforated by the testa, as is shown in Martin's *Hist. Nat. Palm.*, t. 103, fig. 4. I have much pleasure in naming this Palm after Dr. Morris, Esq., F.L.S., Assistant-Director of the Royal Gardens, Kew, by whom it was first collected. H. Wendland.

* *Thrinax Morrisii*, Wendl.—*T. (Porotheinax) pumilio*, Mart., affinis, differt autem lamina suborbiculati undulata, subtus glaucescente, laciniiis, circa 30, lanceolatis breviter bifidis, utriusque nervis secundariis 3-4, basilaribus fere dimidio brevioribus, ligula ovata obtusa; semine subgloboso, testem radio simplici conico usque ad dimidium introeunte, haud perforato. Caudex clavatus, 1 m. altus. Folia terminalia; petiolis leviter amplexicaulis, basi compressissimis, superne biconvexis, marginibus acute angulatis; lamina suborbiculata, subtus glaucescente, multipartita; laciniiis acuminatis, 31 cm. longis, 23 mm. latis, nervis transversalibus superne conspicuis, marginibus ochroleucis. Spadix 60 cm. longus, ramis 9 et 12 recurvis. Spathe numerosae, tubulosae, imbricatæ, glaucopubescentes. Fructus subsessilis, globosus, aicâ rugosus, basi perianthio sæciformi persistente cinctus. Semina erecta, globosa, levia, 3 mm. latis; embryonis lacinia; columella coarctata; albumen intrasea. Hab. Anguilla, W. Indies, Leg. Dr. Morris, F.L.S., Dec. 1890; Dr. H. A. Alford Nicholls, F.L.S., Nov., 1891. H. Wendland.

Mr. Morris' account of the finding of this interesting Palm at Anguilla is thus given in the *Kew Bulletin*, May and June, 1891, p. 131:—

"Before arriving at Blowing Point, an interesting little Palm was found growing on broken limestone rocks. It was present in fairly large quantities, and the fan-shaped leaves were used for thatching native huts. The chief interest attached to this Palm is connected with its dwarf habit. The largest and apparently most matured specimen did not measure more than about 30 to 35 inches in height, and the stem was about 2½ inches in diameter. I was unable to find any plants in flower or fruit, but there was no doubt it was a species of *Thrinax*. I brought away with me about thirty to forty plants to be established at the botanical stations at Antigua and St. Lucia. The largest specimen was reserved for the Museum of Economic Botany at Kew, where it was lately seen by Mr. Wendland, an authority on Palms, who is of opinion it is new to science. He has suggested a name for it, but this cannot be published until some of the flowers or fruits are obtainable for a botanical description of the species. It is somewhat singular that only last year a new dwarf species of *Phoenix* of similar habit was discovered in the East Indies, a specimen of which is now growing at Kew. This is likewise about 25 to 30 inches high, with a slender stem, and forms a very attractive plant. The Anguilla *Thrinax* is not yet introduced in the living state to this country, but when it is, there is little doubt it will prove most interesting and attractive in a horticultural sense. I made, as mentioned above, a special search for flowers or fruit of this plant. I was told that it produced a very pretty pink flower. This, when produced, proved to be an epiphytall Orchid, a species of *Epidendrum*, which attached itself to the stem of the small Palm, and pushed its flowers through the fronds."

Dr. H. A. Alford Nicholls, F.L.S., who lately forwarded spadices, with fruit, of the Palm to Kew, writes as follows from St. Kitts, on November 18, 1891:—

"I went again to Anguilla, and this time I was fortunate enough to get seeds, and spathes, and spadices of the dwarf Palm, indigenous to that island. I found a Palm 2 feet 8 inches high—quite a tall specimen, for most of these 'Thatch' Palms are only about a foot high. This Palm had two seeding spadices, and I cut them off with one of the leaves, and they go on to Kew by this mail in a box sent through parcel-post. In a bag I send you a lot of the seeds of the Palm."

"I trust that these specimens you will be at last able to work up. Unfortunately, I could not get flowers, but I notice that the calyx and style are persistent, and you may be able to make out enough characters for identification."

"I am very glad to be able to send on these specimens, as Mr. Morris specially asked me to look into the matter. I had a long hunt through the scrub in the blazing sun, and got 'sun-fever' afterwards."

SEMPERVIVUM THOMAYERI (S. HIRTUM, L., × S. ARACHNOIDEUM).

This plant was sent to me by my friend, M. Thomayer, the Director of Parks and Gardens at Prague. It is a new form of house-leek, differing from any which I have hitherto seen. I was much surprised when I saw it, its peculiar appearance, and its size, so unusually large for a *Sempervivum*, won the admiration of all who saw it. The plant resembles both its parents equally, but, like all hybrids, is much stronger and sturdier than either. It grows in close crescent-shaped rosettes (1½ to 1¾ inch high, and about 3½ to 4 inches across) of leaves, close and overlapping. The leaves are fleshy, elliptical, oblong-cuneate, very glandular, the edges thickly-bordered with hairs. At the tip of each leaf is a tuft of longer hairs than those along the margin. In size, the leaves are from about 1 to 1½ inch long by ½ inch wide at the base, and ½ inch at the tip. This plant has not yet bloomed at Prague, and all are inclined to think that it would flower scantily and rarely. Probably the flowers will be yellow, like those of

S. hirtum. It was raised in the propagating garden at Prague, "Rajská Zahrada." All the plants of this hybrid which were obtained, and which number about a hundred, are like each other. Their unusual habit and handsome appearance render the species eminently suitable for the ornamentation of rockeries, as well as for borders or hanging baskets, such as are to be seen in the State botanic garden at Brussels. We shall hope to hear still more about this new hybrid, *Henry Correvon* (*Bulletin de la Société d'Horticulture de Genève*, December, 1891).

PHALANOPSIS SCHILLERIANA PURPUREA, *n. var.*

This was marked by Messrs. Hugh Low & Co.'s collector as a blue variety, was carefully tended,

more compact, and each segment more uniformly rounded; the side lobes of the lip are broader, and the front lobe broader and shorter than in the type. But the main feature is the decidedly purple hue in its dark richly-coloured flowers, and especially over the whole surface of the column, the upper sepals, the petals, the outer halves of the side lobes, and the front lobe of the lip. There is some pretty spotting on the lower sepals and labellum, and when fading I find the flowers have a decidedly blue tint. It is thought much of at the Clapton Nurseries, because out of the thousands of *P. Schilleriana* which have been imported through Messrs. Low's collectors nothing like it has appeared before. *James O'Brien*.

dissipates all cause for wonder that she was able to wean him from all the spendthrift dissolute habits of his youth. Burleigh House was built by William Cecil, Queen Elizabeth's great "Lord High Treasurer of England," and is a splendid example of the architecture of that reign; the banquetting hall being one of the finest rooms of the kind in existence. It stood a siege by Cromwell, who was magnanimous enough to forbear from sacking the house on account of the widowed Countess.

On two sides the windows of the house look out on a typical English park. This park is of considerable acreage, and is divided into three divisions like "omnis Gallia," the high, the middle, and the low. The last division is free to everybody, and is



FIG. 18.—VIEW OF BURLEIGH HOUSE, STAMFORD.

and is now in flower at Clapton. Flowering as it does in the present dull weather, it is not blue, although there is a decidedly blue tint in the unusually bright dark rosy purple of the flowers, which may possibly develop into a still nearer approach to blue at a time when there is more sunlight, as compared with the scores of almost colourless typical *P. Schilleriana* in flower in the same house, and which are known to assume a rich rose colour later in the season. Its flowers, even as at present seen, are much brighter, darker, and more purple than are other forms of *Schilleriana* when at their best. This variety has other distinct features. Its spikes branch nearer the base than usual; the flowers are

BURLEIGH HOUSE, BY STAMFORD TOWN.

THERE are few of our English ancestral homes so well-known as this; perhaps it is greatly owing to the memory-holding cadence of Tennyson's pretty ballad, where the lines of the heading occur. The true legend of the lord of Burleigh, who, retiring to a country retreat as a landscape painter, there met his fate in the shape of a farmer's daughter, whom he married, she unwitting of her lover's rank, is beautifully worked out in the poem. The picture of the bride by Lawrence, which is a heirloom of the family, proves the wisdom of the peer's choice, and

a very favourite resort of the townsmen. With the exception of Windsor there are few parks with more magnificent avenues, the double avenue near the keeper's lodge being decidedly worth a close inspection.

The grounds are very extensive, and include far-stretching shrubberies and carefully-kept lawns. The main beauty of the place, however, is the large sheet of water, the outline of which has been very gracefully planned. In view of the house, it spreads out into a wide lake, and seems to disappear into the parkland like a broad river. The planting all round is now thoroughly established, and the huge Cedars and other trees seem to have stood there from time

immemorial. From the high ground in the park the grounds look like a large wooded island. The prospect from here with the high trees all mirrored in the water, and the beautiful fresh green foliage of the shrubberies in the background, is very lovely. The flower-garden is near the lake, quite hidden from the house. There is also a large rosary, and a deep dingle which has been turned into a charming sylvan retreat, through which winds tortuous shady walks. The old Oaks and Cedars are most lovingly cared for, and gives a charming old-time appearance to the grounds.

The plantations in the park are in a most thriving condition, and it was quite a pleasure to notice the rapid growth of the Birches. In the High Park a number of choice Conifers have been planted in an opening in the woods; the progress they have made in this sheltered position is quite wonderful. Such fine Douglas firs are not to be found anywhere, except at Dropmore and Murlthly—one I girthed was 10 feet. A *Cupressus sempervirens*, however, surpassed this, being 12½ feet round. There were also some fine Hemlocks, *Arancarias*, and *Deodars*. Costly experiments in pisciculture are being made in the waters of the lake, and the culture of the celebrated American Black Bass has been attended with a fair measure of success.

The reason, however, why horticulturists seldom fail to visit Burleigh is, because it is the scene of the work of Mr. Gilbert. His ready wit and kindly manner are an unfailing charm to all who know him, and a better education in kitchen gardening than a walk in his own garden with the "genius loci" himself, could not be wished for. The kitchen garden is more than a mile from the house, and is nearly 14 acres in extent. Strawberries are most extensively grown, and Mr. Gilbert, who has been a successful raiser of new varieties, has a choice collection of varieties; John Ruskin he finds the best early variety, and for main crop he prefers Burleigh President. It was a great treat to see the old Pines so well grown; he probably has the finest-grown stock of the Frogmore Late Pine and the old Elton in the country. A new variety that, if others can grow it as well as he does, ought to have a great future is Chief Secretary. The Brassica tribe, as all your readers know well, are understood and grown at Burleigh as only an enthusiast like Mr. Gilbert can grow them. Tomatoes are grown in quantity all the year round; both for indoor and outdoor work Mr. Gilbert finds Satisfaction and Criterion the two best varieties. A new Rhubarb—the Champagne—seems earlier, and an improvement upon Kershaw's.

A newly-formed orchard can hardly fail to attract the attention of every visitor. I was so struck with the evenness and health of the trees, that I asked how he had been able to get so many fine trees Mr. Gilbert answered, "I went to the nursery, and picked out every one myself." The ground under cultivation is very extensive, seven acres in all, and rows have been devoted to single varieties. A list of some of these varieties, as fruit culture is now engrossing so much attention, may be welcome. They are Barnack Beauty, Golden Noble, Peasgood's Nonsuch, Dutch Mignonne, Cox's Orange, Dumelow's Seedling, Worcester Pearmain, Stirling Castle, Annie Elizabeth, Stone Apple, Schoolmaster, Duke of Devonshire, Queen Caroline, and Grenadier. The rows are 32 feet wide, and all round is a shelter afforded by plantations. Cherries, too, are well grown at Burleigh. It used to be a local belief that Cherries "wouldn't grow nobow in the district." This fact alone was enough to make Mr. Gilbert determine that they should grow somehow. He had noticed at Bexley Heath the Cherries making enormous growth when growing on stone-heaps. Reasoning from this, he cleared out the pebbly bottom of a ditch, and made a bank of soil, on which he planted the strongest young standard Cherries he could find in Osborne's nursery. The result has been eminently successful, and a full crop of Cherries has never failed at Burleigh since he took the helm. That his shadow may never grow less is the sincere wish of *Tagabond*.

THE BORDEAUX MIXTURE AS A PREVENTIVE OF THE POTATO BLIGHT.

ABOUT four years ago, through the efforts put forth by the Section of Vegetable Pathology at Washington, United States, the use of preparations of the salts of copper—chief of which is the Bordeaux Mixture—was introduced as a preventive of the downy mildew and black-rot of the Grape. So marked were the results obtained by the use of the fungicides, that the Secretary of Agriculture, in his report for 1890, estimates that nearly 5000 Grape-growers in all parts of that country treated their vineyards for mildew and black-rot during the previous year, and that the amount of fruit saved in this way will vary from 50 to 90 per cent. of the crop. From a knowledge of the fact that the fungus which causes the mildew and black-rot of the Grape is very similar in character to that which produces the Potato blight and rot, it was suggested that the remedies found useful in preventing the ravages of the one might prove equally applicable to the other.

It is true that the results obtained are sometimes conflicting in character, but as the work is entirely new, and there is no beaten path of precedent to follow, it is to be expected that failure will sometimes be the result of our efforts.

EXPERIMENTS IN 1890.

A section of a Potato field at Rhode Island State Agricultural Station, where trials of varieties and methods of planting were being conducted, was set apart for this experiment; growing in this section there were sixty rows of Potatoes, each 50 feet long, or two rows each of thirty varieties, including those of early, medium, and late seasons of maturity. The section was planted on May 10, and the growth during the season was unusually even. On July 11 indications of the presence of the blight were discovered upon a few plants, and the following day, July 12, the first application of the Bordeaux Mixture was applied.

The section was divided into four equal plots of fifteen rows each. One plot remained untreated during the entire season, one plot received five applications of the Mixture, and two plots were sprayed three times at intervals of about ten days.

The conclusions drawn from the comparison of the results may be summarised as follows:—

1. The yield of merchantable Potatoes was increased nearly 10 per cent. by spraying the haulms three times with the Bordeaux Mixture.

2. The large yield was due to an increase in the size of the tubers, and not to an increase in number.

3. The per cent. (by number) affected by the rot was one and one-half times, or 150 per cent., greater when no mixture was used than where three applications were made.

4. The yield of merchantable tubers was increased more than 34 per cent. by spraying the haulms five times over the plot untreated.

5. The application of the mixture did not increase the total number of tubers formed.

6. The results, as relating to individual varieties, were more or less variable, which is undoubtedly due to the local conditions, in connection with the peculiarities of the various kinds; that is, the early varieties that had nearly matured their growth before the blight appeared were not benefited by the application of the mixture in so marked a degree as the later varieties, &c.

The plants had grown side by side, and had been subject to the same conditions, except that the haulm of No. 2 was sprayed with the Bordeaux Mixture, at intervals of about two weeks, from July 12 to September 1 inclusive, and as a result, the leaves remained green, and the tubers continued to grow until the date of the photographing.

The haulm of No. 1 was not treated with the mixture, and was attacked by the blight, July 20, which destroyed the vitality of the leaves almost entirely by August 1, and those remaining with the haulm were completely blackened by the middle of

August. The tubers of No. 2, besides being much larger than those of No. 1, were absolutely free from the indications of decayed spots, while among the tubers of No. 1 there was one that was badly decayed, and two others that had commenced to decay. *J. J. Willis, Harpenden.*

FOREIGN CORRESPONDENCE.

BERLIN.

FOR more than fifteen years the horticultural literature of Germany has discussed the question whether an experimental station similar to the *Landwirtschaftlichen Versuch's Station* (Agricultural Experimental Station), would benefit horticulture or not, and the various writers arrived invariably at the conclusion that such an institution would be of the greatest service. But what is remarkable is, that the German gardeners have never followed words by deeds, but have hoped that the State would take the matter in hand. "I have myself done much," says Dr. Dummer, "for the establishment of such an institution," but as he perceived that nothing was to be gained by publicity in the journals, he determined to act, and he has at length brought it to pass that the Berlin Horticultural Society has chosen a committee for the purpose of a closer investigation of the scheme. As it is to be hoped that, from the present time, a new era for horticulture will commence, the names of the members of the committee may be of historical interest. *Handelsgärtner* F. Blüth, *Hofgärtner* H. Hoffmann, and Dr. Udo Dummer. H. Blüth placed his garden and plants at the service of the station; Dr. Udo Dummer offered to superintend the carrying out of research, and H. Hoffmann undertook the duties of secretary. With a view of arriving at tangible results quickly, Dr. Dummer resolved to make a beginning with farmyard manures combined with mineral manures.

He endeavoured to determine if mineral manures especially are suitable for plants that are cultivated in pots, and whether such manures are more advantageously mixed with the potting soil, or applied as a liquid solution at intervals; whether the use of such manures, together with bottom heat, would do away with the expense of large pots; if the time required to raise plants could be shortened by the use of mineral manures; and, finally, if the mixing of carbonate of lime with the soil in which *Ericas* are grown would have any influence on their growth.

The results of the experiments may, in brief, be classed as follows:—

1. Mineral manures in the pot cultivation of plants may be used with good results.

2. Mineral manures in solution, applied in small quantities at intervals of a week, is the most advantageous mode of application.

3. That a manuring of *Erica gracilis* with a solution of 3 per cent. strength, and in the proportion of 100 parts solution to 1000 parts soil once a week, is the most desirable method.

4. By this method of manuring *Erica gracilis*, it was not necessary to employ bottom-heat to start growth in the cutting when potted, because the manured plant grew just as rapidly and as robust as another plant would do on bottom-heat.

5. The manuring renders a later repotting of the plant needless.

6. Manuring retards the formation of flowers, and the more manure, the later the flowering of the plant.

7. Manuring lessens the formation of roots.

8. The addition of lime—75 per cent. of the mass of soil—reduced the length of the growing shoots in *Erica gracilis*.

9. The manuring renders the green colour of the leaves of a deeper tinge.

As a manure, the following mixture was made use of:—20 grammes carnallite, 12 grammes Chili saltpetre, 8 grammes superphosphate, 20 per cent. soluble phosphoric acid in one litre of water. Of

this mixture, each plant received weekly 2 to 6 applications as might be necessary. As the price of this mineral manure is very cheap, its use greatly reduces the cost of cultivation. The use of the same is also very advantageous. Of great value in practice is the knowledge that by its use the formation of flowers is retarded; and possibly it may be found practicable to get a plant whose usual period of flowering is in late autumn to blossom in winter—a point of great value to the gardener.

It was originally intended to make the mixture of the substances employed according to an analysis of the ashes of the various plants, but as these analyses would have been expensive to carry out, and as a sum of only £5 was allowed for the purpose, they had to be abandoned. Still, as the chemical constituents of the leaves differ from those of the flowers and their stalks, these analyses must be undertaken at some future time. It became, however, necessary to determine in particular if mineral manures were of use in the pot-culture of plants. This question is now settled in the affirmative by the researches that have been instituted and carried out, and it must now be determined by further research which kind of mixtures is the best for the various species of plants, and at what period of their growth the manure should be applied. So far the researches have taught us that, by the right kind of investi-

HORTICULTURAL BUILDING AT THE CHICAGO EXHIBITION.

THE accompanying cut presents the front elevation of the Horticultural Hall, designed by W. L. B. Jenney, of Chicago. The building is situated immediately south of the entrance to Jackson Park from the Midway Plaisance, and faces east on the lagoon. In front is a flower terrace for outside exhibits, including tanks for Nymphaeas and the Victoria-regia. The front of the terrace, with its low parapet between large vases, borders the water, and at its centre forms a boat landing.

The building is 1000 feet long, with an extreme width of 286 feet. The plan is a central pavilion with two end pavilions, each connected to the centre pavilion by front and rear curtains, forming two interior courts, each 88 by 270 feet. These courts are beautifully decorated in colour, and planted with ornamental shrubs and flowers. The central pavilion is roofed by a crystal dome 187 feet in diameter and 113 feet high, under which will be exhibited the tallest Palms, Bamboos, and Tree Ferns that can be procured. There is a gallery in each of the pavilions. The galleries of the end pavilions are designed for cafés, the situation and the surroundings being particularly well adapted to recreation and refreshment. These cafés are surrounded by an

about 1 inch in breadth. The flowers are borne on a scape about 1 foot high, and each scape has from three to eight flowers on it. The sepals and petals are of a rich dark chocolate colour, suffused with green; the lip is large and round, of stout substance, pure white, with a crimson blotch on the disc. *P. W.*

CATTLEYA PERCIVALIANA, *Southgate* var.

The above handsome plant is now in flower in the Woodlands' collection, and a charming variety it is. As a rule we find *C. Percivaliana* one of the shyest flowering of Cattleyas, and when in flower to be of such diminutive proportions as to be rather unattractive. The above variety is distinct, and in size it compares favourably with *C. Mendell*, *C. Mossie*, and *C. Triane*; the form of the sepals and petals is all that could be desired, and the lip is proportionately large, with a deep fringe all round the margin. Mr. Measures says that this variety is only equalled by one other in Captain Vipan's collection. It originated with Messrs. Lewis & Co., of Southgate, whence it passed into the Woodlands' collection, where, among many other beauties, the plant may be said to be a home. *P. W.*

CYPRIPEDIUM INSIGNE.

Of this old favourite of our glass-houses—not, perhaps, so commonly grown as it deserves—we have

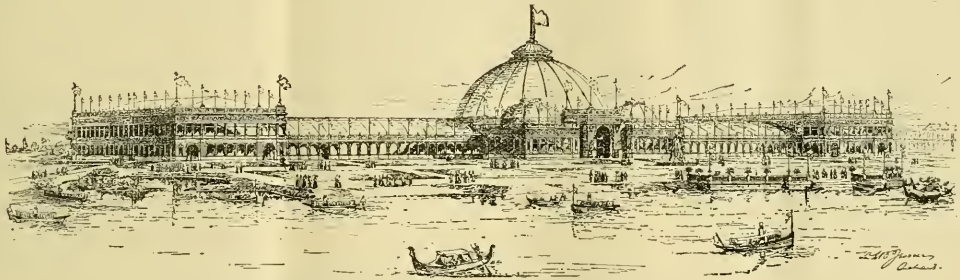


FIG. 19.—HORTICULTURAL BUILDING AT THE CHICAGO EXHIBITION, 1000 FEET LONG.

gation carried on under the necessary precautions, great results may be arrived at, and horticulture be greatly profited. But not only will researches be made in the manning of plants, for there remain a number of other questions for which this experimental station in the interest of the gardener, in a similar manner if not on a more extensive scale, must find an answer. Before all things, it will be understood that those entrusted with the researches have chiefly to serve the interests of practical horticulture, and that purely scientific questions are excluded. *Our Berlin Correspondent.*

THE NEW ARALIA-HOUSE IN THE BERLIN BOTANIC GARDEN.—Among other plant houses erected during the summer of 1891, was one which will be entirely devoted to the culture of Aralias. It is in two divisions, a large cool one, and a smaller one for Aralias from warm countries. In the middle of the house, a long bed, surrounded by tufa, and capable of being heated, is constructed; and on the walls, stages are placed on which the dwarfier species stand. The collection of Aralias in this garden is one of the most complete existing, and the specimens are in some cases of extraordinary size. A particularly picturesque appearance will be obtained by the use of the branches of trees to which the climbing species of Aralia will be secured.

arcade on three sides, from which charming views of the ground can be obtained.

In this building will be exhibited all the varieties of flowers, plants, Vines, seeds, horticultural implements, &c. Those exhibits requiring sunshine and light will be shown in the rear curtains, where the roof is entirely of glass and not too far removed from the plants. The front curtains and under the galleries are designed for exhibits that require only the ordinary amount of light. Provision is made to heat such parts as require it.

The exterior of the building is in stucco, tinted a soft warm buff, colour being reserved for the interior and the courts. The appropriation for this building is 400,000 dollars. It will probably be built for something less than this sum.

ORCHID NOTES AND GLEANINGS.

EPIDENDRUM MACROCHILUM ALBUM, *syn.*, *E. cordigerum*.

AMONGST the Orchids in flower at Seymour Court, Great Marlow, is the above useful and decorative variety, which, when seen in perfection, as this plant is, it is one of the handsomest of the genus. It is of dwarf habit, with roundish pseudobulbs, and foliage measuring from 6 inches to 1 foot in length, and

at the present time a number of plants in the conservatory which have from thirty to forty flowers each, and many fully 5 inches across. A few years ago we grew them in pots in an intermediate-house, but transferred them to the conservatory, and planted them in wire baskets. Some of the plants measure 2½ feet across. Some plants of *C. barbatum* also flower under the same treatment as the above, but this species does not grow so freely here as in a higher temperature, the warmth often falling as low as 40° in the winter. They are planted in a mixture of fibrous peat and sphagnum moss, with abundance of drainage. *J. Howard, Benham.*

ONCIDIUM PHALANOPSIS.

A spray of a fine form of this pretty Orchid comes from Mr. J. W. Bond, gardener to Charles Ingram, Esq., Elstead House, Godalming, which serves to call attention to the beauties of this species when the plant is grown at its best. The flowers, of which the spray bears four, have a strong resemblance to those of the fine violet-spotted *Odontoglossum Pescatorei* Veitchianum, but they are smaller. The pure white labellum is spotted with purple, and at the base is the crest of a rich yellow colour. Numbers of this plant have been killed by growing it in heat, but it is never safe for any length of time, unless it be grown in a cool temperature, such as that of the *Odontoglossum*-house.

FLORISTS' FLOWERS.

THE SHOW AURICULA.

THE sun commenced his northward course on December 21, and with this return of warmth comes the renewal of the interest for him who cultivates the Auricula. Not that the time for noticing a perceptible movement in the plants has come yet, and it is possible it may be delayed till the end of January, according to the nature of the weather, but soon after the shortest day the Auricula enters upon its period of growth—a time full of interest, of hopefulness, and expectation for the cultivator, for he is not within measurable distance of the April exhibition. In February, warmth becomes perceptible, and it is then the revival comes, if the weather be favourable.

Of late years we have witnessed some remarkable additions to show Auriculas. Among our green-edges at the present time, Simonite's Rev. F. D. Horner is our most generally-grown and best variety in the sense also that it is obtainable. It is good in constitution, of free growth, and very constant in character, and one can say that all who grow it can show it, because it is fairly early in flowering. It has the habit of throwing up autumn trusses—at any rate, it appears to have done so abundantly in 1891; but this may have been in large measure owing to the fact that the plants, having regard to the mild and soft character of the autumn, were late in bringing the period of activity to a close. The resources of the fine and useful green edge are large, for Mr. T. E. Henwood, of Reading, informs me that some of his plants threw up two and three autumn trusses each, and yet he does not despair of getting a good head of bloom in April next. Old Prince of Greens still does good service at exhibition times to those who can grow it, but it takes a long time to grow a small plant into a large one. Mr. Horner has Monarch, undoubtedly a fine green edge, but when it is to be distributed I do not know. Last year Mr. Henwood bloomed two plants of it, but both produced double flowers. I think the most promising among the new green edges is Abbe Lizet, raised by Mr. Douglas. As far as I have seen it, this will become as popular and constant as the Rev. F. D. Horner, while it is to all appearance a good grower. Verdure is another promising green edge raised by Mr. Douglas, and well-named because of the bright deep green of the edge. Attraction is another of Mr. Horner's raisings, sown by him in 1890; last year, owing to the incidence of the season, none of his flowers came southwards. Mr. Samuel Barlow, of Manchester, has two or three new green edges. Mr. T. E. Henwood, shown last year and certificated promises to make an excellent addition to a class sadly in need of strengthening; but then it may be years before there is enough of it to send out. Greenfuch is another of Mr. Barlow's raisings; bright green on the edge, very attractive, and medium size flowers of good quality. If growers could obtain Abbe Lizet they would gladly add it to their collections. Lancashire Hero, which usually has grey edges, will sometimes come quite green, generally from a truss that becomes bare in the autumn, but does not rise up until very early spring.

Of the grey edges, we have the old favourites George Lightbody and Lancashire Hero, and when it can be had early enough, Richard Headley—it is a flower of fine quality when at its best; also George Rudd (Woodhead), Mrs. Moore (Douglas), Rachel (Woodhead), Mabel, William Brockbank (Mellor), a somewhat uncertain but occasionally to be had in good form; and Grey Friar, a seedling raised by Sir J. T. D. Llewellyn, Bart., but apparently only little grown.

Of white-edged Auriculas, which until the past few years was a very limited class, there are Acme, a very constant and reliable variety, and when in its best form difficult to beat—a variety that worthily keeps green the memory of an old cultivator and raiser, the late Mr. John Read, Market Rasen; Dr.

Kidd (Douglas), a most useful flower; Silvia (Douglas), remarkable for its rich gold tube, but sometimes as much a grey as a white edge; Reliance (Mellor), Mrs. Dodwell (Woodhead), Conservative (Douglas), John Simonite, and the following, raised by the Rev. F. D. Horner:—Atalanta, Heather Belle, Maggie, Miranda, and Snowdrift. So few of the flowers raised by Mr. Horner are put into commerce, that there seems little chance of any of the foregoing finding their way into general cultivation; but it is to be hoped Maggie will give sufficient increase to admit of its being sent out. It is a lovely variety, and the remarkable contrast between the rich black of its body colour and the snowy purity of the edge makes its name very appropriate.

The selfs have always been a strong class in point of numbers, though many of the leading flowers possessed points of weakness. Mrs. Potts, with its beautiful violet-blue colour, is generally regarded as standing at the head of the varieties of modern introduction; but it is capable of improvement, especially in the length of its flower stem. Heroine and Black Bess are two very fine dark selfs, which will hold their own for some time to come, and both can be depended upon. Sapphire is valuable as a blue, but, like Ringdove, by the same raiser, has proved somewhat unsatisfactory. Mrs. Douglas, raised by Simonite, when in its best form, I regard as greatly superior to it. Then there remain Charles J. Perry, Lord of Lorne, Pizarro, and one or two others, old, but at times very useful. A good red self is badly wanted, and it is to be hoped the day is not far distant when Horner's Brilliant will have increased sufficiently to admit of its being distributed.

The yellow self Auricula is much more a thing of the past than of the present, and, unusual as it is, and beautiful, too, the English grower for show places its lowest of all in point of quality. Those of us who remember Horner's Buttercup of two years ago will rejoice also when that fine and distinct variety can be offered for sale. R. D.

COLONIAL NOTES.

NEW ZEALAND.

FREESIAS:—Here we experience little difficulty in growing this useful gem. It is sown in rows like Peas, on a sunny, sandy border (with us to the north) as stock bulbs. After the resting period, which is about two months, it starts away again much after the way of Sparaxis, when the strongest are carefully lifted with a trowel in batches and potted in 5 and 6-inch pots, as many as the pots will hold, carefully tended to prevent them being drawn, and supplied with plenty of water; then brought into a warm airy house in April and May, when next month, June, or midwinter month, they commence to produce in quantities their lovely scented blooms, and those left untouched in the beds supply a succession far into spring. T. Smith, Timaru, N.Z.

HARDINESS OF ACACIAS.

It may interest some of the young gardeners of Britain who fire away somewhat mercilessly with their employer's fuel on frosty nights to know that these plants will stand 8° and 10° of frost uninjured. Here we sometimes experience this low temperature for a few nights successively, and Acacias are never injured. Some, as the Black, Golden, and Silver varieties, are grown as timber trees for tanning, which is extracted from the bark; others, as A. lophantha, are graceful pendent bushes; A. armata is sometimes used as a fence plant around villa gardens—and a good one it makes; and A. grandis as an ornamental tree in shrubberies. T. Smith, Timaru, N.Z.

WEST INDIES.

THE TAMARIND.—The pulpy, few-seeded, induricant fruits of the Tamarind tree are extensively used in a variety of ways by the people of Trinidad, especially the Coolie population. In a green state

they are mixed with Garlic, Onions, Mustard, and Pepper, to form a chutney, a dish highly appreciated by the coolies. When ripe, the thin, shell-like covering is broken away from the inner portion, the seeds are also removed, the portion used being the pulpy interior only. This is dried, made into balls of various sizes, and in this state can be kept, for years, being ready for cooking purposes whenever required. Another use, and perhaps one more generally known amongst all classes of the colony's people, is the beverage, or "cool drink," made from the ripe fruit. Owing to the very acid nature, a large proportion of sugar must be added to make it palatable, which is applied sometimes in the form of hot syrup, obtained from the Sugar houses. The drink is cooling, and very agreeable. In both the green and ripe state the fruit possesses strong laxative properties. Tamarind trees grow to a large size, with spreading branches, upon which grow the racemes of small light-coloured flowers, and small pinnate leaves. The wood is made into furniture, and the younger growths, through their toughness, are universal favourites with those who have to use the "switch," either to animals or children. W. E. B.

JACQUINIA ARISTATA.

The small and pretty red-coloured flowers of this spiny-leaved plant are scarcely recognisable as they grow amongst the branches, and are not visible usually on the exterior portion of the tree. They grow from the tips of the young growths, or from the old wood at regular intervals, in short racemes. In the bud state, the colour is first white, changing gradually into waxy-yellow, until the flower opens, when they finally change to red, and are sweetly scented when open. The leaves are either whorled or alternate, very shortly stalked, obovate, tapering to the base, apex surmounted by a stiff black point. The habit of the plant is that of a dense growing shrub. For the reason already stated, the flowers are very inconspicuous, having to be sharply looked for before being seen, but when discovered are bound to court admiration. A native of Trinidad: W. E. B.

POINCIANA REGIA, Bojer (Flamboyant).

In numerous gardens in and around Port of Spain, in open spaces and savannas (parks), a flat-topped, many-branched and low-growing tree is represented in the above species. At the time of writing (May) many of these are bearing thousands of scarlet flowers, large in size, and growing together in large racemose corymbs, giving the tree the appearance as if on fire, and it is from this latter fact that its local name, Flamboyant, is derived, meaning flame-tree. The sepals are reflexed, red above, and green underneath; petals waxy, roundish, long-clawed, scarlet, occasionally variegated yellow and white, the upper petal white and yellow, spotted, streaked, and bordered carmine. The bracts are leafy, compound or pinnate. The long broad black pods from the previous year's flowering are present on many of the trees, hanging amongst the flowers, in length 2 feet, and $\frac{1}{2}$ inches broad at their greatest breadth. When landing at Barbados on the way from England to Trinidad, these trees were then flowering, and struck the writer at that time with no small degree of wonder and surprise. No leaves are present when flowering. The tree is a native of Madagascar. W. E. Broadway, Assist.-Supt., Royal Botanic Gardens, Trinidad.

CALIFORNIA.

For some years an amateur in garden operations, I have made a number of trials of tropical plants, economic or ornamental, and you will easily appreciate the pleasure and fascination there is in growing plants that have never before been tried in the particular locality one resides in. Many sections here are nearly frostless—some absolutely so. At my own home in this city, frost has only fallen twice in seven years, and then but 1½°, and but for a few minutes, just before sunrise. Perhaps a brief list of some of the more tender plants in my garden would interest you, as growing without any protection, some of

them seven years old:—*Tabernaemontana*, double-flowered form, lawn shrub, 5 feet high; *Plumieria alba*, a yellow-flowered species; *Poinsettia pulcherrima*, many stems, 12 feet high; *Theselia nerifolia*, large shrub; *Stephanotis floribunda*, *Schubertia grandiflora*, *Thunbergia Harrisii*, *Stigmaphyllon ciliatum*, *Bignonia venusta*, *Murraya exotica*, *Bauhinia acuminata*, *Rogiera gratissima*, *Lasiandra macrantha*, *Cryptolepis* sp., *Vallisaria dichotoma*, *Hibiscus rosa sinensis*, large bushes; *Persea gratissima*, in fruit; *Crinums*, *Pancratium*, *Hymenocallis*, different species. Besides these, we grow a number of less tender tropical or semitropical plants; as yet, however, there are very few persons who have given the subject much attention, and consequently, we have no such gardens as those in the Riviera, but we can grow more tender plants than can be grown there, beyond a doubt. I do not think many of the plants in the preceding list could be grown continuously in the most favoured spot along the Riviera, as our winter average is some 8° higher, while we never suffer from the extremes occasionally happening there. *J. C. H., Los Angeles.*

SOME USEFUL ASPLENIUMS.

The genus *Asplenium* includes nearly 300 species, many of which are widely distinct, varying from the tiny little *A. ruta-muraria*, *A. trichomanes*, to the noble *A. australasicum*, which has broad fronds from 4 to 5 feet long. Although in the hardy species the garden varieties are very numerous, and include tasselled and crested forms, in the greenhouse and stove species there are few varieties, and so far as I am aware, they do not include a single good crested form, unless *A. palmatum multifidum* may be regarded as such; in this the fronds are much more divided than in the normal form, but they do not continue to grow as in many of the crested Ferns. In the *Pteris*, for instance, the same fronds continue to grow and increase the multifid growths for a considerable time. I think the reason that the crested forms are of rare occurrence in the *Asplenium* is—that instead of throwing up their fronds in tufts periodically, they are produced singly, one unfolding after the other in succession. I have observed in the crested *Pteris* that the multifid growths may be considerably extended by stimulating the plants at the period when one set of fronds are well developed, and before another lot of young fronds have started. To return to my subject, it is to those suitable for decoration that I shall confine my remarks. Although the species are so numerous, the really useful sorts are somewhat limited.

The bulbiferum group include some of the most useful *Aspleniums*, which are extensively grown for market, their greatest recommendation being that they thrive well under cooler treatment than many Ferns, besides which, they are remarkably effective. The true form of *A. bulbiferum* is one of the best. The rich deep green fronds are not so finely divided as some of the varieties often seen under the name; when loaded with the bulbils, or young plants, which are so freely produced on the surface of the fronds, they droop over, and the plants require to be stood up on pots, or suspended in baskets, to be seen to advantage. Younger plants are useful for table decoration. *A. laxum pumilum*, which is sometimes given as a variety of *bulbiferum*, is very distinct; the fronds are finely divided, and they do not spread so much from the base, but are just sufficiently recurved to form a very graceful plant—this variety is not so prolific, the bulbils being produced very sparingly. *A. bifurum* is a stronger-growing form, with long loose fronds, the basal ones having broader segments, the fertile ones being very narrow. This is very prolific, and the young plants will grow to a considerable size while still attached to the parent frond, and without coming in contact with any substance to root into. *A. feniculaceum* (*Fabianum* of some) is another useful form, with broad, finely-cut, recurved fronds; the young bulbils are numerous, but fall off early, making only one little leaflet while on the parent.

A. flaccidum is very distinct, with long drooping fronds, and is a fine Fern for baskets. Under good treatment the fronds will grow fully 2 feet long; and, as they droop over, they cannot be grown properly, except when suspended, or stood on pedestals—the fronds being of good substance, it is one of the best for decoration. *A. Colensoi* (Hooker), is a very compact-growing species, and one of the most useful for market work. *A. viviparum* is compact-growing, with finely-cut, fennel-like fronds. This is prettiest in a young state; the fronds of older plants generally get blackened or disfigured. *A. nobile* is closely allied to this, but has rather more spreading fronds. *A. bifidum*, a pretty little Fern, with small erect-growing fronds, may be included in this group.

The above all being viviparous, or bulb-bearing, there is little difficulty in their propagation; either taken off and treated as seedlings, or the fronds may be pegged down on some light sandy compost, in which the young plants will soon take root, and they may be taken off and potted as soon as sufficiently established, the more vigorous-growing sorts will succeed well in a loamy compost, but more peat should be used for the slender, and more delicate sorts. In all of this group the fronds are produced from a single crown, and in potting the plants this should be kept well down to the surface. With the exception of *A. feniculaceum*, *A. viviparum*, and *A. nobile*, all of this group will succeed well under cool treatment, those named should be grown in the stove. The above form a compact and distinct group, but it is difficult to divide the other useful sorts into groups. I will therefore deal with them separately.

A. lucidum is a most distinct and beautiful species, having broad pinnate fronds, from 1 to 2 feet long; the leafy part is of a thick coriaceous texture, with a bright shiny surface. The only means of propagation is from spores, but these do not germinate freely, and the seedlings are very slow in growth, but when once established it is a most servicable Fern; succeeds well under cool treatment, being nearly hardy.

A. cicutarium, a very pretty stove species, bears fronds nearly erect, 9 to 12 inches long, broad in the centre, narrowing down towards the base and point, finely cut, and of a soft pale green. There is a narrow filament of green on each side of the dark brown rachis. It is a delicate species, and should be grown in a light peaty compost, with plenty of drainage, and should be confined to rather small pots; if over potted, it will soon get into a bad condition. *A. speciosum* is another pretty stove species, with slender recurved pinnate fronds of a soft pale green; this should be treated as the preceding.

A. longissimum is a most distinct Fern, producing long drooping pinnate fronds of a deep green, with a bright surface. A young plant is produced at the point of each frond; must be grown in suspended pots or baskets. There is at the present time a fine specimen of this Fern in the stove fernery at Kew gardens, the fronds being fully 5 feet long. *A. fiabellifolium* is another species suitable for baskets, of very slender growth; the pale green pinnate fronds droop over, and produce young plants at the point. Although an Australian species, it succeeds best in a moderate stove temperature.

A. erectum, with slender pinnate fronds, growing erect, about 9 to 12 inches high; and *A. Fernandezianum*, with deep green, recurved fronds, are both useful species for the temperate fernery. They are too small for ordinary decoration, but deserve a place in any collection; both produce single bulbils towards the point of the fronds.

A. obtusilobum is another pretty small-growing species, with short finely-cut fronds. The young plants are produced on slender stolons or runners, spreading in the same manner as Strawberry runners. It requires stove treatment.

A. Bapsisti is a very distinct species, with broad pinnate fronds on rather long stipes; the long pinnae are deeply lobed or toothed along the margin, and of a deep green. *A. Novæ Caledoniæ* is similar in

habit, with very finely-cut, slightly recurved fronds; when well grown, it forms an elegant plant. These may both be obtained from spores, but are very slow. They should be grown in a peaty compost. The first-named requires a stove temperature, and the latter may be grown in a cooler house, but will do equally well in the stove. *A. pteridioides* is a distinct and choice species, the fronds being produced from a single crown, about 9 to 12 inches long, and 3 to 4 inches broad, recurved, and of a thick texture, with a brownish shade. This somewhat resembles the *bulbiferum* type, but is not viviparous, and as yet I have been unable to raise seedlings.

A. palmatum is a dwarf-growing species, with fronds three to five-lobed, on slender rachises. There is a variety of this with the lobes cut into narrow segments. *A. hemionites* is perhaps the most correct name for this, but it is more generally known as *palmatum*. It may be grown in the temperate fernery, but does better where there is more warmth in winter; it succeeds well in a loamy compost, and should be confined to small pots.

A. nidus (the bird's-nest Fern) is a general favourite. *A. australasicum* is considered synonymous, but the two forms are quite distinct. In *A. nidus* the fronds are club-shaped and spread, and do not grow more than about 2 feet in length; in *A. australasicum* the fronds are nearly erect and do not taper off so much towards the base; in well-developed plants they attain to from 4 to 5 feet in length. These can only be obtained from spores, which do not germinate very freely, but sometimes a good batch of seedlings may be obtained; when once they are well started they soon grow into useful-sized plants. They should be potted in a Young open compost with plenty of drainage.

The above is a good selection of the most useful sorts, but many more might be added to the list, especially for planting in rock-ferneries. The broad-leaved sorts are sometimes attacked by thrips, which, if not speedily eradicated, will soon disfigure the plants. Brown scale is also a troublesome pest. Yet their worst enemies are slugs and snails, which attack the young fronds as they begin to start, and by the time the mischief is discovered the plants may have been permanently disfigured. *Pteris*.

ROOM PLANTS.

THESE, whether standing in a window or on a table or *jardinière*, require a good deal of care during the present and following months; indeed, these months form the most critical period of the year for plants in living rooms. They should be protected from gas and too great a change in the temperature of the room, and from cold draughts. When the room is swept, dusted, and put in order, the plants should be removed to another warm room whilst this kind of work is in progress, and remain there for some time after it is completed, until the room has acquired its usual degree of warmth, and the dust has settled.

Fairly hardy plants should receive fresh air whenever the weather is favourable for affording it. Foliage plants should receive a weekly washing of their leaves with a soft sponge and lukewarm water; and plants of an herbaceous character should be cleaned from dust by means of the bellows or a feather-brush, or be wiped with a soft dry cloth. When any of the plants show signs in February of returning activity, they must receive water more abundantly; and, on the contrary, bulbous plants that may have finished blooming must be kept drier at the root until they gradually are induced to rest.

Fuchsias, *Heliotropes*, *Pelargoniums*, *Hydrangeas*, &c., which have been wintered in cellars or rooms from which the frost is excluded, may in February be taken out, cut back somewhat, and receive a thorough watering; and, after they have broken into new growth, be repotted in fresh compost, and generally in pots rather smaller than those they last occupied, the root also getting a slight cutting-back. The *Hydrangeas* should have the weak upright shoots cut out, the strong growths being left for bloom.

All of these plants should come into the window or other light place, and be sprayed over when the weather is mild, and in the evening and morning following days on which much fire-heat has been made use of, and carefully watered. Tuberous Begonias and other similar plants may be started after re-potting the roots in February. That is also the best month to sow seeds of Gloxinias and tuberous Begonias.

THE WEEK'S WORK.

THE ORCHID HOUSES.

By H. A. BURBERRY, *Orchid Grower, Highbury, Birmingham.*

The atmospheric conditions of an Orchid-house is always an important matter, especially at this time of the year, when the weather is so very variable. Upon maintaining suitable conditions success mainly depends, so that any efforts made in this direction will be well repaid in the well-being of the plant. Observe that the degree of warmth indicated on p. 15 of the present volume is carefully maintained, so that upon entering a house the temperature does not feel to be much below what is really the case when the thermometer is consulted. When much fire-heat has been required, the plants and the air are apt to become much too dry, and this evil must be combated by affording moisture to the former, and by wetting the paths, walls, stages, &c.

THE EAST INDIA-HOUSE.—It is not good practice to disturb Orchids at the root, except for sufficient reason; Cypripediums, however, are plants that soon recover from any disturbance of their roots, and grow freely, and any of these which may require to be re-potted, may be potted in a moderately rich compost, consisting of equal parts of fibrous peat and sphagnum moss, with a liberal addition of clean silver-sand, one-fourth part of fibrous loam and half-rotted leaf-mould, with the finer portions sifted out of it. The roots should not be large in proportion to the size of the plants. If the pot be small, half fill it with clean crocks, and in a large pot put in crocks to the extent of three-quarters, placing a layer of moss on the top and filling in with the compost, making it moderately firm without breaking any of the roots, finally leaving the crown of the roots slightly raised above the rim of the pot; gently water the surface with a fine-rose can, but withhold larger supplies of water until the roots have commenced to take hold of the new materials. The foregoing materials are unsuited, however, for Cypripedium niveum, C. concolor, C. bellatulum, and C. Godefroye, which thrive best in a mixture of equal portions of good loam and very small pieces of chalk; and instead of raising the roots above the surface of the soil on repotting, they should be slightly below the rim of the pot. Always employ water sparingly to these species, and do not permit it to lodge in the axils of the leaves.

THE INTERMEDIATE-HOUSE OR CATTLEYA-HOUSE.—Many of the Cypripediums will do well in this house, and among these are some of the handsomest species and varieties, as C. Spicerianum, C. Boxallii, C. insignis, C. villum, C. Schlimii, C. Sedeni, and C. cactulana, and the beautiful crosses that have sprung from them. *Odontoglossum grande* should now be receiving but little moisture; *O. leopardinum*, which is in flower, and very pretty, will require the same kind of treatment when it has done blooming; *O. citreolum* must also be kept dry and cool, and a close watch must be kept for slugs and other depredators which prey on the flower-spikes. Of *Calogyne cristata*, there are varieties which do not flower so well as some others. The *Chatsworth* variety is, perhaps, the best, and *C. cristata* *Lemoniana* is another. The shy varieties will flower more readily if they are grown in nearly full sunshine, as *a'so* *Cattleya gigas* and *C. lobata*.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

MAKING SPRING-FLOWERING PLANTS FIRM IN THE SOIL.—When the frost breaks up, all autumn-planted spring-flowering subjects should have the soil made firm about the roots, pressing down both soil and plant. The plants which call for special attention are Wallflowers, Polyanthuses, Primroses, Forget-me-Nots, Silenes, Golden Thyme, Gentians, Hepaticas, Carnations, Violas, Aubrietias, Anemones, and Arabis, as well as some bulbous

plants. The same remarks apply to any trees, and shrubs, and Roses, which were planted shortly before the frost set in.

BULBS AND THEIR ENEMIES.—Sometimes at this season the mice, rooks, and blackbirds, work havoc with Daffodils, Crocuses, &c., if prompt measures are not taken against them. The mice should be trapped, and a few of the birds shot, and left on the beds to deter the others.

ANEMONE.—This popular early spring-flowering plant is effective planted either in masses or patches in the herbaceous borders, Rose beds, or on the grass in open spaces among the trees, either alone, or in company with Snowdrops, Hyacinths, Tulips, Daffodils, Crocuses, and Crown Imperial Lily; and if the planting of these subjects has been deferred, no more time should be lost before doing so. Although the Anemone may be planted from October to the end of the present month, it is the earlier-planted corals that give the best returns. A light rich sandy well-drained soil is best for Anemones. If planted in variety, the colours well mixed, and the beds made pretty full in the middle, the effect of the plants when in bloom is a very telling one. Make the surface of the beds level with the rake, and set the tubers about seven inches apart each way, burying them with a trowel two inches deep, keeping the crown upwards, as a matter of course; and cover the beds with some sifted leaf-soil. In planting in turf, use a pointed dibble, and put a small quantity of rich soil under and over the roots.

RANUNCULUS.—This is another popular spring-flowering subject, very floriferous, and the flowers being of the richest and most diversified shades of colour. They are very decorative for spring beds, masses, or clumps, in mixed or separate colours, and useful for cutting. The same kind of soil and treatment as those recommended for the Anemone will suit the Ranunculus.

GENERAL WORK.—As soon as the ground can be worked, the lawns and walks should be carefully swept and rolled, and the interrupted planting of trees, shrubs, &c., taken up and completed. Bedding plants in pits and frames should have every vestige of decay removed from them; and in the case of Verbenas growing in such places, means should be taken to destroy mildew, which is apt to be prevalent in such structures, by dusting affected plants with flowers-of-sulphur when the foliage is damp. Ventilating the pits freely in mild weather, and keeping the plants moist at the roots, hinders the spread of the mildew on Verbenas. Where Violas are wintered in cold pits, mildew sometimes is present, and it should be similarly treated.

FRUITS UNDER GLASS.

By J. RINDALL, *Gardener, Castle Howard, York.*

VINES.—Those intending to close a viney should first liberally supply the inside border with diluted liquid manure at a temperature of 80°, and if the internal arrangements will permit of it being done, form a bed of fermenting materials, and strew some top-dressing of manure over the border, to prevent the loss of warmth and moisture too quickly. The heap of manure, which is best placed on a platform of boards raised a little above the soil, will maintain a humid atmosphere, and afford some amount of warmth. At this time of the year, 45° at night, with a rise of from 5° to 10° with fire-heat, and 15° to 20° with sun-heat, will suffice at the start. In exceptionally cold weather the temperature may fall a few degrees lower than these figures, it being better to do so than resort to the use of excessive artificial heat. The moistening of the Vines should be regulated by the condition of the weather, for when it is bright, the syringing of them may be done four times a day; on the contrary, in dull weather, once or twice will be often enough. In order to have a steady heat from the hot-bed, the materials should be occasionally turned, making additions of fresh dung and leaves already got into a warmed state. As the middle part of the hot-bed becomes dry by fermentation, a few canfuls of water poured over the surface will cause fermentation to go on without check. For Muscats and other kinds of Grapes requiring a higher temperature than Black Hamburgh, Foster's Seedling, Sweetwater, and the usual varieties which are early forced, 5° to 7° more may be afforded at starting. Once the buds have made half an inch of growth, discontinue the syringing of the canes, remove the hot-bed, and carefully prick

up the border. I may here remark that it is a mistake to rake the surface of the borders of any fruit-house. Vines which have made some progress in growth should be disbudded, the strongest laterals being left, provided these show the best bunches. The question of stopping at a certain leaf beyond the bunch is a moot point; some growers do this at the first or second leaf, and allow the sub-laterals to make one leaf only. I allow the bunch-bearing lateral shoot to make 4 feet of growth before stopping it, and rub off every shoot that springs from it. By this method stronger canes are obtained than by the other methods, believing that one large well-developed leaf is of greater benefit to the Vine than several small ones, and the results obtained go far to support my practice, and I would advise its being given a trial by those who have not hitherto adopted it. Besides stopping, the tying down of the laterals will need attention. It is an operation which requires to be done at intervals, so as to get them into their places—a horizontal one being best—without breaking or straining them dangerously. All the smallest bunches, and those on the weaker shoots, should be cut off whenever sufficiently developed to enable the cultivator to select the bunches to be left to grow, and this number should vary, not so much with the length of the cane as with their vigor, and the size of bunches they show. For Vines of medium strength, 1 lb. of Grapes to the lineal foot is a good crop. The floor, and all bars space in the house, may be damped down night and morning, and several times during the day, when it is warm and dry. Ventilate with care when cold winds prevail, giving preference to the means provided at the apex of the house for this purpose.

PINES.—Every opportunity should be taken advantage of to collect leaves for the Pine-beds, where this has not already been done, and if there is any choice of the kind, the leaves of the Oak are best, but other hard-wood tree leaves make a good substitute, except Lime, Sycamore, and Plane.

THE KITCHEN GARDEN.

By G. WATKINS, *Gardener, Syon House, Brentford.*

FORCING SEAKALE.—Early in the month I advised the lifting of roots of Seakale and Rhubarb for forcing. Those who purchase their Seakale roots will lay them in the earth ready for use, covering them with short litter. Seakale roots are, in a general way, the better for being dug up and placed in rows and covered, the check the roots receive by lifting preparing them for forcing. I need hardly point out the value of growing Seakale roots from cuttings in preference to seeds; still the last-named method is still possible, although much time is lost, a root-cutting in March being often as large as a seedling after several months' growth. Therefore, when lifting the roots from the open ground, the strong side-roots should be cut off and tied in bundles of twenty-five each. These cuttings may be made 4 to 6 inches long, the top cut straight and the bottom obliquely, ready for planting early in March. Lay them in trenches till that date, covering as advised for the forcing-roots. A few rows of roots should be left in their quarters for the latest supply. We have roots on a cold border that give us useful heads when Seakale is over in many other places—the roots need only a slight covering of half-decayed leaves, and the shoots come up sturdy and clean and free of slugs. Should the latter be troublesome, a dusting of lime before covering them will do good.

ASPARAGUS.—This is a more expensive crop than Seakale, being of slower growth, and for forcing, permanent beds are best, the first expense being almost the only one. Roots of this vegetable will require to be placed in a warm pit or house at intervals of about three weeks if a daily supply is required, and unless of home-growth, there is often a difficulty in getting strong roots for forcing, and in all cases slow forcing is essential to obtain good heads, rapid growth in strong heat bringing only weak shoots with but little flavour.

FRENCH BEANS should now get more attention, and if they are grown in a suitable temperature good returns are secured. Those who have only limited space at command should not sow before the end of this month or later, and they should sow an early dwarf variety, such as *Syon House* or *Ne Plus Ultra*, if space is an object. The seed may be sown in 60's, and when large enough, transplanted or grown on in 7 or 8-inch pots. If seed be sown in the latter, care must be taken to give no water till the plants are growing

freely. A light fibrous loam and some old Mushroom-bed manure form a most suitable compost for filling the large pots, which should be done to the extent of three-quarters, providing good drainage, and making the compost firm. When the seed has germinated, keep the plants near the light in a temperature of 60°, or higher by sun-heat.

POTATOS should be got in readiness for early forcing by placing the tubers of well-ripened early kinds in boxes to sprout, in Cocoa-nut fibre or leaf-soil, in a warm house. If very early tubers are required, a few pots of boxes may be prepared, and planted with some of the earliest varieties, and grown near the light, three-parts filling the pots with a good rich compost, the remainder of the soil being afforded when the tops are a few inches high. These tubers will be ready for use a couple of weeks or more in advance of those planted out. Frames or pits should be prepared for those planted out, using a large proportion of fresh leaves, so that the bottom-heat is not fluctuating, but lasting.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Penrice Gardens, Swansea.

THE FORCING PITS.—With lengthening days and brighter weather, the various subjects brought into bloom in these structures will flower more freely than at the close of the year, and successions of plants should be brought into the pits on alternate weeks. Roses in pots showing for bloom should be afforded weak manure-water occasionally, its application is likewise beneficial to *Deutzia gracilis*, *Spiræa astilboidea* and *japonica*, *Staphylea colchica*, *Richardias*, and the like. When closing the ventilators on bright days about half-past 1 P.M., the plants should be well syringed with tepid water, and the walls, trellises, &c., moistened, so as to make the atmosphere humid. During mild weather, the night temperature may range between 55° and 70°, with a rise of 5° to 10° by day, according as the sky is cloudy or not. If severe frosts prevail, it is better to allow the temperature to fall a few degrees lower than these figures than to over-heat the hot-water pipes.

BEGONIAS AND GLOXINIAS.—By sowing seeds of the above at the present time, the seedlings will enjoy a long season of growth, and make robust, large plants, which will bloom towards the end of the summer and the beginning of autumn. Employ perfectly clean pots or pans, and a compost of fiesifted peat and loam in about equal parts, and sufficient sharp silver-sand to keep the soil porous. Put in enough crocks if a pot to half fill it, and if a pan to cover the bottom all over; place a layer of moss or siftings over the crocks to prevent the soil becoming mixed with them, and fill up to within 1 inch of the top with the prepared soil, water it, and allow the surface to dry a little before sowing the seeds. Sow evenly and thinly, and place a sheet of glass upon each pan or pot, covering the same with damp moss to prevent the surface drying before the seeds have germinated. On germination taking place, tilt the square of glass a little, and remove the moss. These seeds should be raised in a hot-bed or the stove. The first batch of old tubers should now be taken from their winter quarters, afforded water, and started into slight growth, soon afterwards potting them in a compost of loam, peat, and sand, the pots made up of being just big enough to hold the tuber. Place them on a shelf near the glass either in the Pine or plant-stove, and afford but very little water until growth is renewed.

TREE CARNATIONS.—The present and two following months constitute a very good time to strike cuttings of these plants. The cuttings are best when made from side-shoots taken off with a heel, these always striking more freely than those without a heel. Before commencing, prepare the required number of 4-inch pots, filling them with a compost consisting of two parts leaf-soil and one each of loam and sharp silver-sand, the whole being passed through a half-inch meshed sieve. Put half-a-dozen cuttings round the edge of each pot, and water them in with a fine-rose pot. It is advisable to plunge the cuttings in coco-nut fibre refuse where the bottom-heat can be kept from 75° to 80°, covering them with a hand-light. It will take from four to five weeks to root the cuttings, and after that has taken place, they should then be gradually inured to the cold air. When well-rooted, stand the pots on a shelf well up to the glass, or in a low pit, and in the course of a fortnight's time they may be potted off

singly into 4-inch pots in a compost of good fibrous loam two parts, and one each of peat and leaf-soil, and sufficient sharp sand to keep the soil porous. Grow them after the potting in a pit where the temperature can be kept at about 45° to 50°, keeping them rather close for a week or more. During this period a slight shade should be used over them in sunny weather. Established plants must have air on all favourable occasions, and towards the end of April they should be removed to cool frames.

GREENHOUSE CLIMBERS.—These plants should now receive attention in the matter of thinning-out weak shoots, and those not wanted to cover the trellis, &c. *Lapagerias* growing in pots may require larger pots or tubs, and where this is the case, they should get attention forthwith, or the young roots, which will soon form, may get injured. Fibrous peat of the best quality should be used for *Lapagerias*, with the addition of silver-sand in sufficient quantity to keep the soil open. See that the drainage is efficient and carefully put into the pots, as when established, the *Lapagerias* require an abundance of water during growth, and when the drainage is defective, the soil soon becomes sour and the plants unhealthy. When potting, it will be advisable to make the soil between the old ball and the sides of the pot very firm. Old plants either in pots or planted out, which may have become crowded with weak shoots, may have a portion of these with advantage thinned out. The present time, before growth takes place, is a suitable time in which to cleanse these plants of insects, using the syringe and clear water afterwards to prevent the attack of thrips, which are very partial to *Lapagerias*.

ALLAMANDAS.—Plants which have been at rest during the winter should be pruned, and those which may be growing in large pots and tubs should have the drainage put into a satisfactory state—a very important matter with a plant like an *Allamanda*, which requires so large a supply of water during the growing season. Plants which do not require repotting should have all of the loose surface-soil removed, and be top-dressed with fibrous loam and silver sand, and a little of Thomson's manure or some other well-tried fertiliser, making it very firm. If the soil in the pot be very dry, it will be advisable to soak the balls in a tub of tepid water before putting on the top-dressing. Those requiring more root-space should be allowed to break away freely before repotting them, using a compost of rich fibrous loam, with sufficient sharp sand to keep the soil porous, and to make the soil firm by ramming it whilst it is being placed handful by handful in the pot or tub. Plants in borders should also have all the loose soil removed, and be well watered and top-dressed.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, Gardener, Barham Court, Maidstone.

PRUNING GOOSEBERRY BUSHES, ETC.—The main branches of these should be well thinned out if there is likely to be any crowding of shoots, keeping those retained at about 6 inches or more apart, according as the variety is a spare grower or a robust one. Begin by cutting out all branches that cross each other, afterwards pruning all the weak shoots to two or three wood-buds. Bushes that have not been summer-pruned will most likely be found to have some shoots close to the ground, and these should be cut close back to the old wood, as any berries growing upon them would become soiled by splashes from the ground. Encourage all shoots that have a tendency to grow erect, and manure the soil well under the bushes if large fruits are required, and be sure and not dig deeply over the roots, only just prick up the earth so as to aerate it.

Birds are in some gardens very troublesome, and if the plantation is a large one, there is nothing better to be done than to reduce their numbers with the gun. If this cannot be done, lime and soot well mixed together should be thrown over the bushes when wet with dew or rain; or petroleum-oil, at the rate of a quarter of a pint to 4 gallons of water, syringed over the bushes, keeping it well stirred during the operation. This latter dressing will need to be repeated about every three weeks.

Cuttings of *Gooseberries* may still be put in. In doing this, select strong, well-ripened shoots, not less than 15 inches in length, and be quite sure to remove all the buds from the base of the cutting

upwards, leaving four or five at the top to form the first base of the future plant. Put these cuttings in ground that has been deeply dug, and made firm by treading, and place them either in slits made with the spade, or in trenches thrown out, and having a perpendicular front, against which the cuttings should rest. From the lowermost bud to the ground-level the distance may be 5 or 6 inches. Make the cuttings firm in the soil by lightly treading the latter.

YOUNG PLANTS.—These generally have three or four growths about 1 foot in length, which should be shortened back to three or four buds. *Gooseberries* are useful when grown on low walls and fences. If the plants are young ones, plant 1 yard apart, and train a branch to the right, and one to the left, to form the base, and from these train up shoots in an upright position, at about 6 inches apart. In the south and warmer parts of the country much can be done to prolong the *Gooseberry* season, by planting against a north or north-east wall. The best system of pruning such plants is to keep them spurred in, in the same manner as the *Red Currant*. Currants may also be grown, as advised for *Gooseberries*.

WALLS WITH COLD ASPECTS.—Upon walls with cold aspects it is often advised that *Morello Cherries* should be planted, but where the extent of wall is greater than is required for this kind of fruit, Plums of the following varieties do remarkably well, thereby prolonging the season of this fruit:—*Coe's Golden Drop*, *Belgian Parple*, *Washington*, *Angelina*, *Burdett*, *Jefferson*, *Reine Claude de Bayay* (in the south only, En.); and doubtless there are others which would be equally serviceable. The wood should not be laid in so thickly on these aspects as on warmer ones, and the borders must be well drained.

THE APIARY.

By EXPERT.

OUT-APIARIES.—In America, where nearly everything (including bee-keeping) is carried out on an extensive scale, it is found absolutely necessary to have out-apiaries, or bee-yards as they are called, at some distance from the home apiary, as it is found the radius of about two miles which bees fly only embraces a sufficiently large area of bloom to ensure a surplus being gathered by a limited number of colonies. This is not so likely to be necessary, for the same reason, in England, as there are not many people at present who keep so large a number of stocks in one place as to exhaust the flowers; but it is sometimes advisable to adopt a similar plan on a small scale, when the bee-keeper is so situated that he is resident in a bad district for bee-pasturage, such as in the vicinity of a town, or in the midst of trees, where honey-dews are troublesome. It is astonishing what a difference only two miles or so sometimes makes in the quality, and often the quantity, of the honey-yield; and the writer is acquainted with a case in point in a neighbourhood in which are situated two apiaries, distant two miles or thereabouts. In one case there are many trees of various kinds abounding, and no white *Clover* is grown on the farms in the parish, the consequence being, that with one exception during the last four years the honey has been darkened with honey-dew. In the other instance, the apiary is situated in close proximity to fields of white *Clover*, and about the only trees near-by are the *Elms* in the hedge-rows. The difference in the composition of the honey each year has been most marked, and not a single trouble from honey-dew has occurred during the corresponding period. The worst difficulties to contend with in keeping bees at a distance from home are likely to occur at swarming-time, and in getting the necessary articles of bee furniture, such as crates or sections, &c., backwards and forwards. The first difficulty can be got over by finding someone who has a garden or piece of ground adjacent to his dwelling who would be willing to let the hives stand there, and undertake to temporarily live the swarms until the owner could be advised and come upon the scene. With careful management and attention, the chance of swarms issuing ought to be reduced to a minimum, and with the help of the self-hivers lately introduced, trouble in this way could perhaps be entirely obviated. A rent of about 1s. per hive per annum would be sufficient to pay for the privilege of standing the bees, but extra trouble in the way of hiving swarms, or any other attention, would demand a larger payment.

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	JAN. 25.	{ Peonies, Anemones, Lilies, Tuberoses and Herbaceous plants at Protheroe and Morris' Rooms.
WEDNESDAY,	JAN. 27.	{ Plants from Belgium, Ferns, Roses, Begonias, &c., at Protheroe & Morris' Rooms.
THURSDAY,	JAN. 28.	{ 15,215 Lilium auratum and £100 other Lily Bulbs from Japan; Tuberoses, Daffodils, &c., at Protheroe & Morris' Rooms.
FRIDAY,	JAN. 29.	{ Imported and Established Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—38°·6.

The annual meeting of the Gardeners' Royal Benevolent Institution was held on Friday last, and was of so satisfactory a character as to commend it more than ever to the notice and support of gardeners. The report, which we append, shows that, while the benefits of the Institution have been enhanced, the working expenses have been lessened; still, all the time the number of candidates largely outnumbers the number of pensions that can be allotted, there is urgent need of new subscribers, and of liberal donations.

Before, however, proceeding to the special business of the day, Mr. HARRY VEITCH, who occupied the chair, properly interpreted the feeling of those present by proposing a vote of condolence on the occasion of the death of H.R.H. the Duke of CLARENCE, a resolution seconded by Dr. HOGG.

The adoption of the report and the balance-sheet was then proposed by Dr. Masters, who commented on the loss the Institution had sustained in the death of Mr. Cutler, the satisfactory nature of the work accomplished by Mr. Ingram, the newly-appointed Secretary, whom he hoped would have as long and as successful a tenure of office as his predecessor; and on the facilities the Society afforded for procuring pensions during old age if required, alluding specially to the case of James Wells, the circumstances of which are detailed in the report, and to which we venture again to refer, in illustration of the great value of the Society, and of the desirability of further support on the part of the gardeners. The resolution was seconded by Mr. Wheeler. Other resolutions of a formal character were proposed or seconded by Messrs. Webber, Dickson, Monro, Osborn, Williams, Harry Turner, John Lee, Wythes, Denning, Wynne, and others. The result was, that Mr. Veitch was re-elected treasurer, that the retiring members of the committee, which, it may be noted, must by the rules be largely composed of practical gardeners, were re-appointed, with the addition of Mr. Herbert Cutbush, Mr. Hudson, and Mr. H. Williams, in the room of Mr. Weston, Mr. W. Richards, and of Mr. Roberts, resigned.

The election of pensioners was then proceeded with, six of the candidates being placed on the list forthwith by right of their previous subscription. In the evening the members met at a "friendly" dinner, under the chairmanship of the Rev. W. Wilks, their appetites doubtless quickened by the satisfaction attendant upon good work accomplished.

The following is the text of—

THE REPORT.

In presenting the fifty-third report of the Gardeners' Royal Benevolent Institution, the committee are glad to be able to state that the benevolent objects

for which the charity was founded, more than half a century ago, have been carried out during the year 1891, and they would congratulate the members and subscribers on the continued and increasing usefulness of the Institution towards a deserving class of the community.

The committee desire to draw attention to the successful anniversary festival held in July last, which was in a great measure due to the kindness of the Right Hon. Joseph Chamberlain in presiding, and to whom the committee would express their sincere thanks for the eloquent manner in which he pleaded the cause of the Institution on that occasion. The committee are also anxious to express their grateful acknowledgments to those gentlemen who acted as stewards, and to those friends who so kindly sent flowers and fruit which so materially helped to make the festival a success.

The committee deplored the loss of many friends during the past year, amongst whom were His Grace the Duke of Devonshire (a vice-president of the Institution), Mr. W. Richards (a member of the committee), Mr. Joseph F. Meston (also a member of the committee, and formerly one of the auditors).



A NEW DWARF PALM.

FIG. 20.—THRINAX MORRISII: TO SHOW HABIT. (SEE P. 104.)

All these gentlemen were warm friends of the Institution, and will be much missed.

The committee have also to record the loss they have sustained by the death of Mr. E. Roger Cutler. He had held the office of Secretary to the Institution for fifty years, and was untiring in his energies and indefatigable in his zeal on its behalf, and the committee gratefully recognise his efforts, and take this opportunity of expressing their deep regret at his decease.

During the year now closed, sixteen pensioners have passed away, three of them leaving widows; and these, after full investigation, being found eligible, have been placed on the pension list in succession to their late husbands, in accordance with Rule 7. One of them, however, was not destined to enjoy the pension for long, for she died before the year closed, thus surviving her late husband only a few months.

In consequence of representations made to the committee, they approached the son of a pensioner with a view to his foregoing the pension hitherto awarded to his mother. They are glad to announce that he met the committee in a kindly spirit, and acceded to their requests, thus relieving the committee from any further payments on account of this pension.

The committee desire to draw special attention to the fact that they have been enabled during the past year to expend in pensions and gratuities the largest amount on record, viz., £2739 16s. 8d. This they consider is a matter for much congratulation.

They have also determined to increase the number of pensions now on the books by thirteen, to be elected this day, six of them are recommended to be placed on the list without the trouble and expense of an election under Rule 6, the remaining seven to be elected in the usual manner. In thus increasing their liabilities, the committee would confidently appeal to the many generous supporters of the Institution to strengthen their hands by making its needs and the benefits it dispenses more widely known, so that the funds may receive a larger measure of support.

Mention should also be made of the death of James Wells, at the age of 103. He had been a pensioner for thirty-one years, and during that time had received no less a sum than £521 from the funds. In conclusion, the committee would point out that this is the only Society for granting pensions to gardeners and those engaged in horticultural pursuits in their old age. During the time the Institution has been in existence they are pleased to remind their friends that upwards of £55,000 has been distributed in pensions and gratuities to aged and infirm gardeners and others. They would, therefore, earnestly appeal for continued and increased support, to enable them to add to the number of pensioners, and to carry on the good work in future.

Statement of the Receipts and Payments of the Gardeners' Royal Benevolent Institution for the Year ending December 31, 1891.

Dr.	£	s.	d.	£	s.	d.	Cr.
To Balance, 1890	...	...	692	2	1		
Transfer from Deposit Account	...	...	1000	0	0		
						1692	2 1
Annual subscriptions	...	1339	10	0			
Donations at and in consequence of the annual dinner	...	1341	3	0			
Collecting cards	...	126	16	4			
Advertisements	...	47	18	0			
					2755	7 4	
Dividends on Stock	...	685	8	9			
Interest on deposits	...	86	5	8			
					771	14	5
							3527 1 9
Stock invested	...	...	£25,000				
Pension Adjustment Account	...	...	£2659				
						25219	3 10

By	£	s.	d.	£	s.	d.	Cr.
By Pensions and gratuities	...	...	...	...	...	2739	16 8
Late Secretary's salary and honorarium	...	132	10	0			
Locum tenens	...	61	0	0			
Secretary's salary	...	65	13	9			
						262	3 9
Rent of offices (including repainting)	...	...	77	17	0		
Stationery	...	...	29	2	4		
Printing	...	...	157	14	6		
Postage and expenses of appeal	...	...	40	12	0		
Expenses of annual meeting and election	...	...	18	17	3		
Marion & Co. for frames	...	...	3	13	4		
Books of cheques	...	...	6	3	2		
Wreath for Mr. Cutler's funeral	...	...	4	14	6		
Advertisements for vacant secretaryship	...	...	4	9	6		
Expenses of annual dinner	206	6	5				
Less tickets sold	...	...	123	18	0		
						82	8 5
Postages, wages, and travelling expenses	...	...	92	14	6		
						780	10 3
							3520 6 11
Placed on deposit with bankers	...	...	...	...	...	500	0 0
							4320 6 11

Balances:—

With Treasurer at the bankers'	...	...	888	14	11		
„ Secretary	...	...	10	0	0		
						898	16 11
						25219	3 10

TECHNICAL EDUCATION IN GARDENING AND SPADE INDUSTRY.—The following prospectus has been issued:—"Attention has lately been directed to the importance of more extended fruit culture, and to the further development of gardening, as a means for the better utilisation of the land; and many of the highest authorities, on matters agricultural, have considered that smaller holdings, more carefully and scientifically treated by spade industry, form the best and likeliest solution of the present land problem in this country. In order to promote these objects in the near future, as well as to improve the education of working gardeners in general, the

classes for the practical teaching of the craft of gardening and spade industry in the Society's gardens. The cost for a lad, living at the school, would be about £45 per annum, inclusive of everything except clothing, and for a lad attending the classes only, £10 or £15. To carry out this project, an initial sum of £1000 is required, and a further income of £250 will be wanted for three years, after which time the school should become self-supporting. It is proposed to raise the necessary money by subscription, the Worshipful Company of Gardeners heading the list with a donation of £250. Subscriptions for this purpose should be kept quite dis-

by the Rev. H. H. D'OMBRAIN, the Secretary, on "The Rock Garden." He disclaimed all idea of putting forward anything original; he simply described his own rockery, its position and size, and then enumerated some of the plants which he had placed upon it, and dwelt on some of the more difficult plants and their treatment; he showed what enemies there were to contend with, and encouraged lovers of gardening notwithstanding these, to carry out this mode of culture. An interesting discussion, in which Mr. H. Selfe Leonard, the Rev. W. Wilks, Mr. J. S. Cousens, and others, took part.

"KEW BULLETIN."—The parts for October and November now before us contain an article on Chinese fibres, in the course of which Dr. HENRY gives an enumeration of the various plants used for textile fabrics in China. Great confusion arises from the vague and indiscriminate application of the terms jute and hemp, which are often applied in commerce to plants and products which have no right to be so called. The arrow poison employed by the natives of the Malay peninsula is again discussed, and is supposed to consist of the juice of *Antiaris toxicaria* and some species of *Strychnos*. Further details are promised which will be the more interesting, as previous investigation seemed to show that the poisonous qualities of the Upas tree (*Antiaris*) were more or less mythical. To the present part is appended a series of miscellaneous notes containing what we may call the news of the garden and similar establishments. This is a feature we cordially welcome, and from which we shall frequently make extracts.

TWO NEW PODOCARPS.—From Prof. HENRIQUES of the Botanic Garden, Coimbra, we received long since fruits and leaves of the West African *Podocarpus Mannii*, originally described by Sir JOSEPH HOOKER in the *Journal of the Linnean Society*, vii. (1864), p. 218, but, so far as we know, not previously introduced into cultivation. Here it would require to be grown as a stove shrub. Its leaves vary from 3 to 6 inches in length, and are about a quarter of an inch broad, bright green, shining, linear-lanceolate or sickle-shaped, with a prominent midrib and stomata on both surfaces. The fruit has been described by Prof. HENRIQUES in the *Boletim de Sociedade, Brotariana*, vol. v., p. 216, and some anatomical details are given in vol. vii., p. 122 of the same periodical. A second new *Podocarpus*—new, that is to gardens—we lighted upon in the orchid nursery of Messrs. Sander. It is, we believe, the *Podocarpus pectinatus* of Brongniart and Gris, a specimen of which is in the Kew herbarium, authenticated by one of the authors; but we have not succeeded in discovering whether or no the species has been published. The leaves which measure about 20 mill. long by 2 in breadth (nearly 1 inch by $\frac{1}{4}$ wide), are densely arranged in two ranks, one on either side of the branches. Each leaf is linear, falcately curved towards the acute point, decurrent at the base, dark green above, with a depressed midrib between two white bands of stomata, beneath silvery, with revolute margins, and a broad white stomatic band on either side of the prominent green midrib. The fruit is not known. The plant is a native of New Caledonia, and would make a pretty plant for the decoration of the table.

THE ORCHIDEEAN SOCIETY.—The meeting of the 10th inst. was successful, in spite of the cold and a heavy fall of snow. The most remarkable exhibits were those of *Odontoglossum crispum*, *gloriosum*, *Cattleya Warscewiczii*, *Cypripedium nitens superbum*, *C. Leeanum superbum*, *C. Harrisianum superbum*, and *C. Peteri*, and many others. The awards made were the following:—Diplomas of Honour of the First Class to *Paphinia Lindenii*, from M. Linden; to *Odontoglossum suavisimum*, from M. Linden. Diploma of Honour of the Second Class to *Odontoglossum Lindleyanum* × *Pescatorei*, from M. Linden. Botanical Certificates to *Restrepia striata*, from M. Linden; to *Zygopetalum* sp., from



A NEW DWARF PALM.

FIG. 21.—*THRINAX MORRISII*: PART OF LEAF, INFLORESCENCE, AND FRUITS. The fruit on the left-hand side is of the natural size. (See p. 104.)

Worshipful Company of Gardeners, acting in co-operation with the Royal Horticultural Society of Great Britain, propose to establish a British School of Gardening, where lads of from fifteen to eighteen years of age may receive a thoroughly practical training in all the details of their craft, together with such simple elementary scientific instruction as may be sufficient to enable them to take an intelligent interest in, and gain some little real insight into, the manifold operations of nature with which they will, in their after life, be concerned. The Worshipful Company of Gardeners proposes to furnish a house at Chiswick (in the immediate neighbourhood of the Royal Horticultural Society's gardens) for the reception of students, and to appoint fitting persons to act as instructors and lecturers, and to establish

tinct from those to the Royal Horticultural Society, and should be made payable to the Rev. W. WILKS, 117, Victoria Street, Westminster, by whom they will be gladly received, and most gratefully acknowledged.

HORTICULTURAL CLUB.—The usual monthly meeting of the Club was held on Tuesday evening last at their rooms, Hotel Windsor, Victoria Street, Westminster. There was a good attendance of members. The Rev. W. WILKS presided, and there were present the Rev. F. R. Burnside, Messrs. Crowley, H. J. Pearson, A. H. Pearson, G. Bunyard, J. S. Cousens, H. Percy Hall, E. B. Lindell, W. F. Cooling, H. Selfe-Leonard, G. Prince, E. Prince, and the Secretary. The discussion was opened

M. Linden. Certificates of Merit of the First Class to *Odontoglossum* sp., from M. Warocqué, by acclamation; to *Cypripedium Harrisianum* superbum, from M. Warocqué, unanimous; to *Dendrobium Lceanum*, from M. Linden, unanimous; to *Cattleya granulosa* var., from M. J. de Lansberge; to *Odontoglossum Alexandræ*, from M. le Dr. Capart; to *Cypripedium Harrisianum nigrum*, from M. le Dr. Capart; to *Odontoglossum Audersoni*, from M. Van Noten; to *Cypripedium Rothschildianum*, from M. Treysen; to C. Sallieri Hyeanum, from M. Linden; to C. Lathamianum, from M. Linden; to *Odontoglossum crispum*, from M. Warocqué. Certificates of Merit of the Second Class to *Dendrobium MacCarthiae*, from M. A. Van Imschoot; to *Lycaste Skinneri* alba, from M. A. Van Imschoot; to *Odontoglossum Alexandræ*, from M. Warocqué; to O. Alexandræ, from M. A. Wineq; to O. sp., from M. Van Noten; to *Lælia anceps* Hilli, from M. A. Van Imschoot. Cultural Certificates of the First Class to *Cypripedium nitens* superbum, from M. G. Warocqué, unanimous; to *Odontoglossum gloriosum*, from M. G. Warocqué, unanimous; to *Cypripedium Lceanum* superbum, from M. G. Warocqué; to *Rodriguezia crispata*, from M. Linden; to *Odontoglossum Ruckeri*, from M. Linden.

SALTPETRE AS A REMEDY AGAINST CATERPILLARS.—In the *Erfurt er Illustrirte Gartenzeitung*, a correspondent recommends the use of saltpetre in solution against the ravages of caterpillars, at the rate of 10 grammes, = 0.35 of an ounce (about one-third of an ounce), to 1 litre of water: about 1½ pints. The solution must be syringed or sprayed over the plants twice or thrice.

STOCK-TAKING: DECEMBER, 1891.—As anticipated by all who have followed us in these brief reports during the past six months, the Trade Record for the last month of 1891 shows a large increase in the imports of foreign and colonial produce into this country, and a continued decrease in the exports of British and Irish manufactures. The bad harvests on the Continent, here, and Russia, have necessitated the purchase in more favoured lands of enormous supplies of cereals, and here the speculators, shippers, and shipowners have proved quite equal to the occasion. Hence the great increase in imports for distribution. Here it will be opportune to give our usual extracts from the tabular summary of imports from foreign countries and British colonies and possessions during the month of December:—

IMPORTS.	1890.	1891.	Difference.
Total value for month	£39,434,448	£42,361,980	+3,827,532
§II.—(A.) Articles of food and drink—duty free ...	12,735,321	15,358,933	+2,623,612
(B.)—do., dutiable	2,587,080	2,388,078	-199,002
§VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)...	9,900,104	11,607,560	+1,707,456
§VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	3,118,735	2,942,990	-175,775
§IX.—Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,556,892	1,811,333	+254,441
(B.)—Parcel Post ...	50,169	67,808	+17,638

The exports for the month show a decrease of £1,544,455, as compared with December, 1890, but there is an increase in the matter of foreign goods exported of £392,717. The decrease in exports has been most marked during the past six months—and this points to the McKINLEY tariff and to South American crises, as the causes to which the reduction is to be attributed. Of this, however, a few lines will be given later on, when dealing with the year's work, and in its usual place we now give the

usual excerpts relating to the imports of fruits and vegetables, for the "last lingerer of the twelve":—

IMPORTS.	1890.	1891.	Difference
§II. Fruit:—			
Apples, raw ... bush.	283,237	579,064	+295,827
Unenumerated, raw ...	51,460	48,420	-3,040
Onions ...	273,697	303,806	+30,109
Potatoes ... cwt.	47,589	60,705	+13,116
Vegetables, raw, unenumerated ... value	£35,094	56,277	+21,183

THE PAST YEAR.

It will be of value now to take stock of the year 1891, taking first in order the figures relating to fruits and vegetables, and so bringing them in sharp contrast with those for the month just placed on record. The figures for the year are as follows:—

IMPORTS.	1890.	1891.	Difference.
Fruits:—			
Apples, raw ... bush.	2,574,957	3,147,373	+572,416
Unenumerated, raw ...	3,584,668	3,490,211	-94,457
Onions ...	3,871,195	4,281,046	+409,851
Potatoes ... cwt.	1,940,100	2,192,836	+252,736
Vegetables, raw, unenumerated, raw ... value	£773,890	932,887	+158,997

These figures carry their own lesson with them—they, with those contained in the general import table, show that every bushel of fruit or corn sent here can find ready sale, together with everything on four or two legs worthy of use as human food. As a companion to the table of imports for the month, we extract the following figures relating to the year:—

IMPORTS.	1890.	1891.	Difference.
Total value ...	£20,885,695	£23,691,279	+14,805,584
§II.—(A.) Articles of food and drink—duty free ...	136,422,110	148,510,208	+12,088,098
(B.) Do., dutiable ...	24,216,864	27,004,982	+2,788,118
§VI.—Raw materials for textile manufactures ...	85,239,289	89,215,855	+3,976,566
§VII.—Raw materials for sundry industries and manufactures...	41,626,155	40,635,435	-1,990,720
§IX.—(A.) Miscellaneous articles ...	14,607,678	14,935,518	+327,872
(B.)—Parcel P. st ...	503,209	581,069	+77,860

EXPORTS.—Here let us briefly note that the exports for 1891 are valued at £247,272,273, as against £263,530,585, or a decrease of £16,258,312. The increase in imports is a large one—the decrease in exports of British and Irish produce is less by ten millions sterling than was prophesied at the beginning of the year left behind. It was predicted that the falling off would be some twenty-six millions, and that our imports would suffer greatly; it was forgotten that we are free traders, with an immense power of development in our internal trade. We had our McKINLEY "boom" in 1890, and for some things in the first half of 1891; then came the staggering blow delivered from South America. We are getting over the latter little by little, the great harvest in the United States and the equally great demand for it on this side of the Atlantic has done much to set up trade again—at any rate the loss is greatly reduced; the necessity on both sides tend to restore the balance of trade. There is all over the world an endeavour after the righting of tariffs, the giving to the best men the best chances. At home here, we are learning that large supplies of cheap raw material will enable us to outlive the disturbing effects of the insane policy of so-called "protective" tariffs; and with thrift at home and an expansion of internal trade, we can afford to wait the release of commerce among our old customers all over the world. Whilst waiting for this, we note that the acreage devoted to cereal cultivation is not extending as perhaps it ought to do, as, in fact, it would do under different tariff arrangements; so that at home

here it will now pay to grow corn of all kinds—pay to give the labourer an interest in the land he helps to cultivate—pay to keep him and his away from towns and the workhouse—pay to treat him and to keep him as a man. If this is to be the outcome of our present experience, then we may have reason to bless even the McKINLEY tariff and the latest French and Spanish arrangements; for it is astonishing how soon we can see our way to do the right thing when we discover that it will pay! Masses of figures as the recently issued Board of Trade Returns are, they contain within them a grand lesson, a story easy to "write large"—in the doing of which our part has been done, though in a modest way, year by year in the columns of the *Gardeners' Chronicle*.

THE LAL BAGH GARDENS.—The Secretary of State for India in Council has selected, upon the nomination of Kew, Mr. JOHN HORNE STEPHENS, to be Head Gardener at the Lal Bagh Gardens, Bangalore, under the Durbar of Mysore.

THE WEATHER.—We take the following figures from the summary of the weekly Weather Reports, obligingly furnished us by the Meteorological Department:—

Rainfall, in Inches for 25 Years.

YEARS.	Principal Wheat-Producing Districts.							
	Scotland, N.	Scotland, S.	England, N.E.	England, E.	Midland Counties.	England, W.	Wales for W. Producing Districts.	Means for 25 years, 1866 to 1890 ...
	43.6	30.9	25.3	25.7	28.8	29.5	28.2	

Mean Temperature, in Degrees, Fahrenheit.

YEARS.	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...
	15.6	46.6	47.2	48.3	48.3	49.3	47.9	

Rainfall, in Inches.

YEARS.	Principal Grazing, &c., Districts.							
	Scotland, W.	England, N.W.	England, S.W.	Ireland, N.	Ireland, S.	Means for Grazing, &c. Districts.	Means for the British Islands generally.	
	45.2	39.7	44.0	35.6	39.9	41.7	35.0	

Mean Temperature, in Degrees, Fahrenheit (for the whole Country).

YEARS.	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...	1866 to 1890 ...
	47.7	48.3	50.4	48.2	49.8	48.9	48.4	

Table showing the Dates of the Driest and Wettest, and of the Coldest and Warmest Years for the Twenty-five years, 1866 to 1890.

Description.	Wheat Districts.	Grazing, &c., Districts.	Generally.
Rainfall:—			
Driest ...	Ins. 21.0 in 1887	Ins. 30.5 in 1887	Ins. 25.8 in 1887
Wettest ...	40.2 in 1872	58.0 in 1872	49.1 in 1872
Temperature:—			
Coldest ...	45.5 in 1879	46.9 in 1879	46.2 in 1879
Warmest ...	50.1 in 1888	50.7 in 1888	50.4 in 1888

BIRMINGHAM AND MIDLAND COUNTIES GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—At a general meeting of the committee of this Association on January 14, 1890, it was unanimously resolved that an annual appeal should be made to the whole of the members for small contributions in aid of the Gardeners' Orphan Fund, and that the amount so raised shall be sent as a contribution from the members as a body, the smallest contribution will therefore be thankfully received at the

general meeting on February 3; and as it is not the intention of the secretary or committee to appeal again this year for contributions, those members who find it impossible or inconvenient to attend on that occasion, should send their contributions to the Secretary, Mr. J. HUGHES, 140, High St., Harbourn, Birmingham, on or before that date. As the orphan of one of our late members has been elected on the funds, it is the earnest wish of all concerned that the amount so raised shall be in proportion to the numerical strength and importance of the Gardeners' Association of the City of Birmingham and the surrounding district, thereby assisting to supply the means for further extending the benefits of this noble Institution. A special tea and social gathering of members and their lady friends will be held at the Colonnade Hotel, New Street, on Thursday evening, February 4, to celebrate the sixth anniversary of the Association, when it is hoped that all members who can possibly make it convenient will attend on this occasion, especially the honorary members. The following is a programme of the lectures to be given at the Society's Rooms, at half-past 7 o'clock on Wednesday evenings. January 20.—"Apples: English Production and Consumption," Mr. J. Pope; "Practical Illustrations of the Art of Pruning," Mr. W. Spinks. February 3.—"The Gloxinia, 1739 to 1892," Mr. James Martin (Messrs. Sutton & Sons). February 17.—"The Progress of Horticulture in the United States of America," Mr. A. Outram (Messrs. B. S. Williams & Son, London). March 2.—"Modern Gardening," Mr. H. Dunkin, The Gardens, Warwick Castle. March 16.—"The Cultivation of Pears in Edgbaston," F. M. Mole, Esq., Westfield Road, Edgbaston. March 30.—"Spring Flowers," E. J. Baillie, Esq. (Messrs. Dicksons, Chester). And presentation of Silver Medal from *Journal of Horticulture*.

ALGERIA.—The Botanical Society of France will organise this year a session in Algeria of a week's duration. The oasis of Biskra, the Cedar forest of the Atlas, and other interesting localities will be visited, while Oran or Tunis can be visited on the return journey. Happy fellows of the Botanical Society of France!

COSTLY ONION SEED.—We learn that recently a well-known Onion trader paid no less than 70s. for an ounce of Ailsa Craig Onion seed, saved by a private grower, from a first-rate stock, though the quantity of bulbs planted should have produced fully a pound weight of seed. The fact serves to illustrate at once the smallness of the Onion seed crop of the past year, and also the great value set upon a choice stock of a new variety, when an adverse season in not a few cases nearly destroys the seed crop altogether. Onions are peculiarly liable to injury from heavy rains and continuous damp weather, even apart from what they are liable to from mildew. Rains both destroy fertility of bloom, and later, rot or decay the stems of the seed-vessels, hence the injury done to a seed crop is often wholesale. Growers must expect to pay a good price for comparatively old Onion seed, and must sow thinly and carefully.

STRAWBERRY CULTURE IN CORNWALL.—The serious question of retaining the population in rural districts has, to a certain extent, been satisfactorily solved in Cornwall. In the fruit-growing districts of St. Dominick the industry of basket-making, in connection with Strawberry culture, has developed to a gratifying degree. Thirty years ago the reputation of Cornish Strawberries had not crossed local bounds; now they are grown extensively for the London and other markets. About 100 acres are devoted to Strawberry culture in the parishes of St. Dominick and Calstock, and it may be computed, says the *Western Morning News*, that 10,000 boxes and 500,000 punnets are required for the marketing of the crop. Fifty baskets are packed into a box, and the fruit is well protected from injury. In addition to local requirements, Mr. J. W. HAWAY, of Bouthwey, St. Dominick, has contracted to supply, for the coming season, 15,000 gross of baskets for Scotland. Women

and children are employed in making punnets during winter, and picking fruit in summer.

JAPANESE BULBS.—The exportation of Lily bulbs from Japan in August last (we cite from the *Journal of the Japanese Horticultural Society*) amounted to 2,992,720, and in September to 7,587,760. Of other plants and shrubs the numbers were—August, 284,570; September, 232,100. The imports of plants (not bulbs) for the same period was larger.

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.—It was proposed that Mr. THOMAS MEEHAN should be the President of this body in the room of Dr. LEIDY; but Mr. MEEHAN has declined the nomination on the ground of want of time. Those who know Mr. MEEHAN know that this is no empty excuse, and feel that the Academy, which owes so much to Mr. MEEHAN's energy, could hardly have done otherwise. Mr. MEEHAN remains a Vice-President.

CATTLEYA LABIATA AND THE ORPHAN FUND.—By the sale of a specimen plant of *Cattleya labiata*, and to which we referred last week, the Gardeners' Orphan Fund has benefited to the extent of £50. Mr. SANDER, the importer and vendor instructed the auctioneers, Messrs. PROTHEROE & MORRIS, to send the proceeds of the plant to the Fund without any deduction; the auctioneers on their part sold the plant without charging commission, and the sale was gratuitously advertised in the gardening papers. The plant was an enormous specimen, with 250 bulbs.

A CAUTION.—A correspondent from Barnstaple says that a man is calling on the gardeners in that neighbourhood representing himself as being sent by the Royal Horticultural Society to gardeners to invite them to take a book on fruit-growing in quarterly parts at two shillings per month, the taking of which would ensure the recipients becoming Fellows of the Royal Horticultural Society. The canvasser does not take the money but only the order for the book. On enquiry at the Royal Horticultural Society, our correspondent learns that there is no truth in the statement, the correctness of which has been further promptly arraigned by the secretary in a letter to ourselves.

THE ROSARIANS' YEAR-BOOK.—The "Year-book" for the present year opens with a portrait of Mr. T. W. GIRDLESTONE, accompanied by a sympathetic notice by the editor, the Rev. H. H. D'OMBRAIN. The remaining articles are of the usual type, that of Lord PENZANCE on "Hybridisation" affording more novelty; but even that has been discounted by a previous article in the Report of the Rose Congress. Much of the book is taken up with the discussion of the grievances of those who only grow a small number of Roses, and who are consequently at a disadvantage in competing with the masters of big battalions; but they are not obliged to enter into competition unless they please, and the object after all is the improvement of the Rose, not the glorification of the exhibitor, however innocent that may be. Mr. MAWLEY's Meteorological report gives permanent value to a pleasant little annual. That, up to August last year, there should have been 31 hours more sunshine in the Rose year than the average, will surprise those who have dismal recollections of the wet, cheerless summer; nevertheless, the fact was noted at the time.

WHAT IS THE VALUE OF A TREE?—This question, with one or two others connected therewith, has been settled by the Queen's Bench Division for the special benefit of the London and North-Western Railway Company. A gentleman residing in Adelaide Road, Haverstock Hill, near the company's line, and hard by the Chalk Farm tunnel, had two Poplars in his garden, which shielded him from the smoke and deadened the noise of passing trains. These the company desired to remove, because somehow they interfered with the traffic. The owner was willing to lop off branches that were in the way, but, as a screen against the sulphurous emanations, he

desired to retain the Poplars. Negotiations failing the company sent their own men, felled the trees, and then paid £50 into court. Later they increased this sum to £100. Suburban residents who dwell near the ironways of all-powerful railway companies may be glad to learn that the Court assessed the value of the trees at three times this amount, and gave damages for £200 in addition to the sum paid into Court.

AN EMERALD-GREEN CARNATION.—Yes! but artificially produced. This flower is quite fashionable just now in Paris for button-holes and dress ornaments; and by the kindness of Geo. C. RAPHAËL, Esq., we have been enabled to inspect a specimen. The variety used for the treatment is an ordinary white *Carnation*, as the uncoloured just-expanding buds, which have not taken up the chemical employed to produce the green colour, prove. The expanded flowers are white at the base, but the blades of the petals are more or less flaked with that peculiar green tint so much admired in *Ixia viridiflora*. Doubtless some persons might take it for a natural production, but at best it is a very artificial-looking piece of nature.

THE ROYAL DUTCH HORTICULTURAL SOCIETY proposes to organise an international Chrysanthemum exhibition, to be held in November at Amsterdam.

PROFESSOR HUGO DE VRIES.—We learn with pleasure from *Semperparans*, a Dutch gardening periodical, that the Deutsche Botanische Gesellschaft has nominated Professor HUGO DE VRIES, at Amsterdam, to be member of honour. Since 1886 Professor HUGO DE VRIES was corresponding member of that Society.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The seventh ordinary meeting of this Society was held on the 7th inst., Mr. A. HESLOR in the chair. An interesting paper was read by Mr. HARWOOD on "British Ferns," several members joining in the discussion which followed. At the close of his paper, the essayist offered, on behalf of a friend, a prize of six Ferns for the best essay on any subject to be named by the committee. The treasurer announced the receipt of a cheque, value £10 10s., from the president of the society, an intimation which was received with applause. It is intended to hold a grand concert and ball under the auspices of the society on the 24th of February.

HORTICULTURAL MEETING AT GHENT ON JANUARY 10.—In spite of the frost, fifteen exhibits were staged. For each of the following a Certificate of Merit was awarded:—*Odontoglossum Wilkeanum* var. (by acclamation), to M. G. VINCKE-DIJAARDIN—a splendid variety, the flowers nearly yellow, and much spotted with brown. *Odontoglossum Alexandræ* Madame la Baronne Ruzette (Certificates unanimously awarded)—a very beautiful variety, flowers rounded, perfect in form, regularly marked with large brownish-red spots. *Cypripedium Niobe*, to the same (unanimously awarded), now flowering for the first time in Belgium; and a very distinct and good hybrid of *C. Syccarianum*, from which it was raised. The standard is much veined with lilac of a shade unusual in Orchids; it is still more enhanced by the deeply-tinted petals. *Vriesia cardinalis* (V. brachystachys × V. Krameri)—a most remarkable novelty, raised by M. DUVAL, of Versailles, and staged by M. ADG. VAN GELT; the flowering season lasts for two or three months. *Lælia anceps* var., to M. DELANGHE-VERVAENE—a deeply-coloured and most interesting variety. *Lamprocoelus Wielhachii* Ledeb., to M. FOKKMAN-MAENHOOT—a pretty Bromeliad, with deep brown foliage and violet flowers, darker than those of the type. Honourable Mention was awarded to MM. DRIEZE FRÈRES, for a well-cultivated *Perla Rex*, in full vigour.

THE BERLIN BOTANIC GARDEN.—Dr. URBAN has published an account of the Royal Botanic Garden, and of the Botanical Museum of that city, drawn up on the occasion of the uncovering

of the bust of the late Professor EICHLER. It contains a summary of the history, and of the contents of the Institutions in question, from which we learn, among other things, that the Fern Herbarium of the late THOMAS MOORE has been presented to Berlin by the Kew authorities.

MISTLETO.—Up till quite recently it has been assumed that the growth of the Mistletoe was necessarily prejudicial to the tree upon which it grows. With the discovery of "symbiosis," or that arrangement whereby two plants live in intimate association one with the other without injury to either, but perhaps with reciprocal advantage—a different view has been taken and an Apple tree is supposed to be advantageous to the Mistletoe growing on it in summer, while in winter the Evergreen Viscum supplies the deficiency which the Apple experiences by the loss of its leaves. M. GASTON BONNIER has been putting the matter to the proof by estimating comparatively, the changes which occur in the composition of the two plants and of the atmosphere during growth. For half the year it is found that the Mistletoe assimilates food by its green leaves for the denuded Apple tree. We cannot give the details of M. BONNIER'S experiments, but it is sufficient to say that they completely bear out the idea of perfect "symbiosis," or mutual adaptation, and that save by mechanical obstruction, the Mistletoe does no harm to the tree on which it is growing.

TUNBRIDGE WELLS GARDENERS' ASSOCIATION.—On Tuesday evening, the 19th inst., a meeting of this society was held at the Friendly Societies' Hall, Tunbridge Wells, when Mr. B. H. RICHARDSON occupied the chair. The subject of starting the proposed scheme for a Central Delegate or Syndicate Organisation of Gardeners' Societies for the South of England was introduced, and several members present took a lively interest in the various matters which an united body by a combination of effort could deal with for the benefit of those whose business was the study of horticulture and market gardening. The secretary, Mr. D. G. CORNWELL, confirmed the opinions expressed by previous speakers as to the variety of useful work such an organisation, if taken up heartily by the societies generally, would be capable of carrying out. The entire success would rest in the hands of the Societies and their members. In Belgium and the United States it was of great usefulness and benefit, and having been tried and found so there, there was no reason why this country should not reap some useful and lasting benefit from such a body. It was eventually proposed by Mr. L. DUPOND, and seconded by Mr. WANE, "That the Tunbridge Wells Society do start the Central Delegate Organisation, and that the committee make any necessary arrangements to carry out the suggestion." It was proposed by Mr. DONOVAN, and seconded by Mr. CHITTY, "That a subscription fund be opened to entertain the delegates free of expense on their first visit to Tunbridge Wells."

HOME CORRESPONDENCE.

TECHNICAL EDUCATION IN HORTICULTURE.—It seems to many of us that if Mr. Thibault-Dyer had carefully pondered over the Technical Instruction Act of 1889, he would hardly have disparaged the utility or usefulness of teaching horticulture to a very considerable extent, at least, through lectures and demonstrations. In that Act, technical instruction is defined "as instruction in the science and art applicable to industries, and the application of special branches of science and art to specific industries and employments." The expression "manual instruction," defined as instruction in the use of tools, processes of agriculture, and modelling in clay, wood, or other material, is, in other and yet briefer words, as I have described it elsewhere, any or all teaching that makes the hand more skilful and the head more wise. The sciences and arts bearing upon horticulture or agriculture include almost the entire circle of both, and one of the chief things needed throughout the wide fields of British industry is

greater skill in the use of tools, the prevention of the waste of force, and the cheapening and increase of production. To say that such objects can be better taught in schools or by means of secondary education than by competent lectures, which link together the lessons of science and the most experienced instruction in the use of tools in garden and field within sight and touch of the living plants, is at variance with all that is known of the history and progress of gardening. Each botanic or other public garden, our best nurseries, and private gardens have all formed more or less successful class-rooms for the teaching of technical education. The amount of educational and other work done in and through them has been in the exact ratio of the amount of thought put into them, and the measure of skill in the use of tools they exhibited. Now, in order to hold our own in the first rank among the industries of the world, it is of the most vital concern to us that our heads and hands alike should be made stronger through fresh accessions of wisdom and skill. And possibly no better means will be found to promote such desirable objects than the teaching of technical education through itinerant lecturers under the auspices of the County Councils. No doubt the science and practice of horticulture and agriculture ought to be taught in all our [rural] schools, primary, secondary, higher schools, and colleges. But that concerns the future farmers, gardeners, mechanics, labourers, and professional men in the rural districts rather than the present generation, who cannot well go to the day, evening, or other schools or colleges over again to learn the science or practice of replenishing the earth and subduing it on the easiest and most profitable methods. Hence the simplest and easiest methods of reaching our contemporaries of to-day is by means of the lectureships that are being arranged through the County Councils. It is to be hoped that this new departure in technical education will prove a source of pleasure and profit to very many in the country. How comparatively few of those outside our larger gardens have ever received any outside instruction in horticulture. The few specialists among them will, as a rule, rather do things for their neighbours than show the latter how to do them for themselves. In this respect County Council lectures and lecturers will prove the missing-link to bring the pleasures and profits of horticulture within reach of all. It is astonishing how very little is generally known of the many sciences upon which the successful cultivation of the earth rests. And as for skill in the use of tools, how few labourers have yet learned the mechanical rules and skilful application of the same that will ensure the greatest amount of work with the least expenditure of energy from such common tools as the spade, fork, knife, axe, pick, &c., while the ignorance is yet more profound as to the tending earth and the structure and resources of the living plants that constitute between them at once his factory and his machinery in motion, that mould the character and profits of his products. If knowledge is power in horticulture as in all other industries—and it is even more so than in most—no one who knows of its present state among large masses of the people can doubt that every advance of knowledge through technical lectures or otherwise, will add to the wealth and happiness of the nation. I heard my latest about technical instruction in a charming garden at Bishop's Stortford, where Grapes of rich black and gold, enormous Chrysanthemums, and a houseful of bridal-like Eucharis took the prize for perfection. The rise of these Eucharis from the verge of ruin to the present state, proved the subject of the ablest and most vivid exposition of ways and means adopted to raise them from the verge of death that I have ever listened to. Unless the grower of these plants can be persuaded to send you an account in full, I shall be compelled to give you the substance of his lecture to vindicate my eulogism. But to those most conversant with the sayings and doings of our best gardeners, crowded memories prove, were proof needed, that practice and preaching—that is, technical education—have always and everywhere gone hand in hand in the teaching and advancement of horticulture. D. T. Fish, Westgate Street, Bury St. Edmunds.

—Whatever may be the nature of the technical education work taken in hand by some county councils, I can, at least, vouch for the county council of Surrey that it is trying to do a good work. In the best possible way I have the pleasure, under Mr. J. Wright, to be engaged in giving horticultural lectures in diverse and

chiefly rural portions of the county, and can hear warm personal testimony to the exceeding interest shown in the course by the respective audiences. We find everywhere the local elementary schools placed at our disposal, and in each parish, or group of parishes, there is a local secretary (lady or gentleman) who makes all the needful arrangements in conjunction with the county council technical education secretary. Thus when the lecturers arrive on the scene at the appointed hour the rooms are ready and lighted, also well warmed, and the auditors ready, or very quickly so. These consist chiefly of local artisans, cottagers, small farmers, a few small gardeners, and some youths. The gatherings range from twenty or so up to fifty. Just recently the plague influenza has kept many of the earlier attendants at the lectures away. The lecture generally occupies one hour and a quarter. We have no chairmen happily, but can dash at once into the subject. An ordinary black-board easel answers admirably to elevate and expose the diagrams which we usually have for each lecture, from six to nine of large size mounted on rollers, and illustrating all sorts of subjects in gardening in a way that attracts the keenest attention. These to the number of about eighty, Mr. Wright has obtained at considerable outlay. The lecture subjects, to give variety, usually comprise two or three the same evening. The course comprises twelve in all, and are partly written, partly oral. The diagrams constitute splendid texts on which to dilate. I have mentioned so much just to show amidst all the talk of what should be done, what is in a quiet unostentatious way being already done. Richmond.

—Where are we now? I am a little confused in my ideas of English gardening and gardeners, after reading all that has lately been written about them. I had thought that English gardening was the best in the world; that English gardeners were first, and the rest nowhere. They could grow the best of fruit, of vegetables, of flowers, and could make the best of gardens; in short, that they knew the trick, thus application, better than any. It had seemed to me also that the English-trained gardener was in demand all the world over, wherever good gardening was wanted. Even the "superior" foreign gardener came to England to learn the art—to catch the trick. If the "prophets" are right, then I have been utterly and ridiculously wrong. They declare that in general knowledge and intelligence we are much inferior to [some of] the "foreigners," and that, all things considered, we are worse gardeners than our fathers were. The English gardener is "played out." Well, boys, that is a serious state of matters! County Councils have rushed to appoint a number of "Professors" of garden technology to go out into the country and teach the uninitiated how to realise Mr. Gladstone's dream of England for the English in regard to fruit. I do know a few growers of good fruit and vegetables in the country who could, or would try to, teach Mr. Gladstone better. And the Royal Horticultural Society, or that section of it called the Council, has committed itself to a scheme which is to turn out men of the superior character required for £45 a year, bar clothing. The kind of training you and I have had is not the right kind. We have too much potting-bench and spade-knowledge, and too little of what is called "Technology," which appears to be something taught by magic-lanterns and "Professors." I repeat, where are we now? The nurserymen will tell you that they never had so many good men on their books as now. The advertising pages of the gardening papers will show you what a host of men there are begging for situations. Employers themselves know something about it, too, for they can hire gardening skill much cheaper than for any other kind of skilled labour. But the complaint is, that the gardener to-day is not worthy of his hire. Let me here state a case—fact, every word of it. A few weeks ago a wealthy gentleman applied for a head gardener for his indoor department. He would be required to force Grapes, Peaches, Strawberries, Figs, vegetables; to look after the Orchids, and stove and greenhouse plants. A man was found, a good one, and he was accepted subject to terms. The gentleman had been informed that 18s. per week, with rooms, was what he ought to pay. The man thought his ten years' experience in noblemen's gardens was worth a labourer's wage; at any rate, so he asked 20s. The gentleman did not reply to his letter! I believe there are a hundred competent men, at least, who would have taken

that place at £1 a week. What is a gardener? In the name of common sense, let us look at the matter straight. Is it not the fact that for one gardener who is paid £2 per week there are twenty who do not reach that figure? What do you want for 30s.? The "prophets" write as if every man Jack of us could be as successful as Paxton if we were not such dolts. One prophet says he wants "plan-drawing, botany, and elementary Latin;" another says, "Every gardener should qualify for a directorship or an estate manager." Do you want men who know how to grow fruit, vegetables, and flowers? Give me an order for a thousand, and I will find them in a month, all natives too! But I cannot guarantee the elementary Latin and botany. (Oh, Mr. Cannell, Mr. Low, Mr. Williams, Mr. Waterer, Mr. Noble, all you successful ones! what do you think of all this? The poor down-trodden gardener of England; badly paid, treated like a groom, forbidden to marry, how comes it that you have managed to beat the world in your own particular line? Wake up now, and get off to school again, for the prophets have declared that, as you lack polish, you don't know Latin, and haven't digested Sachs, you are not worth your 30s. a week. In the expressive, if not polished, language of the potting-shed, I say to the "prophets," "Look here, just you draw it mild." W.

— At the present time, when the subject of improving the education of gardeners by means of influences outside of the garden is being discussed, I take the liberty of making a suggestion as to a method whereby head gardeners and others who have charge of men might, without any great trouble to themselves, assist them to obtain much valuable information on gardening matters. I have practised the following system for some years, with very marked and satisfactory results to the young men and boys under my charge. My procedure is as follows:—At the beginning of winter, I provide each individual with a note book, in which I write out every week two or three questions on subjects connected with gardening or nursery work. The questions are varied to suit the degree of intelligence and knowledge of each individual. I issue the note-books every Monday, and they are returned to me for correction on the following Saturday; but a longer interval might be given if thought more convenient. I need not here attempt to give a series of questions, as every gardener who might care to try the experiment can easily supply hundreds from the multifarious items which go to make the sum total of his year's work. If once young men can be started to look up the information needed to enable them to answer in a satisfactory manner such a series of questions as I have indicated, they will usually be found taking a greatly increased interest in their duties. Another plan for assisting young gardeners to obtain a hold of their profession is, the practice of keeping a diary in which to note down the daily work. I do not know of any habit which a young man can form which will tend to give him more quickly a grasp of his work; and, moreover, a well-kept diary is of great service to a man when responsibility is thrown on him. A diary suitable for this purpose can be purchased for about 1s. 6d. If a gardener would try and induce his young men to begin such a practice at the commencement of the year, and give them some advice and encouragement, I am confident that much benefit would accrue to both parties. The majority of gardeners are by reason of their living in more or less isolated country districts, barred from sharing in many of the advantages in the way of night classes, which are open to workmen dwelling in cities. They have considerable time on their hands in the evenings during the winter months, and if gardeners can do anything to direct their men's studies they will be assisting materially to help forward the movement which is at present being made to give gardeners a more thorough knowledge of their profession. We all hope to see soon a central horticultural college, where young men can enter for a time and receive a special course of training; but, meanwhile, much might be done in the cause of progress by gardeners themselves working along some such lines as I have indicated. *James Wilson, Jun., Greenisle Nursery, St. Andrews.*

WATERING COKE BEFORE USE.—Advice is sought at p. 89 of the *Gardeners' Chronicle* by "A. Stoker" on the subject of watering coke, &c., and to each of his enquiries I venture my experience as a practical horticulturist. Reverting to his 1st question, "Why

should coke be watered before firing?" it is, in my opinion, not easy to say "Why" though it is assumed by some to be productive of a fiercer heat in consequence. Water, however, is generally supposed to damp the ardour of any fire, and I for one incline to the belief that adding water to fuel is an absurd practice, if it be thought that greater heat from the coke be forthcoming as a result. Anyone who believes in the watering of coke may easily add to his experience by watching the state of his boiler soon after the fire is made up, and further by noting the output from the chimney. A saddle boiler in all cases where watered coke is used, will be seen to be thickly wrapt in condensed moisture, and this in spite of the great heat, more or less, that is therein enclosed. All such moisture has only one chance for escape, and that by the chimney, and considering that before it reaches this point it has to pass through several flues, it seems obvious that so much heat must be uselessly employed in first ridding the coke of this water before the boiler can resume its work. Water, of course, does get upon coke at some seasons through heavy rains and by being exposed, and it is surprising how great an amount of moisture it will thus absorb. It is, however, always a matter for regret to me to see steam instead of smoke or the usual fumes issue from the chimney, for then I feel that for the moment the heating power is contending against an opposition which as far as possible should be studiously avoided. Dry fuel is assuredly the most readily ignited, and if so it follows also that it must be quicker in its action upon the boiler, and the reverse where wet fuel is employed. Purposely watering coke is, therefore, to my mind, unreasonable. 2. What fuel suitable for hothouse furnaces is best, say for a saddle boiler? Weight for weight, which fuel gives out most heat? Is it coal, or coke, or wood?—Replying to this chain of questions in its given order, and for the boiler indicated, I unhesitatingly say anthracite coal is the most suitable of all fuels, and taken "weight for weight" the cheapest also. There are, however, divers adverse opinions on this point, and my apparently sweeping assertion may possibly need qualifying. In the first place, there are those who, without having given this coal a trial, have a prejudice against its use, but their opinion would count for but little; secondly, this kind of coal requires that the stoker should have an interest in making it a success also (at least that has been my experience), before the ordinary stoker becomes impressed with how best to manage it, and it is on the discovery of its management that many men, dependent on their stokers, condemn what, with proper treatment, I regard as the best fuel for horticultural purposes. Of course, there are varying qualities of this, as well as other kinds of coal; but a few trials of this coal from various sources will speedily tell its own tale, and these should always be made before large supplies are obtained. The chief points necessary for success in burning this fuel are (1), a quick draught, best secured by a good high stack, because then the damper need not be much open to obtain the necessary current of air, whereas with an ordinary chimney-stack, the damper needs to be more fully open, and loss of heat is thereby sustained; (2) a stoker is required who will refrain from poking his fire each time he goes near it; indeed, when this is done, the fire quickly turns dead, and there is an excessive loss of the fuel itself, as witness the ash-pit after the operation. Starting with clear fire-bars, the fire-box should be well filled, and then left to do its work. Give plenty of draught in severe weather, till a glow of heat is obtained; then lessen the draught by the damper and the ash-pit door, the preciseness of fit of which will best regulate the draught. Anthracite coal is practically smokeless (i.e., the good veins), therefore a decided advantage lies in this—it is all but devoid of those choking sulphurous fumes so prevalent with coke; while of clinkers or waste, with good management, there is practically entire absence. It is naturally a fuel of slow combustion, being regular and uniform, as well as reliable in its heating, requiring only a minimum of labour in stoking, compared with coke. It invariably does best where the heating apparatus is not enclosed in a shed, but is merely roofed over, or even in the open, with the air playing upon the boiler.

As proof of its lasting powers, I may quote from my diary of last year the results of a series of tests to which I subjected this coal. I had myself often conducted similar tests, but on the occasion to which I am about to refer, my chief motive was to demonstrate to my stoker how unnecessary it was

for him to be visiting his fire (and, I believe, with a desire to poke it) a dozen or so times during the day. Given a temperature to maintain in several houses, the fire was made of anthracite coal at 5.30 P.M. on March 18, and not again disturbed till 2.30 P.M. on March 19, being a total of twenty-one hours; the following is my entry *apropos*:—"Fire of anthracite coal made up at 5.30 P.M. yesterday, lasted till 2.30 P.M. to-day, maintaining a splendid heat throughout. Weather cold, a little snow fell; wind keen from N.E. all day." I continued the trial next day, and my diary runs, "Another trial anthracite coal, and same results; weather bitterly cold, a little snow fell." In each case the actual duration may have been much extended, and in milder weather most certainly so. The result of this experiment proved to my stoker the utility of one fire, and letting it alone to do its work; and afterwards I had but little trouble in this direction. Anthracite is suited to either saddle or tubular boilers. I have no experience in "wood" as a fuel for horticultural uses, and should imagine it to be more expensive, and far less reliable than either coke or coal, and costing considerably more for labour in the requisite attention. These, however, are mere speculations. "Is anthracite better than common coal?" Most certainly! Because it is smokeless, whereas common coal quickly chokes the boiler flues and the chimney, smothers the glass with black and soot, and also any flowering plants the moment the ventilators are open; it is also less durable. I would only countenance common coal for Cucumber growing, or the like, and where brick flues existed, and close proximity to coal pits rendered it very cheap; but where it is desired to grow flowers, "common coal" is the least desirable of all. I have used it in quantity, but the price of the ton, which at the time I allude to was about 4s. 6d. at station, was its only recommendation in my mind. *Ed. Jenkins, Hampton Hill.*

CRACKS AND SPOTS ON PEARS.—In reading "Will Taylor's" remark (p. 84, in last week's number of the *Gardeners' Chronicle*, I am reminded of the old story of the blight coming in the east wind; and I would remind him that it is a fungus that attacks the fruit in its early stage which is the cause of the spots and cracks in the Pears, and not the ungenial subsoil. *Man of Kent.*

THE MULBERRY.—In "R. D.'s" interesting article on the Mulberry (p. 41), one or two interesting items are omitted. One of these is the extreme brittleness of its wood, so often leading to the sudden and complete wreckage of the trees at all seasons of the year, especially in the summer. No doubt this is in part caused by the extreme density and size of the leaves, and the weight of the fruit. Thus heavily burdened, the trees are not seldom rent asunder in full growth in calm weather, while heavy rains and storms of wind add to the wreck and ruin of large Mulberry trees. But the wood is so specially brittle and prone to shiver off from the trunk or boughs, that Mulberry trees are prone to be wrecked even in winter. Hence the practice of binding their main limbs together with iron rods. But these, unless carefully attended to, are prone to cut into the wood, and add to the risks of breakage. The general mode of training Mulberry trees as dwarf standards with the lower limbs, leaving the trees at right angles with the main bole, favours this constitutional tendency to sudden and severe breakdowns. By starting the main limbs at a sharper angle with the bole, they would be more likely to resist accidental disfigurement and premature destruction. Most cultivators who have grown or noted the peculiarities of the growth of Mulberries will probably confirm "R. D.'s" observations about the rooting of fallen branches if allowed to lie where they fell. This interesting fact has led to their propagation by treechons. These are branches that may range from 6 to 9 feet long, firmly inserted 1 foot or more in the soil in the early autumn. Any branch will root, but the roughest and most gnarled branches will root the readiest, always excepting any that may have been partially severed off the trees with a heel or cut into with binding irons, which root most readily. Treechons of medium sized well-ripened fruitful wood form the most fertile and useful trees. The standard form of Mulberries also seems more fertile than dwarfs. The more old trees one is privileged to see the more deeply the conviction grows that the older Mulberries are the more fertile, and bear the finer and richer fruit. The rise, decline, and fall of Mulberry culture in England proves how little can be done after all by royal patronage.

James I. had a craze about silk culture in England, and, it is said, was instrumental in planting 100,000 Mulberry trees mainly in the Midland and Eastern Counties in the year 1609. And it is supposed that some of our ragged or ruined veterans may be survivors of some of that profuse invasion of French Mulberries and planters. F.

WILLOW-GROWING FOR UNDERWOOD.—Not only in Ireland, but in many places in England, a good deal of money is lost which could be avoided if those that have the charge of the planting of new and the renovating of old woods would introduce Willows as underwood in the low-lying places and boggy spots to be found in most land set apart for timber. The planting is cheaply done if sets or "pitchers" are obtainable on the ground, and there is no hole-digging required. Of course, as Mr. Hewitt says in the *Gardeners' Chronicle* of the 9th inst., trenching the ground is expensive, but it is necessary to pay in the end, although it is not absolutely necessary if the ground be drained by ditches. It is the custom to fill up wet bottoms where Hazel would not grow with Alder, but this does not enhance the value of the underwood so much as Willow would do. I have found this out by the spirited bidding at our annual sales of underwood, and the frequent applications I have for a bit of Willow underwood. Willow is so useful for many different things, supplying the place of Hazel in many instances, and the smaller growth is used up to the utmost twig by the basket-maker, and very little of it finds its way to the fire-place. Those which I find to do best in this district and sell well are the Huntington, common grey, and goat or sailer Willow. One of the tenants on this estate recently sold a hedge of grey Willow in a very damp situation for £110s. for ten chains, and I could further illustrate a case where about 7 acres of boggy land—quite useless to the farmer at any price—was taken over by the landlord, and has been planted with Osiers, and let to a basket manufacturer for the respectable sum of £30 per annum, the tenant maintaining the plantation in good order. It should always be borne in mind that Willows, although water-loving plants, do not thrive unless the water drains away periodically. J. Garbett, Hale Park, Hants.

APPLES.—With so much talk about the culture of hardy fruit for public consumption, and to meet the American Apple competition, with our shops filled almost exclusively with imported Apples, it seems to be just now a capital time for the Council of the Royal Horticultural Society to do something in the direction of enlightening public opinion as to the respective merits of home-grown and American Apples. The public just now have practically no choice—no opportunity of choice. They can only purchase the one in imported Apple and home-grown fruits are not in evidence. Can it be that, in spite of the immense crop gathered in last autumn, all is sold, and consumed, or is it the case that there are plenty of Apples yet at home, but which have no chance of sale in the market when the Americans come in? In the one case, then, ample evidence is furnished that we do not, after all, grow half enough Apples for home consumption, even when we have a good crop. If the other case be the correct one, then either our late crop is too inferior in quality and appearance, or else it is very badly treated in the market. In any case it does seem that this is just how matters stand, and I think the Royal Horticultural Society may well devote some attention to the solution of the problems raised. The first thing I advise is, that just now, when the American Apples are in the very height of importation, samples of each kind in the market be purchased, so far as possible correctly named, and submitted for examination and taste to the Fruit Committee at their next meeting. At the same time let examples of home-grown Apples that have kept well, and are esteemed to be good either for dessert or culinary purposes, be invited, also with leave for the committee to examine and taste them. Specially let varieties which show nice colour be sent, as the Americans find one-half their market value in colour. The committee could then draw up a report of the relative domestic values of these imported and home-raised samples, and point out to the public which of home-grown sorts (if any) were the best. I can hardly be doubted but that the Press would give such report the fullest publicity. A. D.

TREATMENT OF THE GRAPE VINE.—May I ask if any of your correspondents have advocated anything similar to the following system? It is not mentioned in any of the works on Vines that I have

read, nor have I seen it practised. I may say the idea occurred to me several years ago, but I have not had an opportunity of testing its value fully. I have tried it on weak Vines carrying a heavy crop, with good results. Suppose a Vine on the spur system has made six or eight leaves, and is forming eyes in the axils for next season, and the shoot has been pinched, say two eyes, beyond the bunch. Take a sharp knife, and carefully cut out all the eyes except the end one, and the two best at the base of the shoot. All the shoots on the Vine should be treated the same, thus causing a concentration of energy to the eyes that will bear fruit the following season. F. R.

CANADIAN APPLES.—Kindly permit me to correct a slight error in your report of the proceedings of the Fruit Committee of the 12th inst. I am in that report represented as having staged a dish of home-grown King of Tomkin's County Apple. These were really placed on the table by Mr. G. Bunyard, who kindly permitted his excellent sample to be tasted by the committee, with the purchased Canadian sample of the same variety which I had presented for the judgment of the committee. Mr. Bunyard's samples, nearly all grown under glass, were not finer than those which I had purchased at 2d. per lb., and were less rounded in form; but on being tasted were much more crisp and juicy, and better flavoured. It would have been more satisfactory could we have had samples from home-grown ordinary outdoor trees. Further than King of Tomkin's County, I also had samples of Ben Davis, and a very handsome and beautifully coloured variety of considerable bristleness and excellence, both of which were of Canadian growth, and purchased at 2d. per lb., sent to test against English varieties. Mr. Bunyard had a very fine collection of nursery-grown fruits at the Drill Hall, but I doubt whether a bushel of any one of all the sorts shown so well could be purchased in the country of equal sample. Could we but have such fine Apples of home growth in quantity, Canadians would not be "in it" with the public. Here we have had a splendid Apple crop at home, and yet the Canadian importations seem to be greater than ever. That shows how enormous now is the demand for good Apples. A. Dean.

RETRIBUTION ON ROBBER RODENTS.—Having recently heard from a leading firm at Haarlem that they were shortly expected to receive from either New Zealand or Tasmania (I forget which) an importation of some handsome forms of Liliaceæ, known under the name of Blandfordia, which are by no means as widely cultivated or as well known in this country as their beauty and easiness of culture entitle them to be, I was this morning sorry to hear that on the case being opened, its only contents were found to be some empty husks and stem-branches, and the dead bodies of twelve mice, who had evidently made their way into the case while on board the ship, and, having feasted on its contents, were poisoned by the fruits of their robbery, which proved to them, at all events, a most undoubted Barmecide feast. W. E. Gambelton.

A HAPPY COMBINATION OF PLANTS.—One of the most effective edgings to a shrubbery border that I have observed was made with a line of Funkia Sieboldii and Campanula carpatia—turbinate, both being hardy plants. The deep purple of the Campanula contrasted admirably with the ashen-grey or glaucous leaves of the Funkia, so as to compel admiration. Where the soil is good this species of Funkia grows large, and plenty of space must be allowed, or its handsome foliage will be crowded, when the effect is rather spoiled. The line of Campanula plants should not be less than one foot in width to have a good effect. E. M.

TOM THUMB DAHLIAS.—If I do not, like "Pioneer," think much of the new race of Tom Thumb single Dahlias, it is because one so naturally looks for boldness, breadth, and effectiveness from all Dahlias plants. Tiny forms, about 15 inches in height, are hardly likely to attract attention when employed to decorate a garden, and they have no value used in any other way. It may be pleaded that such very dwarf varieties can be grown in pots; but then, we can grow during the season when Dahlias will grow and flower with us, far showier plants in pots than Dahlias are—and, still further, they are plants which will always do better in the open ground than in pots. The best dwarf strain I have seen was one growing 2 feet in height, and blooming with wonderful profuseness. The best of

the strain Scarlet Bedder produced brilliant scarlet flowers, of fine form, in such abundance that a big mass of the variety produced almost a remarkable effect. The strain included white, yellow, maroon, lilac, &c., and therefore had in it all the elements of variety. That presented a capital as well as a most useful improvement upon the altogether too-tall older strains of single Dahlias, many plants of these running fully 6 feet in height. When grown quite in the open ground, the bedding strain needed no sticks to support the plants, they were so stout and sturdy. That is a great gain, whilst the tall varieties not only need plenty of supporting, but are most liable to injury from rough winds, if ever so carefully tied. If these latter be too tall, the Tom Thumbs are too short, and thus it would seem as if a strain of Dahlias about 2 feet in height hit the happy medium. We have been getting all sections of Dahlias dwarfer for some time, but we really do not want any more of mere Liliptians. A.

COOKS AND GARDENERS.—The reference at p. 80 to what I said at the close of the discussion on Mr. Iggluden's paper, read at the Drill Hall on the 12th inst., does not clearly convey my views. Whilst I do express the opinion that Mr. Iggluden, in his general indictment of cooks, had maintained that Potatoes, amongst other vegetables, were seldom sent to an employer's table properly cooked, therefore much that had been written about the indifferent quality of many varieties of Potatoes was evidently more due to bad cooking than to inherent defects in the tubers. I said more, because I suggested, that inasmuch as a well-known vegetable gardener had thus publicly formulated so grave an indictment against cooks, the Royal Horticultural Society should, in common fairness, allow the cooks, or at least a representative of that useful body of persons, an opportunity to reply as publicly, and vindicate the cooks from the charge of incapacity in relation to the serving up of vegetables. I am satisfied the announcement that some eminent chef would, at the Drill Hall, strive to exculpate his profession from Mr. Iggluden's charge, would create immense interest. It may be that Mr. Iggluden is amply justified in this assertion. I do not profess to know. Perhaps he would find plenty of supporters amongst the gardeners of the United Kingdom. In any case, whosoever may be right, we ought not only to give both sides a fair hearing, but out of the discussion find means whereby faults on both sides, if there be such, may be amended. Whichever may be wrong, of course employer and consumer are the chief sufferers. Still, every gardener feels that he suffers if his products are badly served, whilst the cook thinks that he or she is as badly treated if the gardener sends him or her inferior products. A. Dean.

THE MULBERRY AS A WEATHER GAUGE.—For fifty years an experienced gardener with whom I have been personally acquainted always took the leafing of the Mulberry as a guide to planting out his bedding plants, and he never lost any of his plants from frost. G. Taber.

LIST OF GARDENING PERIODICALS, &c.

IN ENGLAND.

- 1787—Botanical Magazine. Monthly. Editor, Sir J. D. Hooker, F.R.S. (L. Reeve & Co.)
- 1804—Royal Horticultural Society's Journal. Editor, Rev. W. Wilks.
- 1841—Gardeners' Chronicle. Friday. Editor, Dr. Masters, F.R.S. Publisher, A. G. Martin, 41, Wellington Street, Covent Garden, London, W.C. Price 3d. Every Friday.
- 1842—Gardeners' Magazine. Friday. Editor, George Gordon, Esq. Publisher, W. H. L. Collingridge, 148 and 149, Aldersgate Street, E.C.
- 1848—Journal of Horticulture. Thursday. Editor, Dr. Hogg, F.L.S. Publisher, E. H. May, 171, Fleet Street, London, E.C.
- 1871—The Garden. Friday. Editor, W. Robinson, F.L.S. Publisher, W. Robinson, 37, Southampton Street, W.C.
- 1886—Horticultural Times, 127, Strand, W.C.
- 1879—Gardening Illustrated. Editor and Publisher, W. Robinson, 37, Southampton Street, W.C.
- 1884—Amateur Gardening. Editor, T. W. Sanders, Publisher, W. H. & C. Collingridge, 148 and 149, Aldersgate Street, E.C.
- Garden Work. Editor, J. Wright, Publisher, E. H. May, 171, Fleet Street, E.C.
- 1884—Gardening World. Editor and Publisher, B. Wynne, Clement's Inn, W.C.

1887—Royal Gardens, Kew, Bulletin of Miscellaneous Information. Monthly. Eyre & Spottiswoode, East Harding Street, Fleet Street, E.C.
 The Northern Gardener. Fountain Street, Manchester. Weekly, 1d.
 Reichenbachia, devoted to the Illustration of Orchids. Monthly. F. Sander, St. Albans.
 Orchid Album. Monthly. Henry Williams, and others, Upper Holloway, London, N.
 Rosarians' Year Book. Annually. Bemrose & Sons, Garden Annual. Annually. Garden Office, 37, Southampton Street, Strand, W.C.
 Garden Oracle. Annually. By London. *Gardeners' Magazine* Office, 4 and 5, Ave Maria Lane, E.C.
 Horticultural Directory. Annually. *Journal of Horticulture* Office, 171, Fleet Street, E.C.

PRINCIPAL FOREIGN AND COLONIAL HORTICULTURAL PUBLICATIONS.

AMERICA.

The American Garden. Editor, New York.
 American Florist. New York and Chicago.
 Orchard and Garden. Published by J. T. Lovett, Little Silver, New Jersey.
 Florists' Exchange, New York.
 American Pomological Society's Reports.
 American Agriculturist, Broadway, New York.
 Meehan's Monthly. T. Meehan, Germantown, Massachusetts.
 Horticultural Society's Reports. Boston, Mass.
 Garden and Forest. Editor, Professor Sargent, Tribune Buildings, New York.
 The Trade Journal and International Horticulturist. New York.

AUSTRIA.

Wiener Illustrierte Garten Zeitung. Editor, Ritter Beck von Managhetta. (Journal of the Imperial Horticultural Society, Vienna).
 Casopis českých zahrádníků, Prague. Editor, J. T. Thomayer.
 Mittheilungen D. K. K. Gartenbau Gesellschaft in Steiermark. Editor, L. Kristof Graz.

BAVARIA.

Illustrierte Monatshefte für des Gesamt-Interessen des Gartenbaues. Editor, Max. Kolb, Munich.
 Untersuchungen, a. d. Forst. Bot. Institut zu München. Prof. Hartig, Munich.

BELGIUM.

Journal des Orebidees. Editor, Lucien Linden, Brussels.
 Lindenia. MM. Linden and Rodigas, Brussels.
 L'illustration Horticole. MM. Linden and Rodigas, Brussels.
 L'Horticulteur, Mons. Editor, J. Wanavre.
 Revue de l'Horticulture Belge. Count de Kerchove and others, Ghent.
 Bulletin d'Arboriculture, &c. Editors, M. Pynaert and others, Ghent.

CANADA.

Canadian Horticulturist. Ottawa.

CAPE TOWN.

Agricultural Journal.

CEYLON.

Tropical Agriculturist. Colombo, Ferguson.

FRANCE.

Revue Horticole. Editors, MM. Carrière and André. Rue Jacob, 26, Paris.
 Le Jardin. Editor, M. Godefroy. Publisher, A. Picard, Argenteuil.
 L'Orchidophile. Editor, M. Godefroy-Lebeuf, Argenteuil.
 Journal des Roses. Editor, M. Bernardin. Publisher, M. Goin, Paris.
 Journal de l'Horticulture Pratique. Paris.
 Lyon Horticole. Editor, M. Viviani-Morel. Lyon.
 Journal de la Société Nationale d'Horticulture. Rue de Grenelle, 84, Paris.
 Le Moniteur d'Horticulture. Editor, M. J. Chauré. Rue de Sèvres, 14, Paris. Bi-monthly.
 Bulletin de la Société d'Acclimatation de France, Paris.

GERMANY.

Deutsch Gärtner Zeitung. Erfurt, Editor, Herr Möller.
 Gartenflora. Berlin, Editor, Professor Wittmack. (Paul Parey, Berlin.)
 Monatschrift des Gartenbauvereins zu Darmstadt.
 Rosen Zeitung. Frankfurt-on-the-Maine.
 Deutsche Gartenzeitung. Editor, Dr. Goeze (Hamburg.)

GERMANY—continued.

Lebl Illustr. Gartenzeitung. Zeitschrift für bildende Gartenkunst. Editor, C. Hampel, Treptow, by Berlin.

BRITISH GUIANA.

Garden, Field, and Forest. Demerara.

HOLLAND.

Sempervirens, Gronewegen. Amsterdam.
 Het Nederlandsche Tuinboublad. Editor, Dr. H. Van Hall. Arnhem.

INDIA:—

CALCUTTA.

Journal of the Agri-Horticultural Society of India.

LAHORE.

Journal of the Agri-Horticultural Society.

MADRAS.

Journal of the Agri-Horticultural Society.

RANGOON.

Journal of the Agri-Horticultural Society.

ITALY.

Bulletino della Società Toscana d'Horticultura. Florence.

JAVA.

Anna les du Jardin Botanique de Buitenzorg. Dr. Treub.

JAPAN.

Journal of the Japanese Horticultural Society. S. Yoshida, Tokio.

POLAND.

Ogrodnik Polski. Warsaw.

PORTUGAL.

Jornal de Horticultura Practica. Oporto.

SWITZERLAND.

Der Schweizerische Garten Bau. Editor, Professor Müller-Thurgau. Zurich.

A STRONG AND DURABLE HINGE FOR GLASSHOUSE LIGHTS.

The usual practice is to fasten the ventilator to a triangular piece of wood, screwed or nailed to the ridge, called a hanging piece. Doubtless, most

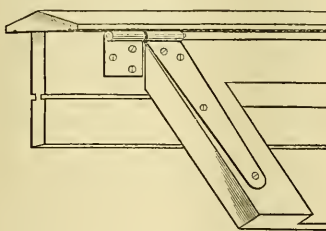


FIG. 22.—HINGE FOR GLASSHOUSE LIGHTS.

ventilators are hung in this way, and it is found that the rain comes in considerably, with evil results to the fruit inside—firstly, through the joint formed by the junction of hanging-piece and ridge; and, secondly, between the ventilator and hanging-piece. Nor is this all; the water finds a refuge between the hanging-piece and ridge, and speedily rots both. Sometimes canvas is used to keep the wet out, but this is not altogether satisfactory. It takes a great deal of time to put on, it is very much in the way when it becomes necessary to replace a broken hinge or to repair the ventilator, and, besides, it is very expensive. The following estimate, which can be verified by anyone in a few minutes, of the cost of hanging each ventilator—firstly, to the hanging-piece, with canvas over, and, secondly, to the ridge direct, with capping over, shows very much to the advantage of the latter:—

	s.	d.		s.	d.
4 feet 6 in. hanging-piece	0	4½	4 ft. 6 in. 1½ × 4½ cap-ping	0	6
4 ft. 6 in. canvas, 6 in. wide, at 2s. 3d. per yard, 2 ft. wide ...	0	10	One pair of the improved hinges	0	6
Cutting out and putting on, tacks, &c.	0	2			
One pair of cast-iron butts	0	4	Balance in favour of the use of the improved hinges	0	8½
	1	8½			1 8½

To reap the full advantage of the use of a capping, it is of course necessary that the ventilator be hung as close beneath the capping as possible. This can be done, as will be seen from the sketch, by using these hinges. With other hinges it would be necessary to leave sufficient space above the ventilator to screw the hinge to, or as an alternative the hinge could be cut into the top-edge of the ridge. There are obvious disadvantages to both these ways; in the former the distance of the capping from the top of the ventilator would prevent the capping from being so effectual as otherwise, and would also necessitate a wider and more costly ridge, besides which the ridge would be proportionately weaker, as it is further from the rafters. In the latter, before it could be possible to replace a hinge or to take a ventilator down, it would be necessary to take the capping off, which would certainly not improve either capping or ridge.

When measuring for ridge, care should be taken to see that the distance from the plough groove to the top of the ridge (see sketch), is neither more or less than would allow the highest part of the knuckle of the hinge, when fixed, to be on the same level as the top of the ridge.

Should it be wished to utilise the advantages of strength which the hinge possesses, for repairing, &c., in cases where the hanging-piece is in use, it can be done by reversing that portion of the hinge which in sketch is screwed to the ridge.

The following are some of the characteristics of the hinge:—

1st. It is very strong, the pin (the weak part of other hinges), is $\frac{3}{4}$ of an inch in diameter.

2nd. The hinge is of wrought iron and will stand a much greater strain than cast iron.

3rd. The pin works easily in its socket, removing the danger of corroding.

4th. There is no cutting into the woodwork, and it can very easily be put on or taken off.

5th. When fixed to the ventilator it is screwed to the stile instead of the top rail, a matter of consequence when we consider the strain that is put on the weak tenons of the ventilator by the old method of fastening hinges to the top rail.

This hinge has been patented by Mr. H. B. Piper, of the Ladywell Nurseries, Worthing.

SCOTLAND.

DUNDEE HORTICULTURAL ASSOCIATION.

The following is the syllabus for the session 1892:—On January 8, the President (Mr. D. Croll) read the opening address. Mr. A. D. Mackenzie, Upper Grove Place, Edinburgh, read a paper on "Heating by Hot Water."

February 5.—"Vegetable Culture, January to April inclusive," by Mr. William Grant, Fernhall Gardens, West Ferry.

March 4.—"Vegetable Culture, May to August inclusive," by Mr. John Wilson, Charleston Gardenst Montrose.

April 1.—"Vegetable Culture, September to December inclusive," by Mr. James Ross, Reresmount Gardens, Broughty Ferry.

May 6.—"Chrysanthemums: Cut-backs *versus* Non Cut-backs," by Mr. John Machar, Corona Gardens, Broughty Ferry; and Mr. Wm. Kennedy, Ardarroch Gardens, Dundee.

June 3.—"Technical Education," by Professor Geddes, University College, Dundee.

July 1.—"The Present Day Gardener, and what is expected of him," by Mr. George Smith, Mylenfeld Gardens, Dundee.

August 5.—"Notes on Exhibiting and Judging by Points," by Mr. William Williamson, Tarvit Gardens, Cupar, Fife.

September 9.—"Horticultural questions previously announced: Discussion on."

October 7.—"The Origin and Evolution of Gardening," by Mr. Thomas Butchart, Elmelen Gardens, Dundee.

November 4.—"Root Pruning," by Mr. John Proctor, Balruddery Gardens, near Dundee.

December 2.—Annual General Meeting.

The above meetings will be held in the Young Men's Christian Association Rooms, 10, Constitution Road, at 7.30 P.M. on the above dates.

The session just closed, though unmarked by any special effort or undertaking, has been in many ways successful. During the year eleven ordinary meetings have been held, and the attendance of members throughout has been gratifying and encouraging.

Twenty-one new members have been added during the Session, and at the present time there are 100 members on the roll. One of the most successful evenings of the Session was occupied with discussions on horticultural questions (previously announced to the members). These proved very interesting, and elicited from the members present much important and useful information.

Ten evenings were devoted to the reading and discussing of papers, and more or less condensed reports of the various papers have appeared in the local newspapers.

During the month of March the Association became affiliated with the Royal Horticultural Society, London, participating in all the privileges of a one-guinea subscriber. These include the journals and transactions of the Society, and other advantages. *Extract from Report of the Association.*

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

JANUARY 12.—D. Morris, Esq., in the chair. Present: Messrs. Michael, Blandford, Professors Green, F. Oliver, Church, Drs. Bonavia, Müller, and Masters.

Thelophora laciniata.—In reference to this fungus, specimens of which attacking *Rhododendrons* were sent to a previous meeting by Dr. Hugo Müller, the following note was submitted by Mr. Masses:—"Thelophora laciniata, Pers., is a very common species as a saprophyte, overrunning twigs and heaps of leaves lying on the ground, at the same time it readily passes on to living branches and superficial roots, especially if the surface has been abraded, and then becomes parasitic in its nature. As a parasite, it has been noted on the living roots and prostrate branches of Ericaceae plants, *Vaccinium*, *Erica*, *Calluna*, in Hungary by Kälchbrenner, also in England. It has also been observed as a parasite on living Conifers in Germany by Klotzsch."

Beetle in Dendrobium.—Mr. Blandford reported that the beetle referred to at a previous meeting was a Scolytid, beetle probably undescribed.

Diseased Gooseberry.—Mr. Burbridge sent specimens of Gooseberry branches, showing globular spongy outgrowths from the bark, of the size of large cherries, and cracked on the surface. Mr. Burbridge stated that these swellings produce roots with great freedom, if treated as ordinary cuttings. Dr. Masters called attention to the similarity in appearance to the growth frequently seen in *Malus* *Nel* roses, and also on Vines and Passion flowers; but in the case of the Gooseberry there were often numerous buds visible. In some of these cases the presence of a slime fungus (*Myxomycete*) had been detected. Gooseberry growers attributed the formation to water accumulating on the branches, and promoting the formation of roots. The specimens were referred to Mr. Arthur Lister.

Black Knot.—Dr. Masters showed specimens of this disease received from the United States. The disease occurs in Plum trees, and is due to a fungus, *Plowrightia morbosus*, which produces a black nodulated outgrowth spongy within, on the surface of the branch. The tissues affected seem to be the inner layers of the bark and the cambium layer, the cells of which are disintegrated and broken up into a spongy mass. The disease has been described by Professor Farlow, and is very common in America, but happily, it is scarcely, if at all, known here. Destruction by fire of the affected branches is the only remedy that can be suggested, though probably spraying with sulphate of copper in an early stage would be effective.

Eucalyptus.—Dr. Masters exhibited a branch of *Eucalyptus* globulus, in which the usually smooth surface of the bark was broken up into an irregularly lobed, corky mass. The branch had been received from Professor McOwan, of Cape Town, and it was considered by him that the disease might be due to

the presence of bacteria. A specimen had been previously sent to Professor Marshall Ward, who has promised to report upon it.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

JANUARY 15.—A number of the supporters and friends of the above estimable organisation met on the afternoon of the above date, at Simpson's, in the Strand, London, for the purpose of receiving the Report and the accounts of the Institution for the present year, and for the election of candidates to its benefits (see p. 112).

The number of candidates elected numbered ten, out of twenty-nine who had applied. Of this number, four had made two previous applications, seven one application, and the remaining eighteen were applying for the first time. The successful candidates were Mary E. Gray, of Reigate, aged sixty-one years, a widow who was unable to support herself by any kind of work, owing to failing sight and other ailments; Henry Martin, of Redlands, Bristol, aged seventy-three years, disabled by old age; Henry Bartholomew, of Hornsey, aged seventy-one, who together with his wife, aged seventy-five years, are very infirm; Louisa Jennings, sixty-nine years, of Hayton Quarry, Liverpool, the widow of a gardener at Knowsley, Prescott, who was a subscriber of one guinea for one year; she is very infirm. These last two had made two previous applications. The widow of J. James, aged sixty-five years, is the widow of J. James, for many years gardener at Collymore; George Medland, Alvington Road, Exeter, aged eighty-three years, a widower, once a nurseryman and seedman at Exeter; Lydia Bostock, of Bootle, aged sixty-nine years, who is in a very delicate state of health, and unable to earn anything; Jimima Grace Truran, of Launceston, aged sixty years, a sufferer from chronic bronchitis. Roderick Elphinstone, of Norwich, aged seventy-one years; he has a wife aged sixty-two, and is unable to work. Elizabeth May, of Bagshot, Surrey, aged sixty-five years, the widow of Joseph May, once a seedman in London, and subsequently foreman to the late Mr. Kernan; he was well-known to gardeners and frequenters of Covent Garden Market.

Besides the elected pensioners named above, six others who had in every way complied with the regulations were placed on the pension list without election, viz.:—John Alvey, of Filey, aged seventy-two years, a yearly subscriber for twenty-four years; Ellen Spore Child, of Clapham Common, Surrey, aged seventy-four years, whose late husband contributed £16 to the institution in 1846; Charlotte Selina Cornwell, of Brentwood, aged sixty, whose late husband had been a subscriber for thirty years; John Mundy, of Hampstead, aged sixty-six, a subscriber for twenty years, and a contributor of £9 to the Augmentation Fund; Simon Ross, of Streep Aston, aged seventy-two years, a subscriber for fifteen years; and James Smith, Temple Coombe, also a subscriber for fifteen years, and a contributor to the Augmentation Fund to the amount of 5 guineas. After the formal business of the meeting was finished, a party numbering nearly 100 persons sat down to dinner. The Rev. W. Wilks, F.R.H.S., in the chair, and who was succeeded later by J. H. Veitch, Esq.

Obituary.

WALTER HOOD FITCH.—The death on the 14th inst., at the age of seventy-five years, of Mr. W. H. Fitch removes from among us a man well-known among botanists and horticulturists until the last few years. As a botanical artist, Fitch had no rival for grace and fidelity to Nature. His vast experience gave him a power of perception and insight such as few, if any, artists have possessed in greater, if equal degree. He did not attempt to improve upon Nature, or represent her products in a conventional or so-called artistic manner, but he estimated at their proper relative value the more important points of structure, quickly grasped their mutual relations and significance, and represented them with rare accuracy and grace. As a colourist he was, perhaps, not so successful as in outline and specially in perspective. Fitch was born in Paisley, and found employment with Sir William Hooker when Professor in Glasgow. He came to London from Glasgow with Sir William Hooker, when he accepted the

Directorship of the Royal Gardens, Kew, in 1841. Sir William himself was an excellent draughtsman, as his firmly and clearly executed sketches, so abundant in the Kew Herbarium, clearly show; but it is evident that a man charged with so onerous a task as Hooker, could devote but relatively little time to the representation of plants. This work was accordingly delegated to Fitch, who had the great advantage of being trained under so clear-sighted a botanist. Accordingly, we find Fitch becoming the artist not only for the *Botanical Magazine*, but also for most of those extremely numerous and varied publications which emanated from Kew as a result of the marvellous energy and activity of Sir William and of Sir Joseph Hooker.

For the *Botanical Magazine*, Fitch acted as illustrator for many years, and also for the *Rhododendrons of Sikkim Himalaya*, the *Illustrations of Himalayan Plants* (one of his finest productions), the *New Zealand and Tasmanian Floras* of Sir Joseph Hooker, the *Linnean Transactions*, *Elwes' Monograph of Lilies*, and a vast number of other publications, the latest being the illustrations for the Palestine Exploration Fund. For years, also, he furnished a large proportion of the illustrations of plants to this journal, and contributed to its pages a series of articles on botanical drawing, which attracted much attention, and elicited the sincerest form of flattery—that of imitation. When, some few years since, his health failed, a Government pension was accorded to him, and his long and most useful career was terminated, after a long and trying illness, by a fit of apoplexy.

LOUIS THIBAUT.—By the death of Mons. Louis Thibaut, which occurred at his residence at Sceaux, near Paris, on Sunday, the 17th inst., French horticulture is deprived of one of its most respected and ablest representatives. Born in 1817, Mons. Thibaut, whose name is very familiar as connected with nearly every horticultural fete on the Continent, and who was formerly a frequent visitor to England, started in Paris in 1848, with M. Keteleer, an establishment for the cultivation of plants in general. Besides stove, hard-wooded, and soft-wooded greenhouse plants, they bought from Mons. Ch. Morel the collection of Orchids which Mons. Thibaut had had under his charge since 1841, and which had been growing in importance every successive year by the plants which Mons. Pinel, then resident in Minas Geraes (Brazil) annually sent to Mons. Morel. These were principally *Burlingtonias*, *Cattleyas*, *Epidendrums*, *Lælia* *Pinellii*, and others; *Maxillarias*, *Miltonia* *Morrelliana*, and others; *Ocidiids*, *Sophrontitis*, &c. These formed the starting-point of a collection which became very extensive, and which was grown with marked success until about 1866, when the seat of the establishment was transferred to Sceaux. The original collection was totally lost in the Franco-German war, during which the plants having been turned out of the houses, these structures were used for shelter by the soldiers of the invading army. A collection as complete as the circumstances would allow was soon gathered together by the help of influential nurserymen on this side of the Channel, headed by Messrs. J. Veitch & Sons, and Mr. H. Low & Co., who had for the unfortunate firm a respect dictated by the straightforwardness of its members. We may add that the spontaneity of this timely help was always pleasantly uppermost in Mons. Thibaut's mind, as he never lost an opportunity of referring to it in terms of gratitude.

Some three or four years ago, the business passed into the hands of Mons. J. Salier, who transferred it to Neuilly, leaving to Mons. Thibaut a select collection of plants which the latter took a special delight in cultivating personally until the time of his death.

PETER MOIR.—There were laid to rest the other day the remains of Mr. Peter Moir, Don Cottage, Kemnay, Aberdeenshire. He was born at Blairdaff in 1834, and from thence the family removed to the Hill of Fetterneer, where he lived until a few years ago, when he and his sister re-

"The weather continued very cold in all parts of the Kingdom, but the conditions were quieter than

CREAUS, PHYLOCACTUS, OPUNTIAS, MAMMILLARIAS, &c.: F. G. These plants want no water during the months of November, December, January, and February, but then they must not be stood near the heating apparatus. The back shelf in a span-roofed greenhouse is an excellent place for them during these months. Mammillarias do best in the stove, and should be kept quite dry at that season.

CHERRIES AND CURRANTS DROPPING THEIR FRUITS: W.P. Fertile causes of fruit dropping in Cherries are injury to the blossoms by frost, and an excessive number of flowers setting. In both cases there is some slight increase in size, then the fruits turn yellow, hang on the trees for a time and eventually fall off. Want of water at the root of wall Cherries in autumn, winter and spring, will cause blossoms, buds, and fruits to drop. In your light soil the watering of the wall-trees is a matter that should always receive attention, especially in autumn and winter. Possibly, dryness at the root may have caused loss of Currants; but last season the spring frosts were answerable for a great deal of the loss.

CHRYSANTHEMUMS AND MILDEW: Cubic. On the first appearance of the small whitish spots on the leaves, strew flowers-of-sulphur over them in the morning early when they are moist with dew; the slow and inviolable evaporation of the sulphurous fumes will be fatal to the fungus.

DUROLINE: A. Chevalier. It would be better for flowering-plants to have colourless Duroline, and such would be the most suitable for a copious to a fruit wall. Experiments some years ago with coloured glass lead to the preference being given to that which was, to all intents and purposes, colourless. The blue-tinted glass has a decidedly bad effect on growth.

FAILURE OF TULIP LA REINE TO FLOWER: R. H. Some of the bulbs have not formed any flower-bud at all, but would probably do so next year. We do not know what has prevented them doing so now.

LATE PEACH FOR A WALL: F. J. Rivers' Princess of Wales, a very large, fine-looking fruit, melting and rich, is better than Walburton Admirable, in being a certain bearer, which that variety is not. Gladstone is a later Peach than the Princess of Wales. It is large and good.

MUSHROOM-ROD: L. J. The fungus you send is the imperfect or barren state of a fungus called *Xylaria vaporaria*. It does harm by crowding out the Mushrooms and appropriating their food. We are sorry not to be able to tell you how otherwise to get rid of it than by raking it off and burning it. Turn out the soil and cart it away, for if you put it on the garden-bed the fungus may overrun the plants as it does the Mushroom-bed.

NOTICE TO LEAVE SERVICE: E. T. W. Failing any agreement, one month's notice on either side.

PANCRAETUM Aegyptiacum, Loddiges: S. Cairo. We do not find the name in Baker's *Handbook of Amaryllidaceae*, nor in any book to which we have access. It is not in Loddiges' *Cabinet*.

PARNIPS ROTTING IN THE GROUND: W. Stevens. If you will kindly send samples we may be able to tell you the cause of the decay.

ROSA BANKSLEY: S. Cairo. This was described by Robert Brown in 1811, in Aiton's *Hortus Kewensis*, ed. 2, iii. 258; Lindley's *Bot. Regist.*, t. 397.

VINES SUDDENLY CEASING TO GROW, AND REMAINING IMMATURE: Subscriber. With proper treatment, this is quite unaccountable, and you must send us fuller information, if we are to assist you. Can you send portion of root, shoots, soil, &c.?

COMMUNICATIONS RECEIVED:—P. Lavis & W. E. G. must send their names and addresses before we can publish their letters on *Gardener's Education*, not necessarily to be published, but as establishing their bona fides.—J. S.—T. C.—H. Markham.—W. W.—W. E. G.—D. M.—W. C. H. M. T.—W. E. R. A. R. J. H.—R. D.—W. Nipper.—W. D.—J. O'B.—C. W. H. G.—C. R.—A. D.—W. E. G.—G. Tabers.—G. S.—D. G. C.—Gustav Brul.—E. T. L.—P. L.—W. W.—J. W.—Dr. Paz, Berlin.—Dr. Urban, Berlin.—F. Parker.

DIED.—We regret to announce the death on the 9th inst., of Mr. J. WESTCOTT, for many years gardener to the Duke of Cleveland, at Rahy Castle, Durham. Mr. Westcott was an excellent gardener, and was greatly respected by all who knew him.

VALUABLE SILVER MEDALS offered to Exhibitors during 1892. All Amateurs and Gardeners should see **KELWAY'S MANUAL** for 1892 for particulars; 1s. post-free. Gratis to customers.—Langport, Somerset.

BARR'S SEEDS, BULBS, AND PLANTS. VEGETABLE SEEDS.—All the best sorts only; and a great deal of valuable information. Catalogue and descriptive CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties of the most decorative kinds, for all sorts of decoration, with important remarks. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus caudatus, Tigrids, and all other sorts for Spring Planting. LIST FREE ON APPLICATION.

SPECIAL LIST, free on application.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Iris (tall and dwarf), Oriental Heliozores, Carnations, &c.

BARR AND SON, 12, King Street, Covent Garden, London.

BEGONIAS A SPECIALITY.—Awarded Four Gold Medals, and Gold Cup, and all First Prizes.

Seed saved from Prize plants. Our Begonia Seed and Bulbs eclipse all previous years. Choicest mixed, single or double varieties, 1s., 2s., 6d., and 5s. per packet. Collections (Seed)—single, 12 named varieties, separate, 5s. 6d.; 6 ditto, 3s. Tubers, named singles, from 12s. to 42s. per dozen; unnamed seedlings, 12s. to 21s. per dozen; bedding, choicest, 4s., 5s., 6s., and 9s. per dozen; choicest named doubles, from 42s. per doz.; unnamed, choicest, 18s. to 30s. per dozen; choicest mixed, for bedding, 5s. and 12s. per dozen. Catalogue gratis.

JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill, London.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(FIDELIS & Co., Proprietors),

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete Seed Catalogue and Guide, which will be sent gratis and post free on application.

3000 Varieties catalogued, 500 Illustrations.

W. L. LEWIS & CO.,

Orchid Growers and Importers,

CHASE SIDE, SOUTHGATE, LONDON, N.

Have just secured a large

COLLECTION OF ORCHIDS,

Among which are many fine SPECIMEN PLANTS, and marked varieties of *CATLEYAS*, *ODONTOGLOSSUMS*, *DENDROBES*, &c. Every Plant guaranteed true to name.

Write for SPECIAL PRICE LIST.

About 20 Specimen Plants of *LELIA ELEGANS* for SALE.

Collection guarantees varieties as excellent.

New and Rare *CYPRIPEDIUMS* in Stock.

WHOLESALE SEED CATALOGUE.

We have now published our Wholesale Catalogue of

VEGETABLE & FLOWER SEEDS

Containing also the best NOVELTIES of the SEASON, and LIST of over 150 varieties of choice Fern spores. MAY BE HAD ON APPLICATION. Any of our customers not having received one by post will oblige by letting us know, when another shall at once be posted.

WATKINS & SIMPSON,

BULB AND SEED MERCHANTS,

EXETER ST., STRAND, LONDON, W.C.

Seed and Trial Grounds—Feltham and Twickenham, Middlesex.

EXTRA STRONG FRUIT TREES.

Trained VICTORIA PLUMS, 8 to 10 feet high and wide.

Standard APPLEES, large heads.

Standard PEARS,

Bush and Pyramids of both the former, 6 to 8 feet.

WALLNUTS, very strong Trees.

Fine GOOSEBERRIES and CURRANTS.

JOHN PEDD & SONS.

The Nurseries, Mitcham Road, Streatham.

CHARLES NOBLE

HAS FINELY BUDDED

RHODODENDRONS, named kinds.

ANDROMEDA, FLORENTINA.

AZALEA, finest Ghent kinds.

Ditto, Seedlings.

Ditto OCCIDENTALIS.

RHODORA CANADENSIS.

DWARF ROSES, H. P. B., and TEAS.

THUIOPSIS BOREALIS.

THUIA LOBBII.

DITTO, AMERICANA.

CUPRESSUS LAWSONIANA.

HYPERICUM CALYCAINUM.

PORTUGAL LAURELS, 2 to 3 feet.

HARDY HEATHS.

CLEMATIS, 3 and 4 years old.

The General Assortment of NURSERY STOCK will be found superior in every way.

BAGSHOT, January, 1892.

FRUIT TREES AND ROSES!

VAST QUANTITIES TO OFFER,
of the usual excellent quality.

HUGH LOW & CO.,

Bush Hill Park Nursery, ENFIELD.

SHRUBS and CONIFERÆ.—American

Arbor-vitæ, 2½ feet, 20s. per 100; Berberis aquifolium, 2 feet, 16s. per 100; Box Tree, 1½ foot, 12s. per 100; Cotoneaster microphylla, 2 feet, 12s. per 100; C. Simonsii, 3 feet, 12s. per 100; Escallonia maculata, pot, 2 feet, 21s. per 100; Laurel, common, 1½ foot, 10s. per 100; 2 to 2½ feet, 14s. per 100; 3 to 3½ feet, 20s. per 100; rotundifolia, 2 to 2½ feet, 16s. per 100; Portugal Laurel, 2 to 2½ feet, 22s. per 100; Rhododendron ponticum, 1½ to 2 feet, 25s. per 100; 2 to 2½ feet, 32s. per 100; 3 feet, 50s. per 100, full of buds; Yews, English, 1½ to 2 feet, 21s. per 100; 2 to 2½ feet, 30s. per 100; Araucaria imbricata, 3 to 3½ feet, 30s. per doz.; 4 feet, 40s. per doz.; Cupressus Lawsonii, 2 to 3 feet, 30s. per 100; 3 to 4 feet, 30s. per 100; Erecta viridis, 2 to 2½ feet, 30s. per 100; 3 to 3½ feet, 40s. per 100; Picea Nordmanniana, 2 feet, 60s. per 100; 2½ to 3 feet, 12s. per dozen; Retinospora plumosa, 2½ feet, 30s. per 100; 4 to 4½ feet, 50s. per 100; Thuja Lobbi, 3 to 4 feet, 30s. per 100; 5 feet, 50s. per 100; 6 feet, 70s. per 100; 7 feet, extra, 80s. per 100; Thuopsis dolabrata, 2 feet, 40s. per 100; 2½ feet, 50s. per 100; fine specimens, 24s. per dozen; 4 to 5 feet, 4s. each.

GARLIES MITCHELL, Nurseryman, Stranner.

Select VEGETABLE.
Choice FLOWER.
The best qualities at
Moderate Prices.

Delivered Free by Rail or Parcels Post. The Best SEED POTATOS, Garden Tools, Sundries, &c., &c. Illustrated Descriptive Catalogue, No. 403 POST FREE ON APPLICATION.

Dicksons Seed Growers, Chester.
(Limited)

COMPLETE COLLECTION of VEGETABLE SEEDS

For One Year's Supply.

Free by Parcel Post on receipt of £1.0s. value 10s. 6 pints Peas, best sorts for sowing. 2-cz. pkt. Cress, Curled. 1pkt. Cucumber, Frame, named sorts.

2 „ Beans, Broad, best sort for succession. 1 „ Cucumber, for open ground. 1 pint Beans, Dwarf French. 1 „ Endive, Curled. 1 „ Beans, Scarlet Runners. 1 oz. Lettuce, Cos and Cabbage varieties. 1 „ Beet, best variety. 1 „ Leeks, best variety. 1 „ Borcello, or Kale, two sorts. 2 „ Mustard, White. 1 „ Broccoli, best for succession, two sorts. 2 „ Onion, best sorts. 1 „ Brussels Sprouts. 1 „ Parsley, Extra Fine Curled. 1 „ Carrots, Early and Late. 1 „ Parsnip, best sort. 1 „ Cabbage, best for succession, two sorts. 2 „ Radish, best varieties. 1 „ Cauliflower, finest variety. 1 „ Savoy, best sort. 1 „ Celery, two sorts. 2 „ Spitchard, Winter and Summer.

1 pkt. Tomato. 1 oz. Turnip, finest varieties. 1 pkt. Vegetable Marrow. CATALOGUES, gratis and post-free. Special Quotations per lb. and bush, to Market Gardeners.

B. L. COLEMAN, Seed Merchant and Grower, SANDWICH, KENT.

FRUIT TREES AND ROSES.

A LARGE and SELECT STOCK is NOW OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON, THE NURSERIES, SAWBRIDGEWORTH, HERTS.

SANKEYS' famous GARDEN POTS

Bulwell Potteries, Nottingham.

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still had them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

BARR'S SURPLUS CLEARANCE SALE OF DAFFODILS

Prices greatly reduced. Bulbs in prime condition for Potting, Bedding, and Naturalisation. Detailed Priced LIST on application.

Per 1000, 15s., 25s., 42s., 63s., 84s., and 105s.

BARR'S CLEARANCE SALE OF HYACINTHS, TULIPS, POLYANTHUS-NARCISSUS, CROCUS, SNOWDROPS, CHIONODOXA, SCILLAS, SNOWFLAKES, and other Spring-flowering Bulbs, ALL IN PRIME CONDITION. PRICES GREATLY REDUCED. LIST ON APPLICATION.

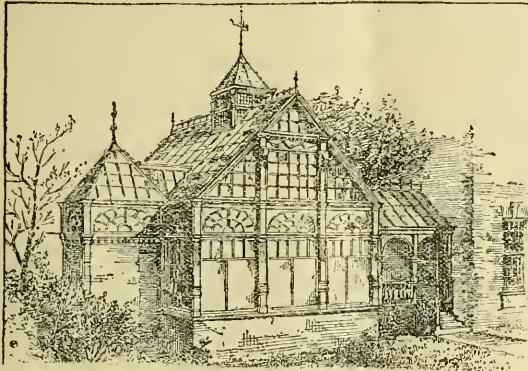
Important Descriptive LISTS now ready, free on application:—

CONFERENCE MICHAELMAS DAISIES, and PERENNIAL SUNFLOWERS.

GLADIOLUS, CARNATIONS, PICOTEEs, PINKS, HELLEBORES, and LILIES.

SINGLE PÆONIES, DOUBLE PÆONIES, HELLEBORES, and IRIS.

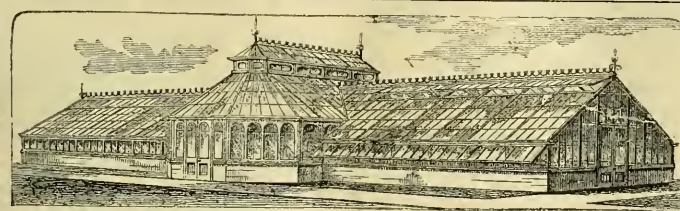
BARR & SON, 12, King St., Covent Garden, London.



CROMPTON & FAWKES,
HORTICULTURAL BUILDERS,
CHELMSFORD.

BOOK of Photo-Lithographed Sketches of Winter Gardens, Ranges of Hothouses, Vineries, Architectural Conservatories, &c., of various Designs and Sizes, recently constructed, erected, fitted, and heated complete by us in different parts of the country; with particulars of the most successful Hot-water Heating Apparatus of the century.
Post-free on application.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,
HOthouse BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Bashes, Hotbed Boxes, &c., always in stock.

Plans, Estimates and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Motto is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

ASPARAGUS, of fine quality—for forcing and planting; 2 yr. old, 2s. 3d. per 100; 3-yr. old, good roots, 3s. per 100; ditto, selected, 4s. per 100; 6d. per 100 less for quantities of 1000 and upwards. For forcing, 4-yr. old, 6s. per 100; 5-yr. old, splendid roots, 10s. per 100; ditto selected, 12s. 6d. per 100; 5-yr. old, extra fine, 15s. per 100. Cash with order. My Asparagus always makes top price at Covent Garden.

Read the following unsolicited testimonial:—"Please send me another 200 of 5-yr. old Asparagus Roots. I may say that the last 200 were the best lot of forcing roots I ever bought, and my employer says the quality is excellent.—C. H. PERKINS, The Gardens, Milton Abbey, Elandford."

J. J. CLARK, Market Gardener, Goldstone, Brighton.

FERNIS! FERNIS!!—Trade.—Greenhouse and Store, 2s. saleable sorts, 12s. per 100; out of pots, 10s. Large A. cuneatum, in 48's, 6s. per doz. Large Ferns, 10 saleable sorts, Aralia Sieboldii, Prunella, Solanum, superior stuff, all in 48's, 6s. 6d. per doz. Palms, Ficus, Erica byemalis, and Cyclamen, in 48's, 12s. per dozen, for bloom and fine foliage cannot be better. P. tremula, and A. cuneatum, selected bushy, for potting on, 16s. per 100. Packed free, Cash with Order. J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

HENDER'S PETUNIAS.

The Grandest Strain grown. Seed saved entirely from large flowers, beautifully mottled and striped, 1s. and 2s. per packet. PRINCELYA.—Large frilled flowers, mixed, carmine, rose, white, and blue, special strain, 1s. 6d. & 2s. 6d. per packet. BEGONIA.—Saved from the best-named Double and single flowers, 1s., 2s. 6d., and 5s. per packet.
HENDER AND SONS, Nursery, Plymouth.

CHRYSANTHEMUMS, AND HOW TO GROW THEM.

Now in the Press.

The large and increasing demand for this popular work has made it necessary to print a New and Revised Edition (Eleventh Thousand). This will contain a Practical and Scientific Treatise on Culture, and also a Critical Analysis of the New Varieties of the present season, by C. E. SHEA, Esq., A short History of the Chrysanthemum, by C. HARMAN PAYNE, Esq.; and a Chrysanthemum Calendar, by Mr. H. SHOESMITH. In addition to above, illustrations of two of the best New Varieties of the year are included in my new Chrysanthemum Catalogue, which also contains the most complete List of New Varieties ever brought together, and embraces selections from all the known Chrysanthemum world.

All the secrets of successful culture given, making this the most valuable work on the Chrysanthemum ever published. Post free, nine stamps; to Secretaries of Societies, for members, 6s. per dozen.

H. J. JONES, Ryecroft Nursery, Lewisham, S.E.



NOW READY.

SHARPE'S ILLUSTRATED DESCRIPTIVE CATALOGUE
for 1892.

Post-free on application to

CHARLES SHARPE & CO.,
Seed Farmers and Merchants, SLEAFORD.

20,000 DAHLIA ROOTS.

H. CANNELL & SONS

Have the largest and finest stock in the world, from 6s. to 30s. per dozen.

SEND FOR ILLUSTRATED CATALOGUE.

SWANLEY, KENT.

W. PENNINS & CO.
GARDENERS
PONKEY POTTERIES, RUABON.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt., and Oil Mixture, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.;
15, VICTORIA STREET, WESTMINSTER, S.W.1
and BACHELOR'S WALK, DUBLIN.—Despatch for Cash.

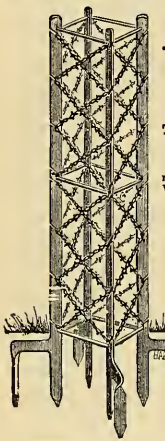


W. ARNOLD'S
(LATE MATTHEWS)
CELEBRATED WESTON
FLOWER POTS
AND
HORTICULTURAL
POTTERY.

CONWAY G. WARNE, Limited,
Royal Potteries, Weston-super-Mare.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN TREE GUARD,

"The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whithorn, Herefordshire,
Dec. 28, 1887.

"DEAR SIR:—I have now had
an opportunity of trying your
PORCUPINE TREE
GUARDS, and they seem
quite to answer my pur-
pose, so you may send me
50 more as before. I en-
close cheque for your
account.

Yours truly,

RICHD. GREEN
Messrs. Hill & Smith.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS



WITH SOLID ENDS, Also—
SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).

These Boilers, after long experience, have
proved themselves the Most Efficient, Economical,
and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges,
and Expansion-Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

THOS W. ROBINSON

REVISED PRICES FREE

THE BEST OF ALL

IMPROVED EXPANSION JOINT

HOT WATER JOINTS

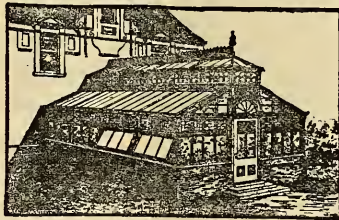
HEATING APPARATUS
FIXED COMPLETE

STOURBRIDGE

IRON WORKS

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE and SMITH'S COKE delivered in Trucks
loads to any Station in England and Wales.—Address,
G. J. EVESON, 28, Corporation Street, Birmingham.

RICHARDSON'S



HORTICULTURAL NEW BUILDINGS.

MANY
PRIZE MEDALS.

WARMING and
VENTILATION of
Churches and Public Buildings
(as well as Greenhouses).

W. RICHARDSON & CO.,
DARLINGTON.

"DUROLINE"

(Transparent Wire Wove Roofing)
SUBSTITUTE FOR GLASS
UNBREAKABLE. FLEXIBLE.

LARGELY USED IN ALL PARTS OF THE WORLD.

Government Officials, Fire Insurance
Surveyors, Architects, Engineers, and
numerous Experts have testified on oath
that "DUROLINE" is preferable to
and much safer than Glass for Roofs,
Skylights, and other similar erections.

See Report "London County Council v. The Wire
Wove Roofing Co., Ltd." May and June 1891.

INVALUABLE FOR FARM BUILDINGS.

Extensively used on the estates of H.R.H. The Prince of
Wales, The Duke of Westminster and Sutherland, and
thousands of others.

SAMPLES AND FULL PARTICULARS OF THE
SOLE PATENTEES AND MANUFACTURERS

THE NEW WIRE WOVE ROOFING CO., LD.
75a, Queen Victoria Street, LONDON, E.C.

	STOCK	
	Inches.	
	14x12	
	18x12	
	18x12	
	20x12	
	18x14	
	18x14	
20x14		
	SHEET	SIZES
	Inches.	
	20x15	
	20x16	
	22x16	
	24x16	
	20x18	
	22x18	
24x18		

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet
and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered
free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILLOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, LONDON, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 8 ft. by 4 ft.,
iron bar across and very strong, 4s. each; free on rail in
London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door,
&c. Put on rail in London. Low price. Send for specification, to

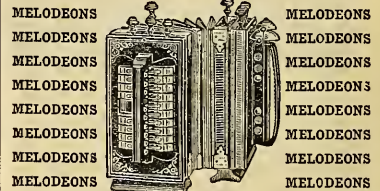
W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

GARDEN REQUISITES.—
Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo
Canes, Rustic Work, Manures, &c. Cheapest Prices of—
WATSON and SCULL, 90, Lo Wer Thames Street, London, E.C.

CHEERFUL WINTER EVENINGS.

CAMPBELL'S BROAD REED MELODEONS

(Patent). GRAND NEW MODELS.



NO HOME SHOULD BE WITHOUT ONE.
CAMPBELL'S world-famed MELODEONS have Organ and
Celestial Tone and Charming Bell Accompaniments. The Solemn
Psalm, the Soul-stirring Hymn, the Cheerful Song, and the
Merry Dance can all be played on these charming Instruments.
No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.
To readers of the *Gardeners' Chronicle*.
OUR GRAND PRIZE MEDAL "GEM" MELODEON.
8s. 6d. 5s. 6d.
With Two Sets of Broad Reeds, Organ and Celestial
Tone, sent carefully packed and carriage paid to any address in
Great Britain and Ireland on receipt of P.O.O. for 6s. 6d.
Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.
To readers of the *Gardeners' Chronicle*.
OUR GRAND PRIZE MEDAL "MINIATURE"
MELODEON.
10s. 10s.
WORTH DOUBLE.
With Two Sets of Broad Reeds, Organ and Celestial
Tone, and the Charming Bell Accompaniments, sent
carefully packed and carriage paid to any address in
Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS.
Important Testimonial from Professor Brown, the Champion
Melodeon Player of Great Britain, Ireland, and Wales:—
"Campbell's Patent Melodeons are the finest instruments that
have ever come under my touch, and only require a trial to
admit of themselves." Campbell's Patent Melodeons are the
only genuine Melodeons in the market. Beware of worthless
imitations.

N.B.—All lovers of music should at once send for our New
Illustrated Privilege Price List for 1891, now ready.
100,000 of these valuable lists sent out yearly. Send id. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT
MAKERS,
118, TRONGATE, GLASGOW.
ESTABLISHED 50 YEARS.

THE DOUBLE-POINTED NAIL.

THE BEST FENCE NAIL INVENTED.
This Nail renders any wooden fence perfectly
unclimbable. It is a complete protection
against trespassers and cuts.
In use at Hurst Park and Hull Racecourse, Lord's
Cricket-ground, and hundreds of other places.
A—HARRIS HEAD. B—CHISEL END.
Price of Fence Nails in Malleable Iron—1 1/2, 2,
2 1/2, 3, 4, 5, and 6-in.; 1-lb. Bgs., 3s. 6d.; per cwt.,
55s. 1 1/2-in. Steel Nails, for this pailing, 12s.
gross. MACHINE-CUT NAILS, for dwelling
joinery, wood-block flooring, &c., 1 1/2, 2, and 3-in.,
6d. per gross. Sample boxes, assorted sizes, 6d.;
by post, 8d.

DURRAN'S PATENT NAIL SYNDICATE Limited,
43 & 44, UPPER BAKER STREET, LONDON, N.W.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO

THE LONGFORD WIRE CO.

(LIMITED),

WARRINGTON.



GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE,
4d. per bushel; 100 for 25s.; truck (loads, about 2 tons),
40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks,
25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack, 5 sacks, 22s.; sacks,
4d. each.

COARSE SILVER SAND, 1s. 6d. per bushel; 16s. per half
ton; 26s. per ton, in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-
MULD, 1s. per bushel.

SPAGNUM MOSS, 8s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO
CLOTH, RUSSIA MATS, &c. Write for Price List.—
H. G. SMYTH, F.R.H.S., 21, Goldsmith's Street, Drury
Lane (lately called 17A, Copl. Yard), W.C.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of (Grapes, Tomatos, Peaches, &c., beyond any other Manure.

September 29, 1891.

"I am very pleased with your Silicate Manure. The effect upon the Vines is very marked, for they ripen and colour much better. Your Manure has given me great satisfaction for Tomatos; it is all you claim for it."

(Signed) THOMAS PRICE,
Gardener to the Bishop of St. Asaph.

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO., THE CHEMICAL WORKS, HEMEL HEMPSTEAD, HERTS.

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price £1 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent Carriage Paid to any Station in England, on receipt of P.O. for 5s. Extracts from 16th Annual Collection of Reports.

NATIVE GUANO, FOR POTATOS, VEGETABLES, &c.
H. BRINKWORTH, Potato Grower, Reading, used for Potatos, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatos large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c.
J. PEED & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. H. ORRILL, Gardens:—"Used for Vegetables, Tomatos, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatos, and many other things. The Cheapest Manure in the Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

THE "CLIMAX" INSECTICIDE.

The Cheapest and Best of all Insecticides.

As a Wash for Plants for destroying all kinds of Insects and Parasites, which infest the foliage and roots, such as Green and Black Fly, Mealy Bug, Scale and Thrip, Red Spider, American Blight, Woolly Aphis, Caterpillar, Wood Lice, &c.

Price in tins—4 Flat, 1s.; 1 Pint, 1s. 9d.; 1 Quart, 3s.; ½ Gallon, 5s.; 1 Gallon, 9s.; 5 and 10 Gallon Drums, 8s. per Gallon. Carriage Paid.

Testimonials and Particulars sent free on application.

PREPARED SOLELY BY

THE BOUNDARY CHEMICAL CO., LTD.,
LUTON STREET, LIVERPOOL.

IMPORTANT TO GARDENERS, AMATEURS, AND OTHERS, WHO FUMIGATE HOUSES

TO KILL FLY, OR "THRIP." You will shortly be ordering your Spring Supply of Fumigating Material. Why lay in a heavy stock of tobacco paper, uncertain in quality, often disappointing, and very unpleasant to use, when you can have a SAFE, RELIABLE article, and one that is pleasant to use?

THE FIRST OF ITS CLASS, AND STILL THE ONLY ONE



On which you can thoroughly depend. The manufacture is much improved and it can be ordered without any risk of the disappointment often attending fumigation.

PRICES:—

For houses with 1000 cubic ft., No. 3 Roll, 1/6 each; Post a capacity of 12000 " " " 4 " 1/9 " 1/6 each. The Rolls may be cut for houses of a smaller capacity, or to make up required quantities for larger houses.

LEMON OIL INSECTICIDE.—The safest and most effective Liquid Insecticide for dipping or syringing.

PRICES, post free:—Pints, 1s. 10d.; quarts, 3s. 3d.; half gallons, 5s. 9d.

CLIBRAN'S EUCARIAS MITE KILLER.—A truly reliable remedy, has saved thousands of bulbs.

PRICES, post free:—Half pints, 1s. 9d.; pints, 2s. 9d.; quarts, 4s. 9d.; half-gallons, 8s.

OR FROM YOUR SEEDSMAN,
WM. CLIBRAN & SON,
OLDFIELD NURSERIES, ALFRINCHAM;
10 & 12, MARKET STREET, MANCHESTER;
And Principality Nurseries, Dewgway, Llandudno.

INNES' FERTILITAS.—THE VINE AND PLANT FOOD.—Of all Nursery and Seedsmen, or direct, 15s. per cwt., carriage paid to all Stations. References and testimonials of the Sole Makers—
W. INNES AND CO., Sunny Hill Vineery, Littleover, Derby.

For all INSECT PESTS in Greenhouses and Frames, nothing has proved equal to the

LETHORION (VAPOUR CONE),
(PATENT).



They are now universally admitted to be thoroughly uniform in strength, and safe for any Plant or Flower, even if four times the quantity are used.

Scale and Mealy Bug may be completely eradicated by using the Cones double strength.

PRICES.—For Frames, &c., of 50 cubic feet, 6d.; 100 ft., 9d.; 500 feet, 1s.; 1000 feet, 1s. 6d.; 5000 feet, 5s. each.

THE HOUSES SHOULD BE WELL SECURED.

CORRY & CO., Ltd., 16, Finsbury Street, LONDON, E.C.

THE "STOTT" SPECIALTES

For Destruction of Insect Pests.

Patent Distributor, Patent Syringe, Patent Sprayers.

KILLMIGHT,

2-oz. Sample post-free on application.

Testimonials and Price Lists on application. Retail from Ironmongers and Seedsmen. Wholesale and Retail from the Stott Distributor Co., Ltd., Barton House, Manchester

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in later from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GIINSURINE keeps, Boats dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 3s. per sack; 5 for 22s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 13s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPS'S Selected

For ORCHIDS, STOVE PLANTS, Hardwood do., Ferns, and Rhododendrons, by sack, yard, too, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPAGNUM, PATENT MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter. The Original Peat Depot, RINGWOOD, HANTS.

RICHARDS' NOTED

ORCHID and other SELECTED PEATS (Owa Grounds), SOILS, MANURES, and every description of GARDEN SUNDRIES.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E.

Write for Samples and Price List. Post-free. CHIEF PEAT DEPOT: RINGWOOD, HANTS.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

BOILING WATER OR MILK. EPPS'S GRATEFUL-COMFORTING. COCOA BREAKFAST-SUPPER.

THREE MILLIONS

HAVE BEEN PAID BY THE

RAILWAY PASSENGERS ASSURANCE COMPANY,
FOR ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN, }

FREE GRANTS OF LAND IN MANITOBA and other PARTS OF CANADA.—The reports (illustrated) of the twelve British Tenant-Farmers who visited Canada in 1890, and other pamphlets issued under the authority of the Imperial and Dominion Governments, containing maps and full information as to land regulations, bonuses granted to settlers, openings for capital, demand for labour, rates of wages, cost of living, and all other particulars, may be had post-free, on applying to the High Commissioner for Canada (Mr. J. G. COLMER, C.M.G., Secretary, 17, Victoria Street, London, S.W.; or to Mr. JOHN DYKE, Canadian Government Agent, 15, Water Street, Liverpool.

AGENTS WANTED FOR THE SALE OF NATIVE GUANO. The Best and Cheapest Manure for all Farm and Garden Crops.—THE NATIVE GUANO COMPANY, LIMITED, 29, New Bridge Street, Blackfriars, London, E.C.

SIX CABINET PORTRAITS, 3s.; three for 1s. 6d. 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 6s. Stamp size, 2s. 4d. 100 for 3s. 3d. Send Card or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—FRANCIS AND CO., 29, Ludgate Hill, London.

CHAS. FRAZER'S EXORS.—Conservatories, Orchard-houses, Vineries, Greenhouses, Plant and Forcing houses. Best Materials and Workmanship guaranteed, at Moderate rates. Intending Purchasers waited upon by appointment. HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Pottery Appliances, Portable Summer-houses, Tool-houses, Figoos, Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps. PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

NOW READY.—THE GARDEN ANNUAL

Almanack and Address Book for 1892. Containing the most authentic lists of (1), Nurserymen, Seedsmen, and Florists in the United Kingdom; (2), Foreign Nurserymen, Seedsmen and Florists; (3), Horticultural Builders, Engineers, and Sundries in the United Kingdom; (4), the Principal Nurserymen and Florists in the United States, and their Addresses; (5), the Principal Gardens of the United Kingdom, in the order of the Counties; (6), the Principal Gardens and country in the United Kingdom; (7), the Gardeners in the United Kingdom, and their Addresses; New Plans of the past year; and other information. The most complete and accurate reference book for the use of all interested in gardens. Price 1s. 3d., post-free, 1s. 3d., of all booksellers, newsgists, or from the Publishing Office, 37, Southampton Street, Strand, London, W.C.

Agricultural Economist.

An ILLUSTRATED MONTHLY MAGAZINE, of 52 pages and cover. Exponent of scientific and high farming; advocate of co-operation in agriculture, in the supply of farm requisites, and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of pure oifakes, complete manures, reliable seeds, and implements on wholesale terms. Specimen copy free. Subscription, per annum, 5s., inclusive of postage. Single copies 6d. each, through all Newsagents.

3, Agar Street, Strand, London, W.C.

Belgian.

BULLETTIN D'ARBORICULTURE, DE FLORICULTURE, et de CULTURE MARAICHERE. A monthly horticultural work, with superb Coloured Plates and Illustrations. Published since 1865, by F. BURVENICH, F. PAYMANT, E. RODIGAS, and H. J. VAN HULLE, Professors at the Horticultural School of the Belgian Government at Ghent. Post-paid, 10s. per annum.

H. J. VAN HULLE, Botanical Gardens, Ghent, Belgium.

WANTED, a GARDENER.—Can any Gentleman recommend a good active HEAD GARDENER, who could also act as a Pooy? Under Gardener and boy kept. Wages a guinea a week, house over stable.—Rev. F. St. J. THACKERAY, Mapledurham Vicarage, Reading.

WANTED, a WORKING GARDENER, where Under is kept. Must be well up in Early Forcing, Greenhouse, and Outdoor Work, and have especially good testimonials. Wages 25s., with good cottage and fringe. Apply, stating age, what family (if any), and particulars of former engagements, to H. T. Arkley House, High Barret.

WANTED, as UNDER GARDENER, a good strong and obliging young man, not under 20 years of age, to work inside and out, and take turns with Fires. With good character. Wages to commence at 1s. per week. Abstarer preferred.—Apply to F. H. The Gardens, Harewood's Outwood, near Redhill, Surrey.

WANTED, a married Man, as GARDENER, to Manage, with another, Little Glas, Orchard, two Cows, and Poultry.—Address B. 38, King Street, Covent Garden, London, W.C.

WANTED, a young MAN, as CHRYSANTHEMUM GROWER only, with assistance for Market. A permanent situation to a thorough practical energetic man. Also a young MAN in the Houses, quick at Watering, Potting, and Tying, and used to Market Nurseries with Botby on the place.—State ages, experiences, references, and salary required, to GEO. A. WILLIAMSON, Bloomsbury Nursery, Timperley, Manchester.

WANTED, a GOOD HAND, for medium-sized Outdoor General Nursery. Propagation under Glass and Outdoors. Also a GENERAL HAND, married, House found.—Apply, stating ages, experience, wages, &c., to E. D. SHUTTEWORTH and CO., Ltd., Albert Nurseries, Fleet, Hants.

WANTED, a steady and reliable married MAN, 25 to 30 years of age, who has had experience in Pleasure Grounds, 15s. per week, with house and garden.—Testimonials to G. SHOTTON, The Gardens, Swarland Hall, Felton, Northumbria.

WANTED, a married MAN, as FOREMAN, used to Nursery work, to take charge of about 25 acres in the country under Nursery Manager. Wages 21s., with House and Garden on the ground. State particulars of age, family, and references, to Box 59, P.O., Hull.

WANTED, an experienced MAN as FOREMAN, in the House in a large establishment, within 13 miles of London.—Must be a good Planter, with knowledge of Orchard Growing. Character to bear strictest investigation. Wages 21s. per week with botby.—Apply, enclosing copies of testimonials, to B. A. Gardener's Chronicle Office, 41, Wellington Street, Strand, London, W.C.

WANTED, as OUTSIDE FOREMAN in a private establishment. MAN well up in ground-work and planting, capable of taking charge of a large staff of men. Wages 20s. per week and botby, or a married man, without family, to live in Lodge. Must be well recommended.—Testimonials, to F. O. Gardener's Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED a good FOREMAN to take charge of House and Fires, &c. None need apply but those who have had good experience and can be thoroughly well recommended; Age not under 25.—Address, Mr. N. RICHES, The Gardens, Royland Hall, Long Stratton, Norfolk.

WANTED, an UNDER FOREMAN, in Fruit and Rose Department. Must be well up in Budding, Grafting, and Layering, and know Fruit Trees and Roses well.—Apply, stating wages required, to WILLIAM BARON and SON, Elvaston Nurseries, Ilkworth, Derby.

WANTED, an active, married MAN, with good character, for Kitchen Garden, Mowing, &c.; one that could do a little rough painting preferred. Wages 16s., with Cottage.—H. OSMAN, Brentley Gardens, Westbury-on-Trym, Gloucester.

WANTED a MAN for Lawns and Pleasure Grounds, one accustomed to Scythe and Machetes, with good reference. State age and experience. Wages 17s. 6d. per week, botby, milk, and vegetables.—G. GEDDING, The Gardens, Manden Park, Catterham Valley.

WANTED, a young MAN, as JOURNEYMAN MAN, for Conservatory, Vinery, Melons, Chrysanthemums, &c. Wages to commence at 15s. per week. Botby, Milk, and Vegetables.—State age and experience, &c., to J. Gardener's Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED—A young MAN, for the Kitchen Garden and Grounds. Wages 20s. with Botby Cook and Vegetables—Apply, Mr. DAVIES, Wingfield Park Gardens, Peetrich, Derby.

WANTED, a smart experienced young MAN, to Stand in Markets with Plants and Seeds, and fill up time in Shop or Nursery. Constant employment. References required.—YARDE and CO., Seed Growers, Northampton.

WANTED.—A CLERK for Clapton Nursery, 3 miles from Cleveon, must be good correspondent, energetic, and trustworthy. English, be good at giving full particulars, to L. L. GLENN, Cleveon and Clapton Nurseries, Cleveon.

WANTED an ASSISTANT SHOPMAN, with a thorough knowledge of Vegetable, Flower and Farm Seed; state age, experience and references, also salary required.—TODD and SONS, The Queen's Seedsmen, Southampton.

WANTED, experienced, intelligent, active man, about 30, as SINGLE-HANDED GARDENER, pump, knives, &c.; indoors. Very quiet locality. Wages 18s. and cottage.—Address Miss ALICE LUSHINGTON, Alton, Hants., showing no reply; unsuitable applications answered.

WANTED, an ASSISTANT SHOPMAN for the Seed and Floral Trade. Must be a quick counter hand, of good address, and possess undeniable references.—EDWIN HILLIER, The Nursery, Seed, and Floral Depot, Winchester.

WANTED, in a small country town, a JUNIOR ASSISTANT in the general seed and core trade, and to help with the books. State age, experience, and salary expected to E. TOVEY, Seedsmen, Lechlade, Glos.

Nursery and Seed Trade.
WANTED, an ASSISTANT SHOPMAN; must be used to Counter work, and have a good knowledge of the Trade.—DANIELS BROS., Norwich.

Seed Trade.
WANTED, a JUNIOR SHOPMAN—State age, experience, and salary.—Apply, to Y. G. Gardener's Chronicle Office, 41, Wellington Street, Strand, W.C.

FLORISTS.—A young LADY REQUIRED. Must be well up first class.—Apply by letter to A. E. M., 49, Weston Hill, Upper Norwood, S.E.

WANT PLACES.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. "Telegraphic and Postal Address—"DICKSONS, CHESTER."

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BAILIFFS, or GARDENERS.

JAMES CARTER and CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

RICHARD SMITH and CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, The Vineyard and Nurseries, Garston, near Liverpool, wish to recommend to any Nobleman or Gentleman who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterspool, near Liverpool.—Full particulars on application to the Company.

Head gardeners.

JOHN LAING and SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

GARDENER (HEAD); age 33.—J. E. McCLEAVE, eight years Head Gardener to B. Heywood Jones, Esq., Radswood Hall, Pontefract, is open to a re-engagement in a good establishment. Nineteen years' experience in all branches. Testimonials of the highest order.—Catsclough, Winsford, Cheshire.

GARDENER (HEAD).—Age 39: life experience; all branches, Land, Stock. Eleven years' Head, Good character and testimonials. Wife Dairy if required.—L. Brook Glen, Redhill, Surrey.

GARDENER (HEAD), in a good establishment. Any nobleman, Lady, or gentleman, requiring a thoroughly practical man, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

GARDENER (HEAD).—Age 38, married, no family.—ALFRED BARKER, for the past nine years Head Gardener to Right Hon. Earl Dunsaville, Adare Manor, Limerick, wishes to re-engage with any Nobleman, Gentleman, or Lady requiring a thoroughly practical Gardener. Has had twenty-three years' experience in some of the largest and best establishments in England and Ireland. Is thoroughly conversant with the requirements of a first-class establishment. Will be highly recommended. For further particulars apply A. BARKER, Settrington, Yorks.

GARDENER (HEAD), where three or more are kept.—Age 36, married; thoroughly understands the Management of a first-class place, having had great experience in Orchids, Stove Plants, and Early and Late Vineries, &c. Twelve years' character from last place as Head. Left through gentleman going abroad.—J. C. HOLME, Lea, Beckenham, Kent.

GARDENER (HEAD), where several under are employed.—Age 39, married, one boy (twelve years); open to engage with Lady or Gentleman requiring the services of a good all-round practical Gardener. Excellent testimonials. Fourteen years as Head Gardener.—W. S. 306, High Street, Acton, W.

GARDENER (HEAD).—Age 46, married. Life experience in all branches, Land and Stock (fifteen years as Head). Excellent character and testimonials.—A. B. 3, Rivers Cottage, Stanley Road, Epsom, Surrey.

GARDENER (HEAD); Age 30.—Mr. G. RICHMOND can with confidence recommend his Foreman as above. Fourteen years' general experience in first-class establishments. Highest references.—W. M. SHERWIN, Shipley Hall Gardens, near Derby.

GARDENER (HEAD), where three or four are kept.—Age 30; good experience in all branches of a first-class garden. Highest references.—F. H. Mr. Parsons, Pampisford, Cambs.

GARDENER (HEAD), or MANAGER, where Surplus Produce is Disposed of.—Age 40, three children, youngest 10. Brought up to the profession. Thoroughly experienced in Growing Fruit, Flowers, and Vegetables, Inside and Out. Five years' character from present employer.—T. B. Redlands Gardens, Emsworth, Hants.

GARDENER (HEAD), where two or more are kept.—Age 42, married, Scotch; thoroughly understands Gardening in all its branches, having had a life-long experience. Well up in Grapes, Peaches, Tomatoes, &c.—DOUGLAS BROWN, 16, Vorley Road, Upper Holloway, London.

GARDENER (HEAD WORKING), where three or more are kept.—Age 27, married when suited; three years in similar position. Well experienced in all kinds of Fruit Forcing, Stove and Greenhouse Plants, Flower and Kitchen Gardening. Good testimonials from large establishments. Apply, in first instance, to D. W. Gardener's Chronicle Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING), age 32, married, no family.—A Lady wishes to recommend a thorough practical all-round man. Life experience. Excellent characters. Has been with her three and a half years. Leaving through death.—H. TULLETT, The Trovick, Tooting.

GARDENER (HEAD WORKING).—Age 34, married; a good all round man. Excellent reference from present employer. He is highly recommended by Mr. KIRK, Gardener to Lord Selborne, Blackmoor. Abstarer twenty years.—D. BAKER, The Vicarage, Selborne, Hants.

GARDENER (HEAD WORKING).—Age 32, married; seventeen years' experience. Three years in present place. Good characters from present and previous situations.—S. SMITH, Arkley House, Barret.

GARDENER (HEAD WORKING).—Fourteen years' practical experience in Fruits under Glass, Stove and greenhouse Plants, Flower and Kitchen Gardening. Excellent testimonials.—GARDENER, Edwold, Bagshot, Surrey.

GARDENER (HEAD WORKING).—A Lady wishes to recommend her Foreman who has served her five years. Thoroughly Practical in all branches, including Orchids. 16 years' experience outside and inside. Age 33. Apply, in first instance, Mr. STOTT, The Cedars, Upper Tooting, Surrey.

GARDENER (HEAD WORKING).—Age 32, married, no family; eighteen years' thorough experience in all branches, Vines, Melons, Tomatoes, Table Decorations, &c. Leaving of own accord. Good testimonials and character from present employer.—F. T. The Lodge, Firdfield, Aldstone, Surrey.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 38, married, no family; life experience; leaving through lady giving up; can be both well recommended as caretaker; good testimonials, and personal character if required.—CHALLIS, Mounfield, Finchley Road, Kilburn, N.W.

GARDENER (HEAD WORKING), where one or more are kept.—Age 28, married; ten years' experience; six years' good character; total abstarer.—O. J. Poston House Gardens, Breatford.

GARDENER (HEAD WORKING).—Age 30. E. CLARKE, Cannon Hall Gardens, Bursley, wishes to recommend his Foreman, A. Campin, to any Lady or Gentleman requiring a thorough practical man. Fifteen years' experience in good places.

GARDENER (HEAD WORKING).—Age 32, married, no family. Thoroughly experienced in all branches of the profession. Highly recommended.—GARDENER, North Terrace, Farnham Park, Bishops Cleeve, S.E.

GARDENER (HEAD WORKING).—Age 48, married, no family. Twenty-four years' practical experience as Head Gardener. Sixteen years in last situation. Excellent character.—D. W. BAKER, Butleigh, Glastonbury, Somerset.

GARDENER (HEAD WORKING), where six or more are kept.—Age 28; first-class experience in all branches, and thoroughly conversant with the requirements of a first-class establishment. Highly recommended.—J. SMITH, Lower Castle Gardens, Penrith.

GARDENER (HEAD WORKING).—Age 28. Fourteen years' practical experience in all branches. Excellent references and testimonials as to character and abilities.—GARDNER, Scutcliffe, Mordford, nr. Hereford.

GARDENER (HEAD WORKING).—A Trustworthy, intelligent, and thoroughly practical. Single. Abstarer. High testimonials. Home Counties preferred.—J. H. 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING), where three or more are kept; married, no family; thoroughly situated in all branches of gardening; five years in last situation, and fourteen years in previous one.—G. SATYR, Barnley, Guildford.

GARDENER (HEAD WORKING).—Age 38; married, one child (age 12); thoroughly practical. Well recommended by present and previous employers.—W.M. COUSENS, The Lodge, South Park, Sevenoaks.

GARDENER (HEAD, OR SINGLE-HANDED). married, no family; good all round practical experience, first-class references from present and previous employers. P. DOLP, Swanland Manor Gardens, Bromley, Yorks.

GARDENER (HEAD OR SINGLE-HANDED).—Age 20. Thoroughly experienced in Fruit Culture under glass. Vines, Tomatoes, Cucumbers. Pleasure Grounds. First-class furnisher and table decorator. Grower of specimens for competition.—A. S. Havelock Road, Bromley, Kent.

GARDENER (SINGLE-HANDED).—Age 24; abstainer. Seven years' experience inside and out. Good references.—T. GILBERT, 6, Heathfield Villas, Beulah Road, Thornton Heath.

GARDENER (good SINGLE-HANDED).—Age 24. Eight years' experience in good gardens. Well recommended by present and previous employers.—J. H. The Gardens, Blackmoor House, Petersfield, Hants.

GARDENER (SINGLE-HANDED, or where two are kept).—Age 22; good experience inside and out. Chelsea preferred.—A. SNELLING, 56, Stamford Terrace, Stamford Hill, N.

GARDENER.—Age 45, married, energetic. Thoroughly practical, including Grapes, Peaches, Melons, Orchids, and Roses. Good reasons for leaving. Highly recommended.—W. J., Brynallu, Swansea, Wales.

GARDENER (SECOND).—Age 27; Two years in present situation as Second; experienced with Vines, Peaches and Nectarines, Stables and Greenhouse Plants; First-class references; Bothy preferred.—THOMAS JONES, The Gardens, Abbeyfield, Pittsmoor, Sheffield.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 25, married, no family; ten years' experience, inside and out, Melons, Cucumbers, and Tomatoes. Good references.—J. The Grove, Hertford.

GARDENER (UNDER OR SINGLE-HANDED). Married, no family; no objection to one or two Cows; Six Years' Character.—GARDENER, Duke's Rowwell, near Chelmsford, Essex.

GARDENER (UNDER).—Age 26; five years' character. Can be very well recommended.—A. R. Gordon Cottage, Gordon Road, Canterbury.

GARDENER.—Situation wanted by a German as Nurseryman, not able to speak English; under moderate terms.—Offers to O. H. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR AND GROWER.—Age 25; ten years' practical experience in all branches. London and Chelsea. Bothy preferred.—N. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR AND GROWER for Market.—Age 28. Twelve years' experience in Tomatoes, Cucumbers, Plants, Ferns, Roses, Bulbs, Forcing, Wreaths, Bouquets, &c.—E. W., care of R. Carmyle, Long Lane, Brighthelm, N.H.

PROPAGATOR AND GROWER.—Cut Flowers, Ferns, &c., Tomatoes, Cucumbers, &c. Twenty years' London experience. Ten years last situation.—E. W., Mr. C. Doncaster, 11, Hirkbeck Road, Acton, W.

To Nurserymen.

PROPAGATOR AND GROWER of Soft-wooded Stuff, Ferns, &c.—Age 24; ten years' experience. Good references.—W. CLAYDEN, 8, Trinity Terrace, Collage Park, Lewisham.

FOREMAN, PROPAGATOR, AND GROWER.—Age 23, married; fourteen years' experience in London and Province nurseries; Stove and Greenhouse Plants, Roses, Ferns, Palms, Grapes, Tomatoes, Cucumbers, &c. Well up in Wreaths, Sprays, Decorations, and the Trade generally. Good references.—A. W., 4, Park Cottages, Church End, Finchley, N.

FOREMAN, Inside, where two or three are kept.—Mr. W. DAVIES would be pleased to recommend J. Hamer as above. Abstainer. Wingfield Park Gardens, Pentrich, Derby.

To Nurserymen and Fruit Growers.

FOREMAN (HARDY FRUIT TREES), well up in the business; exceptional experience.—POMME, *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

FOREMAN.—Married; fourteen years' experience in Growing Roses, Azaleas, Foliage Plants, Ferns, &c. Soft-wooded stuff; Cut Flowers for Market. Good references. Four years in present place.—W. HOWE, 15, Choumont Grove, Peckham, S.E.

FOREMAN in a good establishment.—Age 25. Well up in Stove and Greenhouse Plants, Fruit Culture. Over two years as Foreman in present situation. Good character from present and previous employers.—J. WELLS, Sheffield Manor, Basinstoke.

FOREMAN, Stanmore Park Estate; JOURNEYMAN for Bentley Priory Gardens.—WILLIAM TAYLOR THANKS the ALFORDS, and begs to say both places are NOW FILLED.

FOREMAN, Age 20.—Mr. G. THOMSON, Gardener, Easney, Ware, Herts, would like to recommend his Foreman, H. Carpenter, to any Gardener in want of a good man. Well experienced. Two years in present situation. Abstainer.

FOREMAN, in a good establishment. Age 23. Has good knowledge of Stove and Greenhouse Plants, also early and late forcing. Good references.—S. CONN, Oakley Cottage, Nantun Crescent, Cheltenham.

FOREMAN, in the Houses, or SINGLE-HANDED, where there is glass.—Age 25, married when suited; good character from present place.—W. G. WORSFOLD, Rose Cottage, Naseley, near Warwick.

FOREMAN, Inside.—Age 24; ten years' experience. Good characters.—Z., Mr. Sauniers, Bushey Heath, Herts.

FOREMAN (GENERAL). Mr. HUMPHREY Nash Court, Eversham, would be pleased to recommend his Foreman (George Burrows) as above, three years' experience as Foreman and eleven as Journeyman, &c., under first-class Gardeners; very energetic and trustworthy. Age 25.

FOREMAN (KITCHEN GARDEN, or SINGLE-HANDED), age 30, married, seeks re-engagement.—Thoroughly practical all round. Testimonials from present and previous employers.—ELLIOTT, Heathfield, Addington, Croydon.

FOREMAN (NURSERY), ROSE-GROWER or PROPAGATOR. Good references. Age 31; married; disengaged middle of February. H. PEWTERESS, Fleet Road, Fleet, Hants.

To Market Gardeners.

FOREMAN, by a married man, who thoroughly understands the business in all its branches.—G. M., 8, Tramway Avenue, Chiswick.

FOREMAN, in a good Establishment.—C. FULKE can with every confidence recommend his Foreman, P. Lepton, as above.—Scampton Hall, Killington, York.

FOREMAN or JOURNEYMAN (First) in the Houses in a good establishment.—Respectable young man, age 23; eight years' experience. Can be well recommended.—W., West View, Hallow Road, Wrotham.

FOREMAN, in the houses.—Mr. G. BRADY, J. Wells to any Gardener requiring the above. First-class testimonials.

FOREMAN.—W. INNES & Co. have much pleasure in recommending their Foreman, who has been with them for eighteen months as Indoor Foreman in either his private or market establishment. Seven and a half years in his last situation. Well up in Fruit, Plants, and Cut Flowers.—A. DAVIES, Sunninghill Vicery, Littleover, Derby.

JOURNEYMAN, age 19.—W. COLE, Clewer Manor Gardens, Clewer, can with confidence recommend preferred.

JOURNEYMAN in the Houses, or inside and out.—Age 18. Five years' experience; strong and willing. Bothy preferred.—P. CONSTABLE, The Gardens, Holmsham, near Horsham, Sussex.

JOURNEYMAN, in the Houses.—Age 19; four years' experience in Fruit and Plants. Last twelve months Grape-growing. Good character.—W. H. HAVILAND, Sunninghill Viceries, Littleover, Derby.

JOURNEYMAN, in the houses or otherwise.—Age 21. Six years' experience; thorough good character. Active, industrious, and obliging.—GARDENER, Moreton House, Bideford, Devon.

JOURNEYMAN in the Houses.—Age 19. EDWIN BECKETT, gardener to H. H. Gibbs, M.P., will be pleased to recommend a young man as above, who has lived under him the last five years. Strong, active, and willing.—W. CHILDS, The Garden, Aldenham House, Elstree, Herts.

JOURNEYMAN, in a good establishment.—Age 22; seven years' experience. Good references. Hayes, Beckenham, Kent.

JOURNEYMAN, under Glass.—Four years' experience as Second Gardener, Inside and Out. Can be well recommended.—J. COURT, Elmore Gardens, Chipstead, Redhill.

JOURNEYMAN, in the Houses; age 20.—W. BAILLIE, Luton Hoe Gardens, Luton. Beds, can with confidence recommend F. Willis as above; three years in present situation.

JOURNEYMAN for the Houses (cut flowers).—Age 26. Nine years' experience. Well up in Orchids. Seeks re-engagement.—R. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, in the Houses or Inside and Out.—Age 22; eight years' experience; three years in present situation; good references from present and previous employers. Bothy preferred.—J. F. JACKSON, The Gardens, Womersley Park, near Pontefract, Yorks.

JOURNEYMAN.—Age 21; has had experience both inside and out. Five years' good character.—G. DODD, Woodlitch, Reigate.

JOURNEYMAN, in the Houses.—Age 22; two years in last place. Can be well recommended.—F. JENNINGS, The Gardens, Roslands, Woolston, Southampton.

IMPROVER, under Glass; age 18.—W. II. DYKES, Ketton Hall Gardens, Stamford, will be pleased to recommend a Lad who has been four years at Ketton Hall.

IMPROVER, under a good Gardener.—Age 20; six years' experience. Good character.—A. COZENS, Thuring Rectory, East Dereham.

IMPROVER, under a good Gardener (Inside and Out).—Age 18. Four years' experience. Good character.—W. EVERETT, Holypot, near Maidenhead, Berks.

IMPROVER in a gentleman's garden.—Age 18. Some experience in Grapes, Tomatoes, Cucumbers, &c. Well used to stoking. Bothy.—W. H. JOHNSON, Shipton Market Weighton.

To Nurserymen.

MANAGER (WORKING).—Age 35; with a view to future Partnership. Twenty years' experience, chiefly Out-of-doors. Has a knowledge of Seed and Florist business.—G. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

MANAGER.—Age 40, married; life experience in Growing large quantities of Fruit, Flowers, and Vegetables for Sale. Thoroughly versed in Management of business. Five years in present position as Manager.—T. WILLS, Redland Nursery, Edmsworth, Hants.

TO GENTLEMEN AND GARDENERS.—A young man, age 18, seeks re-engagement under a Foreman in a good establishment. Two years in last situation. Good reference.—W. W., The Gardens, Hafodunos, North Wales.

TO GARDENERS, &c.—A Young Man (age 20) requires a situation in a Gentleman's Garden; good knowledge inside and out. Quick and willing. One year and ten months' good character.—CHALLIS, Fern Bank Road, Ascot, Berkshire.

TO GARDENERS, &c.—A young man, age 21, with twelve months' experience inside, desires re-engagement under a Foreman in the Houses.—E. H., 43, Rigault Road, Fulham, London, S. W.

TO GARDENERS.—A young Man, age 20, seeks re-engagement on a Gentleman's Estate as IMPROVER. Has had four years under Glass. Good references.—C. GROVES, 1, Cyprus Villas, Ventnor, I. W.

TO NURSERYMEN.—Appointment wanted in good nursery office; long experience of the business. For many years had charge of correspondence and cash in a large establishment. Highest testimonials from past and present employers.—SCOTT, Old Nurseries, Maidstone.

TO NURSERYMEN.—Situation wanted. Well up in General Market Stuff. Could act as Salesman if required. Eight years in last situation as Salesman. Married. London or Country.—H. F., 4, Hubbard's Terrace, Crownfield Road, Leytonstone, N.E.

TO NURSERYMEN.—Situation wanted by a young Man, well up in Tomatoes, Vines, Cucumbers, &c. Good references.—J. E., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN, &c.—Engagement Wanted. Prize floral hand, knowledge of nursery staff, Bulbs, Seeds, Plants, and counter work; good window-dresser; could undertake books, correspondence, &c.; also travelling, management of business or branch preferred. Good appearance; age 23, single. P. H. B., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—Situation wanted by a young man (aged 19). Inside or Outside. Four years' experience. Two years' good character from present employer.—Apply, GILBERT DAVIDSON, Annanford, R.S.O., South Wales.

TO NURSERYMEN.—Advertiser desires re-engagement in a good Nursery, where things are done well. Age 21. Experienced. Good character.—TANDY, Llysnon Gardens, St. Clears, Carmarthenshire.

TRAVELLER seeks a situation in the Horticultural Trade. Has filled similar appointment. Good references.—C. J. G., 32, Queen Street, Edgware Road, London, W.

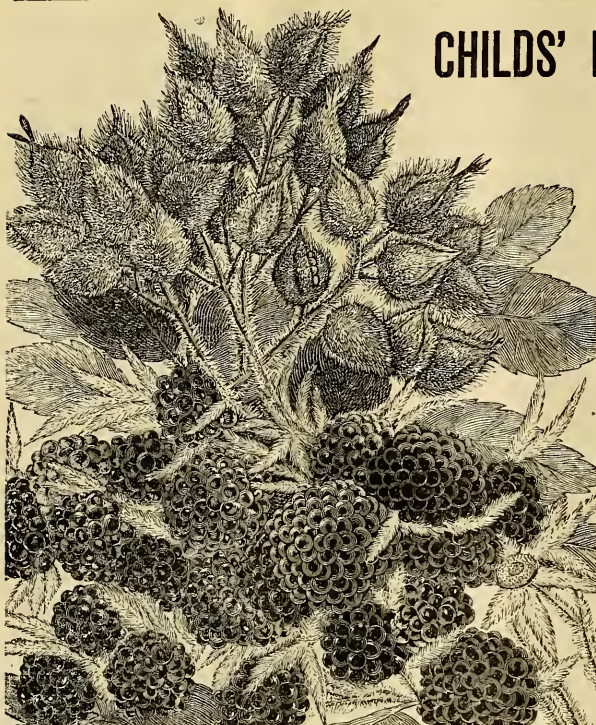
SHOPMAN.—Age 25; nine years' experience in Seed, Bulb, Plant, and Nursery Trade. Terms moderate. Good references.—Z., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FLORISTS, or FLORISTS & FRUITERS.—A young Lady desires re-engagement. Ten years' good experience; first-class reference.—FLORIST, 14, Clarendon Road, West Green, Tottenham.

TO FLORISTS.—Situation wanted in a high-class Florists' Shop. Thoroughly experienced in all branches. Highest references.—T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

HOLLOWAY'S OINTMENT AND PILLS.—Shortness of Breath, Cough, and Cold.—Thousands of testimonials can be produced to prove the power possessed by these corrective remedies in cases of asthma, incipient consumption, and all disorders of the chest and lungs. The Ointment is well rubbed upon the chest and back, penetrating the skin, is absorbed and carried directly to the lungs, where, in immediate contact with the whole mass of circulating blood, it neutralises or expels those impurities, which are the foundation of consumption, asthma, bronchitis, pneumonia, and similar complaints. On the appearance of the first conspicuous symptoms, the back and chest of the patient should be treated with warm brine, dried with a coarse cloth, and Holloway's Ointment then well rubbed in. Its absorption will subdue advancing symptoms, and baffle this formidable foe.

CHILDS' NEW JAPANESE WINEBERRY.



This is the greatest fruit novelty of this generation. The bushes grow 5 to 7 feet in height, and stand alike the cold of northern winters, and the heat of tropical summers without the slightest degree of injury. The fruit is borne in large clusters, often 75 to 100 berries in a bunch. These berries are, from the time of formation and bloom, until they ripen, enclosed in a "burr," which is formed by the calyx covering them entirely. When ripe, the burr opens, exhibiting a large berry of the brightest, light, glossy-crimson colour. The burrs and stems are covered with a heavy reddish moss, like a Moss Rose bud. It is absolutely free from all insect ravages. The flavour of the fruit is entirely different from any other berry, being very sprightly, sweet, and juicy, having no disagreeable sour, but a delicate and luscious flavour peculiar to itself, and superior to other berries. For canning, or preserving, the Wineberry is greatly superior to any other fruit. It is the only fruit which will retain its fresh, sprightly flavour after being cooked, and for cooking in any form there is nothing that can compare with it. The berries are very juicy, and make a wine which for beauty and delicious quality is superior to anything heretofore known. It commences to ripen early in the summer, and continues in bearing for a long time. It is the most prolific berry known, the bushes being literally covered with its luscious fruit year after year. This, the grandest of all berries, grows freely and rapidly from seed, and produces a full crop of fruit the second summer, or twelve to fifteen months from the time of sowing. We can send Seed by Sample Post to any part of the World, at 1s. per packet, five packets for 4s. We can also supply 1-yr. old plants at 10s. per dozen. Also—

- 12 Extra Choice Mixed GLADIOLUS, large-flowering, and a magnificent range of colours 2s.
 12 Double Dwarf "Excelsior" Pearl TUBEROSES, magnificent large flowers, the best of all 4s.
 5 Beautiful Flowering CACTI, five splendid and rare sorts, named ... 3s.
 10 Packets NEW AMERICAN FLOWER SEEDS, magnificent sorts, of great value and beauty 3s

SPECIAL OFFER. For TEN SHILLINGS we will send, carriage paid to any part of the world, everything here offered, Wir cherry Seed, Gladiolus, Tuberoses, Cacti, Seed and Catalogue. Order at once, as these offers may not appear again.

OUR CATALOGUE for 1892 (a superb work of art in bronze blue), of FLOWER and VEGETABLE SEEDS, BULBS, PLANTS, and RARE NEW FRUITS, is the most magnificent work of the kind ever issued. It contains 152 pages, hundreds of elegant engravings, stipple lithograph covers, and seven beautiful, large, coloured plates. We offer the finest novelties in Flower and Vegetable Seeds, Bulbs, Plants, Fruits, &c. Also the greatest collection of rare Cacti and Flowering Shrubs, new Aquatic Plants, &c. This elegant Catalogue will be sent FREE with all orders, or on application. Remember that we send our Seeds, Bulbs, and Plants to every country in the world, and that we are the largest retailers of these articles in existence.

Address:—JOHN LEWIS CHILDS, Floral Park, Queen's Co., N.Y., U.S.A.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

GARDEN FRAMES in great VARIETY.



No. 60.
PORTABLE PLANT
PRESERVER.

CASH PRICES.		CARRIAGE PAID.	
6 ft. by 3 ft.	... £2 0 0	6 ft. by 4 ft.	... £2 5 0
12 ft. by 3 ft.	... 3 2 0	12 ft. by 4 ft.	... 3 15 0

No. 73.
NEW SPAN-ROOF
GARDEN FRAME.

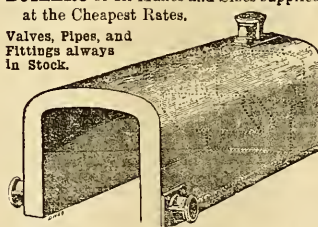


CASH PRICES.		CARRIAGE PAID.	
4 ft. by 6 ft.	... £2 14 0	12 ft. by 6 ft.	... £5 14 0
6 ft. by 6 ft.	... 4 4 0	16 ft. by 6 ft.	... 7 4 0

All Frames made of Select Red Deal, painted three times, and Lights glazed with 21-oz. sheet glass.
 CARRIAGE PAID ON ALL ORDERS OF 40s. VALUE.

BOILERS of all Makes and Sizes supplied at the Cheapest Rates.

Valves, Pipes, and Fittings always in Stock.



Our Celebrated
No. 4 CHECK END BOILER.

To heat from 300 to 5000 feet of 4-inch piping.

Prices on application.

GARDEN FRAMES in great VARIETY.

No. 74.
THREE-QUARTER
SPAN
GARDEN FRAME.



CASH PRICES.		CARRIAGE PAID.	
4 ft. by 6 ft.	... £2 14 0	12 ft. by 6 ft.	... £5 17 0
8 ft. by 6 ft.	... 4 5 6	16 ft. by 6 ft.	... 7 8 6



No. 75.
MELON AND
CUCUMBER FRAME.

CASH PRICES.		CARRIAGE PAID.	
4 ft. by 6 ft.	... £2 0 0	12 ft. by 6 ft.	... £4 3 0
8 ft. by 6 ft.	... 3 0 0	16 ft. by 6 ft.	... 5 6 0

CUCUMBER-FRAME LIGHTS.
 6 feet by 4 feet, painted and glazed ... 14s. Cd. each.
 6 feet by 4 feet, unpainted and glazed ... 1s. 6d. each.
 Catalogue of all our Manufactures, post-free on application.

KEEP YOUR PIPES WARM.

FOSSIL MEAL PIPE LAGGING is the only effective means for preventing Loss of Heat, and Pipes Freezing. **CHEAPEST PACKING** existing. For Sample and Particulars, write to **MORITZ H. SCHÖNSTADT, 59, FARRINGDON ROAD, LONDON, E.C.**

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
 Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & CO. (Limited), Lombard Street, Precinct of Whitechapel, City of London, in the County of Middlesex, and published by **ARTHUR GEORGE MARTIN**, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County—SATURDAY, January 23, 1892. Agent for Manchester—JOHN LEWIS.

The GARDENERS' CHRONICLE

ESTABLISHED 1841

No. 2666.

No. 266.—VOL. XI. {THIRD SERIES.}

SATURDAY, JANUARY 30, 1892.

{Regt. as a Newspaper.} PRICE 3d. POST-FREE, 3½d.

CONTENTS.

Aberdeen	147	Moore Fern herbarium, the	149
Agaves	146	Malberry, the	149
Albany	147	Plant notes	151
American garden, the	144	Begonia venusta and others	151
Apple trees, thinning	148	Pract portraits	143
Begonia octopetalo-le-moines Fleur d'Aloume	145	Plants of Western China	145
Bovonia cordata	149	Rosery: house of Roses	149
Brier stocks	149	Siam	147
British birds	136	Snow in the streets	148
Butter notes	148	melting of	148
Calochorti in the open air	138	Societies	151
Celery culture	140	British Fruit Growers' Association	147
Chicago Exhibition	146	Kent County Chrysanthemum	146
Chou de Burghley	148	Linnaea	148
Citron culture in Corsica	149	Reigate and District	149
Education in the count-ries, technical	145	Royal Horticultural	151
of purdeners	148	Streptocarpus Galpini	139
Florists' flowers	139	Thuya gigantea	147
Chinese Primula	139	Trees and shrubs on lawns, ornamental	152
Foreign correspondence	141	Vanilla	146
Gardeners' education	141	Vegetables	150
Forestry	142	Chou de Burghley	151
Trees for marsh and mountain	142	Oignons, the trade in	153
Fuels, value of various	135	Weather summary	152
Grape vines, treatment of	138	We're work, the	147
Grape Vine, treatment of	138	Flower garden	143
International	145	Fruits under glass	143
Lycate Skinner, second flowering of	149	Hardy fruit garden	143
Mexican plants	149	Kitchen garden	142
New and noteworthy plants:	133	Orchid-houses	142
Cypripedium gigas x 136		Plants under glass	143
C. x Hispanicum roseum x 136		West African plants	146
C. swinifera x 136		West Indies	138
Dendrobium chloropis 136		Mesa ferrea	138
Epidendrum Godseffianum	133	Amorpha canescens	138
Yucca filifera	146		

ILLUSTRATIONS.

Albu y, terrace walk and view in the grounds at	137, 145
Bignonia magnifica	151
Streptocarpus Galpini	139

"The Gardeners' Chronicle" in America. The Subscription to America, including Postage, is \$4.30 for 12 months. Agent for America, E. H. LIBBY, Manager, The Rural Publishing Co., Times Building, New York, to whom American orders may be sent.

CHRYSANTHEMUMS.—Our Illustrated CATALOGUE will be sent free on application. 15 First Prizes. (10 this year.) 5 Gold Medals for Chrysanthemums. REID and BORNEMANN, Sydneyham, London, S.E.

Trade Offer of Large Palms. WICETON has a large Stock of the lead-ing kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliate Plants, Lowest Prices quoted on application. W. ICETON, Putney, S.W.

Now is the Time to Plant Peonies. GLADIOLI are also ready, 20 large bulbs, named exhibition sorts, 10s. For priced List see KELWAY'S MANUAL for 1892. 1s. post-free; gratis to customers.—KELWAY and SON, Langport, Somerset.

STANDISH'S RHODODENDRONS.—Choldest varieties, well-budded plants, 24s., 30s., and 42s., per dozen. Well-rooted and Bushy POTTINGERS, of all sizes. Price per 100 or 1000 on application. Royal Nurseries, Ascot.

ECKFORD'S CULINARY and SWEET PEAS.—Descriptive CATALOGUE, free on application, from HENRY ECKFORD, Wem, Salop.

CHRYSANTHEMUMS.—CARTERS' ILLUSTRATED CATALOGUE of the FINEST COLLECTION in the COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—The Queen's Seedsman, 237 and 238, High Holborn, London, W.C.

LAPAGERIA ALBA.—Strong Plants, 5s. to 21s. each. H. B. MAX, Dyson's Lane Nurseries, Upper Edmonton.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Descriptive CATALOGUES, post free, on application. FLETCHER BROS., Ottershaw Nurseries, Chertsey, Surrey.

Notice. NEW INCURRED CHRYSANTHEMUM, MRS. ROBINSON KING. "I hereby certify that I have SOLD the whole of my CERTIFICATED STOCK to MR. ROBERT OWEN, Floral Nursery, Maidenhead." (Signed) W. H. HOTHAM (Raiser of Mrs. Robinson King), Nelmehe, East Yorks. Plants distributed early in February.

10,000 RUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 6s. to 15s. per dozen. Less by the 1000. Cash with Order. J. J. CLARK, Goldstone, West Brighton.

SPECIAL CHEAP OFFER OF BEANS.—Scarlet Runners, Canadian Wonder, Negro Longpod, Ne Plus Ultra, Dobson's Forcing, and Pale Dun. For samples and price apply to MESSRS. PELKINGTON, BROWN & CO. (established 1879), Corn and Seed Merchants, 226, York Road, Wandsworth, S.W.

Vegetable and Agricultural Seeds. H. AND F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maid Vale, London, W.

CHRYSANTHEMUMS.—Proved NOVELTIES in EARLY, JAPANESE, INCURVED, and other Select Varieties. New Lists free. Gave great satisfaction last year. A. J. A. BRUCE, The Nurseries, Chorlton-cum-Hardy, Manchester.

Sharpe's Victor Potatoes. W. W. JOHNSON & SON, SEED GROWERS and MERCHANTS, Boston, offer a few tons of this excellent Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

W. D. BUNDAY, of Covent Garden Market, and 31, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOES, GRAPEES, &c. Good references.

CUT FLOWERS.—ARTHUR L. BULLEN, Wholesale Flower Salesman and Grower, 33, Exeter St., Covent Garden, 271 and 272, Flower Market, Covent Garden, W.C., and Highfield Nursery, Bromley Common, Kent. CONSIGNMENTS of CHOICE FLOWERS SOLICITED.

CHOICE GERMAN FLOWER and VEGETABLE SEEDS. CATALOGUES free on application. FEED. ROEMER, Seed Grower, Quedlinburg, Germany.

BEGONIA SEED.—Now new.—Box's strain is best and cheapest. Single, 1s., 2s., 6d., and 5s.; Double, 1s., 6d., 2s., 6d., and 5s. per packet. TUBERS also. Special List and Pamphlet gratis. JOHN R. BOX (for 10 years Laing's sole Partner), Begonia Grower, Croydon.

WANTED, CONES and SEEDS of CONIFERES in good varieties.—State prices and quantities to R. ERBE, 9, Woodmoor Terrace, Dartmouth Park, London, N.W. Also send Trade Price, Lists of Seeds, Bulbs and Plants.

WANTED, SIX ORANGE TREES.—Send price and full description to E. J. DAY, Gardener, Banwell Castle, Somerset.

SUTTON'S SUPERB CINERARIA.—Unsurpassed by any other strain in cultivation. Mr. CHARLES BLAIR, Gardener to Mrs. Malcolm, says:—"Your strain of Cineraria is the finest I ever saw, both as regards size and colour. I have several plants in flower which I defy the artist to excel. They also possess a dwarf sturdy habit, which is greatly in their favour." Price of seed, 5s. and 2s. 6d. per packet, post-free.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

ALL LOVERS, COLLECTORS, GROWERS, and PLANTERS of HARDY FLOWERS, should send for particulars, of—THE HARDY PLANT CLUB, Kirkstall, Leeds.

ROSES! ROSES! ROSES!—Plant now, 100 strong dwarf, H.P. Roses for 25s. 6d.; or 412 10s. per 1000. The finest in the Trade. Send for Sample Dozen, 5s. Cash with application. CATALOGUES, free on application. C. H. GORRINGE, Roseland Nursery, Eastbourne.

SEAKALE, extra strong for Forcing, 7s. 6d. per 100; large roots for Planting, 4s. 6d. per 100. Salady roots, 5s. per 100; Scorzenera roots, 5s. per 100; French Dandelion roots, 5s. per 100. Grown and offered by—F. MILLER and CO., 267, Fulham Road, London, S.W.; and Daffodil Farm, Spalding, Lincs.

RASPBERRY CANES.—Norwich Wonder, Carter's Prolific, also Eastoft, strong and well rooted. ALBERT BATH, Vine Court, Sevenoaks, Kent.

Hardy Fruits for the Midlands. PROFITABLE FRUIT GROWING: What to Plant, and How to Plant. New Edition up to date, now ready, price 6d.—A. H. PEARSON, Chilwell, Notts.

Amariylla. B. S. WILLIAMS and SON are now offering splendid Bulbs of this popular plant, at very low prices, previous to re-potting, in consequence of want of room. Named varieties from 42s. per dozen. Seedlings "30s. per dozen. Victoria and Paradise Nurseries, Upper Holloway, London, N.

ORCHIDS A SPECIALTY.—Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants. W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

TO ORCHID LOVERS.—"LE JOURNAL DES ORCHIDÉES," published in French, on the 1st and 15th of each month, 16 pages of text, by LUCIEN LINDEN, and 50 selected Collaborateurs, furnishes the best information as to Culture. Subscription, 8s. per annum, post-free, to be sent to the Publisher, LUCIEN LINDEN, 100, Rue de la Harpe, Brussels. Specimen Number sent gratis on demand.

Seeds.—Carriage Pains.—Seeds. DICKSON and ROBINSON'S DESCRIPTIVE CATALOGUE for 1892, Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOS; MANURES, INSECTICIDES, HORTICULTURE, and PLANTS, and GARDEN REQUISITES. Post-free on application. COLLECTIONS of VEGETABLE SEEDS, from 5s. to 81s. COLLECTIONS of FLOWER SEEDS, from 2s. 6d. to 81s. Seed Warehouse, 12, Old Millgate, Manchester.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentes of the Duplex Upright Tubular Boiler. King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made up by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid, London Agent: Mr. GEORGE L. O. Victoria Road, Putney, W.M. THOMSON and SONS, Clonsfords, Gals-shield, N.B.

SALES BY AUCTION.

Wednesday Next.

5000 Fine Bulbs of LILIUM AURATUM, L. SPECTOSUM ALBUM and RUBRUM, and L. LONGIFLORUM from Japan, in splendid condition, just arrived; also 50,000 BERLIN LILY OF THE VALLEY Crowns and Clumps, 150,000 PALM SEEDS, 100,000 PEARL and SOUTH AFRICAN TURBANS, 20,000 AMARYLLIS SPECIES, in Cases, as received, &c.

MR. J. C. STEVENS will include the above in his SALE BY AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, February 3.

On view morning of Sale, and Catalogues had.

Wednesday and Saturday Next.

A large collection of choice named GARNATIONS, PINKS, PICOETTES, and other BORBOURG PLANTS; 500 ORNAMENTAL CONIFERS, LAURELS, FOLIAGE TREES, ROSES, &c.; also ANEMONES, BEGONIAS, IRIS, DAHLIAS, AZALEA MOLIS from Belgium, LILIUM CANDIDUM, and HARRISII; a large quantity of DUTCH BULBS, &c.

MR. J. C. STEVENS will SELL the above BY AUCTION, at his Great Rooms, 33, King Street, Covent Garden, on WEDNESDAY and SATURDAY NEXT, Feb. 3 and 4, at half-past 12 o'clock precisely each day.

On view mornings of Sale, and Catalogues had.

Monday Next—Hardy Plants and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Rooms, 67 and 68, Chesapeake, London, E.C., on WEDNESDAY NEXT, February 3, at half-past 11 o'clock, many thousands of Hardy PERENNIALS, all being true to name; GLADIOLI, Pearl TURBANS, &c.; a collection of GARNATIONS, including a number of choice varieties; HOLLYHOCKS, PYRETHRUMS, PHLOXES, PEONIES, BEGONIAS, PASSIFLORAS, CLEMATIS, IVIES, CYPRIPEDIUM SPECTABILE, Imported LILIES, DAHLIAS, pot roots, and a fine collection of Home-grown LILIES, &c.

On view morning of Sale, and Catalogues had.

Wednesday Next—Palms, Ferns, Roses & Amaryllis.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Rooms, 67 and 68, Chesapeake, London, E.C., on WEDNESDAY NEXT, February 3, at half-past 11 o'clock, 100 PALMS in variety, GREENHOUSE FERNS, Standard, half Standard and Dwarf Roses, Choice SKIRLING BEGONIAS and AMARYLLIS, BEGONIA and CYCLAMEN SEED, English grown LILIES in variety, &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

8555 LILIUM AURATUM, including 855 extra fine Bulbs, 2250 LILIUM SPECTOSUM RUBRUM, 300 LILIUM LITCHINII, and 240 TREE PEONIES, being the contents of 152 cases forming the whole consignment just received from Japan in splendid condition; also AMERICAN TURBANS, ENGLISH-GROWN LILIES, and a large quantity of HARDY PLANTS and BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL the above BY AUCTION, at their Central Sale Rooms, 67 and 68, Chesapeake, London, E.C., on THURSDAY NEXT, February 4, at half-past 11 o'clock precisely.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT, FEBRUARY 5.

MOST IMPORTANT SALE.

By order of Messrs. LINDEN, Brussels, (the first re-discoverers of the Old Cattleya labiata),

ANOTHER GRAND NEW CATTLEYA.

CATTLEYA GLORIOSA, Lind.,

New section of *labiata autumnalis*—numerous varieties.

CATTLEYA GLORIOSA was discovered in December last in a NEW LOCALITY, where no collector or European traveller has been before, and just received in unsurpassed condition, some in fine masses, and all as fresh as any importation of Cattleyas ever received.

THIS IS THE EMPRESS OF LABIATAS.

Messrs. LINDEN's Collector, who started from Europe at the end of October last, when the demand for *labiata* began, and when the 200 beautiful Cattleya Warocqueana (*labiata* var.) were exhibited, states that CATTLEYA GLORIOSA "differs in every way from the varieties collected in Bangerot's or Swanton's hunting-grounds, and is of extraordinary beauty—far superior to the very best forms of C. Warocqueana or other old *labiata*. A large number of white varieties are also found amongst them." Orchidists are invited to inspect the plants for sale; the grandeur of their appearance will speak for itself.

The whole importation, about 600 plants, as received, will be in the Sale.

MESSRS. PROTHEROE AND MORRIS will SELL the above Grand Lot BY AUCTION, at their Rooms, 67 and 68, Chesapeake, London, E.C., on FRIDAY NEXT, February 5, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Woking—Preliminary Notice.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at the Horsell Birch Nursery, near Woking, Surrey, on TUESDAY and WEDNESDAY, February 16 and 17 by order of Mr. A. Knowles, a fine assortment of NURSERY STOCK, in excellent condition for export, comprising a grand assortment of specimen Shrubs, Begonias, Aucubas, Yews, Rhododendrons, Cupressus, Fruit Trees, &c.

Further particulars will appear next week.

Wanted Flats.—Clearance Sale. IMPORTANT TO FRUIT TREE GROWERS, NURSERYMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. Thos. East, who is clearing the land for the purpose of making bricks, to SELL BY AUCTION, on the Premises, the Wanted Nursery, Wanted Flats, on THURSDAY and FRIDAY, February 15 and 16, at 12 o'clock precisely each day, the whole of the thriving and choice NURSERY STOCK, including 2000 choice Dwarf Fruit Trees, consisting of the choicest Hybrid Perpetuals, Teas, &c., 6000 well-grown Fruit Trees, all true to name, and other Stock. May be viewed prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Chesapeake, London, E.C.

Richmond, Surrey.

By order of Messrs. G. & W. Steell, in consequence of the death of the Senior Partner, and the intention of the Vendor to relinquish the Business, SALE OF THE SECOND PORTION OF THE well-grown NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL BY AUCTION, on the Premises, the Common and Gasfield Nurseries, Richmond, Surrey, on TUESDAY and WEDNESDAY, February 23 and 24, the SECOND PORTION OF THE well-grown NURSERY STOCK. Fuller particulars will appear next week.

N.B.—THE LEASE OF THE HOME NURSERY, and the GOODWILL OF THE Old-established Business, is for Sale by Private Treaty. Particulars may be had of the Auctioneers.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 12, Bull Ring, Birmingham, of BULBS, PLANTS, NURSERY STOCK, &c., every WEDNESDAY and FRIDAY, at 4.30 P.M. Sales of choice Cut Flowers. Fresh Entries invited. Account Sales and cheques daily. Emptyies and labels found.

WANTED, TO RENT OR LEASE, 3 or 4 acres of LAND suitable for Nursery purposes. No objection to a little Glass. Send particulars to J. S., 2, Beach Terrace, Exning, Suffolk.

THE TOWER FURNISHING COMPANY

(Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming by Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places out of the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by FULHAM AND SON, 56, Finsbury Square, London, E.C., and Broxbourne, Herts. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

Chrysanthemums True to Name.

STRONG CUTTINGS from 1s. 6d. per dozen, 10s. per 100. Several Silver Cups and Hundreds of First Prize were taken by my customers last year. For Grand New Sorts, see Catalogue, two stamps, of W. ETHERINGTON, Chrysanthemum Grower, Swanscombe, Kent.

ORCHIDS.
THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have an immense stock of

ORCHIDS,

Both Established and Semi-Established, and they are constantly receiving

IMPORTATIONS

from various parts of the world.

INSPECTION IS VERY EARNESTLY INVITED.

The Company's Prices are all fixed as low as possible, with the view of inducing liberal Orders.

PRICED AND DESCRIPTIVE CATALOGUE

Post free on Application to the Company.

THE VINEYARD AND NURSERIES,

CARSTON, NEAR LIVERPOOL.

EXHIBITIONS.

GRAND FLORAL FETE, YORK.

July 15, 16, and 17, 1892.

PRIZES, SIX HUNDRED POUNDS.

Schedules now ready. Apply to

13, New Street, York. CHAS. W. SIMMONS, Secretary.

CUCUMBER SEED.—The true Rochford

strain, the best Cucumber in cultivation. Requires no bottom-heat, very handsome, and of dark green color. Keeps longer after cut than any other variety, and has the greatest market demand. 11s. per 100 seeds, remittance with order. J. HARRIS, Baker Street, Eufield, Middlesex.

CONFERENCE MICHAELMAS DAISIES,

including the beautiful new white, "J. Wood," shown by the Rev. C. Waller Dodd, at the Conference. Now offered, first time, by urgent request. LIST. Address—HARDY PLANT CLUB, Kirkstall, Leeds.

STANDARD ROSES, 14s. per doz.; Bush

Roses, 6s. per doz.; best named Clematis, 14s. per doz.; Ampelopsis Vetchii, 4s. per doz.; Variegated Ivy, 4s. per doz.; Mrs. Sinkins Pink, 12s. per 100; Ferns, in pots, 15s., 21s., and 45s. per doz. Descriptive CATALOGUE and GUIDE, the most completely issued, 6d. Ordinary LIST free. JOHN WATKINS, Pomona Farm Nurseries, Withington, Hereford.

BEGONIAS.—Davis's New, Rare, & Beautiful.

The Best BEGONIA CATALOGUE published. Enumerates a magnificent and unsurpassed Collection, with descriptions, illustrations, and much valuable information on this now popular flower, post-free. The first grower to issue a Begonia catalogue was Davis, Begonia Grower, Yeovil Nurseries, Yeovil, Somerset.

Fruit Trees a Specialty.

APPLES, PEARS, PLUMS, STRAWBERRIES, and all sorts of Small and Hardy Fruits grown in immense quantities. The best of the Old and New Varieties either to Grow for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most completely issued, 6d. Ordinary LIST free. JOHN WATKINS, Pomona Farm Nurseries, Withington, Hereford.

Trade Price Current, 1892.

PETER LAWSON AND SON, LIMITED,

WHOLESALE SEED GROWERS AND MERCHANTS,

EDINBURGH,

have posted their ANNUAL CATALOGUE OF VEGETABLE and FLOWER SEEDS to their Customers; if not received in time, a copy will be posted upon application. The ANNUAL CATALOGUE OF AGRICULTURAL SEEDS will be published later on, meanwhile special offers will be made when requested.

DOBBIE'S CATALOGUE AND COMPETI-

TORS' GUIDE for 1892.—25th Annual Edition, 160 pages, illustrated. Described by one of the greatest authorities in England as "the most useful list published in the trade." Ready on January 1, and gratis to all who apply for it and enclose 3d. to cover postage.—DOBBIE AND CO., Seed Growers and Florists, Rothsay, Scotland.

Many Acres of Lilies of the Valley!

T. JANNACH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality, and of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNACH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

CHRYSANTEMUM SEED, carefully hand-

hybridised from the choicest varieties. The best in the world. One packet, 6s.; three packets, 12s. Remit by International Money Order.

T. H. SPAULDING, Orange, N. J., U.S.A.

BEGONIA A SPECIALTY.—Awarded

Four Gold Medals, and Gold Cup, and all First Prizes. Seed saved from Prize plants. C. Begonia Seed and Bulbs eclipse all previous years, choicest single or double varieties, 1s., 2s., 6d., and 5s. per packet. Collections (Seed)—single, 12 named specimens, separate, 5s., 6d.; 6 ditto, 3s. named singles, 12s. to 42s. per dozen; unnamed, 12s. to 21s. per dozen; bedding, choicest, 7s., 8s., 9s. and 9s. per dozen; choicest named doubles, from 42s. per doz.; unnamed, choicest, 18s. to 30s. per dozen; choicest mixed, for 12s. to 18s. per doz. per doz. Catalogues gratis.

JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill, London.

BARK'S SEEDS, BULBS, AND PLANTS.

VEGETABLE SEEDS.—All the best sorts only; and a great deal of valuable information. Cultural and descriptive CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 5000 species and varieties of the most decorative kinds, for all sorts of decoration, with important remarks. CATALOGUE FREE ON APPLICATION. BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus caudatus, Tigrids, and all other sorts for Spring Planting. LIST FREE ON APPLICATION.

SPECIAL LIST, free on application—Michelmass Daisies, Perennial Snapdragons, Double and Single Peonies, Iris (tall and dwarf), Oriental Heliozels, Carnations, &c.

BARR AND SON, 12, King Street, Covent Garden, London.

Seed Potatoes.—Seed Potatoes.

MYATT'S PROLIFIC, the earliest of all Kidneys, which every one with early land should grow. Potatoes dug in July and August are always worth 100 per cent. more than later sorts. Price, 120s. per ton, grown in Lincolnshire.

MAGNUM BONUM, later kind, for main crop. Price, 70s. per ton, grown in Lincolnshire.

Apply to W. N. WHITE AND CO., Ltd., Covent Garden, London, W.C.

FOR ORCHIDS, AND GARDENERS
to grow them, apply to **STUBBS'S**, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

The Best Present for a Gardener.
VINES—A FINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
New Edition.
Price 5s., post-free, 5s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

VINES.—VINES.—FINE VINES.
We hold a fine stock of the above, both Fruiting and Planting Clusters. Names and prices sent on application.
JOHN FRED AND SONS, Rouppell Park Nurseries, Norwood Road, London, S.E.

STEPHANOTIS FLORIBUNDA.—Best Variety, fine strong Plants for Planting, or Specimens, 5s. each; 50s. per dozen.
H. B. MAY, Dysons's Lane Nurseries, Upper Edmonton.

TO BE SOLD CHEAP.—100 large Palms, various sorts; 4 Orange trees, 7 feet; 3 large Camellias, 2 dozen Anthurium Scherzerianum, in 24-sized pots; 1 large Tabernaemontana coronaria, 6 feet; 2 large Allamandas, 1 large Clerodendron Balfourii, 18 Cypridium barbatum, and 10 C. insignae.—For particulars, **GARDENER**, 45, Ravenswood Road, Balham, London, S.W.

CLEARANCE SALE OF PALMS, DRACENAS, &c.
Strong Small Palms, averaging 10 to 12 inches high, of SEAPOKHIA ELEGANS, LATANIA BORBONICA, ARECA SAPIDA, COXYPIA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACENA INDIVISA, sample 2 each, 14 plants in all, 5s.; 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.
Price per 100 or 1000 on application.

* LATANIA BORBONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.
* CHAMEROPS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.
* Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.
* DRACENA CANIFOLIA, 5 to 6 feet high, 21s. each.
* Ditto ditto 4 feet high, 15s. each.
* PHOENIX TENUIS, 3 feet high, 15s. each.
* Ditto ditto 2 feet high, 18s. per dozen.
* DRACENA INDIVISA, 3 feet high, 15s. each.
* Ditto RUBRA, 2 feet high, 18s. per dozen.
* Ditto CONGESTA, 2 feet high, 18s. per dozen.
* SEAFORTHIA ELEGANS, in 60's, 15s. for 45's, strong, 6s. doz.
Price per 100 on application.
These marked * are packed Free, and sent Carriage Paid.
W. OWEN, 100, Stamford Hill, N.

POPULAR CELERIES.

HARRISON'S EARLY ROSE, easily blanches, fine for exhibition ... Ench 1s.
HARRISON'S LEICESTER RED, solid, the best late, very hardy ... per packet, by post, for stamps.
PENGELY WHITE, a quick grower
Nothing is more disappointing than a soft, stringy Celery. The above will not disappoint you.
ILLUSTRATED LIST OF LEICESTER SEEDS, free.
HARRISON & SONS, Seed Growers, LEICESTER.

FRUIT TREES AND ROSES!

VAST QUANTITIES TO OFFER,
of the usual excellent quality.

HUGH LAW & CO.,
Bush Hill Park Nursery, ENFIELD.

FERNS A SPECIALITY
The finest & most interesting Collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy Exotic & British
EVERY ONE interested in FERNS SHOULD
SEND FOR OUR partially descriptive.
CATALOGUE FREE ON APPLICATION.
also our ILLUSTRATED CATALOGUE N21.
Price 1/6 post free.
W. & J. BIRKENHEAD
FERN NURSERY, SALE-MANCHESTER.

L'HORTICULTURE INTERNATIONALE
(Orchid Emporium), Leopold Park, Brussels.
THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateur and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New Rare, or Popular Orchids in Cultivation, Grand Importations every week. LISTS and CATALOGUES on application.

GEORGE JACKMAN & SON,

WOKING NURSERY, SURREY,

INVITE INSPECTION OF THE FOLLOWING WELL-GROWN STUFF:—

FRUIT TREES.—A fine stock of Apples, Pears, Plums, and Damsons, in Standard, Pyramid, and Dwarf-trained trees; also Dwarf-trained Apricots, Peaches, and Nectarines.

ROSES.—A large Collection of Dwarf and Standard Hybrid Perpetual and Tea Roses, in all the leading varieties; also Tea Roses, in pot, for forcing.

RHODODENDRONS.—Choice named varieties set with flower-buds; also Hybrid Seedlings and Ponticums.

CONIFERS.—Fine stuff, in various Sorts, for Lawn and Shrubbery planting.

SHRUBS.—Ornamental and Flowering, adapted for Belts, Shrubberies, Screens, &c.

CLIMBERS.—Including their celebrated Clematis, suitable for Walls, Trellis-work, Rockwork, &c.

ORNAMENTAL TREES.—For Parks, Avenues, Streets, and Private Gardens.

FOREST TREES.—In large quantities, for Coverts, Woods, &c.

CATALOGUES FREE ON APPLICATION.

LANDSCAPE GARDENING.—A leading Feature. Plans designed, and Advice given as to Laying-out, Planting, or Renovating Parks, Cemeteries, Recreation Grounds, and Private Gardens.



SHARPE'S VICTOR POTATO.
"Earliest of all Earlies."

TO OBTAIN THE
True Yellow-fleshed Variety,
Apply to
CHARLES SHARPE & CO., SLEAFORD.

CHRYSANTHEMUMS, AND HOW TO GROW THEM.

Now in the Press.
The large and increased demand for this popular work has made it necessary to print a New and Revised Edition (Eleventh Thousand). This will contain a Practical and Scientific Treatise on Culture, and also a Critical Analysis of the New Varieties of the present season, by C. E. SHEA, Esq., a short History of the Chrysanthemum, by C. HARMAN PAYNE, Esq.; and a Chrysanthemum Calendar, by Mr. H. SPOWORTH. In addition to above, Illustrations of two of the best New Varieties of the year are included in my new Chrysanthemum Catalogue, which also contains the most complete List of New Varieties ever brought together, and embraces selections from all the known Chrysanthemum world.
All the secrets of successful culture given, making this the most valuable work on the Chrysanthemum ever published. Post free, nine stamps; to Secretaries of Societies, for members, 6s. per dozen.

H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

For Exhibition!
BROAD BEAN, BIDDLES' MONSTER
LONGPOD.—Extra long, fine quality. Per quart, 1s. 6d.

CARROT, BIDDLES' SCARLET PRIZETAKER, Intermediate, the finest exhibition Carrot grown. Per oz., 1s.
ONION, BIDDLES' GIANT SPRING.—Too well known as prize-winner to need further recommendation. Per oz., 1s.

BIDDLES AND CO., THE PENNY PACKET SEED CO.,
Loughborough, Leicestershire.

"GOOD THINGS" from **HARTLAND, Cork**, for 1892.—AURICULA, Empress of India, try it for colour, which is deep indigo, magnificent, 2s. 6d. per packet.
COSMUS bipinnata, White Pearl, from America, beautiful, 1d. per packet.
POPPY, Snowflake, double, fringed, bluish, like balls of cut tissue paper; thousands of packets now in circulation through a famous London wholesale firm, 1s. per packet.
PHLOX Drummondii grandiflora, mixture, the finest in Europe; see related plate in Garden, from specimens grown from Hartland's unique mixture, 6d. and 1s. per pkt.
BROCOLI, April Queen (Hartland), the finest and purest variety in any part of Europe, 1s. per packet.
SUNFLOWER, Hartland's Soleil d'Or, 1s. 6d. each, 7s. 6d. per dozen, post free.—W.M. BAYLES, Hartland, Seedman and Florist, 24, Patrick Street, Cork.
"Year Book," for 1892, now ready, kindly write for it.

ASPARAGUS, of fine quality—for forcing and planting: 2 yr. old, 2s. per 100; 3 yr. old, good roots, 3s. per 100; ditto, selected, 4s. per 100; 6d. per 100 less for quantities of 1000 and upwards. For forcing, 4 yr. old, 5s. per 100; 5 yr. old, splendid roots, 10s. per 100; ditto selected, 12s. 6d. per 100; 6 yr. old, extra fine, 15s. per 100. Cash with order. My Asparagus always makes top price at Covent Garden.

Read the following unsolicited testimonial:—"Please send me about 200 of 5 yr. old Asparagus Roots. I may say that the last 200 were the best lot of forcing roots I ever bought, and my employer says the quality is excellent.—C. H. PERKINS, The Gardens, Milton Abbot, Blandford."
J. J. CLARK, Market Gardener, Goldstone, Brighton.

WANTED,

To PURCHASE, IMMEDIATELY, in any quantity, from 1 lb. to 1 cwt., good

SWEET PEA SEED,
In Mixed and Separate Colours, State price, and quantity to offer, to—

PITCHER & MANDA, The United States Nurseries, HEXTABLE, SWANLEY, KENT.

CHELSEA GEM PEA, the earliest and best Dwarf Marrow Variety. 2s. per quart.
Grown and offered by F. MILLER AND CO., 267, Fulham Road, London, S.W. 1; and Paddiford Farm, Spalding, Lincs.

MAYATT'S, 105s. per ton; **VICTORS**, 200s. per ton; **MONA'S PRIDE**, 130s. per ton, and every variety cheap. Four, London, from 1 cwt. to 100 tons.
WM. WHITEHEAD COUSINS, Covent Garden Market, W.C.

SEAKALE, Extra Strong Forcing, 70s. per 1000; under 500, 8s. per 1000. Cash with order.—Address, **ALBERT ATWOOD**, Market Grower, 21, Shillington Street, Battersea, S.W.

CHRYSANTEMUMS.—Strong Cuttings now ready. Best sorts only, from 1s. 6d. per dozen; 10s. per 100. True to name. Catalogue, two stamps, of W. ETHEINGTON, Chrysanthemum Grower, Swancombe, Kent.

STANDISH'S GARDENIAS.—Well-grown, clean and forward in Flower-bud, 21s., 30s., and 42s. per dozen.—Royal Nurseries, Ascot.

COVERT FOR GAME.

LAURELS, Common, 1½ to 2 feet, bushy, 70s. per 1000. " " 2 to 3 feet, bushy, 100s. per 1000.
PRIVET, Evergreen, 2 to 3 feet, bushy, 35s. per 1000.
Extra strong, 4 to 5 feet, bushy, 50s. per 1000.
BERBERIS AQUIFOLIA, 1½ to 2 feet, bushy, 80s. per 1000.
BEECH, extra strong, 3 to 4 feet, 40s. per 1000.
HOLLIES, very bushy, 1½ to 2 feet, 30s. per 1000.
" " 2 to 3 feet, 50s. per 1000.
BLACK and WHITE THORN, **LARCH** and **SCOTCH FIRS**, and other TREES, equally cheap.
CATALOGUES, and Samples, free on application.
R. TUCKER, Nurseries, Earlsfong, Berks.

Cannell's Primulas. FORCE OF REAL MERIT.

The greatest advance yet made in Floriculture is now to be seen in our eight 10-ft. houses; as a proof, we have been awarded three Certificates this season and fifteen previously—nearly three times more than all others put together (the same may be said of our Double Begonias), thus placing us again in the premier position. What an immense advantage it would be to gardeners, and the encouragement they would receive from their employers, if they could be made to see how absolutely necessary it is to purchase their seeds from those who have the best, and sell the most seeds for the same money.

Mr. E. BROOKS, St. Michael's Home, Axbridge, Somerset.

December 17th, 1891.

"I am glad to tell you the Primula seed I have of you has turned out; talk about as large as five-shilling pieces, I have some would measure half as much larger seeds. They have been greatly admired by all who have seen them, which is not a few, and they all say they are the largest they have ever seen, and so I say."

"I have six different colours—Crimson, Pink, Mauve, White, Lilac, Pink, and Rose Pink, which is a 'smasher'; of course I tell where I get them, which I hope may be the means of your getting orders. I have always well advertised your firm."

CAPT. KEMP, Lymington House, Arundel.

January 22, 1892.

"I take the opportunity of informing you that the seed of Double Begonia you sent me last year exceeded my expectations in every way, the blooms, even in the first year, being wonderful in size and colour."

W. F. MACKENZIE, The Gardes, Thurso Castle, Thurso, N.B. September 28, 1891.

"No doubt you will be glad to hear how the Begonia I had from you last year have succeeded in the extreme north—far beyond my most sanguine expectations. The brilliancy and profusion of the flowers were marvellous, while some of them measured within a fraction of 6 inches across, and were the admiration of everyone who saw them."

H. D. LEAK, Esq., Norwood, Demesne Road, Alexandra Park, Manchester. January 14th, 1892.

"I had some seed of Primula Cannell's Pink from you last year. It is now in bloom and is really magnificent; the flowers are exceptionally large, and of a lovely colour."
Mr. ANTON WILES, Gardener to E.T. Leeds Smith, Esq., C.C., Sandy, Leeds. January 13th, 1892.

"I am very pleased to inform you that the seeds I had of you last year turned out very satisfactorily. I obtained several Prizes at our Sandy Flower Show with exhibits grown from your seeds. The Turnips grown were very large, one measured 32 inches around it, and four of them weighed 33 lb."

H. CANNELL & SONS,
SWANLEY, KENT.

FRUIT TREES.

STEPHEN SPOONER & SONS

can offer the following, in really good stuff:—
Standard and Half-Standard HAZEL PEARS, strong.
Standard Main Codlin APPLES, 5 to 6 feet stems, strong.
Dwarf-trained Prince of Wales PLUMS, fine.
Dwarf-trained PEARS and PLUMS, of sorts.
Dwarf-trained 1 MOORELL CHERRIES.
Dwarf-trained 1 PLES, a few sorts extra strong.
Maiden PEARS 1 PLUMS, APPLES, and CHERRIES, of sorts.
Three-year-old WILLIAM PEARS.
Also a fine lot of 1-year-old Lord Suffield, Hawthornden, Cox's
Orange, King Pippin, and Wellington, &c., &c.
A large and varied stock of FRUIT TREES of all kinds, in 1,
2, and 3-year-old stuff, and a quantity of 2-year Bush
Victoria and Pond's Seedling PLUMS.
Standard LIVES, 10 to 12 feet, stout.
Standard General Jacquemont ROSES; also other varieties.
Lists on application. Prices moderate.
HOUNSLOW NURSERIES, HOUNSLOW, MIDDLESEX.

THE
CHAMPION EXHIBITION PEAS.
CARTERS'
STRATAGEM,
TELEPHONE,
AND
ANTICIPATION.



THE FIRST PRIZE RECORDS,
and the SUPERIOR TABLE
QUALITIES of these GRAND
PEAS, still remain UNEBEATEN.

Price, in Sealed Packets, each
per pint, 2/-, post-free, 2/3.

ROYAL SEEDSMEN BY SEALED WARRANT,
237 HIGH HOLBORN, LONDON
238

W. L. LEWIS & CO.,

Orchid Growers and Importers,
CHASE SIDE, SOUTHGATE, LONDON, N.
Have just secured a large

COLLECTION OF ORCHIDS.

Among which are many fine SPECIMEN PLANTS, and
marked varieties of CATELEAS, ODONTOGLOSSUMS,
DENDROBES, &c. Every Plant guaranteed true to name.
Write for SPECIAL PRICE LIST.
About 20 Specimen Plants of LELIA ELEGANS for SALE.
Collector guarantees varieties as excellent.
New and Rare CYPRIPEDIUMS in Stock.

THE NEW
EARLY DESSERT APPLE,
COOLING'S
BEAUTY OF BATH,

Is the handsomest and best-flavoured First
Early APPLE yet introduced, and should be
in every collection.

MAIDENS, 2s. each.
PYRAMIDS, 3s. 6d. and 5s. each.
FAN-TAINED, 5s. and 7s. 6d. each.
STANDARDS, 3s. 6d. each.

Trade price on application.

Descriptive FRUIT TREE and ROSE CATA-
LOGUE, Post-free on application.

GEO. COOLING & SONS,
THE NURSERIES, BATH.

GROUND REQUIRED FOR BUILDING.
TO BE SOLD, CHEAP.

1000 PINUS AUSTRIACA, 2 to 3 and 5 feet.
1000 LAURELS, bushy, 4 to 7 feet.
500 MOUNTAIN ASH, 10 to 15 feet.
500 LABURNUMS, 8 to 10 feet.
200 SPANISH CHESTNUTS, 8 to 10 feet.
500 POPLARS, ITALIAN, 12 to 18 feet.

JOHN PEED & SONS,
The Nurseries, Mitcham Road, Streatham, S.W.

DISSOLUTION OF PARTNERSHIP

TEMPLE MILL LANE, STRATFORD, LONDON, E. JANUARY 30, 1892.

The Partnership formerly existing between SAMUEL CLAY and JAMES LEVESLEY, Manufacturers of CLAY'S "FERTILIZER," having been dissolved, the Partnership business will in future be carried on by the said SAMUEL CLAY, in conjunction with his Son, SAMUEL CHARLES CLAY, the proprietor of S. C. CLAY'S "INVIGORATOR," and they will in future manufacture both the "Fertilizer" and the "Invigorator," at the above address, under the Name or Firm of—

CLAY & SON.

BARR'S SURPLUS CLEARANCE SALE OF DAFFODILS

Prices greatly reduced. Bulbs in prime condition for Potting, Bedding, and Naturalisation.
Detailed Priced LIST on application.

Per 1000, 15s., 25s., 42s., 63s., 84s., and 105s.

BARR'S CLEARANCE SALE OF
HYACINTHS, TULIPS, POLYANTHUS-NARCISSUS, CROCUS, SNOWDROPS,
CHIONODOXA, SCILLAS, SNOWFLAKES, and other Spring-flowering Bulbs,
ALL in PRIME CONDITION. PRICES GREATLY REDUCED. LIST on APPLICATION.

Important Descriptive LISTS now ready, free on application:—

CONFERENCE MICHAELMAS DAISIES, and PERENNIAL SUNFLOWERS.
GLADIOLUS, CARNATIONS, PICOTEEs, PINKS, HELLEBORES, and LILIES.
SINGLE PÆONIES, DOUBLE PÆONIES, HELLEBORES, and IRIS.

BARR & SON, 12, King St., Covent Garden, London.

LORENZ'S
CELEBRATED SEEDS,
ERFURT.

Before you Order your Seeds for the Spring, read
LORENZ'S ILLUSTRATED CATALOGUE,
For Owners of Gardens and Amateurs.

With TWO COLOURED PLATES of NOVELTIES, and some
Hundreds of Beautiful Engravings,
And you will Buy Your Seeds of Much Better Quality,
and at Cheaper Rates, than from any other Firm.

The ENGLISH EDITION of
LORENZ'S ILLUSTRATED CATALOGUE
is NOW READY, and will be Sent Post-free on Application.
Postage for Letters to Germany, 2d.; Postcards, 1d.

CHR. LORENZ,
SEED GROWER and MERCHANT,

Seedsmen by Special Warrant to H.M. the Empress of Germany,
H.M. the King of Saxony, H.M. the King of Bavaria, H.M. the
King of the Netherlands, H.M. the King of Roumania, H.M. the
King of Servia, H.R.H. the Grand Duke of Hesse, H.H. the Duke
of Anhalt.

100-103, JOHN STREET, ERFURT, GERMANY.
All Flower and Vegetable Seeds are Supplied Post-free, and arrive
within 10 days after receipt of Order.



The Only unequalled Onion for Show Purposes.
Of Enormous Size, and excellent fine flavour.

Per Packet, 1s. 6d., to be sent in Postage Stamps.

"A great many of the Portuguese Delicate Onion weighed
over 2 lb. last year; it is certainly one of the best in cul-
tivation." Mr. JAMES HAIR, Orchard Gardens.

"Your Portuguese Delicate Onions were most satisfac-
tory, measuring 17-18 inches around. I gained six prizes
with them." Mr. ROBERT CROSBIE, Corn Mill.

SANKEY'S famous GARDEN POTS
* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong
and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden
Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your
Garden Pots, and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10
Orders. Half Carriage on £5 Orders. Samples Free.

Seed Potatoes.

H AND F. SHARPE invite the attention of the Seed Trade to their fine selected stocks of SEED POTATOES, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other growers.

Seed Growing Establishment, Wincob.

CHARLES NOBLE

HAS FINELY BUDED

RIODODENDRONS, named kinds.
ANDROMEDA FLORINDA.
AZALEA, finest cheat kinds.
Ditto, Seedlings.
Ditto OCCIDENTALIS.
RHODORA CANADENSIS.

W. ROSER, H. P., B., and TRAS.

THUIOPSIS BOREALIS

THUIA LOBBII

DITTO, AMERICANA

CUPRESSUS LAWSONIANA

HYPERICUM CALYCINUM

PORTUGAL LAURELS, 2 to 3 feet.

HARDY HEATHS.

CLEMATIS, 3 and 4 years old.

The General Assortment of NURSERY STOCK will be found superior in every way.

BAGSHOT, January, 1892.

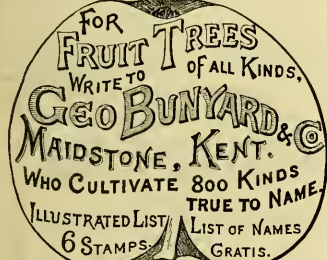
ROSES.

STANDARDS, from 21s. per dozen.

DWARFS, from 6s. per dozen.

CATALOGUES, post-free.

FRANK CANT, BRAISWICK NURSERY,
COLCHESTER.



BUYERS SHOULD COME AND VIEW THE STOCK.



NOW READY.

SHARPE'S
TRADE CATALOGUE
OF
GARDEN AND FARM SEEDS
for 1892.

Post-free on application to

CHARLES SHARPE & CO.,
Seed Farmers and Merchants, SLEAFORD.

SEASON 1892.

WM. CLIBRAN & SON

Beg to inform their patrons that their

NEW CATALOGUE OF

SELECT
VEGETABLE
SEEDS

AND

CHOICE
FLOWER
SEEDS

Is NOW READY, and will be sent post-free on application. It contains Descriptions of all the STANDARD VARIETIES of VEGETABLE and FLOWER SEEDS, with a careful selection of the most promising NOVELTIES.

BUYERS OF GENUINE, RELIABLE SEEDS should send for a copy before placing their Orders.

INSECTICIDES, IMPLEMENTS, TOOLS,
And Miscellaneous Requisites of every description,
for the GARDEN or FARM, supplied.

10 & 12, MARKET ST., OLDFIELD NURSERY,
MANCHESTER. ALTRICHAM.

And Principally Nurseries, Dagenham, Llandudno.

ANTHONY WATERER invites an inspection from intending Planters to the following well-grown TREES, having stout, clean stems, and handsomely-furnished, well-balanced heads, and from frequently transplanting are splendidly rooted, the girth of the stem is taken at 4 feet from the ground.

ACACIA BRESSIANA, 10 to 14 feet, girth 3 to 4 inches.

ACER DASYCARPUM, 14 to 20 feet, girth 4 to 8 inches.

" WIERII LACINIATUM, 10 to 14 feet, girth 3 to 5 inches.

" NEGUNDO VARIEGATA, Standards, 6 to 10 feet.

" REITENBACHII, 12 to 14 feet, girth 4 to 5 inches.

" SCHWEDLERII, 12 to 16 feet, girth 4 to 5 inches.

" WORLEII, 12 to 14 feet, girth 3 to 5 inches.

ASH, Mountain, 12 to 14 feet, girth 4 to 5 inches.

BEECH, Purple, Pyramids, and Standards, 10 to 20 feet, girth 4 to 7 inches.

BIRCH, Silver, 12 to 14 feet, girth 3 to 5 inches.

CERASUS SEROTINA (American Bird Cherry), 12 to 16 feet, girth 4 to 7 inches.

CHESTNUTS, Horse, 14 to 20 feet, girth 6 to 11 inches.

" Double White, 14 to 16 feet, girth 6 to 8 inches.

" Scarlet, 12 to 18 feet, girth 4 to 10 inches.

" Spanish, 12 to 14 feet, girth 4 to 6 inches.

ELMS, English, 10 to 12 feet, girth 3 to 6 inches.

" Guernsey, 16 to 18 feet, girth 7 to 9 inches.

LIMES, 12, 16, and 20 feet, girth 3 to 10 inches.

" EUCHLORA or DASYSTYLIA, 12 to 14 feet, girth 4 to 6 inches.

" Silver-leaved (Tilia argentea), 12 to 14 feet, girth 5 to 6 inches.

LIQUIDAMBAR, 6 to 10 feet.

MAPLE, Norway, 12 to 16 feet.

OAK, English, 12 to 14 feet, girth 4 to 5 inches.

" Scarlet American, 12 to 14 feet, girth 4 to 5 inches.

PLANES (English-grown), 12 to 16 feet, girth 4 to 6 inches.

FOURLEAF CANADENSIS NOVA (the true variety), 12 to 16 feet, girth 6 to 7 inches.

SYCAMORE, Common, 12 to 17 feet, girth 4 to 7 inches.

" Purple, 14 to 16 feet, girth 6 to 7 inches.

THORN, Double Flax, 8 to 10 feet.

" Scarlet, 8 to 10 feet.

" White, 8 to 10 feet.

TULIP TREES, 6 to 10 feet.

WALNUT, Common, 10 to 12 feet.

WEeping TREES.

BEECH, Weeping, Pyramids, and Standards, 8 to 12 feet.

" Weeping, Purple, Pyramids and Standards, 7 to 12 feet.

BIRCH, Young's Weeping, Pyramids and Standards, 8 to 14 feet.

" Cut-leaved Weeping, Pyramids and Standards, 10 to 12 feet.

ELMS, Weeping, Pyramids and Standards, 7 to 14 feet.

LARCH, Weeping, Pyramids, 8 to 10 feet.

POPLAR, Weeping, Pyramids and Standards, 10 to 12 feet.

Knap Hill Nursery, Woking, Surrey.

ESTABLISHED
OVER A CENTURY.
ALL KINDS OF
NURSERY STOCK.
SEEDS and BULBS
GROWN and IMPORTED.
ALPINE and HERBACEOUS PLANTS.
J. BACHMANN & SON,
CHOICE INDOOR PLANTS.
PALEMS, ORCHIDS, FERNS, &c.
IN GREAT VARIETY.
PARK, ROCKWORTH & ESTATE
PLANTING.
OVER 100 ACRES
OF NURSERY.

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standards, Pyramids, and Wall-trained), Apples, Peaches, Cherries, Plums, Filberts, and Damsons, six years old. The Trees are without blemish, twice transplanted, splendidly rooted, and intended for the tenants and hedgerows on the Estate. Guaranteed true to name. The superb Riododendrons, specimen Shrubs, and Hollies, secured but recently regardless of cost; 2000 Maiden, Standard, and Dwarf Roses; 40,000 Black and Red Currants, four years old; and forty kinds of Gooseberries, 6000 Raspberries, &c. Half their value. See Catalogues, Removing. LAND STEWARD, Hon. GERTRUDE JONES, Churchfield, Cradley, near Malvern.

TRADE OFFER OF PALMS.

COCOS Weddeliana, in thumbs ... at 20s. per 100.
" " " in 60's, ... at 55s. per 100.
KENTIA Fosteriana and Beilmoreana, in thumbs, at 20s. per 100.
" " " in 60's, ... at 60s. per 100.
" " " in 45's, ... at 24s. per doz.
" " " in 32's, ... at 48s. per doz.
SEAFORTHIA Elegans, in 60's, ... at 32s. per 100.
" " " in 48's, ... at 45s. per 100.
W. Icteton has a fine Stock of Asparagus plumosus nanus, in 48's and 60's; Pandanus Veitchii, Draecena Lindenii, and Ficus elastica.—W. ICTETON, Putney, S.W.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(BIDDLES & Co., Proprietors).

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete Seed Catalogue and Guide, which will be sent gratis and post free on application.

3000 Varieties catalogued, 500 Illustrations.

Select VEGETABLE,
Choice FLOWER,
The best qualities at
Moderate Prices.

Delivered Free The
by Rail or Best
Parcels SEED
Post. POTATOS,
Garden Tools,
Sundries, &c., &c.
Illustrated
Descriptive Catalogue, No. 403
POST FREE ON APPLICATION.

Dicksons Seed
Growers, Chester.
(Limited)

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE and SELECT STOCK is NOW
OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of
Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,
THE NURSERIES,

SAWBRIDGEWORTH, HERTS.

"AMERICAN SPECIALTIES."

We have this year without doubt the finest Novelties in

CHRYSANTHEMUMS

Ever yet seen, and for which we received last year more

MEDALS, PRIZES, &c., than any other firm.

OUR NEW DESCRIPTIVE

CATALOGUE Now Ready.

Post-free on Application to—

Pitcher & Manda, THE UNITED STATES NURSERIES,
HEXTABLE, SWANLEY, KENT.

LOBELIAS.

EMPROUS WILLIAM, best blue, for bedding, 5s. per 100.
MAGNIFICA, fine deep blue, large flowers, 6s. per 100.
REINE BLANCHE (new), the finest white, good grower, large pure white flowers. Certificate of Merit from R.H.S. 10s. per 100.
MAID OF MORAY (new), blue, with large white eye, compact grower; fine for bedding. 10s. per 100.
The above quotations are for strong, healthy plants, from store boxes, and will give a lot of stock.
H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton.

EXTRA STRONG FRUIT TREES.

Trained VICTORIA PLUMS, 8 to 10 feet high and wide.
Standard APPLES, large heads.
Standard PEARS, both the former, 6 to 8 feet.
WALNUTS, very strong Trees.
FINE GOOSEBERRIES and CURRANTS.

JOHN PEED & SONS

The Nurseries, Mitcham Road, Streatham,

THE BEST SCARLET MELON. FLESH

CARTERS' BLENHEIM ORANGE.



"I have grown some hundreds of Melons in my time, but have never had a better than Carters' Blenheim Orange."—R. INGLEBY, Esq., Slough.

"Carters' Blenheim Orange is distinct in flavour and appearance, and superior in quality to any Melon now before the public."—Mr. J. MUIR, Margam.

Price, in Sealed Packets, 1/6, 2/6, and 3/6, post free.

CARTERS' HIGH HOLBORN, LONDON

(Royal Seedsmen by Sealed Warrant),
237
238

WM. PAUL AND SON respectfully invite inspection of the following TREES and SHRUBS, now on Sale. Prices (on application) very reasonable, and quality unexceptionable as to roots, tops, and stems:—

KEECH, purple, best variety	... 12 to 18 feet.
" common	... 12 feet.
BIRCH, Silver and others	... 12 to 14 feet.
ELMS, four sorts	... 12 to 18 feet.
LABURNUMS	... 9 to 10 feet.
LIMES	... 8 to 12 feet.
MOUNTAIN ASH	... 12 to 14 feet.
NORWAY MAPLES	... 12 to 18 feet.
PLAINS	... 12 to 18 feet.
POPLARS, six sorts	... 12 to 18 feet.
SYCAMORE	... 12 to 18 feet.
THORN, Paul's Double Scarlet	... 12 to 14 feet.
(The finest Trees in the Trade.)	
FLOWERING SHRUBS, various	... 4 to 5 feet.
ARBOR-VITE, American	... 6 feet.
AUCUBAS	... 3 to 4 1/2 feet.
BOX, of sorts	... 3 to 5 feet.
CEDRUS ATLANTICA	... 5 to 10 feet.
DEODARA	... 8 to 12 feet.
CUPRESSUS LAWSONIANA	... 6 to 7 feet.
HOLLY, Variegated	... 6 to 12 feet.
" Green, named sorts	... 6 to 12 feet.
FIR, Scotch	... 6 to 9 feet.
" Austrian	... 3 to 8 feet.
LARLES	... 3 to 7 feet.
OSMANTHUS	... 2 to 4 feet.
FIGEA PINAPO.	... 6 to 8 feet.
RHODODENDRON PONTICUM, off loam	... 2 to 4 feet.
" Hybrid	... 2 to 4 feet.
" Named sorts	... 2 to 4 feet.
YEW, Common, and others	... 3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and Pyramids.
APPLES and PEARS, Horizontal-trained.
CHERRIES and PLUMS, Fan-trained.
ASPARAGUS for Forcing.

PAULS' NURSERIES, WALTHAM CROSS.
South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station;
Great Eastern Railway.

CHEAL'S NEW TOM THUMB DAHLIAS.
Choice mixed Seed of above can now be supplied at 2s. 6d. per packet.

CHEAL'S CACTUS DAHLIAS, carefully selected Seed, 1s. 6d. and 2s. 6d. per packet.

CHEAL'S SINGLE DAHLIAS, carefully selected Seed, 1s. 6d. per packet.

NEW CATALOGUE OF DAHLIAS, containing many Novelties, will be ready shortly, post free.

J. CHEAL and SONS, The Nurseries, CRAWLEY.



NOW READY.

SHARPE'S
ILLUSTRATED DESCRIPTIVE
CATALOGUE
for 1892.

Post-free on application to

CHARLES SHARPE & CO.,
Seed Farmers and Merchants, SLEAFORD.

FIRST-CLASS NURSERY STOCK.

JAMES BACKHOUSE AND SON offer the following stout, well-rooted, transplanted—

Trees and Shrubs.	Per doz.	per 1000;	per 1000.
ALDER, Common, 6 to 7 feet	... 4 0	—	20 0
" Hoary-leaved, 6 to 8 feet	... 5 0	—	—
ASH, Common, 5 to 6 feet	... 1	6	70 0
HAZEL, 2 to 3 feet	... 6	—	35 0
OAK, English, 3 to 4 feet	... 6	—	60 0
" 4 to 5 feet	... 6	—	135 0
" 5 to 6 feet	... 6	—	150 0
PINUS AUSTRIACA, 12 to 18 inches	... 52	6	7 0
" 1 1/2 to 2 feet	... 2	6	12 0
" Laricio, 2 to 3 ft. (ex. trans.)	... 90	0	12 0
POPLAR, Black Italian, 5 to 7 feet	... 2	6	10 0
" Giant Canadian, 4 to 6 feet	... 2	0	80 0
SYCAMORE, Variegated, 4 to 5 feet	... 12	0	180 0
" 7 to 8 feet	... 24	0	—

Evergreen Trees and Shrubs.	Per doz.	per 1000;	per 1000.
ARBOR-VITE, American, for Hedges, 3 to 4 ft.	... 8	0	50 0
" " " 4 to 5 ft.	... 10	6	70 0
" " " 5 to 6 ft.	... 15	0	105 0
BERBERIS Aquifolium, 9 to 12 in.	... 635	1000	1 6
" " 12 to 15 in.	... 1055	1000	2 6
BOX, Compacta, a beautiful form of Tree Box, compact in habit, and bright in colour, 12 to 18 inches	... 4	0	20 0
" 1 1/2 to 2 feet	... 5	0	30 0
" Handsworth Broad-leaved, 12 to 15 in.	... 3	0	18 0
" 1 1/2 to 2 feet	... 5	0	27 0
CEDRUS ATLANTICA, 2 to 3 feet	... 15	0	105 0
" 2 1/2 to 3 feet	... 20	0	150 0
" 3 to 4 feet	... 50	0	—
" 4 to 5 feet	... 60	0	—

CUTRESSUS Lawsoniana, well-grown plants.	Per doz.	per 1000;	per 1000.
" 2 to 3 feet	... 9	0	65 0
" 3 to 4 feet	... 15	0	100 0
" 4 to 5 feet	... 24	0	160 0
" argentea, 3 to 3 1/2 feet	... 24	0	200 0
" " 3 1/2 to 4 feet	... 30	0	200 0
" erecta viridis, 3 to 3 1/2 feet	... 30	0	200 0
" 3 1/2 to 4 feet	... 42	0	—

RHODODENDRON Ponticum, extra bushy plants, 12 to 18 in.	Per doz.	per 1000;	per 1000.
" 1 1/2 to 2 feet	... 9	0	35 0
" 2 to 3 feet	... 15	0	30 0
" 3 to 4 feet	... 24	0	80 0
SWEET BAYS, in pots, 1 1/2 to 2 feet	... 12	0	120 0
" 2 to 3 feet	... 18	0	120 0
YEW, Common, 2 to 2 1/2 feet	... 8	0	50 0
" 2 1/2 to 3 feet	... 12	0	75 0
" Irish, 3 to 4 feet	... 30	0	200 0
" 4 to 5 feet	... 42	0	250 0

Roses.	Per doz.	per 1000;	per 1000.
STANDARDS, fine named sorts, our selection	... 16	0	140 0
HALF STANDARDS, ditto	... 14	0	120 0
DWARFS, fine plants on Manetti, ditto	... 8	0	60 0
" on our roots, ditto	... 10	0	75 0

These are all strong plants. Purchasers can send names of sorts desired, which will be adhered to as far as possible. Descriptive CATALOGUE on application.

Peaches and Nectarines.
STANDARDS, or RIDER-TRAINED, 7s. 6d. to 10s. 6d. each;
extra strong trees, 12s. 6d. to 15s. each.
DWARF TRAINED, 5s. to 7s. 6d. each.

Apples and Pears.
EXTRA STRONG DWARF-TRAINED, 3s. 6d. to 7s. 6d. each.

Special Prices to large purchasers, or the Trade, on application, stating quantities required.

JAS. BACKHOUSE & SON, YORK.

FIDLER'S SEEDS STAND UNRIVALLED FOR EXCELLENCE OF QUALITY, PURITY, AND CHEAPNESS.

A Few Prices:—	Qt.	BEANS.	Qt.
Earliest of All	... 8d.	Harlington Windsor	... 6d.
William Hurst	... 1s. 0d.	Green Windsor	... 6d.
Duke of Albany	... 10d.	Minster Loog Pond	... 5d.
ONION.	Oz.	CAULIFLOWER.	Oz.
Improved Reading	... 3d.	Vaith's Autumn Giant	... 6d.
Nusbaum Park	... 4d.	Early London	... 6d.
Beds Champion	... 12d.	Self-Protecting	... 6d.

Other goods at equally reasonable prices.

Nothing but the best stocks sent out.

UNSOLICITED TESTIMONY.

"Forthmore, Weymouth, January 22, 1892.
"DEAR SIR,—I cannot afford to pay for fancy catalogues, but I can afford to pay my head gardener sufficient wages to make him independent of seedsmen's tips; I therefore apply to you again for my supply of seeds for the coming season, as your prices do not leave a margin for the above contingencies. I was well satisfied with the products of the seeds which I had from you last year. I shall feel obliged if you will forward me the seeds as now ordered with the least possible delay."
"Yours truly,
"W. GARDEN RAB."

Full descriptive particulars in CATALOGUE, sent free to any address on application.

Seed Grower
C. FIDLER, and Merchant, READING.

THE CUCUMBER OF THE PERIOD.

WEBB'S NEW STOURBRIDGE GEM.

1s. 6d. and 2s. 6d. per packet, post-free.
The result of hybridisation between the popular varieties Telegraph and Prince of Wales. It is a remarkably free setter, and very prolific, producing handsomely-shaped fruit, from 18 to 24 inches in length, with beautifully white flesh, which is very delicate in flavour.

From Mr. W. HOLDER, Gardener to R. B. Muir, Esq.
"Your Stourbridge Gem Cucumber is very prolific and a grand exhibition variety—it has no equal. I took First Prize with it at Atherton, against ten more pairs; also First Prize at Burton-on-Trent."

WEBB'S SPRING CATALOGUE, Containing Six Coloured Plates, &c. Post-free, 1s. Seedsmen by Royal Appointments, WORDSLEY, STOURBRIDGE.

PLANTING SEASON. HARDILY-GROWN FOREST, FRUIT, & ALL OTHER TREES & PLANTS, EVERGREENS, ROSES, &c. NURSERIES 400 ACRES: VERY EXTENSIVE STOCK. Inspection Invited! Priced Catalogues Gratis & Post Free. THE DICKSONS NURSERIES (LIMITED) CHESTER.

WHEELER'S CAMBRIAN FAVOURITE MELON.

A grand New Melon, which we believe will prove to be one of the finest standard varieties in cultivation.

Per packet, 2s. 6d.; small pkt., 1s. 6d., post-free.

Mr. J. MUIR, in writing of it, says:—"It is extremely handsome, and the flavour is all that could be desired; indeed, it combines more good points than I ever found in any other Melon."

Wheeler's List of Specialties and Novelties will be forwarded, gratis and post-free, on application.

WHEELER & SON, Seed Growers, GLOUCESTER.

FRIDAY NEXT, February 5th.

MOST IMPORTANT SALE,

By Order of Messrs. LINDEN, BRUSSELS,

(The first re-discoverers of the old *Cattleya labiata*).

CATTELEYA GLORIOSA, Lind.

NEW SECTION OF *CATTELEYA LABIATA AUTUMNALIS*.

NUMEROUS VARIETIES.



CATTELEYA GLORIOSA was discovered in December last, in a new locality, where no Collector or European Traveller had been seen before; and just received in unsurpassed condition, some in fine masses, and all so fresh as never *Cattleyas* have been introduced before.

 **THIS IS THE EMPRESS OF LABIATAS.** 

MESSRS. LINDENS' Collector, who started from Europe at the end of October last, when the fever of *Labiatas* began, and when the 200 beautiful *CATTELEYA WAROCQUEANA* (*LABIATA VERA*), were exhibited, states that *CATTELEYA GLORIOSA*—

"Differs in every way from the varieties collected in Bungeroth's or Swainson's hunting-grounds, and is of extraordinary beauty, far superior to the very best forms of C. Warocqueana or other old labiata. A large number of white varieties will also be found among them."

 **ORCHIDISTS ARE INVITED TO INSPECT THE PLANTS FOR SALE.** 

 **THE GRANDEUR OF THEIR APPEARANCE WILL SPEAK FOR THEMSELVES.** 

The whole importation, about 600 plants, as received, will be for Sale.

MESSRS. PROTHEROE & MORRIS

Will SELL the above grand lot by AUCTION,

At their Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 5, at half-past 12 o'Clock precisely.

As a Supplement
TO THE
GARDENERS' CHRONICLE
FOR
Next Week, February 6,
Will be Published an Ink-Photograph of
HEDYCHUM CORONARIUM,
GLASGOW BOTANIC GARDEN.

THE
Gardeners' Chronicle.

SATURDAY, JANUARY 30, 1892.

THE COMPARATIVE VALUE OF VARIOUS FUELS.

TO enter into a full discussion of the scientific methods by which the relative heating values of the different materials used as fuel are ascertained, would be tedious, and at the same time would possess little practical value to the majority of the readers of the *Gardeners' Chronicle*; but the following general statement of the principles upon which such values depend, may be of interest to many whose business demands considerable outlay in this direction.

It has been found, as a result of elaborate experiments, that the heating-power of any fuel, whether coal, coke, charcoal, wood, peat, or turf, is approximately proportionate to the percentage, by weight, of the carbon which it contains; hence, coke, consisting as it does, almost entirely of carbon, in a greater or lesser degree of purity takes the lead as a heat-producer. Anthracite a good sample of which contains 90 per cent. or more of carbon, heads the list of coals. Its hardness and compactness, and the absence of flame-producing constituents render a strong draught and careful stoking essential for its economical combustion. Other hard Welsh or steam coals have from 75 to 90 per cent., the average being about 84 per cent.; Newcastle coals average 82 per cent.; Derbyshire, 80 per cent.; Scotch, 78·5 per cent.; and Lancashire, 78 per cent. Of course, extreme variations, upwards and downwards, are found in all the above districts. Again, the "heat-value" of any fuel is modified by the presence of (1) water, as such, or of (2) the uncombined hydrogen and oxygen in the proportion in which they unite to form water, i.e., eight parts by weight of oxygen to one part of hydrogen. The greater the amount of water, or of its constituent gases, the smaller becomes the heating power of the fuel.

The reasons for this are not far to seek. The heat disengaged in combination (using the word in its ordinary sense), depends upon the chemical combination of the elements contained in the substance burnt with the oxygen of the air—the carbon with oxygen forming carbonic acid gas, the hydrogen with oxygen forming water. It is clear, then, that any elements existing in a fuel already in a state of combination, are, from a heat-producing point of view, so much waste material.

With regard to the presence of the hydrogen in an uncombined state, the case is somewhat different. Here the hydrogen combines with oxygen (present in the fuel itself, or in the air), the union being attended by the generation of a very large amount of heat, far greater than would be the result of the combustion of an equal weight of carbon. How then can the hydrogen

be considered disadvantageous to a fuel? Simply because a more than compensating amount of heat is used up in raising the temperature of the water to the boiling-point, and in its conversion into steam. This will readily be understood, when it is remembered that as much heat is required to raise a pound of water from freezing-point to boiling-point as would raise a pound of iron to about 900° centigrade (a bright red heat), and that five and a half times as much heat would be needed to turn a pound of water at boiling-point into a pound of steam at the same temperature.

These deductions from theory are fully borne out by the results of practical experiments, it being found that the heating power of a fuel varies directly as the amount of carbon, and indirectly as the quantity of water and its elements, or incombustible ash, contained.

Here we are met by an apparent paradox, which has led to much misconception, and consequent error in practice, and which is therefore deserving of the attention of practical men.

It was first shown by Bunsen, that when steam is passed over red-hot carbon, it is decomposed; the glowing carbon uniting with the oxygen to form carbon monoxide and carbon dioxide, and the hydrogen passing off partly uncombined. The carbon monoxide and the hydrogen unite with oxygen (forming water and carbonic anhydride respectively), and the amount of heat thus generated is found to be greater than would be evolved in the ordinary combustion of the carbon without the intervention of the steam. This application of water-vapour must, however, be carried out with great care, for when present in excess, it decreases, rather than augments, the heat generated. The proper way to apply water for raising the temperature is to place it in an open pan beneath the fire-grate, thus utilising the heat which is radiated downwards from the fire for its vaporisation. Many have fallen into the error of wetting coal before placing on the fire, with the result that the amount of heat has been lessened rather than increased, as is evident from what was said above. It is possible that coke, if fresh, may be advantageously damped in moderation, but it has the power of absorbing a large amount of moisture from the atmosphere without any sprinkling.

Too much emphasis cannot be laid upon the necessity for careful and intelligent stoking, no matter what the class of fuel employed. Careful trial should be made of various kinds used by any particular furnace, and the stoking should be carried out in such a manner as to ensure perfect and complete combustion. If anthracite or other hard coal be used, for instance, thin fires and a strong draught are essential. The importance of stoking was well seen in a case that came under the notice of the writer during the hard frosts of last winter. The furnaces of a market-nursery were stoked for some time by a gardener whose only idea seemed to be to pile on the coal. A man who had had some years experience, an engine-driver in a factory, was then put on stoking duty, with the result that, in much colder weather, the coal consumption was reduced considerably.

In conclusion, the main question as to which is the most economical fuel for glass-houses, is one that can only be determined by actual experiment with each system of heating, and by considering, independently and in conjunction, the heat-value of the available fuels, the cost of each, and the kind of boiler used.

The following table, taken from Scheerer's *Metallurgie*, may be useful, as indicating the

relative heating effects of different fuels, although the figures must be taken with caution, as being the result of theoretical deductions rather than that of practical experiments with ordinary boilers.

Fuel.	Heating Power.
Good coke, with 10 per cent. moisture and 5 per cent. ash	2350
Best coke, 5 per cent. moisture and 3 per cent. ash ...	2400
Best coke, no moisture, and 3 per cent. ash	2430
Air-dried black wood charcoal, 12 per cent. moisture	2450
Anthracite, 5 per cent. moisture, 5 per cent. ash ...	2350
Caking coal, 5 per cent. moisture, 5 per cent. ash ...	2300
Slender coal, 5 per cent. moisture, 5 per cent. ash ...	2350
Lignite, various	from 1800 to 2200
Turf peat (without moisture)	2000
Turf peat, 30 per cent. moisture	1875
Air-dried wood, with 20 per cent. moisture	1875
Kiln-dried wood, with 10 per cent. moisture	1875
Kiln-dried wood, without moisture	1750

C. W. H. G.

NEW OR NOTEWORTHY PLANTS.

EPIDENDRUM GODSEFFIANUM, Rolfe, n. sp.

Among the plants of the old Cattleya labiate—or, to speak more correctly, from the same district in Brazil—Messrs. F. Sander & Co., of St. Albans, have received a fine species of Epidendrum, which on flowering has proved to be new, and for which the above name is therefore proposed. It belongs to the section Encyclium, and to the particular group which Lindley characterised as *Hymenochila biloba*, where it may technically be placed near *E. Hanburii*. It bears some resemblance to this species in shape, but is very different in colour, in which respect it is more like *E. bifidum*, whose shape, however, is very different. The bilobed lip unmistakably places it in this group, though in general appearance it more nearly resembles some other species, whose lip has not this character, which suggests the query whether the species could not be more naturally arranged by some other character. This point, however, may be left for the present. *E. Godseffianum* has the general habit of other species of the group, and the flowers measure over 1½ inch across. Their colour is light green, somewhat nerved with light brown, except the lip, which is white, the front lobe being lined with bright rose-purple. *R. A. Rolfe, Herbarium, Kew.*

CYPRIPEDIUM GHAS (LAWRENCIANUM) ♀, HARRISIANUM NIGRUM (♂).

The foliage of this fine hybrid resembles some of the forms of *C. Harrisianum*. The scape has brownish hairs, and the general contour of the flower, although as usual intermediate, partakes more of the bold form of *C. Lawrenceanum*, and especially in the flat, circular form of its upper sepal, which is dark chocolate or nearly black at the base, from which the same dark colour radiates in lines, passing upward into the emerald-green patch which is seen just below the pure white ½-inch wide margin. The lower sepal is green, with a few brownish lines, and the petals and lip resemble in colour those of *C. Harrisianum nigrum*, but they are larger, and the petals display some traces of the bearded warts seen on the petals of the seed-parent. The staminate is more reniform than that of *C. Harrisianum* ×, but the whole flower has the polished surface which forms such an attraction in a good form of that variety. It is a stately and distinct hybrid, and it will be a favourite. It

* *Epidendrum Godseffianum*, n. sp.—Pseudobulbs conical-ovoid, 2 inches long, 2-leaved. Leaves linear, 12 to 13 inches long, 1 to 1½ inch broad, green, or suffused with purple. Peduncle a little exceeding the leaves. Raceme several-flowered. Bracts minute, broadly triangular. Sepals elliptical-oblong, acute, 3 lines long, by 3½ lines broad, pale tawny-brown, faintly nerved with light brown. Petals obovate-spathulate, 6 lines broad, like sepals, but with darker nervus. Lip 3-lobed; front lobe orbicular, retusely bilobed, 6 lines wide, white, with the disc lined with bright rose-purple; side-lobes suborbicular, obtuse, 4 lines broad, with a short broad claw, closely veined with purple on basal half. Column 4 lines long, apex orange-yellow, wings small and fleshy, yellow. Native of Brazil.

was raised in the gardens of C. Ingram, Esq., Elstead House, Godalming, by his gardener, Mr. Thomas W. Bond, *James O'Brien*.

CYPRIPEDIUM SWINBURNEI × (INSIGNE MAULEI × AEGEUS MOESSLI), new garden hybrid.

With some resemblance in leaf and flower to *C. Ashburntoniae* expansion, we have in this a far more showy hybrid. The leaf is light green, reticulated with dark green, and narrower than that of *C. Ashburntoniae* ×. The dorsal sepal is green at the base, and with a clear white ½-inch wide margin, the green area having a number of lines made up of distinct brownish-purple spots, which are larger at the base, and get gradually smaller as the white apical margin is approached. The petals are greenish-white, tinged with red on the outer halves, and with a number of dark purplish blotches resembling those seen in *C. argus*. The staminate is yellow, with a green veining in the centre, and the lip green, tinged and netted with reddish-brown. It is very pretty, and was raised by Messrs. Heath & Son, of Cheltenham, who request it to bear the name of T. W. Swinburn, Esq., of Cordean Hall, Gloucestershire, a great fancier of *Cypripediums*. *J. O'Brien*.

CYPRIPEDIUM HARRISIANUM ROSEUM × (BARBATUM WARNERI × VILLOSUM).

This cross has resulted in what may be called a dwarfier form of *C. Harrisianum*, having lighter-coloured flowers, which have a decidedly rose coloured hue spread over the petals and labellum; the upper sepal has a clear white margin, and the flower has a bright shining appearance. It is pretty, and easily distinguished by its flowers or by its handsome foliage, which is broader and shorter than in any other form of *Harrisianum*. The leaves are a light green colour, closely netted with bright green, but without the broad transverse markings usually seen in those of *C. Harrisianum*. It was raised by Mr. H. A. Tracy, of Amyand Park Road, Twickenham. *James O'Brien*.

DENDROBIUM CHLOROPS, Lindl.

I am obliged for a spike of this nice little Dendrobe to Mr. W. Lauche, chief gardener to His Highness Prince of Liechtenstein at Eisgrub, Moravia. The flower shows that the description published by Lindley in *Bot. Reg.*, xxx., 1844, *Mist. 51*, is a very accurate one, except, perhaps, that Lindley omitted to describe the tips of the sepals and petals as acute. But a mistake was made by Professor Reichenbach, who, in the sixth volume of Walpers' *Annals Bot. Syst.*, p. 299, adds this "*Dendrobium barbatum*, Lindl.; *Wight, Fr. Fl. Ind. Pr.*, ii., 910, 1844." The plant figured by Wight is, there cannot be the slightest doubt, the true *Dendrobium Etychianum*, Batem.; and the description of it, as well as the plate, belong to a plant quite different from the *Dendrobium chlorops* with which Reichenbach united it. *D. chlorops* hitherto has not been figured. I hope to have the opportunity to publish a sketch made from my fresh material in the next (sixth) fascicle of the *Xenia Orchidacea*. *Dr. Kränzl.*

BRITISH BIRDS.

CAPERCAILLIE.—The most imposing member of the Tetraonidae is the capercaillie (*Tetrao uro galus*), a name corrupted from the Gaelic *caput colle*, or horse of the woods, so called from his great size. A three-year-old male of their species is splendid in his glossy coat of plum colour and beetle blue. He has the war-like port of a great bird of prey, and his powerful bill seems designed rather to tear flesh than for a mild vegetarian diet. A well-grown specimen measures more than 3 feet in height, and sometimes weighs as much as 17 lb. The female (as is generally the case among polygamous birds) is much smaller, usually weighing from 5 lb. to 6 lb. The flesh of the capercaillie is unsatisfactory food, having a strong flavour of turpentine, imparted by his favourite food, the young shoots of the Scots Fir; and, living as he does in large woods, no special address or skill is required in shooting him. But to the naturalist he

is a bird of great interest, because he is an example of the successful re-establishment of a species which had become extinct in this country. Capercaillie were re-introduced at Taymouth by Lord Breadalbane about sixty years ago. They have now spread far and wide, and are plentiful in many parts of central Scotland.

BLACK GAME.

The black grouse (*Tetrao tetrix*) is a more beautiful bird than the capercaillie; in fact, it is difficult to imagine a more fascinating creature than the black cock in spring, when, choosing some bare billock, he struts, spreads his tail, and trails his wings to excite the admiration of his soberly-clad wives. The grey hens will fly several miles morning and evening in the breeding season to receive the

or grouse, and if it existed only in this country the name given to it by naturalists, *Lagopus vulgaris* or common ptarmigan, would be most inappropriate, for it is not to be found now with us except on the loftier ranges of the Scottish Highlands. But the geographical range of the ptarmigan is a wide one; they are found on the high ranges of Italy, Spain, Russia, and Scandinavia, as well as in Greenland and North America. In Norway and Sweden, where they are known as the Fjall ripa, they are extremely plentiful, but they should not be confounded with the Dal-ripa, or willow grouse (*Lagopus saliceti*), thousands of which are exported and may be seen hanging in winter plumage in London poulterers' shops during the spring months, where they are sold as ptarmigan, which they closely resemble. The males of the two species may be

Westmoreland and in Galloway. I have been informed by an aged shepherd that the last time he saw them on the Lamarkan range was in what he called "the year o' the short corn" (i.e., of the great drought), 1827.

THE PHEASANT AND PARTRIDGE.

Now I have left myself no space to do more than complete the list of British game birds by merely mentioning the pheasant and the partridge. Modern sportsmen have been scolded with equal severity by the moralist, the philanthropist, the politician, and the humanitarian, on account of the vast numbers of pheasants artificially reared and shot each year. Well, it is not ideal sport, perhaps, but it entails a degree of skill that might surprise those who have never tried to pull down a good rocketeer; it causes



FIG. 23.—A VIEW IN THE GROUNDS AT ALBURY. (SEE P. 147.)

(As seen from the end of the terrace.)

attentions of their sultan. Black game are remarkable for their capricious distribution in the United Kingdom. In no part of the realm are to be found tracts apparently more suitable for them than in Ireland, yet, strange to say, they have never been known there, and all attempts to introduce them have hitherto failed. Yet they may still be found within 30 miles of London; I myself have seen five grey hens sitting together on a Birch tree in the Hurt Wood, near Dorking. They extend as far south as Dartmoor, and it is remarkable that although the hens, as in other wild polygamous species, are shockingly careless mothers, black game hold their ground on these southern moorlands, where it has been found impossible to establish the far harder and thriftier red grouse.

THE PTARMIGAN.

One more of this interesting family exhausts the list [which we publish. Ed.] of British Tetraonids

distinguished by the small angular patch of black feathers which remains behind the eye of the true ptarmigan when all the rest of the plumage turns white. Few birds can have more romantic associations than the ptarmigan. They lie so close among gray rocks and lichens on the mountain tops, that one may almost tread on them unawares; but if one bird is put up, the whole covey rises at once, and it seems as if the very stones were taking wing. Generally, the brood takes but a short flight, wheeling round the mountain flank, and lighting again; but sometimes they launch themselves upon the gulf separating them from a distant peak, and present a beautiful sight not easily forgotten as they sail, a gaily mottled group, perhaps a couple of thousand feet above the valley below. It would be a task worth accomplishing, and not presenting many difficulties, to restore these beautiful birds to hills whence they have disappeared. It is not very long since they were well-known in Cumberland and

a very important supply of food to find its way into the market; and lastly, if it is objected to on the score of cruelty, it is quite fair to ask whether the birds, could they be consulted, would not affirm with one voice—

"'Tis better to be hatched and shot

Than never to be hatched at all,"

and the latter would be the fate of tens of the thousands of happy little chicks which run through the summer grass if battues were to be put an end to.

The partridge is such a favourite with all of us, that a whole paper might be devoted to the little brown bird which has adapted itself so well to civilisation and improved agriculture, as to multiply almost as fast as our human population. Gilbert White describes with wonder how "for some time after the dry summer of 1740-41, partridges swarmed to such a degree that parties of unreasonable sportsmen killed twenty and sometimes thirty brace in a day. Herbert Maxwell,

WEST INDIES.

MESUA FERREA.

At the time when this tree is pushing forth its delicate pink-coloured young growths, many people are misled at first sight into supposing them to be flowers. Owing to the dry weather in May, 1891, no such growths were to be seen, but flowers instead were being produced. These are by no means unlike the Dog Rose of English hedgerows, their four large petals are white, the centres filled with yellow stamens, and fragrant. Before expanding, the flower-buds are purplish-pink, giving quite a colouring to the leafless, or partly leafless, terminal branches which bear them. The leaves are opposite, ovate-oblong, long pointed, and so densely set that it is nearly impossible to see through the tree from one side to the other. The under-side of the leaf is very glaucous, but green above, and card-board-like in texture. In shape the tree is conical, with a very even outline, to be compared in this respect with our specimen of *Canarium commune* (Parrot nut). The hard wood of *Mesua ferrea* is known amongst other woods by the name iron-wood. During the past three years no fruit has been borne; whether any has ever been produced there is no record to show.

ANCISTROLOIUS CARNEUS.

That something is very attractive to bees and small birds during the period this tree flowers (May and June) is clearly shown by the large numbers present each day. The numerous small red flowers are usually borne in leafy racemes terminating the smaller branches, but occasionally they appear from different parts of the trunk and older branches, where sometimes the racemes are entirely devoid of leaf-bracts. At the base of the three bundles of stamens, present in each flower, alternate three large yellow glands. The tree is not conspicuous for size as grown in the Trinidad Botanic Gardens, as it only attains moderate dimensions. Its chief characteristics are the light brown barkless, or seemingly barkless, trunk and branches which it possesses (due to the dry bark peeling off in flakes), and the number of flowers it bears. The tree belongs to the order Hypericaceæ, and is recorded as belonging to China. According to Benthams and Hooker's *Genera Plantarum*, it should be included under the genus *Cratogeomys* of Blume. *W. E. Broadway, Trinidad.*

GRAPE SOILS.

THE analysis of a good Spanish Grape soil, as given by Mr. Hughes in your issue of January 16, will be useful to Grape growers, giving, as it does, the proportions of different matters contained in soil naturally adapted to the growing of the Grape Vine. It certainly is a poorer soil than is usually employed for Grape-growing in this country, and the great proportion of stones in the soil should be made a note of, and might be kept in view with good results in making up Vine-borders. Stones are not without their uses in the economy of Nature, when mixed with the soil—they tend to keep it from running together in an adhesive mass. Stony soils are generally friable, and favourable to the production of active, fibrous roots. Broken brick and lime-rubble are frequently added to Vine composts, to serve the same purpose. In the case of Vine borders, often from 2 to 3 feet in depth, stones are even more necessary than in the comparatively shallow soil of the fields. In turning out old Vine borders, where the soil is deficient in stony material, the lower portion of the border is often found to be a hard, inert mass, nearly destitute of roots. Had a more liberal proportion of stones been used in the formation of the border, the lower portion would have been better aerated, and better and more numerous roots might have been reasonably looked for, although the best roots, no doubt, should be near

the surface, so as to take full advantage of top-dressings and the sun's warmth.

In drawing our deductions from the analysis of the soil of the Spanish vineyard, we must bear in mind that the Spanish and British Vine-growers are working for different ends, and under different conditions. The former look for a good crop, irrespective of size of bunch or berry to give him a good vintage; and last, but not least, he knows that the price he will obtain for his wine will be largely influenced by the flavour, or bouquet, or whatever his product has acquired a reputation for in the market. He has also the advantage of a great amount of sunshine, which is an important factor in the matter of flavour.

The latter look for a good crop, but the size of bunch, size of berry, colour and flavour, are the chief points he keeps prominently in view. He has to look to the staying power of his Vines, that they may go on year after year producing good crops of high quality; while he has to resort to artificial means to cope with dull skies and low temperatures. At the same time, given a fair amount of sunshine, with good glass structures, and efficient means of keeping up the temperature, the British Grape grower holds his own against all comers, though necessarily at much greater expense than where the fruit is grown out-of-doors. To gain the best results so as to recoup the greater expense of production, the British grower must use a more fertile soil, or if the soil selected does not possess all the necessary constituents, these must be added. It is here that chemistry comes to the Grape-grower's aid, for by having an analysis of the proposed soil, its fitness or unfitness can be determined, and if found suitable, though weak in some ingredients, these can be supplied, and failure, so far as the soil is concerned, reduced to a minimum.

I scarcely think Grape-growers will agree with Mr. Hughes where he says, that "compared with farm crops, Grapes, consisting largely of water, cannot be considered an exhausting crop." Farm crops of some kinds, particularly cereals, may take more out of the soil than Grapes, but then the fields have the benefit of a rotation of crops, white crops being alternated with green crops, along with annual manuring, followed up by a season or two of grass or fallow, before the same crop is repeated. The Vine border has no such rest. The crop is the same year after year, and so must become exhausting, as the demand is always for the same constituents from the soil. Hence the necessity for frequent top-dressings to replace what is abstracted and lost. Many Grape-growers are very much hampered in the matter of soil. It is generally conceded that turf full of fibre, from the surface of an old pasture, is the best soil for Grape-growing. Many owners of gardens stand in their own light in this respect. While they expect their gardeners to produce the finest fruit, they often obstinately refuse to allow suitable soil to be dug, though there may be acres of it on the estate. I remember when in charge of a large fruit-growing establishment in England, there were acres of the finest possible Grape soil in the park within sight of the garden walls. The soil in question was a fine red loam, full of fibre, on a subsoil of red marl. We might have asked the squire for a back tooth with more chance of success than for a few loads of this old pasture. All our supplies in the way of turf, which were very limited, had to be brought about a mile, from an out-of-the-way corner, of hungry light soil, with very little staying power in it. This is a very common experience.

There is no doubt some fine red soil in the Worcester Hop gardens, and in Kent and Devonshire, but few gardeners would be allowed to incur the expense of fetching it, as suggested by Mr. Hughes, unless those living in the immediate neighbourhood.

Suitable soil for Grape-growing can generally be found in most districts where old parks or pastures exist, red soil, being, I believe, from my own experience, the best, though sometimes an indifferent-looking soil may be made a very good material for

Grape-growing. This is notably the case at Clovenfords, where excellent results are produced, year after year, from a soil which many Grape-growers would be slow to use, but which, in conjunction with Mr. Thomson's manure undoubtedly has great staying power. I quite agree with Mr. Hughes that wood-sashes are valuable for mixing with soils deficient in potash and phosphoric acid. Light soils are much benefited by the addition of burned clay or marl. Bone-meal and $\frac{1}{2}$ -inch bones are valuable in most soils. *Sans Peur.*

CALOCHORTI IN THE OPEN AIR.

THESE most beautiful and free-blooming Californian bulbous plants, known to florists under the English names of Butterfly Tulips or Mariposa Lilies, are practically unknown in this country save to a few, and to these mostly from weakly and poorly grown specimens, grown either in pots, frames, or Cape-pits, wherein they will never really thrive, or produce more than a small portion of their loveliness. The chief reason for these bulbs having been hitherto treated as above mentioned has, of course, been that they were not known to be hardy in this country, but now that they have been proved by Mr. C. G. Van Tubergen, of Haarlem (who has grown them for some years past in considerable quantity) to be quite as hardy as an ordinary Hyacinth, and only to require much the same cultivation and treatment as those well-known bulbs, it is to be hoped they will be much more extensively grown and tried by many who have hitherto thought it useless to attempt their cultivation. Having received from the Haarlem firm above named a collection of 103 bulbs in seventeen varieties (two of which, however, turned out not to be *Calochorti* at all, but *Cyclobothus*). I planted them in the first week of November, 1890, in an open bed in my garden, in specially-prepared light sandy soil, and in as sunny a position as possible, and during the whole of the winter they had no kind of protection whatever. They nearly all grew, sending up two or three grassy leaves in March or April, with the exception of *C. Madrensis*, a Mexican species, figured in the *Gardeners' Chronicle* on October 4, 1890; and the first to come into flower towards the middle of May was *C. Benthami*, with small bright yellow flowers, which, owing to my absence from home during that month, I did not see. The next to flower was *C. venustus citrinus*, a most beautiful variety, with large flowers of a deep canary-yellow, with a purple spot at base of each petal; this was followed by *C. venustus ocellatus*, a most beautiful variety, with large cupped flowers of a creamy-white, deeply spotted with purple at the base of each petal. Then came the dwarfier-growing and smaller-flowered *C. luteus*, with bright yellow flowers; but amongst my half-dozen bulbs sent as this variety were two of the much larger and far finer variety, *C. citrinus*, well figured on plate 6200 of vol. ci. of the *Botanical Magazine*. Then came *C. splendens*, which seems to me in nowise to deserve this pretentious name, as its flowers, which are of a light shade of purplish-mauve, are without any kind of marking, and though sufficiently elegant and profusely produced, cannot compare for either size or beauty with either of the fine varieties of *venustus* mentioned above. *C. venustus roseus* is rather disappointing, its flowers being of an indistinct and washy colour. *C. venustus purpurascens* is an exceedingly strong-growing, free-blooming, and handsome variety. It may be mentioned here as curious that all the forms of *venustus* save the type, though quite the smallest and weakest bulbs, proved to be much the strongest growers and the most abundant bloomers of the whole lot. Amongst the *C. Benthami* was a single bulb of *C. Maweanianus*, which, however, is dull and pale in colour, of a whitish shade, with purplish markings, and comparatively worthless.

The varieties which, though most of the bulbs grew, yet failed to produce any bloom, were as follows:—1, *C. macrocarpa*; 2, *C. venustus*; 3, *C.*

Kennedyi; 4, *C. Howellii*; 5, *C. Nuttalli*; 6, *C. Gunnisoni*, and the bulbs of these, on being examined, seem to be perfectly sound, and many of them to have increased in size during their culture

C. Madrensis, alluded to above, bloomed much later than all the others, but both abundantly and well, the flowers being much smaller in size, of a bright deep golden-yellow, opening almost flat in

during the week's snow which has now just left us, and do not expect them to receive any injury therefrom. I have added to my bed half dozens of the following varieties new to me:—*C. Bonplandianus*, purple; *C. flavus*, golden-yellow; *C. flexuosus*, *C. longibarbatulus*, lilac; *C. nudus*, and *C. Palmeri*, white. *W. E. Gumbleton*.

STREPTOCARPUS GALPINI.

THIS is a new species of *Streptocarpus* which flowered in October last at Kew, whither it was sent by Mr. E. E. Galpin, who collected the seeds in the Transvaal in 1890. He wrote, "I am sure you will like the two species of *Streptocarpus* [the second one was *S. Dunnii*, introduced some years previously] if you can succeed in raising them. They both grow in crevices in the cliffs and under rocks, and only on the very tops of the mountains just below the brows of the highest peaks. The red-flowered species (*S. Dunnii*) I found growing in profusion on the granite mountains in Upper Swaziland, whereas here they grow in metamorphic sandstone. Those I send you came from the "Bearded Man," a peak forming one of the boundaries of Swaziland, thirty miles off, where the plants are much finer than here. I send some specimens to show how freely the plants flower."

Out of a score or more plants raised from the seeds of *S. Galpinii*, only one has flowered, the others being evidently too weak last year; they are, however, promising in appearance this year. The character of the species is shown by the illustration, which was prepared from the Kew plant last November. The single spreading leaf was 8 inches long by 5 inches in width, fleshy, with thick nerves and midrib, the whole surface covered with soft silky hairs, the under side tinged with purple. The hairy flower-scapes spring from the base of the midrib of the leaf, and they bear numerous flowers, the plant continuing in bloom over five weeks. The form and colour of the flowers are quite different from any other cultivated species of *Streptocarpus*, the tube being very short and wide, the limb almost regular, and the colour a rich blue with a tinge of purple, and the throat pure white. Although small the plant bore over fifty flowers, each $1\frac{1}{2}$ inch across. It flowered again in December. The capsule of *S. Galpinii* is very much shorter than that of any other species known to me. Various crosses were made between this new one and other kinds, and full-sized fat capsules were matured, but in almost every case they did not contain a single seed. Whether *S. Galpinii* will cross with others of the same genus or not, it is certainly a plant of great promise. In my opinion it is the prettiest of all the species of *Streptocarpus* in cultivation, not overlooking the claims of such kinds as *S. Rexii*, *S. Dunnii*, *S. latea*, and *S. polyanthos*, which, as well as several others of less horticultural value, are in the Kew collection. A figure of *S. Galpinii* will shortly be published in the *Botanical Magazine*. *W. W.*

FLORISTS' FLOWERS.

CHINESE PRIMULA.

I HAVE just been comparing the wild form of *Primula sinensis* (figured at p. 13 of the *Gardeners' Chronicle* for January 2) with the coloured plates figured in the *Botanical Register*, t. 539, and *Botanical Magazine*, t. 2564. In the first-named publication, the drawing was made from the plant which flowered for the first time in England in March, 1821, in the greenhouse of a Mrs. Palmer, Bromley, Kent. This plant cannot be far removed from the wild state. The flowers are described as of a lilac-red colour, and all that seemed to be known of it was, that it was brought to England from the gardens at Canton, the rest being supposition. The flowers are placed on lax footstalks, forming a very irregular truss, and the edges of the petals are slightly serrated, and the segments of the corolla not notched in the centre.



FIG. 24.—STREPTOCARPUS GALPINI.

here, but none of them show any signs of making offsets. Why these varieties failed to bloom like their brethren under precisely similar conditions is indeed hard to understand.

the sun, and quite distinct in form and method of biding themselves from those of any other variety. I planted my bed again about the same time as in 1890, and have left the bulbs quite unprotected

It was registered under the name of *P. prænitenis*. The drawing in the *Botanical Magazine* has flowers with the corolla segments notched, as in the figure in the *Gardeners' Chronicle* of the above date. The specimen figured in the *Botanical Magazine* was produced in Mr. Joseph Knight's nursery in the King's Road, Chelsea, in 1824, and one would judge from that figure that the flower retrograded towards the notched segments of the wild plant. It was treated as "a very hardy greenhouse plant," and was kept growing all the year round, and the plants were seldom out of flower. The result of this would be what might be expected—the plants would never at any time produce well-developed flower trusses or good flowers, and the treatment as a very hardy greenhouse plant would, as it is stated it did, cause the plants to rot off at the neck. I observe at p. 12, *Gardeners' Chronicle*, in the three forms of the calyx, that they have five segments only; and the *Botanical Magazine* specimen had but five segments, whereas the first plant that flowered had, besides the variously jagged corolla, generally more than five teeth to the calyx; and the effects of culture was to produce flowers in a verticillate manner on the stems. The subsequent effect of culture was to change the colour of the flowers, as well as greatly to improve their form; but at first, and for many years afterwards, there was but little change, except to white. It was not until the very highly coloured form termed Chiswick Red was introduced, that a rapid improvement of this fine plant set in. Messrs. Sutton, of Reading, and Messrs. Cannell, of Swanley, have both made great strides in the direction of raising distinct varieties. The pure white varieties are remarkably beautiful, but they are not more charming than the soft rose, pink, and pinky-blush varieties. Much has been learned in the way of superior cultivation also, for the improvement of the strains has not been more rapid than improved culture. Indeed, it would be but little use for dealers to improve their stock of seeds if gardeners were not awake to the importance of doing their best to cultivate the plants to a high state of excellence. Competition at the Chrysanthemum shows has done a good deal to promote special excellence in these plants. Many cultivators err on the side of too high feeding. This, of course, is an error in the case of any class of plants; but more so in those with succulent leaves, like the Chinese Primula. Loom three parts, leaf-mould one part, and decayed manure one part, make a good potting compost, and some coarse white sand and a small portion of bone-meal may be added to it at the last shift. It ought to be observed that the young seedling plants are easily stunted or dwarfed in their growth by delay in repotting them, and when this happens, the plants seldom arrive at a high state of excellence; but no good gardener need be warned of this, for it occurs in every class of plants. Let them be kept steadily growing from the first development of the leaf, until they have grown to their full size, and all through the summer and autumn the plants ought to be in the open-air with the lights ready to be placed over them if the leaves are likely to be bruised and broken by autumn gales, or the compost in which the plants are growing may become hardened or saturated by heavy rains. The flower-pots should be well drained, and it is also very easy to err on the side of over-potting. Many persons have expressed their surprise at the large size of the plants compared to the size of their pots, exhibited at the meetings of the Royal Horticultural Society; but the fact is, if larger pots were used, the leaf-growth would preponderate over that of the flowers. The plants in their comparatively small pots are fed with prepared manure of a concentrated character. The sportive character of these Primulas is still further shown by the numerous semidouble varieties, and which may be raised from seeds almost as freely as the single varieties. They are as variable in their colours as the purely single varieties. There is yet another section with the flowers so double that seeds are never produced from them, and the plants must be propagated by cuttings or division.

Mr. Gilbert, gardener to the Marquis of Exeter, Burleigh, near Stamford, exhibited a set of these double Primulas in London some twelve or more years ago, which were greatly admired, and this exhibit was also the means of extending the culture of them very considerably. I have on a previous occasion fully explained the method of propagating these double varieties from cuttings, and growing them on to a flowering size, but any very choice variety of Primula may be propagated in the same way from cuttings, as soon as they break into several crowns, each crown being taken off at a joint (when the wood has hardened a little, and the moisture has been reduced by keeping the plants dry at the roots), will, if planted singly in thumb-pots in fine sandy soil, soon form roots, and grow into as good plants as the seedlings of the year. The propagated plants are not so likely to become overgrown as are the seedlings. Some remark is made at p. 12 of a mystery to be solved, and it is a mystery "Why some plants of the same genus are so much more variable than others?" It may be that some have not received that amount of artificial culture as would change the form and colour of the flowers. The Primula Auricula has been much cultivated, and received more artificial treatment than any other, and the result is, that it is the most variable of all the Primula family. *P. pubescens*, the supposed parent of the alpine Auricula, is also very variable, but as it has not received anything like the same amount of attention as the other, it has not altered so much from its original form. The ordinary Primrose of our meadows is very variable, and in time *P. villosa* would produce some curious forms. All that is required is for some one to watch the changes in seedlings, and take advantage of them. *J. Douglas.*

CELERY CULTURE.

MANY journeyings about the country during the past season in the capacity of a judge at exhibitions have impressed on me the inferior quality of numerous examples of Celery that I have seen exhibited. Indeed, taken all in all, this particular vegetable was about the worst shown. I make bold to say, therefore, whilst all other culinary products grown in this country have shown a wonderful advance of late years, Celery has remained stationary, or below the average. Yet it would be imagined that the past season was one particularly favourable to the growth of Celery.

On many occasions, when examining a score or two of Celery exhibits, it was found impossible to select examples from merely the apparent external excellence of the heads; and worse still, when the knife was applied, results did not improve, as the best-looking were either "botted," or with leaves split, and somewhat decayed—to say nothing about the many worms that were present, which always caused disfigurements, as do also the common slugs. All these heads were far below the old Manchester standard of excellence, which brought the scale down at 8 lb. and even more.

Celery is not a new vegetable, as grown, blanched, and consumed at present, although it came into use at a later date than some of the other ordinary inmates of the kitchen garden. It was only known in Gerard's day—later, in fact—in Johnson's time, who edited the last edition of Gerard's *Herbal*—as the ditch-plant—Smallage; a "strong-smelling" plant, the leaves of which were occasionally used in "broth," but which were mainly accredited with medicinal properties.

Though there is a dearth of data as to its original use in the blanched form, as at present, the singular fact is, that the best varieties or selections first known were named "Roman" and "Italian," pointing to the belief that the plant was so used on the Continent earlier than in this country. Botanical dictionaries, nevertheless, consider it exclusively a British plant. If, however, it was so used in the above countries prior to its introduction as blanched Celery here, a margin of doubt must follow as to its home being limited to this country alone. Any way,

it is common enough in the more stagnant water-ways of Sussex, &c., and is abundant on the coast of Thanet, which points to its hardiness in a marked degree. There should, therefore, be no great difficulty in upholding the old Manchester standard of excellence, if not, indeed, improving upon it.

But, apart from the fact that it is most commonly found in the wild state in moist land, it will succeed in old disused chalk-pits, wherever time has been permitted to form foothold of rich surface soil. For instance, in such a position, now overgrown with trees, little more than a stone's-throw from the old Frinsbury Church, above Strood, in Kent, it clothes the ground in great luxuriance, having successfully combated and overcome all other indigenous weeds. This, added to other experience, proves to me that calcareous soils are suited to its requirements.

Now, as to its culture. Is there not a prevailing feeling amongst cultivators, explained in some such sentence as the following: "It is only Celery, it will live through the summer, somehow, and when autumn rains fall, and we get longer nights and much dew, it will make up for lost time." Be this as it may, I am convinced that, given proper attention to three or four points, which I will now refer to, it will yield better results.

To grow good exhibition Celery there should be a depth of good surface soil (above the subsoil), of not less than 3 feet; and where such depth does not exist, wide trenches to that depth should be made and filled with the proper materials. Furthermore, to succeed, even such a depth of good soil should be trenched during the previous winter. Some readers may smile at the thought of trenching for Celery, but I assure them, it is no new practice. Older growers, whose successful practices have brought their names into prominence in some of our oldest and best works, habitually trenched for Celery!

Let us, however, examine the subject. It is thought highly proper to trench for Onions, is it not? If, instead of trenching for the Onion crop, the same ground was trenched for Celery it would be in better trim for a succeeding Onion crop, and after the Onions autumn Cabbages, both of which like firm ground; such firmness, in fact, as Onions fail to find on newly-trenched grounds of only a month or so ago.

I am recommending no more work, but an improved preparation generations approved for rotation of crops. Whether the ground be trenched or not, different and better preparation of ground for Celery than that which is too generally in vogue will have to be made, if excellence is to be looked for.

Judging its requirements from those which snit it in a state of Nature, its roots delight in free, fine, loose soils, abounding in moisture; and the best artificial soil for it undoubtedly is, three parts decayed manure to one part good loam, which should be exceptionally well incorporated. Contrast this with the kind of treatment it too generally is subjected to, i.e., a trench is formed only so wide as to admit of the free use of the spade in its preparation, and often the bottom of the trench consists of an ungenial substratum of soil, some kind of strong manure, undecayed, is dug in, and on the top of this the Celery is planted often with a dibble, which jams their roots together in a small hole. That they live and commence to grow when the summer-heat is past goes without the saying; but such treatment desirable or proper?

With such liberal treatment as I previously suggested in this article, there is no reason why the plant should not make vigorous progress throughout the summer-time. Minute seedlings grow most freely upon mounds of rich soil in spring and do not object to a high bottom-heat. The explanation is, the fine rich soil is suitable to the plant. Large sticks, large-hearted and solid, can only be formed by plants that make a large base at first in the spring or summer, and here is the alpha and omega of grand heads of Celery. To ensure this large base, no check to growth must be permitted,

and transplant into the trenches in a well-prepared compost, like that I have indicated, a compost, in fact, equal in fineness and richness to that of the first nursing-bed, and, if possible, superior to it.

As to the proper date for seed-sowing, those who wish to dig properly blanched sticks on September 1, and to ensure an unbroken succession, must sow as early as the month of February, and at intervals of three weeks. For the main crop, however, and later season exhibition purposes, such early sowings are not desirable. Seed for main crops is sown early in the month of March; the seeds soon germinate, and the plants are permitted to become starved in the seed-boxes, for a long time before they are pricked out. By far the better plan is, to sow about April 1, and so soon as the seedlings are fit to "handle," prick them out, and grow them on fast by the kind of liberal treatment that I have sketched out. In proof of this, I may add, Mr. Lancaster, a grower for the Metropolitan markets of "Lancaster's Celery," not only sows broadcast in frames at this seasonable date, but pricks his seedling plants out upon beds of soil in low-roofed glass structures, frames, &c., thereby ensuring rapid progress. The trenches have been prepared long previously—so long, in fact, as to admit of his first crop of French Olive, and other Radishes, Early Lettuce, &c., being sown and grown upon the mounds between them. As regards his estimate of the summer needs of his Celery, he has adopted, at some expense, a perfect system for intermittent irrigation.

Split-stalked Celery is far too common, and is not only an external disfigurement, but materially lessens the value of the crop, causing much waste and loss, an important consideration from the demand-and-supply point of view. Stalk-splitting is undoubtedly caused by alternations of dryness and moisture during growth, and injudicious earthing-up. In this contention I am not far wrong in saying, the exigencies of time and weather, along with misinformed estimates of the importance of certain necessary rules to be followed, are the real causes. For instance, if after a somewhat prolonged dry autumn period a large mass of soil be packed around, splitting of the sticks more or less is likely to follow. The proper plan to follow is to make two minor earthings with a hoe, with about an interval of a fortnight between them. By this means, the covering of the base will be done gradually; the width of the trenches is increased, so that rain or waterings afterwards will reach the roots easier, dew acting meantime more powerfully. Subsequently, in about another fortnight, more substantial earthings-up can be made with less risk.

So general have Celery-fly attacks become, it is necessary to dust the leaves over occasionally with lime or soot during the months of June and July. Lime should also be sprinkled amongst the plants at each earthing-up, and amongst the leaves at the top of the mounds late in November, as a check upon worms and slugs.

The plant appreciates moisture-water throughout the growing season. I stood, some time since, on the elevation near Lincoln Cathedral, when a man passed up the hill, going towards the country, with six huge sticks of Celery, carried upon his back by means of a stick thrust through them, and resting on his shoulder. "You are going the wrong way, my man," I remarked; and he answered, "No, I beant, for they grew on sewage farm. Lincoln folks won't eat 'um, but I knows them as woll." *William Early, Ilford.*

FOREIGN CORRESPONDENCE.

GARDENERS' EDUCATION.

I HAVE been thinking a great deal about this matter, as well before as after Mr. Thistleton-Dyer's papers, and I have had some experience too. It is a very difficult problem, but, all in all, I quite agree with his remarks, that "The cultivation of plants is

an art which can only be acquired by practice, and therefore, it appears to me, it cannot be taught in the lecture-room. . . . The mere reading of books and attendance on lectures will never make anyone even a moderately competent gardener." This is true, especially in the case in question; and as Mr. Dyer recommends physics, chemistry, botany, &c., he cannot be blamed for neglecting theory.

The difficulties lie in the questions—How is the gardener to get opportunities to study the sciences? How much is wanted to be of any use? and, Is it possible for a gardener to acquire, besides a good practical training, a thorough knowledge of all the desirable subjects, viz., botany, vegetable physiology, chemistry, physics, drawing, levelling, surveying, geology, languages, book-keeping, &c.? remembering that most gardeners must commence with merely an elementary knowledge of grammar, mathematics, and geography.

First, as to his opportunities. I have by experience (two years of which time I was in England), and by reading the *Gardeners' Chronicle* for many years, got the impression that it is more difficult to get such opportunities in England than in any other country; it may be a wrong impression, but it is one that is shared by many Englishmen. In most other countries you will find horticultural schools teaching all, or almost all, of the above sciences. Still, it is admitted by everyone that English gardeners are, on the whole, the best in the world. I do not say it is because they have no theoretical school of horticulture; it is in spite of this fact, and because circumstances are more favourable for our art there than in any other country. As to intellectual capacity, I have no opinion; but there is in England a taste for horticulture, money to pay for it, a tolerable climate—still one that demands glass-houses—and good traditions; and in some or all of these respects, many other countries are behind her. It is high-class gardening and plenty of opportunities to learn this in practice, that makes the good English gardeners. What is wanted of science is readily got in a prepared digestible form from without—I mean from the innumerable professors, doctors, reverends who are in some way connected with horticulture, and of whom there are few in other countries, too. Of course, England has many scientific gardeners, and they are so much the better for the greater difficulties they have surmounted in acquiring scientific knowledge, which speaks much for their energy, which is not always the case where the acquirement of a subject is easy. But still I cannot help sympathising with those who demand horticultural schools, where a knowledge of the requisite subjects may be obtained. Horticulture advances, and in connection with so many branches of science, that it is absolutely necessary for the heads of all mercantile, public, and large private establishments to understand some, if not all, of these subjects, to such an extent that they are able to follow them in their development, make use of new discoveries, and on the whole apply science to practice. As instances of which, I will just mention fungi and their destruction, artificial manures, and lately electricity. But that brings us to the other questions—how much is wanted so as to be of any use?—and which subjects should be included? These questions are not easy to answer, too little of each may be worse than none, and a thorough insight into all, would demand too much time for the majority of gardeners. Only a start can be made at school, and afterwards each individual must choose the subjects he most needs, and follow them up after he gets a situation. As to subjects, I should not like to exclude any of the above-named, but would rather add some more, but the list is already a long one, and it will take years devoted to study to acquire so much knowledge in each of these as to be able to follow the advances which are made in any one of them and make use of them. This fact limits attendance, and as many of the pupils will be able beforehand to know which subjects they most require and which not, and as there generally are facilities in large towns for learning those that are required, the

state of things is, perhaps, not so bad after all. Still, we foreigners, with all our State examinations, can hardly understand how you get on without an official test and a standard for State and public officials, and the same in horticulture. The British Empire, with its colonies, is so large and so wealthy, that it stands in need of such a school, and is well able to support one.

But there is great danger connected with such schools in more than one direction. The pupils may get a dislike for practical work, and then they will not be of much use as gardeners. When the examinations give, as they ought to do, access to public and good private places, then the school will attract a lot of—I hardly know what to call them—not really desirable or suitable young men, who have frequented good schools, but those who, from want of ability, or liking for the university, or the more exacting professions, will pass a theoretical examination much easier in such a school than the gardeners, but, at the same time, they will be of much less value as gardeners. The cost of such a school ought not to be of any moment in England, whether the State, the various horticultural societies, or the gardeners themselves, should bear it, as much poorer countries than England and her gardeners are able to do it. The time that such a course of instruction will take, especially when combined with practical work, as it most likely would be, may seem to be of some importance, but I do not think that it is so in reality. It is a long time from 15 to 25 years of age—let the school take 5 years, and there is still time for travelling, both abroad and at home.

Now, as to the possibility of acquiring a thorough knowledge of every one of the above subjects. I should say it is impossible even for a man who devotes all his time solely to them—how much more so for the gardener, who has the other half of his profession, and not the least important—the practical one, to attend to! Now, of course, it depends on how much is demanded of each. It is possible to learn the elements of all, and extend some of them afterwards, and drop the others; and many pupils, may even drop them all, and yet be good gardeners—the most practical, but they will not be representative of the class. On the whole, rather too much is expected from them. I should like to meet the man who is a master in practical work, knowing every branch of the profession: forcing, Orchids, plant culture under glass, kitchen, fruit, and flower garden, landscape gardening, decoration of rooms and tables, bouquets, &c., not to speak of ponies, cows, boats, and general usefulness. And still a man seeking a situation in a private place, is often obliged to understand all these things; when can any man find time for the study of such exacting subjects as chemistry, physics, geology, and languages (if not sojourning abroad)? Yet he may in the evening and other leisure hours take up a few of the other subjects, as botany, plant physiology, drawing; and above all, he must find time for reading the gardening papers. This is good recreation and excellent mental exercise without attending many lectures. It will, together with thorough practical knowledge, tend to make as good a gardener as can be wished for. Give him more theory and he will lose in practice. But as said before, I understand that there must be a want of theoretical educated (still practical) men with a certain standard knowledge, for these a school is almost a necessity; they are the heads of large gardens, but they will be second to the others (the practical men) in smaller places.

It may appear rather peculiar that a foreigner should be treating of this purely English subject, when he has plenty to do for himself. I am furnishing, I am afraid, an illustration to my assertion that too much theory is not an unmixed good. Strange, the Director of Kew does not believe in lectures to an equal extent as the practical gardener (p. 51 of the *Gardeners' Chronicle*, came in after the above was written); it proves how much the theoretical man values practice and the practical man theory—thus paying a compliment one to the other.

I do not exactly know why County Councils are

going to educate gardeners, but if my impression be the right one, it is the holders of small allotment gardens who are to be educated; then I should say get them to work in a garden, and in that department of it of which they most desire a knowledge—say one day a week or a few hours morning and evening, for if they are wholly unacquainted with horticulture, lectures alone will not benefit them. A cheap and good weekly paper, treating of their needs, I should consider to be the best form of assistance. *M. P. Andersen, Jonkoping.*

FORESTRY.

TREES FOR MARSH AND MOUNTAIN.

In a former paper I briefly glanced at the exceptional merits of several species of deciduous trees that were capable of growing and reproducing themselves on marsh and mountain ground; but as the subject is by no means exhausted, I shall now briefly direct the planter's attention to a few evergreen species that I have found capable of growing both for ornament and profit in similar situations.

THE AUSTRIAN PINE.

The Black Austrian Pine, since its introduction into this country in 1835, has proved to be thoroughly hardy, and capable of growing in a great variety of soils and situations, from the flat Irish peat-bog up to the highest point reached by arborescent vegetation in this country. In the Highlands of Scotland I have planted it with perfect success on the top of limestone and granite rocks, where the soil was thin and the situation exposed to the wind from all quarters; and in Ireland I have planted it extensively on reclaimed peat-bog with equal success. It is also well adapted for planting as an ornamental tree at suburban villas and elsewhere in the vicinity of large towns, where the air is contaminated by smoke. It makes a grand specimen tree on the lawn or in the park, and when allowed space to fully develop, it retains its side branches from the ground upwards, and is truly cone-shaped. In spring, when its prominent terminal buds begin to expand, they gradually get enveloped in a white cottony substance, which appear like knobs of burnished silver, which make a fine contrast with its glossy-green foliage, and in this respect it has no competitor among the Pine tribe of trees.

When planting young trees of any considerable size for standards, they should be staked, to keep them firm in the ground until the roots take to the soil and become established, and in doing so drive a stump firmly into the ground, leaving it about 20 inches above it. Place some soft material round the stem to prevent injury to the bark, and tie the stem firmly to the top of the stake. By this mode of staking, the tree can oscillate in a natural way by the wind, which is all important in promoting its best form of development.

Many young trees are ruined by tying them to a long stiff pole, and keeping them in an unnatural cramped position for a series of years after being planted; and, besides, a long stiff pole presents too much surface to the wind, and this explains the reason that we see so many trees, staked in this way, leaning to one side after a gale. This is one of the best Pines for planting in marine situations, where the soil consists principally of loose sand; but when planting the trees in such places, I have found it an advantage to mix a little clay with the staple at the spots where the trees are to be planted to increase the weight and firmness of the soil, as well as to attract and retain moisture, all of which will prove beneficial in promoting the growth and healthy development of the trees. As a timber tree, for thrift and utility, the Austrian Pine is by no means despicable, when its culture is carried out under rational principles. When the tree is grown in isolated positions, the wood is generally of a coarse knotty texture; but when grown in plantations, or blocks by itself, it should be grown at such a distance apart that the side branches gradually lose their vitality

by confinement, and fall to the ground of their own accord. When grown in this way, the stems present fine clean shafts, free of knots or blemish of any kind, for a distance of about three-fourths the length of the stem, from the ground upwards; and when the wood is cut up for use, it is found to be of a close firm texture, free of knots, and well saturated with resinous matter, which adds to its durability. Isolated trees, however, and such as are growing around the margins of plantations, should have their side branches cut off as soon as they lose their vitality, as from their exposure to the air they get carbonised and as hard as horn, and thus lay the foundation for a loose knot in the timber.

PINUS CEMBRA.

Many years ago when overhauling and renovating the natural forests and planting trees to shelter and ornament the Highland home of the Queen, I found the Swiss Stone-Pine (*P. cembra*) to be exceptionally well-suited for planting on poor thin soil, resting upon shingle and gravelly drift. This alpine tree is interesting in many ways, and seems to be able to anticipate the approach of a coming storm in a very accurate manner by gathering up its leaves around its stem, branches, and twigs to prevent as far as possible the accumulation of snow, and thus enable it the better to combat the onset and fury of the elements. But although the mountain air and hard iorganic soil is eminently suitable for the requirements of this tree, it is by no means confined to such, as I have planted it with success under very different conditions as regards soil and climate. The contour of the tree, when fully established, is strictly columnar, and when allowed space it is well furnished with side branches from the ground upwards, and makes a fine specimen tree for a small garden. Amateurs should employ this tree for the embellishment of their villas, planting it in thoroughly-drained ground that has been broken up with a pickaxe. It belongs to the tribe of Pines which contain five leaves in a sheath; these are of a fine texture, and from 2 to 3 inches long, light-green in colour, and slightly tinged with a silvery hue. In Great Britain and Ireland its normal height is about 50 feet, and although its wood is of a fine firm texture, yet it is of too slow a growth to be recommended to the notice of the planter as a profitable timber tree. It freely produces cones and fertile seed in this country, and these are of a pretty large size, and generally lie in the ground dormant the first year after being sown, and vegetate the following season, so that cultivators need not be disappointed at the non-appearance the first year of the young plants. There is a variety of this tree known as the Siberian Stone Pine (*P. c. sibirica*), but I have had both kinds sent me from the same nursery under the same name. This kind, however, resembles the species very much, but may be distinguished by its shorter and stiffer foliage, while the habit of the tree is more upright, and not so spreading as that of the species. This variety is said to attain a height in its native country of nearly 100 feet. In this country it grows equally well under the same conditions as the species, and is interesting as a variety. The dwarf *Cembra* Pine (*P. c. pygmaea*) only attains the height of a few feet, and is highly suitable for amateurs to plant in their small gardens on the grass plot, where, with a little care and attention at the time of planting, it forms a very attractive little specimen. Its contour, when fully established, is that of a close little bush, well clothed with small branches and twigs. Like the species, it delights in a porous open soil, thoroughly drained and well broken up previous to planting. It is also very suitable for planting on dry rocky places to show contrast and variety. *J. B. Webster.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By H. A. BERNERY, *Orchid Grower, Highbury, Birmingham.*

THE COOL-HOUSE.—Time permitting, examine all the occupants of this house, washing the pots and

cleansing the plants. If the *Odontoglossums* are infested with thrips, sulphur will be found a good remedy if well puffed into the young growths. Sages may also be kept under by the same means, for they are often found in close proximity to the flower-spikes, which will now be coming up.

CALANTHES.—The deciduous varieties, as *Veitchii*, *luteo oculata*, and *rubra oculata*, which may have passed out of flower, should be reated in a pit or house having a warmth of 50° to 60°, and in a light position. To succeed these varieties, *C. Turneri*, *C. Stevensii*, *C. Williamsii*, and *C. Regnerii* should be grown, so that *Calanthe* blooms may be obtained for several months longer.

THE MEXICAN-HOUSE.—In order to keep some species of Orchids, healthy, vigorous, and at the same time to flower them successfully, this sunny house is absolutely necessary. The best kind of structure is one provided with a span-roof, and which is heated so that the temperature may not fall below 50°, with ventilation afforded in the winter. During the summer no shade whatever should be employed. Wooden stages are the best, using "slats," a few inches apart, and the ventilators should be sufficient in number on the roof to prevent the leaves of the plants from being scorched by the sun's rays. This house is suitable for *Laelia autumnalis*, *L. albidula*, *L. anceps*, *L. majalis*, *L. flava*, *L. cinnabarina*, *L. furfuracea*, *L. Goldiana*, and *L. harpophylla*; many of the *Epidendrums*, including *L. atropurpureum*, *E. Parkinsonianum*, and *E. nemorale*; also *Thunias*, and some species of *Schomburgkias*, *Bletias*, *Pleiones*, *Brasavolas*, and *Cattleyas*; the whole of the *Barkerias*, not to mention many other species which need to have a long rest, as *Catascetums*, *Chysis*, *Mormodes*, and *Dendrobiums*. During the growing season we pay particular attention to the watering, dipping, and syringing of the plants, night and morning, and the ventilation calls for a considerable amount of opening and shutting of the ventilators in changeable weather, but when it is mild the house remains wide open, and partially so at night. I may remark that, although this house is a suitable place for plants which are robust and of good size, it is not adapted for weakly specimens.

ORCHIDS IN FLOWER.—To keep the blooms fresh and in perfection for a long period, there should always be a show house set apart for them, and in which it is possible to arrange the Orchids with other plants in a pleasing manner, the floors being kept dry, and everything in nice order. Orchid-houses that are nearly always damp and wet under foot, with the flowering specimens placed widely apart, are not generally pleasant places to inspect.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, *Gardener, Barkham Court, Maidstone.*

PRUNING YOUNG PEACH AND NECTARINE TREES.—These trees may now have their smaller shoots cut back to a triple bud, making quite sure that the centre one is a wood bud. If the wood is well ripened, very little shortening of the main branches or leaders will be necessary, as I have found that by judicious and persistent disbudbing and pinching, the shoots, from 2 to 3 feet in length, have been made to furnish young wood from the base upwards; and by adopting this method, the wall-space is furnished with bearing wood much quicker than when the shoots are cut hard back every year. Young trees generally have a tendency to make very strong wood, and to obviate this, the leaders should be left at full length; and if this has not the desired effect, root-pruning in the autumn will have to be resorted to. If the wood is immature (and I fear it is so in cold districts), it will be necessary to cut back much harder, so as to get those buds to break where they are required for furnishing the framework of branches.

MAIDEN TREES.—I advise that these be shortened back very close, only leaving about three wood-buds at the base, which will have the effect of inducing the bottom buds to push strongly; and it is important, if well-balanced trees are required, that the lower branches should have a good start of the others.

TRAINING.—I have tried various ways of training, but the system I myself have adopted, and which I can recommend, is that known as the fan-shape, without any centre leading shoot to rob the side

branches of their strength, and eventually to become a fruitless bare stem. Generally, young trees from the nursery, have from four to six branches, and these should be nailed or tied equi-distant apart, the two lowest shoots to be tied or nailed almost horizontally.

THE RASPBERRY.—The canes may now be cut back to about 3 feet 6 inches in height, except in the case of very strong growths, which may be allowed a length of 5 feet. Newly-planted canes should be cut down to 6 inches from the soil, and this cutting down will encourage stronger suckers to break up from the roots. Various are the ways of training the canes. The one I have found to answer well, and which is largely adopted throughout this district, is simply to thin out the canes to 8 inches apart, head them back as above described, and do nothing further. Although this mode is not so neat as when the canes are tied to stakes or wire, it answers equally as well.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

TENDER BEDDING PLANTS.—Stock plants of *Coleus*, *Iresine*, and *Alternanthera* should now be pushed into growth, destroying them after the first lot of cuttings has been taken, afterwards propagating from these the desired quantity of each. Dibble them into shallow boxes filled with light mould and having a surfacing of sand, and at 1 or 2 inches apart; water with a fine rose, and place over the pipes in a Cucurbit or Melon-house, or in any other structure where there is a growing temperature. *Heliotrope*, *Ageratum*, *Lobelia*, and *Petunias* may be propagated in the same manner; or they may be struck in pots, and plunged to the rim in sawdust or leaf-mould near the glass in a hotbed, which should be kept close, and be covered with mats and Fern at night.

PROPAGATING HOLLYHOCKS.—This is effected by sowing seed, by division of established plants, and by cuttings. Fixed types or varieties are perpetuated by means of the two last-mentioned methods, and new kinds are produced by crossing the flowers of good promising varieties. The seed saved from the fertilised flowers should be sown out-of-doors in an open situation in June or July. Where a stock of plants has not been raised in the manner indicated, or by the potting-up of the desired number of rooted offsets early in the autumn, no time should be lost in sowing seeds saved of a good strain, in pans. Cover the seeds with fine sandy soil, watering carefully; place the pans in a forcing-house or hotbed, and cover them with glass and moss to exclude air and light. When large enough, pot the seedlings off, and return to heat; water, and grow them on steadily until the end of May, when, transplant them, after being gradually hardened off.

Cuttings about 3 inches long taken off close to the ground as soon as obtainable in spring, and inserted singly in 3 inch pots, filled with sandy soil, watered, and then plunged to the rims in a hotbed, and kept close, will soon become rooted, when they should be gradually hardened off, prior to transplanting in the open.

Soil of average fertility will suit the requirements of the Hollyhock, but, like most other plants of the kind, it will do better in a good loamy soil, inclining to be heavy rather than light, enriched with well-decomposed manure, incorporated with it in the process of digging.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Castle Howard, York.*

PEACHES.—Before commencing to force Peach trees, the condition of the border on which they are growing should be ascertained; also if water is required. Young trees in newly-made borders usually make rather strong growth for the first few years, and clear water need only be given to these. Older plants in feeble health, however, and growing on exhausted borders, will be much benefited by occasional applications of fairly strong liquid-manure at this, and all other stages of their growth. In either case, use the water at a temperature of 60°. Syringe the trees on mornings and afternoons of bright days, and maintain a minimum temperature of 45° for the first week, raising it 2° every week until 60° are reached, which will be about the time the trees are in flower. A corresponding maximum temperature of 5° higher, with fire-heat; and 15° to 20°, with the sun's influence, should also be maintained. Peaches started

earlier and about to open their blooms, may now be fumigated on two successive nights, to kill any green-fly or thrip that may have obtained a footing on the foliage. The most efficacious and cheapest material I have yet found for this work is medicated tobacco-paper. Old and weakly trees can safely be relieved of a large number of their flower-buds before they open, which, to a certain extent, will prevent undue exhaustion, and enable them to start into strong growth. A dryer atmosphere in the house during the time the flowers are open will be conducive to a good set, and gently shaking the trellis on which they are trained several times daily will also be an aid to the same result. Peaches now set and swelling will require attention in disbudding. This operation is best extended over a period of ten days, which averts any check the plants would be likely to suffer were all the buds intended to be removed rubbed off the tree at one time. In starting this work, select the strongest bud at the base of each shoot, and the side nearest the centre of the tree, to take the place next year of the branch destined to bear fruit this, and remove a third of those remaining equally over the shoots. Reduce another third of them in the course of five days, at the same time keep promising growths to fill bare space, and complete the work another five days later. At this stage, and until the fruit begins to ripen, the trees will be much benefited by being syringed in the morning, and when the house is shut up in the afternoon, and the borders and paths damped frequently in sunny weather. Maintain 55° to 60° in the house at night, and regulate the day temperature according to external conditions, admitting air when the thermometer rises 7° above the minimum figure, and increase the ventilation as the maximum of 75° or 80° is reached.

THE KITCHEN GARDEN.

By G. WYTHES, *Gardener, Syon House, Brentford.*

MUSHROOMS.—When a demand for Mushrooms exists during the spring, the present is a good time to commence preparing the manure. Those who possess cellars or sheds, sometimes obtain a better crop than others who have costly houses, the latter often being overheated. The material for growing Mushrooms, too, may be used in a rougher state than is usually the case in private gardens. When underground houses or sheds are used, the heat from newly-made beds will keep the temperature up sufficiently. In severe weather, place the new litter as brought from the stable on the floor of the house near the door, taking care to avoid sweating. When the beds require covering, dry material should be used, and excessive steam or moisture avoided. Watering the beds in such structures will seldom be required during the winter months; but if heated, more moisture is necessary. I like the temperature of the house to be at 50° to 55°, the first-named in severe weather; and when spawning new beds, from 75° to 80° is none too high, if the heat is declining. When water is necessary, apply it in a tepid state, adding a handful of fish-manure to a large can of water, using the latter in moderation.

TOMATOS.—A pinch of seed should be sown now to produce early plants for fruiting in advance of the general crop. Those who can spare house-room should get strong plants for early fruiting; cuttings struck in the autumn usually fruit before seedlings. If seeds are sown in a light compost in pans or pots and placed in bottom-heat, they will soon come through the soil, and from that time till the end of May will require daily attention. For the early fruiting I prefer *Horsford's* Prelude, as this, according to my experience, comes in ten days to a fortnight before others; *Conference* and *Ham Green* come next, while for later work *Perfection*, *Conqueror*, *Hackwood Park* and *Trophy* are excellent and reliable croppers. Those who like yellow kinds will find *Greengate* and *Golden Queen* good. All should be grown near the light to prevent drawing in their early stages.

SALADS.—If severe weather has destroyed outside crops, a small sowing of *Early Paris* Market Lettuce or *Veitch's* Golden Queen should be made in pans or boxes. The last-named variety is unsuited for forcing purposes, forming small firm hearts of a beautiful light green colour. It is also excellent for sowing in pans every three or four weeks for cutting in a young state. Mustard and Cress should be sown fortnightly in order to maintain a constant supply. Watercress sown in pans or boxes and pricked off, gives nice fresh supplies in a young

state; it can be readily grown in frames. Endive may be had in a small state as advised for the Lettuces. Dandelion and Chicory should be placed in a temperature of 55°, and kept dark to blanch. A warm bed of leaves and litter should be prepared for Radishes, but if a separate frame cannot be afforded for this purpose, a row may be sown between Potatoes in frames, using an early variety of quick growth.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Gardens, Swansea.*

SHOW AND FANCY PELARGONIUMS.—These should now have their final shift, using pots according to the size of the plant. A compost of two parts rich loam, one of leaf-mould, and sufficient sharp sand to keep the soil porous, will be found suitable for them. The drainage must be made perfect, and the pots thoroughly clean. Make the soil quite firm, as this is conducive to a short-jointed growth. Some plants should be grown in small pots, as these will be found most useful for furnishing purposes. A low pit, where a temperature of 45° to 50° at night, with a rise of 5° to 10° by day can be maintained, will suit them well, if given air on all favourable occasions. Keep a sharp look-out for green-fly.

ZONAL PELARGONIUMS.—Sufficient cuttings of these should now be taken to form the stock of plants for blooming next autumn and winter. The required number of small 60-sized pots should be well-drained, and filled to within three quarters of an inch of the top with a compost of two parts loam, one of leaf-soil and sharp sand, running the whole through a fine sieve. Select the best-ripened shoots as cuttings, as these are not so liable to damp off as those which are soft and sappy. Insert one cutting in each pot, afterwards plunging them in a gentle bottom-heat under hand-glasses, where they will quickly take root; when rooted remove them to a pit or on a shelf in the greenhouse near the glass.

GREENHOUSE.—Flowering-plants should be looked over separately once each week, removing any decayed leaves, blooms, &c., and all plants which are past their best. Admit air when the weather is at all favourable, and keep the pipes lukewarm so as to expel damp. Late plants of *Cinerarias*, *Primulas*, *Cyclamens*, &c., which are showing for bloom should be assisted with a little of Thomson's Manure, or some other well-tried fertiliser. Let the night temperature be kept from 45° to 50°, with a rise of 5° to 10° by day.

THE STOVE.—Plants of *Acalypha* which have lost their under foliage may now be cut well in. The ends of the shoots can be made into cuttings, inserting them singly in small 60-sized pots filled with a sandy compost of peat and loam, and placed in the propagating frames. *Croton* cuttings should now be put in. Old plants of *Dracena*, which have got leggy, can also be cut down, and the stems cut into pieces and used as eyes. Place the latter in pots or pans in a sandy compost, and plunge them in a mature hot bed. The tops of the plants root separately in small pots. Also increase the stock of *Isolepis gracilis* by dividing the old plants.

PLANT PORTRAITS.

ESCHVYNANTHUS PULCHER, *Revue de l'Horticulture Belge*, January.

APPLE, *REINETTE POMOLOGUE HAOE*, *Bulletin d'Agriculture*, 1891, p. 353.

CESALPINIA JAPONICA, *Garden*, December 26.—Hardy shrub.

HYPERICUM BUCKLEYI, *Garden and Forest*, Dec. 9.—A hardy shrub suitable for small rockeries or borders. Native of mountains of North Carolina.

RANUNCULUS FASCICULARIS, *Meehan's Monthly*, t. I, 1892.

VIBURNUM TOMENTOSUM, *Garden and Forest*, December 16.

VRIESIA HYBRIDA (B. BARILETTI × SPLENDENS), *Gartenflora*, January, t. 1892.—A very handsome form, with purplish leaves and flat spikes of dull crimson, bracts edged with green.

VRIESIA HYBRIDA CODIENSIS, *Revue de l'Horticulture Belge*, 1892.—A hybrid by pollen of V. Barillett out of V. psittacina.

EDITORIAL NOTICE.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

MONDAY,	FEB. 1.	Provisional Committee of the London International Fruit Show, at Anderton's Hotel, Fleet Street, at 2.30 P.M.
THURSDAY	FEB. 4.	—Linnæan.
FRIDAY,	FEB. 5.	Gardeners' Orphan Fund: Dinner, and General Meeting.
		Dundee Horticultural Association.
SATURDAY,	FEB. 6.	Wakefield Paxton Society.

SALES.

MONDAY,	FEB. 1.	Dahlias, Carnations, Pæonies, Lily of the Valley, &c., at Frotheroe & Morris' Rooms.
		Palm, Greenhouse Ferns, Begonias, &c., at Frotheroe & Morris' Rooms.
TUESDAY	FEB. 3.	Grand Importation of Lilliums from Japan, 200 (60) Palms, Seeds, &c., at Stevens' Room.
THURSDAY,	FEB. 4.	855 Lillium auratum, Tuberoses, Herbaceous Plants, &c., at Frotheroe & Morris' Rooms.
FRIDAY,	FEB. 5.	Imported Orchids, from Messrs. Linden, Brussels, at Frotheroe & Morris' Rooms.
SATURDAY,	FEB. 6.	Lilliums, Palm Seeds, Border Plants, Rose and Fruit Trees, &c., at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°.2.

It may be greatly open to doubt if any class of persons obtains so much unfeigned enjoyment from a comparatively small patch of land as the amateur gardener. Certainly not the country magnate, with his well-trained head gardener and many assistants, and his "ranges" of plant and forcing-houses, and their supplementary pits and frames. The personal interest, ever present in the former, gets much attenuated, or lost altogether, to the possessor of so great an abundance of good things. The one enjoys the works and products of his own labours, or at the most, with the assistance of the "odd man," or boy, and at fitful times the groom, if perchance, he have one; the other's enjoyment is more vicarious, being dependent on the efforts of his staff of gardeners and garden workmen.

In the small plot of the amateur, as in the large garden, spring comes laden with a great multitude of laborious cares, and which may not be neglected, if profitable or pleasurable returns are hoped for. Premising that the greatest number of amateurs in gardening may be found in and round the larger towns, it will be desirable if we advise them as to what the operations are that should be first undertaken in the garden. Let us take the glass structures, greenhouses, cool Orchid houses, if any; hardy fernery under a glass roof, pits and frames.

Long ere the spring has come, the roofs of all these buildings will have become nearly opaque with that oily-coaly deposit the townsman knows too well, and which must be removed before the plants start into growth, if we would have strong, healthy shoots, and flowers of the highest colours. Hitherto, they have rested in growth, so far as outward and visible signs go, and therefore suffered but little, unless it be from fog.

If the structures are small and low, syringe the glass heavily—not in front, but from above,

or sideways, so that the dirty water be not driven in upon the plants, and then with a hair-broom remove the sooty deposit, finishing with another syringing of clear water. Large or tall houses need a ladder and a roof platform to do the cleaning properly. Pit and frame lights are easily cleaned inside and out with clear water, a whitewash-brush and the syringe.

Having admitted the fullest amount of light into the structures, the repotting of such plants that need it may be begun. If no potting-shed exists, make a potting table, about 4 feet long and 2 feet wide, fitted with a 6-inch upright ledge on three sides, which may be placed on a side stage when in use, or on two tressels, fastened together in such a way that they do not become separated. As to soils for potting, these generally will have to be purchased from the dealers, and it is better if each be kept by itself, and the mixing done according to the needs of the plants when soil is wanted for use. Leaf-mould, a rare commodity in the pure state, or, failing that useful ingredient, well-rotted stable manure, loam of a medium degree of heaviness, and which is top spit soil and not the unfertile subsoil, and fibrous peat, two years cut and stacked, and river sand or silver sand. The last-named ingredient is not at all necessary, its use being as well filled by the former, and even in propagation the former is equally good if it be very fine and clean; or pounded brick will do as well for most of the plants the amateur requires to propagate.

Soils, it may be said here, should not be kept in cellars or other underground places, the conditions prevailing favouring the growth in and on them of fungus of various species, which, when allowed to grow, tend to impoverish the soil; but they should be kept in a sunny corner out-of-doors, and each by itself in the form of a neat heap, with a ridge-like top. Such heaps should not be allowed to get weedy, and in case they should become so, pare off the sides and bury the parings in the middle of the heap; or turn it all over, the sides into the middle. In winter, the snow and rain should be kept out of the soil by some kind of pent-house.

In March and April Camellias should be examined, and if the drainage is not quite clear it should be renewed; or, if the soil be sour, or the roots very much cramped for want of space, two conditions that usually are found together, repotting should be performed. Soil for Camellias should consist of rough loam, a little peat and leaf-mould or burnt-earth, and a sufficient quantity of sand to make the whole slightly porous, remembering that a very open soil or too much drainage materials are not good for this plant. Do not bury the old ball more than half an inch; make the soil very firm, and see that the old ball is quite moist before turning it out of the old pot. A few days after potting, water the plant moderately, and let it stand in a part of the house where there is little ventilation, or place it in a frame or pit, and give no ventilation for fourteen days. The same kind of attention will be required by the Orange, Myrtle, Pittosporum Tobira, P. undulatum, Abutilon, and tender Conifers, and the period named is a good one in which to repot these greenhouse plants.

Fuchsias may have their stems cut back if young, and the side shoots stubbed back, and watered slightly; and when they have begun to shoot, it is a good time to repot them in loam, leaf-mould, or manure, and a small portion of sand, using the soil in not too fine a condition. Let the drainage be good—not excessive, or the watering of the plants will become a great tax

on the amateur's time. Some of the rarer and therefore more interesting species and hybrids, as Fuchsia Pominiana, F. serratifolia, F. corymbiflora, F. splendens, F. procumbens, a pretty species for a basket, should find a place in the amateur's collection.

Ivy-leaf, zonal, and tricolor Pelargoniums may be shifted, shaking off much of the old soil; also the scented-leaf Cape Pelargoniums and ROLLISON'S Unique and Quercifolium—all old-fashioned plants, that look well, and are not what the gardener calls "miffy." The soil should be light, moderately rich, and sandy.

When the Ferns in the greenhouse or warm-house begin to show signs of returning activity, no time must be lost, but the whole stock should undergo examination. If the soil be found to be inert, and closely packed, channelled by earth-worms, or the drainage spoiled by the infiltration of particles of mould, the plant should be repotted in loam and peat and leaf-mould, the more delicate in peat and leaf-mould chiefly, not sparing the silver-sand. Surfacing the pot with fresh soil after taking out about 2 inches deep of the old soil is usually sufficient, where the conditions of the ball are found to be healthy.

A word here about "fertilisers" of all kinds. It is prudent not to employ any of these mixed with the potting soil, whatever the plant may be, but to afford these aids to growth in the form of top-dressings in a dry state in infinitesimal doses, or a weak solution in water. Let the amateur be wary of using them at all on his Ericas, Epacris, Boronias, and the like plants with fine twiggy shoots, and fine roots.

The sowing of flower seeds of various species of plants soon demands attention, after March is out—chiefly those that furnish the gay, if somewhat generally evanescent, flowering subjects of the mixed border, although some are of such long duration that they may be employed in beds on the lawn or the gravel parterre without there being ugly-looking patches of bare earth to be deplored in the brighter part of the season. The earliest of these sowings should not be made before the beginning of April, or the plants will get spoiled before they can be planted. We may allude to just a few: Phlox Drummondii, the various Asters, Dianthus diadematus, and others, very beautiful; East Lothian, and Ten-weeks Stocks, these last two making lovely beds or masses; Zinnias, tall and dwarf, and always effective; Petunias for filling baskets or training against a low fence, Sweet Peas for flowering early, and Nemophylla insignis, and others—beautiful subjects for edging a greenhouse shelf or stage. In sowing these fine seeds, rough siftings of soil should always half-fill the seed-pot, just a bit or two of crock at the bottom being then sufficient to assure an outlet for the water. The upper portion may consist of almost any kind of light materials, finely sifted. Always water the soil in the seed-pots and let them stand for two or three hours before sowing. Sow thinly, and barely cover the seeds—such fine seeds as those of Lobelia and Petunia are better when not covered with soil. Put a piece of tile over each pot to keep the seeds dark, for they do not like the light, and to prevent the too quick drying-up of the soil, and place them on a warm shelf, or in the hot-house—it does not matter in what part—till they begin to grow, when a bit of glass tilted at one side may take the place of the bit of tile.

In the hot-house, the general stock of flowering subjects may be repotted. This will apply to Ardisia crenulata, Aechmea, Coffea, Eranthemum, Eucharis if the pots be very light; Euphorbia jacquiniiflora, Gardenia, if old plants,

out of bloom, or very young flowerless ones; to Gloxinia, Hedychium, Hoya, Libonia, Maokaya, Plumbago, Rivinia, Russelia, Torenia, and Thyrsacanthus. As a general rule, no plant that is in bloom should be repotted till some few weeks after it has passed out of bloom. Achimenes are very nice plants for baskets and pans, and some tubers may be started in pans of sandy peat in February, March, and April. When the tubers, which should be laid on their sides, and covered with fine sandy leaf-mould and peat to the depth of $\frac{1}{2}$ of an inch, have grown 2 inches, the point of each should be pinched out; and when they begin to break again, transplanted 3 or 4 inches apart, into baskets or pans of light, rich, sandy compost. Baskets will not want drainage, but pots and pans will want a good deal of it,

which has been secured from the Metropolitan District Railway Company for this purpose, will be opened on May 14. It will display the state of progress of horticultural science, taste, resources, implements, and plant culture, at the present date; and, in addition, the various departments and exhibits will serve as models, not only for the possessors and managers of estates, but for each and every one who loves a garden. An abounding profusion of plants and flowers from all parts of the world will display their beauties of form and colour, grouped for effect in a garden charmingly laid out, both under cover and in the open, in one of the few available spaces in London. There will also be music of the highest class, the buildings and grounds will be brilliantly lighted by electricity, and everything will be done to ensure that this Exhibition—which appeals so much to the great English love of gardening—shall be a

different climatic conditions, and also the careful methodic treatment adopted abroad. Flower and fruit shows will be held periodically. There will be flower *fêtes*, besides special exhibits of American plants, Orchids, the old-fashioned herbaceous plants, &c. Lectures and demonstrations in practical gardening will be given regularly, and competitions in garden design and in gardening operations will be held, and prizes offered. Pictures representing all phases of the art of gardening, as well as photographs of particular trees and scenes, will be exhibited; and a reference library is being collected. There will be exhibits of new and rare and of special collections of plants; seeds, conservatories, greenhouses; methods of heating, ventilating, glazing, and general construction; garden requisites, tools, and all labour-saving machinery; statuary, vases, edgings, rockwork, and ferneries; fountains, seats, tents, and

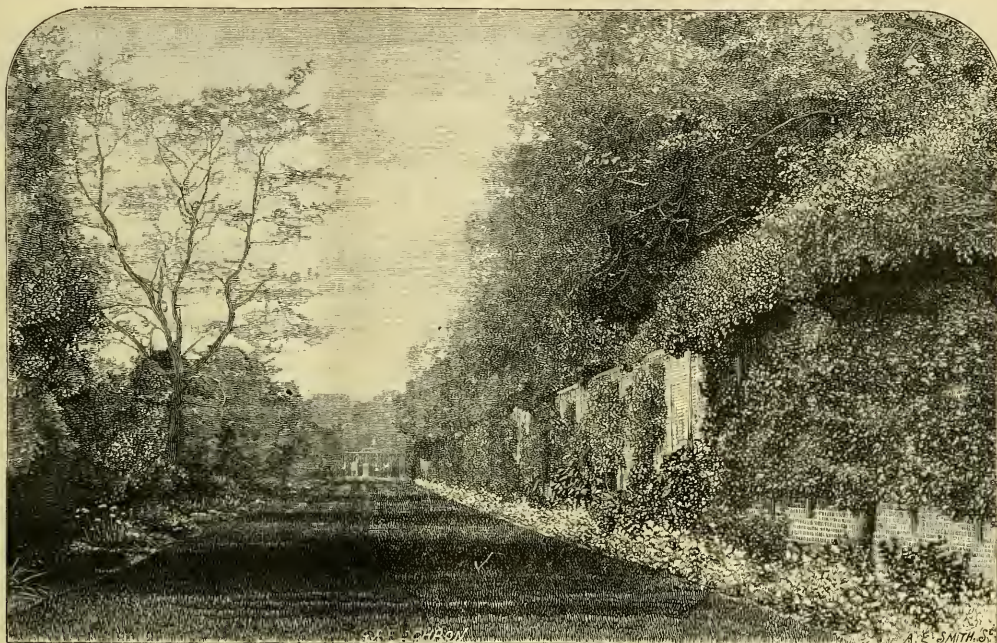


FIG. 25.—THE TERRACE WALK AT ALBURY. (SEE P. 147.)

Most of the above-named hothouse plants like peat—say, one-half of the whole compost; the rest may consist of loam finely sifted if the plant be small—otherwise it may be broken up by the hand, and leaf-mould and sharp sand. The potting should be firm, and the house must not be much ventilated for a month after the general repotting is done, that is, if many of the inmates have been disturbed. In the case of a few, these may be stood in a part of the house by themselves, away from currents of air. Water sparingly at first, but thoroughly when water is needed, and syringe the plants night and morning, more heavily at night. We may allude shortly to the outdoor department of an amateur's garden.

INTERNATIONAL HORTICULTURAL EXHIBITION, 1892.—The great International Horticultural Exhibition, to be held this year at Earl's Court, London,

stupendous success. Here will be found examples of the gardens of all ages, including restorations of the ancient gardens of Egypt, Greece, and Rome; copies of those in China and Japan; and types of the Baronial, Italian, Tudor, Jacobean, Georgian, and Victorian eras. A large subtropical garden will also form a feature of the attractions offered. The tea-gardens of India and Ceylon will be represented, illustrating the growth of the Tea-plant, and the manner of drying and manipulating the leaves. A model cottage garden and allotment-ground will be shown, demonstrating practically what can be done in a limited area. This exhibition will be not only representative of all that is being done in the United Kingdom to promote horticulture, but, in addition, arrangements have been made whereby foreign countries, especially Belgium, France, Italy, and Germany, will co-operate to show the progress in their respective lands. This will be interesting, not only on account of the display of the beautiful objects sent over, but as demonstrating the manner of overcoming dif-

summerhouses; fencing, draining methods, decorations, and all objects and appliances that tend to enhance the beauty of a garden, or are necessary to its working. Medals, both Gold and Silver, and Certificates, will be awarded by the most capable judges, in addition to considerable money prizes; and the entire net profits will be devoted to such gardening institutions as the Executive Committee may select. HENRY ERNEST MILNER, F.L.S., Assoc. M.Inst.C.E., Chairman of the Executive Committee; G. A. LOVEGAY, B.A., Hon. Sec., Temporary Offices, 11, Grocers' Hall Court, Poultry, E.C.

BEGONIA OCTOPETALO - LEMOINEA FLEUR D'AUTOMNE.—The old Begonia octopetala - Lemoinea l'Heritier, from Peru, has been crossed by MM. LEMOINE & FILS, Nancy, with the pollen of various tuberous Begonias, and a new type of Begonia has been developed. The plant is vigorous and very floriferous. The root-stock is rather long and irregular, the middle portion partly resembling the black roots of *B. octopetala* and

the nearly globular tubers of *Begonia tuberosa*. The stems are herbaceous, short, and luxuriant. Leaves apparently caulescent, leaf-stalk cylindrical, and furnished with strong hairs. Leaf large, almost regular in shape, long, heart-shaped, wavy, with small indentations at the edge, and of a pretty silky-green appearance. Flower-stalks numerous, stiff, and strong, $1\frac{1}{2}$ to 2 feet high, each furnished with five to seven large rose-coloured flowers, 7 to 9 centimetres broad. It flowers in the autumn. Another variety, *La Lorraine*, has scarlet flowers and yellow anthers.

PROFESSOR RUDOLF STOLL, of the School of Viticulture and Pomology at Klosterneuburg, Vienna, succeeds his father, who has been superannuated after many years service, as Director of the Pomological Institute of Proskau.

KENT COUNTY CHRYSANTHEMUM SOCIETY.—The next show of the above Society will be held on Tuesday and Wednesday, November 1 and 2.

WEST AFRICAN PLANTS.—From Dr. ENGLER, the Director of the Berlin Botanic Garden, Kew has received a parcel of novelties, chiefly from the collections made by German travellers in tropical Africa, *Kew Bulletin*.

CHICAGO EXHIBITION.—The following is the text of the classification for Department B, "Viticulture, Horticulture, Floriculture":—

GROUP 20.—VITICULTURE.

Class 119.—The Vine and its varieties—shown by living examples, by cuttings, by engravings, photographs, &c.

" 120.—Methods of planting, staking, and training the Vine.

" 121.—Vineyards and their management.

" 122.—Grapes for the table.

" 123.—Grapes for wine-making.

" 124.—Grapes for drying—Raisin culture.

" 125.—Methods of and appliances for cultivating, harvesting, curing, packing, and shipping Grapes; wine cooperage.

" 126 to 129.—Wines of different kinds.

" 130.—Methods of expressing the juice of the Grape; of fermenting, storing, racking, bottling, and packing.

" 131.—Brandy of all kinds; methods and apparatus for the production of brandy.

" 132.—Literature, history, and statistics of viticulture.

GROUP 21.—HORTICULTURE.

Class 133.—Garden vegetables and their cultivation.

" 134.—Market and truck gardening.

" 135.—Esculent vegetables.

" 136.—Garden tools and other accessories of gardening.

GROUP 22.—FLORICULTURE.

Class 137.—Hardy perennials, flowering shrubs, &c., other than Roses, Rhododendrons, &c.

" 138.—Roses of all varieties.

" 139.—Rhododendrons, Azaleas, and wild flowers.

" 140.—Orchids and orchid-houses.

" 141.—Ornamental leaf plants.

" 142.—Bedding plants and annual flowering plants, ornamental bulbs, &c.

" 143.—Flower and seed trade—methods of testing vitality of seeds.

" 144.—Cactaceae.

" 145.—Aquatic plants and their culture. Nymphaea, &c.

" 146.—Cut flowers and florists' work.

" 147.—Floral designs, &c. Bouquets, preserved flowers, leaves, sea-weeds. Illustrations of plants and flowers. Materials for floral designs. Bouquet materials, bouquet holders, bouquet papers, table decorations.

148.—Receptacles for plants. Flower-pots, plant-boxes, tubs, Fern-cases, jardinières, &c. Window gardening. Plant and flower-stands, ornate designs in iron, wood, and wire.

GROUP 23.—ARBORICULTURE.

Class 149.—Ornamental trees and shrubs—methods of growing, transplanting, &c.

" 150.—Fruit trees and methods of rearing, grafting, transplanting, pruning, &c.; means of combating insects and other enemies.

" 151.—Nurseries and the nursery trade.

GROUP 24.—POMOLOGY.

Class 152.—Fruits of temperate and sub-tropical regions, as Apples, Pears, Quinces, Peaches, Nectarines, Apricots, Plums, Grapes, Cherries, and Melons; cold storage, and other methods of keeping, packing, and shipping. (For Grapes, see Group 20.)

" 153.—Citrus fruits—Oranges, Lemons, &c.

" 154.—Bananas, Pine-apples, and other tropical fruits, except Citrus fruits.

" 155.—Small fruits—berries, &c.

" 156.—Casts and models of fruits.

GROUP 25.—PRESERVED FRUITS AND VEGETABLES. Classes 157 to 165.

GROUP 26.—APPLIANCES AND METHODS OF HORTICULTURE, FLORICULTURE, ARBORICULTURE, &c.

Class 166.—Hothouses, conservatories—methods of construction, management, and operation.

" 167.—Heating apparatus for hothouses and conservatories.

" 168.—Hotbeds, forcing and propagating houses and appliances.

" 169.—Seats, chairs, and adjuncts of the garden and conservatory.

" 170.—Ornamental wirework, trellises, fences, borders, labels for plants and trees, &c.

" 171.—Garden and nursery administration and management. Horticulture, floriculture, and arboriculture as arts of design and decoration. Laying out gardens—designs for the laying out of gardens and the improvement of private residences; designs for commercial gardens, nurseries, graperies; designs for the parterre. Treatment of water for ornamental purposes—Cascades, fountains, reservoirs, lakes. Formation and after-treatment of lawns. Garden construction, building, &c.—Rock-work, grottoes; rustic constructions and adornments for private gardens and public grounds. Planting, fertilizing, cultivating, and appliances.

MEXICAN PLANTS.—From the Botanical Division of the United States Agricultural Department, Washington, there has been received a very fine set of Mexican plants, collected by Dr. EDWARD PALMER, and described and published by various American botanists. The Mexican flora seems indeed almost inexhaustible, every fresh collection abounding in new species. *Kew Bulletin*.

PLANTS OF WESTERN CHINA.—In connection with the botanical collections made by Mr. ANTHEP E. PRATT, in Western China and Eastern Tibet, at elevations of 9000 to 13,500 ft., the Principal Assistant in the Herbarium, Mr. W. B. HEMSLEY, F.R.S., has visited Paris, in order to study the novelties collected by Prince HENRY OF ORLEANS, and published by Professor BUREAU and Mr. FRANCHET. A considerable number of Mr. PRATT's plants proved to be the same, yet the number of different species was even larger. These will be published as soon as possible. *Kew Bulletin*.

BUTTER NUTS.—A large supply of the "butter nut" of British Guiana (*Caryocar nuciferum*) was received from Mr. G. S. JENMAN, F.L.S., Superintendent of the Botanical Gardens, Georgetown, Demerara. The tree yielding these nuts is a very valuable timber tree as well as a fruit-yielding tree, and its successful introduction to the tropical parts of the Old World has been a matter of solicitude on the part of Kew for some years. An attempt made in 1888 appa-

rently failed. The present supply of nuts has been distributed to the botanical establishments at Calcutta, Madras, Queensland, Lagos, Ceylon, Mauritius, Singapore, Natal; while some were sown at Kew. *Kew Bulletin*.

LINNEAN SOCIETY.—At the evening meeting, intended to be held on February 4, at 8 P.M., the following papers will be read:—1, "A Monograph of the *Dianthus*," by F. N. WILLIAMS, F.L.S.; 2, "On the Sponge Remains in the Lower Tertiary Strata, near Oamaru, Otago, New Zealand," by G. JENNINGS HINDE, Ph.D., and W. MURTON HOLMES.

AGAVES.—The Keeper of the Herbarium, Mr. BAKER, has lately proceeded to the Riviera to examine the fine collections of Yucca, Aloe, Agave, Dasylirion, &c., growing in the gardens of Mr. THOMAS HANBURY, F.L.S., at La Mortola, near Mentone, and others. Mr. BAKER has long made a special study of this class of plants, and his visit has proved very instructive. A detailed report of the results will appear in a future number of the *Kew Bulletin*.

VANILLA.—The collection of Vanilla pods in the Museum of Economic Botany (No. ii.) has recently been revised and augmented by a series illustrating the principal kinds now known in English trade, including the following sorts:—Madagascar, Bourbon Réunion, Mauritius, Seychelles, Bahia, Mexico, Java, and "vanillous" (the less valuable sorts of Vanilla). *Kew Bulletin*.

YUCCA FILIFERA.—A very fine, and probably a unique, plant of *Yucca filifera* was presented to the Royal Gardens by Mons. DE FALBE, Villa Valetta Cannes, and placed in the temperate house. This specimen is 25 feet high, and about 3 feet in diameter at the base. It is a magnificent plant in size and character, and although it has lost its terminal crown of leaves, owing to injury during transit, it is hoped that it will eventually recover. The species is figured in the *Botanical Magazine*, t. 7197, from a specimen received at Kew in 1888. When it arrived, it was apparently dead, and the trunk was placed in the Museum of Economic Botany (No. iii.). After remaining there for two years in a dormant condition, it put out rudimentary leaves, and it ultimately flowered. The plant was then removed to the temperate-house, where its inflorescence was fully developed in September, 1890. *Kew Bulletin*.

THE REIGATE AND DISTRICT CHRYSANTHEMUM SOCIETY.—"It may be of interest to some of the readers of these pages," says Mr. H. BAILEY, The Briars, Reigate, "to be made acquainted with the good work done by the above during the past year. It was thought by the committee that it would be enhancing the interests of the Society if we kept our charity near home, and after several suggestions, it was ultimately decided to give 30 guineas to the Royal St. Ann's Schools, Red Hill, an Institution for fatherless children, and one that is much in need of help. We were of the opinion that by making this departure for one year only, we should enlist the sympathies of those who had hitherto refrained from helping us. I think I may safely venture to say that our efforts were crowned with success, for we not only handed over the above sum to the executive of St. Ann's Schools, but were enabled also to give 10 guineas to the Gardeners' Royal Benevolent Institution, and £10 to the Gardeners' Orphan Fund; thus making the total given to the three Institutions during the three years the Society has been established, of £196 10s., as follows:—1889: Gardeners' Royal Benevolent Institution, £52 10s.; Gardeners' Orphan Fund, £50, 1890: Gardeners' Royal Benevolent Institution, £42, 1891: St. Ann's Schools, £31 10s.; Gardeners' Royal Benevolent Institution, £10 10s.; Gardeners' Orphan Fund, £10. The foregoing figures speak for themselves, and are, I think, a guarantee of the success attained." It may be here mentioned that, at the annual dinner of the Society on December 10, at the Public Hall, Reigate, upwards of sixty guests were present."

SIAM.—The *Journal of the Society of Arts* for the 22nd inst. contains an interesting narrative of the travels of Mr. Sawo in the Laos States in the Northern and Eastern parts of Siam. There is incidental mention made of Orchids, but, unfortunately, Mr. Sawo does not specify the kinds. "There are," he says, "about 150 species found in the Chiengmai woods, and the women are very fond of wearing them as ornaments for their hair; the same practice is common in Burmah. Many of the better-known species have their distinctive native names. There is one which is brought every year from Mu'ang Yoom by the Lawas, who inhabit the mountains, and presented to the Chief as tribute. It has an insignificant greenish-white flower, but is much esteemed for its fine odour, which the chief asserted could be recognised in the city while the tribute-bearers were several miles off. . . . One morning we received a summons to the Chief's house, to be present at the presentation of the tribute Orchids already mentioned. The ceremony took place in the audience-hall. We all sat on chairs, ranged in a semicircle, the Chief wearing his every-day dress. The Lawas from Mu'ang Yoom were introduced by an old Lao, who has served under seven successive chiefs of Chiengmai. They brought with them a tassa full of Amaranths, which this old man handed to the Chief, repeating first a long exorcism, during which the Chief held up his hands as if in prayer. Next a long joint of Bamboo, full of arrow poison, and a few skeins of cotton yarn were offered to him. Then a small stone mortar, full of powdered ginger, was handed to the Chief, who put some in his mouth, chewed it, and spat it out, to symbolise the fertilisation of the ground for the reception of the rice seed. The Orchids were there, stuck into two sections of a tree, but apparently no reference was made to them. . . . The Chief stuck an Orchid through the hole in his left ear-lobe, and gave us each a sprig to do likewise, but not being provided with those useful apertures, we had to put them behind our ears, which is, after all, quite as elegant as the native manner of wearing a flower." The principal sources of industry are the Teak forests, of the working of which an interesting account is given. We trust Mr. Sawo may find means of giving us further particulars as to the names of the Orchids he mentions as having been the objects of his search.

BRITISH FRUIT-GROWERS' ASSOCIATION.—The annual general meeting of this Association was held in the Horticultural Club, Hotel Windsor, Victoria Street, S.W., on Thursday, January 21, under the presidency of Dr. MASTERS. Owing to the prevailing epidemic, however, there were but few members present. The committee's report and financial statement for the past year were adopted, and the Chairman moved that they be printed and circulated. Notwithstanding the low rate of subscription, and heavy expenditure, the financial statement shows a balance of £2 7s. 4d. It was announced that arrangements were being made to hold three provincial conferences, and one in the metropolis, during the ensuing year, but the exact places and dates could not be determined, as applications had been received from several important societies.

— At the conclusion of the business of the annual meeting on Thursday, January 21, Mr. LEWIS CASTLE was presented with a gold watch and chain, in slight acknowledgment of the valuable services rendered by him as honorary secretary of the above association.

ABERDEEN.—The Links and Parks Committee of the Aberdeen Town Council had before them on Tuesday, the 26th inst., a letter from Mr. LEWIS ESSON, offering to hand over a valuable collection of botanical specimens, at present on view at the Aberdeen Trades Council Exhibition. Mr. ESSON stated that the collection is worth £100, but that he would give it to the committee for £50. It was remitted to two members of committee, and the head gardeners of the City parks, to examine the

collection, and, if necessary, employ an expert, the feeling being that such exhibits were wanted for the Duthie Public Park Museum.

ALBURY.

Nor far from the pleasant town of Dorking, within easy distance of the swelling downs that intervene between that town and Guildford, lies Albury, the Surrey seat of the Duke of Northumberland. Fine trees, rich woods, green pastures, and clear rivulets lend their charm; an old church, no longer in use, abuts on the pleasure ground. A cavern in the sandstone rock served as a bath-room for the monks of old, and a subterranean passage, leading no one knows exactly where, arouses the interest of the visitor. The trees form the great feature of the place. Among them are fine examples of *Planera Richardi*, Tulip trees, American Oaks, Liquidambar, Sweet Chestnut, and others. One of the Chestnuts we measured girthed over 21 feet at 5 feet from the ground.

A remarkably fine specimen of the American Lime is to be seen on the lawn. Its dome-shaped form is so symmetrical that some visitors are said to have remarked that it must be a very difficult matter to clip so large a tree! The leaves are broad, rather thick, deep green above, and covered with whitish-grey down on the under-surface. It is superior to the common Lime for planting near towns.

Conifers are well represented, the woods being full of fine Douglas Firs, among them several of marked weeping habit, interesting and desirable for variety's sake, but not to be compared for massive grandeur to the ordinary form of *Abies Lowiana* (*lasiocarpa* of gardens), there are several very fine specimens, as also of *A. Nordmanniana* and *A. nobilis* and *Pinus pungens*. A *Deodar*, laid low by the wind, has rooted at one end, and has thrown up a fine stem from the prostrate trunk. The Corsican Pine is represented by some finely-grown specimens, as well as the more recently-introduced *Wellingtonia*. Many of these trees have now nearly or quite reached timber size, whilst of those which may be expected to do so mention may be made of *Thuyopsis dolabrata*, *Cupressus Lawsoniana*, which, however, is open to the objection that it is too bushy in habit. This difficulty might be got over by selecting appropriate varieties, and by judicious management in the young state. But of all the comparatively recently-introduced Conifers, Mr. Leach, who has charge of the gardens, thinks most highly of Lobb's *Thuya*, *Thuya gigantea* (or, as it is usually called in gardens, *T. Lobbii*).

THUYA GIGANTEA.

"This Conifer," says Mr. Leach, "will ere long become one of our finest timber trees, and a noble tree as a lasting tribute to one of our greatest travellers, namely, William Lobb. For my part, I consider a finer tree could not have been chosen to perpetuate the name of one who has done so much in giving us so many grand trees. I am well aware that many practical men have had their eyes open to the value of this tree, particularly as regards its beauty as an ornamental tree; but the credit is due to those who, some thirty years ago, planted this and other Conifer trees, that we are now able to give a sound verdict as to their economic values. Planters in general have been a very long time in making use of this valuable tree as a timber producer. If I had a thousand acres to plant with trees that would give the most remunerative returns in a given time, the above would be my mainstay.

"As regards soil and situation, it will grow anywhere. We have had it here growing in pure sand and in various situations, and in other kinds of soil; many trees being 70 to 80 feet and more in height, or on an average of 76 feet high.

"In regard to its timber, it is fine-grained, and for building purposes I am fully persuaded it will be found good in every way, being of better quality than the Scotch Fir. Where the Larch is often crippled with disease, and in many places refuses to grow at all, the above tree, given a little more room,

would grow and thrive, and in a few years give a good return. After many years' close inspection, I have never seen any harm done to this fine tree by insect pests. There may be places and situations where this *Thuya* will not grow, but I have not seen such places yet, and I have grown it in stiff clay down to pure sand.

"Another point in its favour is, that wind seems to have but little effect upon this tree, unlike many other fine subjects—such, for instance, as *Cupressus Lawsoniana*. The above does not, as a rule, branch out into two or three stems, but has one leader and light foliage. I would invite others who have a knowledge of this tree as growing to a large size, to state their opinions, feeling sure that many who only regard it as a tree for ornamental planting will be glad to hear of its great value as a timber producer."

From what we have seen, not only at Albury, but also at other places in the South, we can fully endorse Mr. Leach's opinion of the value of this tree. How it succeeds in the North we do not so fully know.

That Maize can be grown as a profitable crop in Surrey is a proposition that will be received with a good deal of hesitation; nevertheless, having had the opportunity of seeing what Mr. Leach does in the by no means exceptionally favoured climate of Albury, we can but say that he succeeds in producing fine well-filled cobs, which would be serviceable for poultry feeding and other purposes. What the cost of production may be we do not know.

Our illustrations, on pp. 137 and 145, show views from either end respectively of a long terrace-walk, bounded on the one side by lofty trees, and by a high wall, on the other by a shrubby border, which serves to hide out the kitchen garden. The terrace itself forms a broad grass walk of considerable length, having the gardener's house at one end, and the vineries at the other. With Alnwick and Syon to fall back upon, there is no need for any large conservatory or for any very extensive forcing establishment at Albury; but what there is, is thoroughly well done.

HOME CORRESPONDENCE.

EDUCATION OF GARDENERS.—This discussion to an onlooker seems rather degrading to the gardening fraternity. Head gardeners have always seemed to me to be every bit as efficient members of the community as any other body of men. To say that they have not advanced with the times is nonsense. One has only to consider how Orchid-growing, the culture of hardy fruit under glass, and the use of artificial manures have been successfully taken up by gardeners who were brought up in gardens where quite different traditions reigned, to know how absurd such a supposition is. In this respect, they contrast very well with agriculturists, the majority of whom seem to keep on in the same groove as their forefathers. If the present head gardeners are capable horticulturists, keeping pace with every new development, and calling in aid from other sciences, why should we doubt that young men will be wanting to fill their places? Such has never been the case hitherto in any profession. The young men who are learning to be gardeners now, will do well to learn as did those in the past, that is, by practical experience in a good garden, and, if possible, a year or two in a botanical garden. Merely listening to lectures does not add much to any one's store of information. The remembrance of them is like the remembrance of a sermon. The way to become proficient in an art, so as to make it of use, is to grapple with it in spare time, finding out things for oneself. The gardeners of old were taught by experience their craft; and, depend upon it, it will be the only way in the future. As the standard of requirements gets higher, so will the subordinates in a garden have to acquire wider knowledge. The demand always regulates the supply. Those County Council lecturers, who flatter themselves they further the cause of scientific horticulture in the villages, always remind me of a rustic who said, "Why ain't the cove made his own fortune, if it is such a good thing?" *Vagabond*.

— Having read with much interest the correspondence in your columns on this subject, I

should like to make a few observations. In the first place, it is well-known that the best men are not always in the best places, and never will be until gentlemen are more particular in the selection of their gardeners, and securing them from proper quarters. It may be asked what I consider proper quarters. Well, in my opinion, if gentlemen were to apply to our large nursery firms for men they would be better suited, for the simple reason that a nurseryman generally has means of knowing the capacity of the men on their registers or in their nursery, and in their own interests would hesitate to send men of inferior attainments and wanting in experience to good places. They are acquainted with most of the gardens in the country, or, if not, they can obtain the desired information from their travellers and correspondents, and are enabled to judge whether a situation that may happen to be vacant requires to properly fill it a man skilled in fruit-culture, orchid-growing, or any other of the various branches of horticulture. When a gentleman engages a man through an advertisement, he may possibly get one who is quite unsuited for his place, although furnished with good testimonials. As regards education, I should be the last to discourage it in any form, but when we take into consideration the wages that a gardener usually receives, it hardly seems worth the trouble to qualify him in botany, Latin, &c., especially when we know that only about 10 per cent. can succeed. I should say, at a rough guess, that 60 per cent. of the places are single-handed or where two are kept; 30 per cent. where three to eight men are employed; and perhaps about 10 per cent. where eight to forty are engaged. Now in 60 per cent. of the places, the wages average from 18s. to 22s. per week, with or without house; for these places, where all kinds of rough work have to be done, do we require educated men? I am afraid their knowledge would make them dissatisfied with the little scope allotted to them in which to display their abilities; they would ever feel they were fitted for better things. As it to be supposed, on the other hand, that the wages given in 30 per cent. of the places, which possibly may average from 22s. to 30s. per week, form a sufficient inducement for young men to study? To obtain one of these places, a man must be twenty-seven to thirty years old; he must be married. If his wife can do laundry or dairy work, he stands a much better chance. Perhaps at the age of thirty-five we find him out of place, with a family of three or four children; let him then seek a situation, and he will find if his university education will procure him one, for the gentlemen do not like "encumbrances." He then has to do jobbing gardening to obtain a living. I believe this is the fate of many of our gardeners. Would it not be better to encourage our young men to go abroad to countries that are not so densely populated as ours, and where the competition is not so keen, to carve fortunes for themselves, than to bring them up to a profession in which 10 per cent. succeed, 30 per cent. obtain mediocre places, and 50 per cent. have to go to the wall. *W. E. G.*

— I read with interest "Shoeman's" letter on the above subject. It is true, the wages offered young men in nurseries are barely enough to live upon, and if you want to lay by a few shillings for a rainy day, you have to live in a state of semi-starvation to do so. And yet we find the labour market glutted, not with competent men, but with men whose knowledge of the trade is nothing; and foreigners, who, when they land on our shores, perhaps never worked in a nursery before. I have often known men put in positions where they were not capable of holding them as shoe-black. Employers say it is a difficult matter to find a good practical man who knows the business; and such is likely to be the case so long as there is so much inducement given to inexperienced men and foreigners who are willing to work for the small wages offered in the nurseries. The only remedy that I can suggest is, that masters should employ only those who can produce a certificate showing that they have served a term of apprenticeship; and then we may get a class of men who are worthy of the name gardener, and can do something to raise the trade from the degraded and underpaid state it is in at the present day. *P. Lavis.*

TECHNICAL EDUCATION IN THE COUNTIES.—The lectures given at the present time in various parts of the country by the county councils are intended in the main for the benefit of the working men, cottagers, and holders of small areas of land, market-gardeners, and, indeed, for any who care to avail themselves of the opportunity of

attending them, but for the benefit of the first three more especially. It is open also to young gardeners to attend these lectures, but what is the result of the attendance? From my own experience the results are far from being satisfactory as regards the attendance. In a purely rural locality during a course of six lectures given during one week, the average attendance did not exceed twenty-five, perhaps this may to some extent be accounted for by the severe weather and the prevalence of the influenza epidemic in the neighbourhood. I find also that the class which is the most interested in the lectures, consisted of persons who are amateurs in the strict sense of the word, at least, such as I take it to mean, namely, those who cultivate a garden merely for the love of the work, and for the sole object of obtaining a good home supply of fruit and vegetables, without any thought of sale, and who do the whole of the work, or the greater part of it, without any paid assistance—these persons being what I term amateurs proper. There are so many opinions as to what constitutes an amateur, that I have taken the liberty to here introduce my notions of what constitutes one. Such persons, I find, have a greater thirst for knowledge than almost any others. The ordinary farmer or garden labourer appears to think that he is sufficiently well versed in all the necessary details of the work necessary to manage a garden properly, and that it is not necessary to acquire any further knowledge. The first thing to overcome in such cases as this is to get rid of the prejudices above named. If technical education is to do any good under the rule of the county councils, and it doubtless will in time do this, it must be carried out in a thorough manner. It is useless to tell such people how much money can be made out of an acre of Strawberries, Gooseberries, or Currants, or, indeed, anything else to that extent. If you tell them that the land must be manured to the extent of fifty tons of manure to the acre, this equally is quite beyond their grasp; and to tell them if they cannot find a market in one place for their produce, they must look for another elsewhere, is also absurd, and their interest in the subject wanes at once, and they will not again attend a meeting. The reading of a long, dry paper, full of little else but statistics of what has been made and what can be (2) made from a few rods of ground, is not the right way to create an interest in the minds of those for whom the lectures are mainly intended. Technical instruction in horticulture can be rendered useful in other ways than this. In my opinion, the best way to encourage the attendance of those to whom technical education is especially intended, is to give them at every lecture a few object lessons, in, for instance, the pruning of an Apple tree, or the branch of one, showing them how young fruit trees should be pruned at the time of planting them; examples of moss and lichen-covered branches, and those also which have been cleansed from such growths, and explain how the cleaning is to be performed. The staking of standard Apple trees would serve as another lesson. Then the pruning of Currant and Gooseberry bushes, in all cases showing also the wrong method of doing anything connected with these subjects, as most persons like to know what not to do, as well as what to do. Technical education carried on in this manner would excite an interest, and be the means of furthering the object in many localities; and if the right lines are followed by the lecturer, much useful work will be done in the course of time. I do not mean to say that no suggestions need be made as to the profits that may be derived from the disposal of any surplus produce there may be where facilities are at hand, that would make it pay to give special attention to this matter; but to give a glowing account of the large amounts to be derived from this source is scarcely the right tack to follow. Only persons resident in any neighbourhood, which the lecturers as a rule are not, can afford any trustworthy information as to markets, and other ways of disposal of garden crops. To connect the education of young gardeners with the technical lectures now being held, is not likely to be of much service—not but that many of them could learn much by attending them—but any young man who has the inclination to improve himself will readily find out the best means to do so; and those who do not care to learn cannot be made to do so by establishing lectures. *Practical.*

LECTURES ON HORTICULTURE.—Residing in a district favoured with free lectures on horticulture and allied subjects, I can endorse Mr. Dyer's remarks respecting gardeners having more practical knowledge than the lecturers themselves, and

labourers not caring to go to hear theories propounded by people ignorant of work and workmen. We have such "benefits" as "The Manure Heap," "Physics of a Glasshouse," "Fertilization of Flowers," interesting perhaps when skillfully handled, but nothing more at best, and too far-fetched to be of any real utility. Your correspondent "Excelsior" mentioned hewers of wood and drawers of water. If gardeners are to be drilled and preached at by state lecturers why should "hewers" escape. Surely there is also room here for lectures. That a good practical knowledge of gardening is widespread and general is proved by the excellent cultivation observable in cottage gardens, allotments, and also on railway sidings mostly worked by persons ignorant of the new-fangled technology. A course of lectures by dealers in semi-scientific second-hand knowledge, ventilating theoretical facts obtained by perusing other theorists' writings, seem hardly calculated to improve the general standard. Gardening literature is both cheap and good, and there is no scarcity of it; in fact, it finds its way into most periodicals. There is no end to the works dealing with specialties, dictionaries, annuals, and calendars, besides excellent journals devoted to all branches of the art, which, in the writer's opinion, are far better than any of the lectures yet delivered, as they unfortunately are, by state-aided theorists generally without practical experience. *Under Gardener.*

MELTING SNOW IN THE STREETS.—There has been this winter the usual crop of inventors who, without the slightest knowledge of the subject they advocate, endeavour to enlist the time and money of others, as ignorant as themselves, in a very foolish scheme, i.e., to use ordinary gas to melt the snow which obstructs the streets, some of the sanguine having gone to some expense in demonstrating what was already known, i.e., the possibility of it irrespective of cost. How absurd such a project is, can be easily seen by comparing the known heating value of coal-gas with the work to be done. Six inches deep of average snow, when melted, becomes half an inch in depth of water, 24 square feet of which will weigh 62½ lb., or 234 lb. per square yard. At this rate, the snow on 1 mile (or 1760 yards) of a street 20 yards wide, would, if 6 inches deep, weigh 823 680 lb., or 363½ tons. The heating-power of London gas is 660 units per cubic foot, i.e., 1 cubic foot of coal-gas will heat 660 lb. of water 1° Fahrenheit, and of this we may take it as a maximum that 500 units could be utilised. It has been proved repeatedly and beyond question, that 1 lb. of snow at freezing-point requires 150 units of heat to melt it and raise the temperature of the water obtained to 40° Fahrenheit, and this effect would be produced on 34 lb. of snow by the consumption of one cubic foot of coal gas. From the above data it will be found that to melt the snow in the assumed mile of street would require the consumption of 247 000 cubic feet of gas, costing, at 3s. per 1000 cubic feet, a little over £27, or at the rate of £2356 per square mile. As there are a great many square miles of streets in many towns, and as the snowfall has already been nearly double that assumed, it will be seen that the problem is, most certainly, not one to be solved by this method. Even if we were to assume that the cost of gas and labour were not prohibitive, the fact that the ground itself is usually colder than 32° must be considered, and the ground would also have to be warmed, or a thin surface of glassy ice, of the most slippery and dangerous kind, would remain after the snow was removed; this alone would condemn the project as being unworthy of consideration. *Thomas Fletcher, F.C.S., Warrington.*

THINNING THE BRANCHES OF AND CLEANING APPLE TREES.—It is a very common thing to see Apple trees in orchards and gardens crowded with branches and twigs, and covered with moss and lichens—conditions the reverse of healthy. To get large fruit and a clear skin of a good colour, the trees must have plenty of direct sunlight, and a good current of air playing about among them, these being factors which give that desirable finish to the fruit. With thickly crowded branches, only leaves of thin substance and small Apples can be looked for, but when the heads of the trees are maintained in such a state by cutting out unnecessary shoots and main branches sometimes, that the light and air have access to every part, the fruit is benefited in a corresponding degree. Moss and lichens are also great enemies to the trees, for, like all other parasites, they live at the expense of what they fasten themselves to, and, moreover, they close the breathing pores of the rind of the younger branches,

The cure for these evils consists in removing all branches that interfere with each other, and the best tool to use for the purpose is a fine-toothed saw—rough set, and all the wounds made by the saw should be smoothed with a sharp knife or chisel. Not only should these branches be cut out, but all shoots growing on the main branches in the middle of the head. After this part of the work is carried out, attention may be given to the cleaning of the trees. If the trunks have been much neglected, the better way is to scrape them with some blunt instrument, and then afford a dressing of freshly-burnt slaked chalk-lime, adding water to make a thin whitewash of it, when, if strained through a fine sieve, it can readily be distributed over the trees by means of the garden-engine or the syringe. Not only does this dressing of lime eradicate the moss, but it is a good insecticide, and especially against that scourge of the Apple, the American blight, as the aphids and their breeding-places become plastered up. *J. S.*

CHOU DE BURGHEY.—The merits of this excellent vegetable are being recognised, and as I have had something to say in its favour on several occasions, I was glad to see so good an authority on the vegetables as Mr. Iggleden noticing it in the way he did when treating of winter vegetables in the paper read by Mr. Wilks at the meeting of the Royal Horticultural Society, held on the 12th inst. At one time, Chou de Burghey was derided, as being neither a Broccoli nor a Cabbage—as if that mattered; in reality, that constitutes one of its chief merits, as we get the two kinds of vegetables combined—one an improved, honest-looking Cabbage, possessing all the good qualities of the old sort, with the tenderness and delicacy of the heart leaves of Broccoli or Cauliflower. And what can we desire in one plant? The mistake made with Chou de Burghey at first was, in growing it at a season when it was not much needed, as its greatest value is as a winter and very early spring vegetable. This being so, the seed should not be sown till quite the middle of the month of April; and for still later use, towards the end of May. When plants from such raisings are put out into good soil, they afford a long succession of produce. *J. Sheppard.*

BOCCONIA CORDATA.—I have been surprised at the doubts expressed by some persons as to the hardness of this stately herbaceous plant. Here the difficulty is to keep it within reasonable bounds, so quickly do its roots extend on all sides, and from which the sucker-like shoots are thrown up. On a lawn it is a conspicuous object; and on a lawn with a southerly aspect, amongst some hardy Azaleas and Perennials, it makes a bold show in the summer and autumn, but it is nowhere better seen than at the corner of a Rhododendron border, when there is a clump of it 8 feet in width, the stems of which also reach that height. *E. M., Swanmore.*

SECOND FLOWERING OF LYCASTE SKINNERI.—Mention was made by a correspondent in these columns of a *Lycaste* which had flowered twice in one season. I did not pay much heed to the statement, as at that time I had a plant, a small one, which had had three flowers, which appeared in succession. This season there has again been a crop of flowers, which has passed over, and other flowers have appeared, so that it would seem that the flowering of this species twice in a season is nothing unusual. *W. A. Cook, Compton Bassett.*

THE MULBERRY.—I have been much interested in the remarks found in several recent issues of the *Gardeners' Chronicle* respecting the Mulberry, and should like to mention an instance of the great vitality of the tree which came under my notice in the vicarage garden of Fulham. I well remember some thirty years ago a fine Mulberry tree, to which the Rev. Robert Baker had a stone placed to record the fact that many years previously a new gate had been put up, and the posts were of Mulberry, and to everyone's surprise, one of them took root, and broke into leaf, and formed a goodly tree, which seldom failed to yield fruit. As neither of your correspondents have mentioned anything about the quality of its wood, which is of a fine grain, takes a lovely polish, and is of a dark colour. Writing of wood, I would mention that many woods could be grown in this country, in quantity, which would be useful to the cabinet-maker, and I am led to make this remark from the fact that, some thirty years ago, I set about collecting British-grown woods, and collected eighty

different kinds, cut, planed, polished, and named them, and the Royal Arboricultural Society of Edinburgh awarded me a medal for the exhibit; and there they remain in my office, and many a person interested in timber-growing has found them interesting, if not instructive. I can recommend the study of woods to young gardeners, who may find the knowledge acquired some day of use. *J. Rust, Eridge Castle.*

THE MOORE FERN HERBARIUM.—It is a mistake to suppose that, as stated at p. 116 of your last issue, "the Fern Herbarium of the late Thomas Moore has been presented to Berlin by the Kew authorities." His British collection, which is very rich in varieties and abnormal forms, is still kept at Kew intact as a separate collection. His exotic collection was combined with the general Fern Herbarium at Kew. In the process, duplicates were freely withdrawn from both, and these were made up into sets, and subsequently distributed. One of the best of these sets was sent to Berlin. *J. G. Baker, Kew Herbarium.*

TREATMENT OF THE GRAPE VINE.—Under the above heading, "F. R." enquires at p. 118 of the *Gard. Chron.*, for the 23rd inst., whether anyone of the readers of this journal had previously heard of or practiced the method to which he referred—namely the cutting out of all Vine eyes located in the axils of the leaves during the period of growth except the end and second-best eyes from the base? I beg to say that this practice was recommended to be followed in the pages of the *Gardeners' Chronicle*, in "Fruits under Glass," a few years ago by the writer; and I believe that Mr. Roberts, gardener at Charlville Forest, Tullamore, practiced it in connection with the production of the large bunches of Grapes for which he has been so long famous. *H. W. Ward.*

BRIAR STOCKS.—"Rosa" would scarcely wish to insist upon the rule without exception in the planting of Briar stocks for the succeeding summer budding. Last autumn twelvemonth I gathered in seven dozen at the end of October, and at once prepared them for planting by cutting off or out every morsel of decay. I say "out," because shoots die back deep into the stump. There is also dead bark—an outer coat which is carefully scraped off, for upon these attentions depend the health of the future plant. When planted in the rows they are well dusted with sulphur to prevent or kill lungus, which is of deadly influence if allowed to remain. These were not fixed in their appointed places as the severe weather overtook us, and they remained by the heels till February. They all did well, not more than five or six failed, and are now in a strong and healthy state, with dormant buds or ripened shoots a foot long. Two important features for success are to have a rich and well-prepared position to receive them, and to secure every rod to a horizontal line of Willow or other dry rods made fast to a few stout upright stakes driven firmly into the ground. I do not pretend ignorance, having practised as an amateur for forty years, but am most willing to learn. *Charles Ellis, Lyme Regis.*

ORNAMENTAL TREES AND SHRUBS ON LAWNS.—While giving manual assistance to fruit trees is generally practised, and their vigour maintained thereby, trees and shrubs on lawns are often overlooked in this respect, where a little timely assistance would be of benefit. Where the trees in the park are fenced round at some distance from the stem, a heavy mulching may be spread over the enclosed space; but on the lawn this manner of assisting healthy development is objectionable, and it is necessary that some other should be adopted. The surface of the soil should be slightly loosened with a steel fork, and top-dressed with other and suitable soil, into which the roots will soon find their way, and a thorough drenching of the staple with rich liquid manure should follow this top-dressing. If these operations are carried out at this season, great benefit to the trees will accrue. During the summer months two applications of manure-water will materially increase the rapidity of the growth. *H. Markham, Mereworth Castle.*

CITRON CULTURE IN CORSICA.

The British Consul at Ajaccio furnishes to the Foreign Office, under date of May 16 last, a very interesting "Report on the Cultivation of Citrons or 'Cedrats' in the Island of Corsica." The report commences by stating that the great difficulty in

obtaining reliable information and correct data concerning the cultivation of the Citron or "Cedrat" is principally due not only to the distance which separates the different districts where it is carried on, but also to the reluctance of both growers and buyers to concede information which may conduce to the development of the culture of this very remunerative article of commerce in other parts of the world, in which the conditions of climate and soil might prove suitable. The size, aroma, and general superiority of the Corsican Citron, which always commands a higher price in the market than that produced in other countries, is attributed to a great degree to the Corsican soil, which being not only extremely rich in ferruginous qualities, is also strongly impregnated with the various salts and chemicals necessary for the production of the numerous aromatic plants with which the island abounds. This is evident from the natural growth on the hill-sides of Myrtles, Cistus, Wild Lavender, Heaths, Arbutus, and a variety of highly-scented plants and shrubs, which in spring and early summer not only impregnate the whole atmosphere with their delicious aroma, but can also be recognised for some distance at sea when the wind is off the shore. Another requisite for the successful growth of the "Cedrat" is perfect shelter from the mistral or north-wind, as well as absolute protection from frost. These desiderata, together with plenty of sun, and an adequate supply of water having been obtained, a good crop should be looked for if constant care and attention are given, proper manuring at the right seasons carried out, water supplied regularly morning and evening during the dry season, and the various diseases to which the tree is subject watched for and attended to.

CULTURE.

The site usually selected in Corsica for a plantation or garden is a sheltered valley, at an altitude of not more than 200 to 300 feet above the sea level, facing south or south-west—the north or north-east winds, which blow strongly during the winter months, having to be carefully guarded against—or any equally well-placed hillside not too much exposed. A constant supply of water is an absolute *sine qua non*. A space of at least 12 to 16 superficial yards being requisite for each tree, naturally limits the number of trees to the space available. In many places in the Cap de Corso district in the northern peninsula of the island, where the natives are a harder working people and more intelligent than in the south, the gardens are surrounded by high stone walls, divided by inner walls, and again subdivided by stiff fences of dried brushwood closely wattled. No more than four trees sometimes occupy these small plots, to which the soil has at times been brought in baskets at the cost of much time and labour, in order to take advantage of a sheltered situation. This careful protection is seldom seen in the southern portion of the island, the lazy character of the people resting satisfied with what Nature has done for them in the way of situation, shelter, and the supply of soil and water. Frequently, in the Cap de Corso and Balagna districts, the principal fruit cultivating regions of Corsica, the trees are protected during the winter by branches and mats spread from wall to wall, and in nearly all cases a piece of stiff wattled brushwood is erected as a protection above the walls.

The produce of a Cedrat tree naturally varies in the amount and size of the fruit according to the situation of the garden, the soil, and the care and attention devoted to it, but a single tree of matured growth frequently returns as much as £10 to £12 per annum. These figures alone show how remunerative a culture that of the Citron may be made, although the original outlay for making the garden—which is nearly always terraced, frequently involving considerable labour for masonry, walls, &c., as well as for the tanks and water-conduits—may have been very considerable. The causes which combine to make the culture of the Citron an exceptionally lucrative

enterprise, and those which constantly ensure a high price for this fruit, if produced in Corsica, are, firstly, that the Corsican Cedrat is renowned as being by far the best produced; and, secondly, that the Cedrats of Algeria, Spain, Genoa, and Sicily, have all of them beneath the epidermis a sandy substance which grates against the teeth in a disagreeable manner. Moreover, in Corsica even, only a few situations are completely favourable to the Cedrat tree, the proof of which lies in the fact that not a single plantation in the immediate neighbourhood of the town of Ajaccio has succeeded, as not only does this tree require a low situation, but it is also necessary to shelter it in a valley, the configuration of which protects it from every wind.

The main roots of the tree being very short and feeble, it nourishes itself principally by its smaller branch roots, which require water in abundance—a rare thing in Corsica. It also requires great natural heat in summer, as well as a strong and light soil. Although it is customary to plant the trees at intervals of about 10 feet, it is preferable to give them 13 feet. The trees give a half crop in three years' time, and at from six to seven years of age they produce from 400 lb. to 500 lb. of fruit; at from ten to twelve years they give from 500 lb. to 600 lb.

The small cultivators of Cedrats have to struggle against the buyers in no slight degree. The Genoese merchants have the small cultivators in the district of Ajaccio frequently completely at their mercy, as they have not the necessary conveniences for picking their fruit, and they have not, as in the district of Bastia, a manufactory for candying fruit, the result being that the buyers or middlemen frequently obtain the fruit of the small growers at half or quarter of its real value. The expenses of upkeep consist only of watering, and are not considerable. Pruning has recently been abandoned, as it was noticed that trees grew sickly under the treatment. Besides watering, the only other necessary expenditure is for placing supports beneath the heavily-laden branches. The crop is gathered in November; in March and April there is a second small gathering, that of the "victims" fruit, of very symmetrical form, left on the tree to attain a larger size, in order to sell them to the Jews at Easter, who make use of them for their Passover ceremonies. The victims grow at the junction of the branches or at their extremities.

At Bastia, a candying factory has been started, in order to prevent the continental buyers from entirely controlling the market. It has succeeded fairly well in the undertaking for which it was intended. It would be no difficult matter to treat the fruit in a superior manner to the candying establishments at Bastia and on the continent, where the Cedrats are but poorly preserved. There is a certain method of candying the Cedrat which produces an exquisite fruit, and of whose delicious flavour it is impossible to form any accurate idea if one is only acquainted with the ordinary candied Cedrat of commerce. The preservation consists in steeping the fruit in casks of brine composed of sea-water, with a certain admixture of salt, and possibly other saline chemicals, which remain a trade secret amongst the buyers and preservers, and which differ according to each individual's method of treatment. For the ordinary Citrons the fruit is sliced in halves to permit the brine permeating the inner rind, but the finer qualities of the fruit which weigh from 2 to 3 lb., are frequently preserved whole, and as such form not only an elegant, but extremely delicious adjunct to the table. These whole fruits are in great request in Algeria, Egypt, Turkey, and amongst all Oriental peoples, and high prices are obtained for the choicest fruits thus candied. They differ as much from the ordinary candied Citron sold in grocer's shops in England as the choice vinegars of Bordeaux, such as those of the Châteaux Margaux and Lafitte, do from the *vin ordinaire* or manufactured wine served at an ordinary Continental table d'hôte.

DISEASES.

The Citron tree is subject to various diseases, such as white-root, fumigie, or smut, kermes, &c. but of all the diseases, that of white-root is the one most dreaded and guarded against. It is due to a fungoid growth, which attacks the cortical tissue of the root, exhausts this tissue, and ends by destroying the plant after an interval of more or less time, in proportion to its powers of resistance to the disease. Its first attacks are recognised by the discoloration of the leaves, which turn yellow, and develop ulceration at the base of the stalk. Another sign of attack may be recognised by the condition of the roots of the suspected tree. Exposed to view, these roots appear tender, damp, and inclined to rot. In order to cure the trees of white-root, various measures have been at different times adopted, of which the following are the most approved: The first step to be taken is to prune to the quick all roots deprived of vitality; after which an equilibrium should be established by proportioning the branches to the roots which remain unaffected, the tree should then be surrounded by a deep trench, with a free passage for the overflow of water. A second measure consists in cutting off the affected roots, and applying boiling tar to the exposed stump. This treatment gives the best results, and is, as may be seen, easily applied, and suitable to all plantations. A third method frequently used in Portugal is the aëration of the roots. After carefully trenching round the main stem, in order to expose the principal roots, the hole is filled with stones of the size of the fist, or, still better, with lumps of charcoal, the efficacy of which against decaying matter is well known; after which the trunk of the tree is embedded to the height of 15 inches with the same stones or lumps of charcoal. These stones or lumps are placed at sufficient distances from each other to allow of the passage of the air, which thus penetrates to the roots of the tree, and prevents their being affected by the fungoid growth.

(To be continued.)

THE ROSERY.

A HOUSE OF ROSES.

At the present time, when many will be starting their pot Roses, it may be of some interest to them if I give a brief description of my Rose-house. It is over 100 feet long, 22 feet wide, and varying from 12 to 16 feet high. The reason of this variation in the height is because the ground falls very much, and as I wished the house to be built from north to south, and also wanted to avoid the trouble of making the ground level, I had it built in two sections, and have left the ground inside of the same slope as before.

There are two flows and two return pipes up each side of the lower section; but the upper and larger part of the house only has a single flow and return upon each side. This is just sufficient to keep out spring frosts, and also to dry the atmosphere during dull or foggy weather. More than this is scarcely necessary where one wants a quantity of good Rose blooms. Almost all the flowers cut from this cooler house have much better substance and colour than those which are harder forced. From the end of March until June, I can cut many dozens of grand flowers every morning. The most successful Roses I have grown are, William Allen Richardson, Maréchal Niel, and Reine Marie Henriette.

The last-named Rose is wonderfully superior when grown under glass, and comes of a very deep and bright red, never having the dull washed-out appearance it so often possesses when grown out-of-doors. I know of no better red Rose than this for forcing. It flowers very freely upon the ripened wood of the previous summer, and as the blooms are borne well above their foliage, and upon long stalks, they are well-suited for decorative purposes.

William Allen Richardson has carried over 300

flowers at once, and has had some 700 or more buds upon the tree in their different stages of opening. Like Maréchal Niel, Madame Bérand, and Reine Marie Henriette, this grandest of Noisettes flowers very freely upon the long shoots of the previous summer. With me it is the grandest Rose of all for freedom of growth and quantity of flowers produced. Every spring my plants throw a grand crop; and at intervals all through the summer and autumn, there are a few good flowers to be cut from this variety.

At the present time one of my plants has over twenty long shoots some 15 to 20 feet in length, and which will carry flowers from almost every eye. I think that where one has space no Roses pay better for forcing than these strong growers. True, you only get one good crop of flowers during the season, but as that comes at the most useful time, and well before any Roses can be had from walls in the most sheltered situations out-of-doors, I do not think this is any great drawback. You get far more flowers upon the same amount of wood, and the constitution of the varieties being so good the plants are seldom out of health.

The three Roses named already, with the addition of Kaiserin Friedrich, Climbing Niphetos, Henriette de Beauvean, Lamarque, Madame Chauvy, L'Idéale, and Bouquet d'Or, will give a good selection of colours, and be sure to please where one has the space for them to make and mature their long climbing growths.

The walls of my house are planted with such varieties as Rubens, Catherine Mermet, Madame Lambert, The Bride, and Perle des Jardins; while the centre is filled with the same kinds, and a few other stronger growers. The pillars and cross supports are covered with the strong climbers already described; while the walls around the outside of the centre and side borders are used for pot Roses.

I find Niphetos, Francisca Kruger, Jean Dacher, Madame Falcot, Perle des Jardins, Gombalt, Souvenir d'un Ami, Anna Ollivier, The Bride, Souvenir de S. A. Prince, and Catherine Mermet, the best for this work among the Tea-scented class.

General Jacqueminot, Fisher Holmes, and Gloire de Margottin, are three good dark-coloured kinds for the same purpose; and may generally be depended upon to give a few good flowers.

Frequent syringings with a weak solution of soft-soap, and a generous treatment with a temperature ranging between 55° and 65° while in full growth, is all that Roses require to do them well. They are too often over-coddled for a time, and then when the least disease puts in an appearance, sharp measures are taken which, more often than not, cripple the plants for the season.

If growers would use a very weak solution of some insecticide each time they sprinkled their plants, and avoid sudden changes in the temperature and cold draughts, Roses might be grown as easily and as free from disease and fly, as most subjects. I never force my plants until they show signs of swelling, and this can be induced by keeping the house close and moist for a few days. A. P.

VEGETABLES.

THE TRADE IN ONIONS.

A VEGETABLE that has progressed immensely in consumption in the last quarter of a century is the Onion. Cultivated at home, to the extent of probably about 40,000 tons, we yet have to import now nearly 4,000,000 bushels annually. The progress made in our foreign imports is shown by the following figures for the last three decades:—

Years.	Quantity.	Value.
	Bushels.	£
1870	1,034,161	390,830
1880	2,255,597	614,357
1890	3,571,195	724,000

Nearly three-quarters of a million is a large

sum to pay yearly for this edible bulb to foreigners. The chief countries to which we are indebted for supplies are Holland and Germany, Spain, Portugal, and Egypt. The large and mild Onion forms one of the common and universal supports of life in the Peninsula, and is also an important article of food of the Greeks, Turks, and other oriental nations. Analysis shows that it ranks next to Peas and grain in nutritious properties [?], although its pungent

rainfall in October, when we registered 7.39 inches. It was, however, my intention to draw notice to the utility of Chou de Burghley as a winter vegetable. A good quarter of this Cabbage, or Cabbage Broccoli, as its selector designates it, has proved invaluable to us, and admirably takes the place of Brussels Sprouts on the dinner-table. I, for my own table, prefer the former to the latter. Good breadths planted from sowings made in the middle

PLANT NOTES.

BIGNONIA VENUSTA AT SYON, AND OTHERS.

THE above plant was introduced from Brazil in the early part of the present century, and it remains to this day one of the most beautiful climbers that we possess for planting in a warm greenhouse. It is often called by gardeners a stove climber, but, if given stove treatment, especially in a dry house, it is a difficult matter to keep the foliage clear of red spider, thrip, and other kinds of insects; therefore a house, with a winter temperature of 50° to 60°, just suits its requirements, and I would prefer the lower to the higher degree of warmth, so that a warm greenhouse would grow the plant satisfactorily. There are two varieties of what is usually called *B. venusta*. I have seen a variety which is much paler in colour than others, and which some growers find a difficulty in flowering—at least, freely; but, at Syon, it grows and blooms very freely indeed, the blooms showing in November, and later, although the flowers in sunless weather open with difficulty and drop quickly, fogs accelerating the loss of bloom, and bloom-buds and leaves. In nice weather, it is a charming plant, useful for cutting, the blooms enduring in a cut state for a long time. At Syon it is afforded all the sunshine possible during the summer, and it is not trained in any way, but the shoots are allowed to hang down from the roof of the house, in which manner its beautiful flowers can be seen the best. Our *B. venusta* is interesting on account of its great age, for I have been informed that it was growing about 1830, or earlier, and I have no reason to doubt my informant's statement. The plant is not in a favourable position, the roots being under a high stage, and the stems a long way from the light, getting the drip from other plants; but it has a stem at the base that measures some 6 to 8 inches in diameter, and notwithstanding the disadvantageous position, it does well. There are many beautiful things among Bignonias, as *B. Cherere*, *B. magnifica* (fig. 26), the last-named a Colombian species, introduced in the seventies by Mr. W. Bull, and bears flowers of great size, and is most attractive in appearance, and the plant makes free growth in an intermediate-house. *B. Cherere* is a well-known plant, sometimes called *Tecoma heterophylla*. These plants in their native habitat grow on river banks, and in damp woods, so that when grown in this country in dry houses, they give much trouble if not syringed daily; on the other hand, I find, when shaded, they fail to flower freely, so that light and moisture are essentials if they are to bloom well. Thinning of the shoots is an important matter, as it permits what is left to mature. *Bignonia venusta* is an excellent plant for a roof, as there it gets all the sunlight, and at the same time the growths form a shade for the plants beneath. When starting into growth, more heat and moisture are required. It is best grown in a compost of loam and peat in equal parts, with some coarse river-sand added, and the assistance of some liquid manure is desirable when in full growth. Propagation is by cuttings in the early spring, and, if possible, cuttings taken off with a heel. Place them in a sandy compost, in a bottom-heat, under a bell-glass, and give very little water till rooted. They may also be increased by layers, and do best when planted out in a border. *G. Wythes, Syon House*. [A full page engraving of *B. venusta* was published in these pages on March 1, 1879. En.]

SOCIETIES.

ROYAL HORTICULTURAL. CHRISWICK GARDENS, 1892.

THE Society's Gardens were first established at Chiswick in 1822, and since that time have been looked upon as a leading and important help to horticulture. The new plants discovered by Keates, Potts, Dampier Parks, and Fortune in China and in



FIG. 26.—BIGNONIA MAGNIFICA.

(Flowers ranging in colour from rich crimson to delicate mauve: 3½ inches in diameter.)

flavour has much to do with its enjoyment—or otherwise! *P. L. S.*

CHOU DE BURGHLEY.

Our Brussels Sprouts are far from being satisfactory this season, although they grew well during the summer, and in October were apparently an excellent crop. On being gathered many of the Sprouts were found to be decayed in their centre, and unfit for use; and at the present time, after having on the 9th 19° of frost, and on the 11th 20°, the decay is still more plainly visible. The cause of this may, I think, be truly attributed to the heavy

of the month of April will afford a continuous supply of heads during the winter months. I grow the larger number from the second sowing, and generally select for them a plot that has been previously occupied by Peas, and afford occasionally liquid manure, which causes a quick growth. Grown in company with Rosette Coleworts, I find that the Chou de Burghley equals it in hardiness, and has a milder flavour. At planting time my old kitchen garden man usually reminds me that "Charlie Burghley" is thought much of in the kitchen, which is saying much in its favour. *Thomas Coomber.*

the East Indies; by Don on the west coast of Africa, South America, and the West Indies; by Forbes at the Cape of Good Hope and the Zambesi region; by Douglas in North America; and by Hartweg in Central America, were all first grown at or introduced to Chiswick, and from thence were afterwards distributed over the British islands and the continent.

The council being anxious to make the gardens (as far as the funds at their command will allow) a school of practical and scientific horticulture, and of increased value and interest to the fellows, have devoted careful attention to their present condition, and to a scheme for their better utilisation in future. They desire the gardens to be devoted (1) to the cultivation of such fruits, vegetables, stove, greenhouse, and hardy plants and flowers as are found to be most generally useful or ornamental; (2) to the trial of new sorts side by side with established varieties; (3) to experiments in the culture and treatment of those plants which possess a floral or decorative as distinguished from a merely scientific value and interest. To these may be added (4) the trial of such horticultural appliances and materials which may from time to time be submitted.

The cultivation, trial, &c., of fruits have always been considered as of the utmost importance, and happily forms one of the most valuable features of the gardens. There is an almost unique collection of the best varieties of fruits, and it is intended to maintain and extend it by the trial of such novelties as the raisers may be good enough to bestow on the society.

The cultivation of Grapes is conducted on a large scale, and the Great Conservatory, 180 feet by 30 feet, and 23 feet in height (one of the largest and noblest structures devoted to Grapes in this country), affords at all seasons ready examples of, and instruction in, successful Grape culture, which might be of service to many of the Fellows; and when the fruit is ripe is an object of the greatest possible beauty. House No. 14, lately occupied with Tomatoes, has been planted with Muscats, and will be similarly useful and instructive.

House No. 5, which has Peaches on the back wall, has also been furnished with fruit trees in pots, and their culture will be extremely interesting to many Fellows, as experiments in treatment are more readily carried on with pot plants.

One of the largest houses, No. 6, is devoted to the cultivation of Figs in pots, forming without doubt the finest and most varied collection of Figs to be found in this country, and will well repay the attention of all lovers of this particular fruit.

A large number of Apples and Pears grafted on different varieties of stock have been planted for experiment and trial, and will prove of great value and interest to fruit growers. The different methods or systems of pruning and training fruit trees are also illustrated to the fullest extent, and experiments made in grafting on various kinds of stocks, and the results carefully observed.

A very complete collection of Red and White Currants has been formed, and the different varieties have been carefully studied and classified, and are described in the *Journal*, vol. xiii, p. 134.

A collection of standard and typical varieties and different vegetables will again be grown (as far as space permits) for comparison with new varieties, both to assist the committee in recommending their awards, and for the general information of the Fellows. Besides this general collection, specially exhaustive trials of certain classes of vegetables will be made every few years in rotation, and descriptive reports given. The special classes proposed for 1892 are varieties of Runner Beans, together with new varieties of Peas, Potatoes, and new Tomatoes.

Experiments in regard to the Potato disease will also be conducted.

The floral department will include all plants and flowers of a distinctly decorative garden character, whether for cultivation under glass or out-of-doors. A few classes only can be illustrated each year. For 1892 it is proposed to continue the trial of hardy border Carnations and Pinks; perennial Asters and Sunflowers (of which a very large and complete selection were sent to the gardens from America, in view of the conference of 1891) will be again grown, in order to confirm the nomenclature, and to establish or otherwise the impression already formed as to their value from a horticultural point of view. Cannas, Pinks, Phloxes, are also proposed for trial this year. The very large collection of herbaceous Peonies made a year or two since will be an

object of great and increasing interest and instruction now that the plants are more fully established.

As opportunity offers, experiments will be conducted with and trial made of all sorts of articles and appliances used in the management or work of a garden, e.g., manures, insecticides, mowing-machines, garden tools, systems of glazing, ventilating, heating, &c., and reports will be published thereon.

The condition of the glasshouses has been greatly improved during the past year, although much still remains to be done before they can be pronounced quite satisfactory.

The officials of the Society will give any information and render every assistance in their power to all Fellows. Anyone wishing to study any particular branch of the gardening operations, or to make any special observations on different subjects, should make direct application to the Society's Superintendent at Chiswick; or to the Secretary, 117, Victoria Street, Westminster, S.W.

MEETINGS AND LECTURES.

The following programme has been drawn up for the present year:—

January 12.—"Winter Vegetables," Mr. W. Iggulden.

February 9.—Annual General Meeting at 117, Victoria Street.

March 8.—"Plants for House Decoration," Mr. John Willis. March 22.—"The Cultivation of Melons," Mr. C. Ross.

April 12.—"Daffodils," the Rev. G. P. Haydon. April 19.—"The English Florists' Tulip," the Rev. F. D. Horner. April 19.—Auricula and Primula Show.

May 3.—Lecture, by Professor Michael Foster, F.R.S. May 17.—"Hardy Climbers and Creepers," Mr. W. C. Leach. May 25 and 26.—Great City Flower Show in the Inner Temple Gardens, London.

June 7.—"Summer Pruning and Training of Fruit Trees," June 21.—"The Management of Trees in Parks and Gardens," Mr. W. T. Thistleton Dyer, C.M.G., &c. June 21.—National Rose Society's First Show, 1892.

July 12.—"Orchids for a Cool House," R. E. Handley. July 26.—"Insect Eating Plants," Mr. A. J. Manda. July 26.—"Carnation and Picotee Society's Show."

August 9.—"Fuchsias," Mr. Geo. Fry. August 23.—Exhibition and Conference on Begonias. August 24.—Exhibition and Conference on Apricots and Plums, at Chiswick.

September 6.—"Root Pruning," Mr. Geo. Bunyard. September 20.—"Variation of Some Hardy Plants under Cultivation," the Rev. C. Wolley Dod.

October 4.—"Michaelmas Daisies," Mr. D. Dewar. October 18.—"Cycads," Mr. W. Carruthers, F.R.S.

November 1.—"Fruit Trees in Pots," Rev. W. Wilks. November 15.—"Zonal Pelargoniums for Autumn Flowering," Mr. C. Pearson.

December 13.—"Winter Berry-bearing Plants," Mr. Lee.

—Extract from *Schedule and Arrangements of the Royal Horticultural Society for 1892.*

(To be continued.)

TRADE NOTICE.

THE partnership formerly existing between Samuel Clay and James Levesley, manufacturers of Clay's Fertiliser, having been dissolved, the partnership business will in future be carried on by the said Samuel Clay and his son, Samuel Charles Clay, the proprietor of S.C. Clay's Invigorator; and they will in future manufacture both manures at Temple Mill Lane, Stratford, E., under the title of Clay & Son.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

BRITTLE TIMBER.—Will any of the readers of the *Gardeners' Chronicle* kindly inform R. S. as to which of the two statements is correct, viz., "that the slower the growth the more brittle;" and "that the quicker the growth the stronger the timber."

Obituary.

ROBERT J. PARKER.—We regret to announce the death, at the age of sixty-five years, of Mr. R. J. Parker, of Tooting, which occurred on the 21st inst. The deceased was at one time well known in the horticultural circles—first as the senior partner in the firm of Parker & Williams, and which afterwards grew into the important business of B. S. Williams—and in more recent years as a successful cultivator of herbaceous perennials, and of whose extended cultivation in our gardens he was an earnest advocate.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 45° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.		
	ACCUMULATED.				Total Fall since Jan. 3, 1892.				
	Above (+) or below (-) the Mean for the week ending January 3.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.	More (+) or less (-) than Mean for the Week.	No. of Rainy Days since Jan. 3, 1892.		
	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 3, 1892.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 3, 1892.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 3, 1892.			
Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.	Inch.				
0 1 —	0	32	— 25	51	5	16	3.6	3	10
1 2 —	0	47	— 21	77	5	11	1.9	0	13
2 3 —	0	43	— 23	74	3	11	0.8	2	16
3 2 —	0	45	— 24	66	1	13	1.3	5	19
4 3 —	0	43	— 26	53	2	10	0.8	12	21
5 0 aver	4	26	— 32	64	2	14	2.4	0	16
6 2 —	0	36	— 28	66	3	15	2.2	3	15
7 3 —	0	36	— 31	63	3	17	1.7	14	21
8 1 —	10	23	— 44	55	3	15	2.0	0	17
9 3 —	0	30	— 51	69	1	13	2.1	8	22
10 2 —	11	26	— 27	23	2	18	1.8	4	16

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts:—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties, 5, England, S. Principal Grazing, &c., Districts:—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending January 23, is furnished from the Meteorological Office:—

"The weather during this period was cold and extremely dull in all parts of the Kingdom, with frequent falls of rain or sleet. A good deal of mist or fog prevailed in the English districts, especially in the south and east.

"The temperature continued below the mean generally, but slightly exceeded it in the 'Channel Islands,' and just equalled it in 'England, S.' The highest of the maxima were recorded on the last day of the week, when temperature was rising quickly. They varied from 53° in 'Ireland, S.,' to 45° in 'England, N.E.' During the earlier part of the period the thermometer (except in the west and south-west) seldom exceeded 40°. The lowest of the minima were registered on very irregular dates, and ranged from 19° in 'Scotland, E.' and 'England, N.W.,' to 29° in 'England, S.,' and to 35° in the 'Channel Islands.'

"The rainfall was more than the mean in 'Scotland, E.' and 'England, N.W.,' but less in all other districts. In 'England, E.' the fall was very slight. The bright sunshine was very deficient. In 'Scotland, E.' and 'W.' and 'Ireland, N.,' none whatever was registered; while, elsewhere the percentage of possible duration varied from 1 in 'England, N.E.,' and from 2 to 4 in several other districts, to 11 in 'England, S.W.,' and 12 in 'England, S.'"

MARKETS.

COTYD GARDEN, January 28.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the supplies, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

MARKET steady, with prices firm at last week's quotations. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Acacia or Mimosa, per bunch, 1 6-20	Narcissus, paper-white, Fr. p. bun. 0 6-9
French, per bunch, bl. 6-8	Orchids, 12 blms. 6 12-12
Azalea, p. doz. sprays 1 0-16	Odontoglossum crispum, 12blms. 3 0-6
Camellias, white, doz. 3 0-40	Pelargonium, scar. let, per 12 bun. 9 10-12
red, per doz. 1 0-16	— 12 sprays 1 0-16
Carnations, 12 blms. 2 0-30	Polianthes, 12 blooms 4 0-90
Chrysanthemums, 12 blooms 1 0-50	Primula, 12 blms. 4 0-60
— 12 bunches 6 0-70	Roman Hyacinths, 12 sprays 1 0-90
Eucharis, per dozen 6 0-70	Roses, Teas, per dozen 1 0-30
G. denia, per dozen 4 0-90	— coloured, scar. let, per 12 bun. 9 10-12
Hellebore, 12 sprays 0 6-09	— yellow (Mare-chals), per doz. 8 10-12
Lily white (French) per bunch 5 0-70	— red, per dozen 1 6-20
Lilium Harrisoni, doz. 6 0-100	Tuberose, 12 blms. 4 0-16
Lily of the Valley, per bunch 0 9-16	Tulips, p. doz. blms. 1 6-20
Maidsen Hair Fern, 12 bunches 4 0-90	Violet, Farme, per bunch 4 6-50
Marguerites, per doz. bunches 3 0-40	— Czaj, per bunch 2 9-36
Mignonette, per doz. bunches 1 6-02	— English, 12 bun. 1 6-20
Orchid-bloom in variety.	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Acanthus, per doz. 4 0-120	Ferns, various, doz. 4 0-90
Adiantum, per dozen 12 0-180	Ficus, per 100 8 0-150
Aspidistra, per doz. 18 0-630	Ficus, each 1 6-76
Azalea, per doz. 33 0-600	Hyacinth Dutch, doz. 6 0-90
Begonia, per doz. 4 0-60	Lily of the Valley, pot 2 0-30
Chrysanthemum, per doz. 6 0-90	Primula, per doz. 6 0-120
— large, each 2 0-36	Primula sinensis, doz. 4 0-60
Cyclamen, per doz. 9 10-180	Palms, various, each 2 0-20
Cyrtus, per dozen 4 0-10	— specimen, each 16 84 0
Dracaena, each 1 0-50	Polegonum, scar. let, per doz. 6 0-90
Euphyllium, p. doz. pots 9 10-180	Poinsettias, per doz 12 0-180
Erica, per dozen 12 0-180	Roman Hyacinth, p. doz. pots 9 10-180
Erica gracilis, doz. 8 0-120	Solanum, per dozen 9 10-180
	Tulips, per doz. pots 8 0-90

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples, Canadian, per barrel 10 0-180	Kent Cobs, 100 lb. 30 0 35 0
Norfolk, per barrel 10 0-180	Lemons, per case 15 0-300
Apples, 3-sieve 10 0-180	Pine-apples, St. Michael, each 2 0-60
Grapes 1 9-36	

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.	s. d. s. d.
Artichokes, Globe, each 0 4-06	Lettuces, per doz. 1 6-20
Beans, French, bl. 0 6-10	Mushrooms, punnet 2 0-90
Beet, red, per dozen 2 0-30	Mustard and Cress, punnet 0 4-06
Carrots, per bushel 6 0-36	Peas, per bushel 0 3-06
Cauliflowers, each 0 3-06	Saskale, p. bushel 2 0-30
Celery, per bundle 1 0-30	Shallots, per lb. 0 6-06
Cumbers, each 0 6-08	Spinach, per bushel 3 6-06
Cynifers, per dozen 2 0-30	Tomatoes, per 100 0 6-10
Herbs, per bunch 0 9-10	Turnips, per bunch 0 4-06

POTATOES.

The improved noted last week, still continues, the market being firm for choice samples. Ordinary sorts are sought for at 65s. to 75s., Medium at 75s. to 85s., and Best at 95s. to 110s. per ton. *J. B. Thomas.*

SEEDS.

LONDON: Jan. 27.—Messrs. John Shaw & Sons, Seed Merchants, of Great West Road, London, S.W., report to-day's market without striking feature. Quotations in demand, and firmness as regards values, now characterise the seed trade. Country buyers generally appear in no hurry to effect their purchases; meantime, prices all round are well sustained. For spring tares there is rather more inquiry. Mustard and Rape seed keep firm. There is no change this week in Peas. The temptingly low prices prevailing for Haricot Beans attract attention. Linseed is dull. For bird seed the sale is slow.

FRUITS AND VEGETABLES.

SPITALFIELDS Jan. 26.—Quotations.—English Apples, 2s. to 5s. per bushel; American do., 15s. to 18s. per barrel; foreign Tomatoes, 1s. to 2s. per box; Saskale, 1s. to 1s. 6d. per punnet; Curry Kale, 6d. to 9d.; Spinach, 1s. 6d. to 2s. per bushel; Savoy, 1s. 6d. to 3s.; Cauliflowers, 6s. to 12s. per tally; Greens, 1s. 6d. to 2s.; Turnips, 1s. 6d. to 2s.; Carrots, 2s. to 3s.; Parsley, 1s. 6d. to 2s. 6d. per dozen bunches; Turnips, 2s. to 3s.; Cabbages, 12s. to 20s. per score; Endive, 1s. to 1s. 6d.; Cabbage Lettuce, 9d. to 1s. 6d.; Leeks, 1s. 6d. to 3s.; Beetroot, 3d. to 4d.

per dozen; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; English Onions, 6s. to 7s. per cwt.; Bordeaux do., 5s. to 6s.; Spanish do., 1s. to 1s. 6d. per case; Belgian do., 5s. 6d. to 6s. 6d.; Dutch do., 5s. 6d. to 6s. per bag of 110 lb.; Celery, 4d. to 1s.; Horse-radish, 1s. to 1s. 1d. per bundle.

BOROUGH, Jan. 26.—Quotations.—Savoys, 2s. 6d. to 3s.; Broccoli, 10s. to 15s. per tally; Spinach, 1s. 6d. to 2s. per bushel; Brussels Sprouts, 1s. to 1s. 6d. per half-sieve; Greens, 1s. 6d. to 2s.; Turnips, 1s. to 1s. 6d.; Carrots, 1s. 3d. to 1s. 6d. per dozen bunches; English Onions, 6s. to 7s. 6d. per cwt.; Apples, 2s. 6d. to 6s. per bushel; Canadian do., 10s. to 20s., and Newtown Pippins 15s. to 25s. per barrel.

STRAITFORD, Jan. 26.—Savoys, 2s. 6d. to 5s. per tally; Greens, 1s. to 1s. 6d. per loose; do., 2s. to 2s. 6d. per dozen bunches; Turnips, 2s. to 3s.; do., 3s. to 5s. per ton; Carrots, household, 3s. to 4s.; do., cattle-feed, 20s. to 32s. do.; Parsnips, 9d. to 1s. per score; Mangels, 16s. to 20s. per ton; Swedes, 20s. to 25s. do.; Onions, English, 120s. to 140s. do.; do., Dutch, 4s. 6d. to 5s. 3d. per bag; do., Bordeaux, 4s. 9d. to 5s. 3d. per case; Apples, English, 2s. to 5s. 6d. per bushel; American, 12s. to 16s. per barrel; Brussels Sprouts, 1s. to 1s. 6d. per half-sieve; do., 2s. to 2s. 6d. per tally; Horse Radish, 9d. to 1s. 3d. per bundle; Celery, 6d. to 10d. per roll.

NOTICES TO CORRESPONDENTS.

ALLAMANDAS, POISONOUS: *J. T. L.* Allamanda belongs to the large order Apocynaceae, many members of which have a poisonous milky juice.

AMERICAN GARDENING JOURNALS: *G. M.* Canadian *Horticulturist*. Published at Toronto, Ontario, Grimby, Ontario. Single copy, on spot, 10 cents. *American Garden*. Published in New York. These papers can be obtained through any foreign bookseller.

ANTHRACITE COAL: *Viridis*. We cannot undertake to recommend dealers. Scan the advertisement columns of the South Wales newspapers, or advertise your wants in ours.

ASPIDISTRA: *A. Y. Z.* Pot the roots in well but not overdrained pots, in March or April, in a compost consisting of peat, loam, burnt earth, and leaf-mould or well-rotted manure from the stables, and to this add a small quantity of sand. Keep the root-stock just above the soil, and pot firmly, but use no rammer. Stand them in a close pit, having a night temperature of 50°, and if the plants have much foliage, or they have been much denuded of the soil that was about their roots, employ a little shade when the weather is bright. When fairly got into growth, remove them to an intermediate house, and later, that is, in full summer, the plants will do well in a deep garden or pit. If the ventilation is sufficient, they will not get their leaves burnt by sunshine, but in an unshaded, close frame, they often get disfigured by hot sunshine. In the southern parts of England, Aspidistras may in summer time be sunk in a coal-shed in some partially shady place away from the drip from trees. In winter keep them cool and moderately dry at the root. They need very little light at that season, and may be kept at the back part of the greenhouse or in a frost-proof brick pit. If the drainage be kept in good order, once in three years is often enough to disturb their roots; but an annual top-dressing of fresh compost should be afforded in the spring. The plants are naturally of slow growth, and it is not advisable to try to accelerate it by bottom-heat or much manure-water.

BOOKS: *A. S.* We know of no one book which treats of purely nursery practice. As a guide to the propagation of plants, you would do well to obtain *The Nursery Book*, by L. H. Bailey, published by the Rural Publishing Co., New York.—*Student: Henfrey's Elementary Course of Botany. The Student's Flora of the British Isles*, by Sir R. D. Hooker. *The Propagation and Improvement of Cultivated Plants*, by F. W. Burbidge.

BOOK ON FRUIT GROWING: *A. B.* Mr. Bunyard's *Fruit Farming for Profit* is a good one. A number of small manuals on various hardy fruits are published by L. Upcott Gill, 170, Strand, W.C.

BROWN SCALE ON THE PEAR: *L. T.* A simple inexpensive remedy is to paint the wood thickly with clay, cowdung, and water, with a quart of root and a handful of flowers-of-sulphur added to one painful, and made into a thickish wash. It can be put on with a soft brush, and should be brushed into every part of the tree. It done at once, it will cause no injury to the buds, which are still snug within their enveloping scales.

CINERARIA CANDIDISSIMA: *Paddy from Cork*. If seeds can be obtained, they may be sown in a heat of 60° to 65°, pricking off the young plants when they have made two true leaves, and growing them on for a time in gentle warmth; but seedlings rarely acquire their fine white colour the first season. Cuttings may be made in March and April of the side shoots of plants that have been induced to grow by placing them in moderate warmth. These may be inserted, not too deeply, in pots of sandy soil, and placed in a mild hot-bed frame, plunging the pots. They strike, and grow after they are struck, rather slowly, but when once they are established out-of-doors, growth is quick. From the middle of July to the middle of August is a good time to take cuttings, and then a very small amount of bottom heat is required to strike them, but they should be kept close, and aired every day for fifteen minutes.

FRUITS IN CALIFORNIA: *R. P.* Apply to some of the foreign booksellers.

GRAFTING MEXICAN PINES: *Patula*. Pot up in the early spring some stocks of *Pinus austriaca* or *P. sylvestris*, or, indeed, any hardy Pine—say, four to five years old—and winter these in a cold pit, and graft them, in saddle or cleft fashion, on growing pin in May. Side grafting (vener) not cutting any tongue in graft or stock, but leaving several bunches of needles on the stock above the point of union, is another good style of Conifer grafting. These modes of grafting are best performed in a temperature of 55° to 60°, and the grafted stocks kept in a close case, carefully guarding them against damp by daily airing the case for half-an-hour, and wiping all moisture off the glass. Grafting may be done out-of-doors after growth has begun, but it is less successful.

LEAVING NURSERY: *J. H.* It is customary to allow the tenant one year, and in some parts of the country more, for the proper removal of his stock of trees, shrubs, and other plants in the ground. Fruit and other trees planted for stock or fruiting are not removable.

MOSS ON LAWNS: *J. Cockburn*. Winter dressings of sifted wood-ashes and loam, in the proportion of one of the former to three of the latter. The Grasses will grow with vigour, choking the life out of the Moss. Before dressing the lawn, pull out as much as you can of the Moss with an iron rake. If a lawn be very wet from want of draining, the above remedy will not prove to be a permanent one.

MUSHROOMS: *W. K.* Certainly, Mushrooms may be grown on a large scale, and made to produce good profits, as fine Mushrooms are saleable all seasons. We have heard of one bushel fetching 30s. in the winter months. The Mushroom may be grown in beds made out-of-doors, in September and October, and the produce comes into use during the winter, when it fetches the best price. Summer Mushrooms must be grown in cellars or under-ground places, where the temperature does not exceed 60°, above ground. Mushroom-houses being seldom much good in the warm weather, the produce of the beds being quickly grown, deficient in weight and flavour, and soon over. Wright's *Mushrooms for the Million* is a useful book. It is published at 171, Fleet Street, E.C. The Mushrooms, if they must travel far by road or railway, should be packed in 1 or 2 lb. punnets, which are again placed in boxes of 4 or 5 dozen punnets. Where large quantities have to be sent short distances by road only, the half-sieve basket does well enough. The better and tastier the packing and putting up, the higher the price obtained. We do not know the present wholesale price paid to the grower, it depending on supply and demand, but it is usually found to be remunerative.

NAMES OF FRUIT: *M. G.* Most probably St. Germain—specimen much rubbed and bruised. *A. L. H.* 1, Lewis's Incomparable; 2, Allen's Everlasting; 3, Beauty of Kent; 4, Rymor.

PALMS, &c.: *Subscriber*. It is very probable that the vitiated air of the rooms, and the cold at night, may have caused the injury done to the foliage. The injury from cold would be very likely to follow if there was no previous hardening-off practised.

PARIS MARKET POTATO: *K. L.* The commonest violet-skinned Potato in the Paris market is *Pomme de terre Violette*, or Hundredfold Fluke. It has a deep violet-coloured skin, and yellow flesh. It has erect growing, branching stems, of dark brown, about 2 feet high. The flesh is firm, floury, of excellent quality; and the crop is mature

in September. M. Vilmorin states in his *Vegetable Garden*, "that it is one of those kinds, which, like the Shaw or Regent, and the Segouaze Potatoes, appear to maintain their vigour and productiveness, notwithstanding the very great length of time during which they have been in cultivation."

PEACH-TREES DROPPING THEIR BLOOM-BUDS: *A. B.* The immature condition of last year's shoots, indicated by the greenness of the rind, is the cause of the loss; for if the shoot is not ripened, neither is the wood bud or blossom, although some of the former may develop into weakly foliage or shoots.

POLEMONIUM CERULEUM: *Paddy from Cork.* As yours was not the variegated form of the plant, it was useless to look for variegated leaves.

PROFITABLE GARDENING CAREER: *Student.* What useful purpose should we serve by sketching out a gardening career for you, when you may be destined to become something very different. If you have a mind to stick to horticulture, first get knowledge in some good establishments, public, private, and commercial, and then, after perhaps a dozen years, your chance may come.

ROMAN HYACINTHS: *T. & P.* The bulbs appear to be quite sound and developed. The failure to flower may be due to errors in cultivation, for example, starting them before full root-growth took place.

ROOT PRUNING AND LIFTING A WALL PEAR TREE: *L. T.* A Pear tree being root pruned at thirty-eight years of age would certainly resent it, and but few good fruits could be looked for in the first few seasons following. Unless Pear trees on the Pear stock have their roots examined and brought up from out of the deeper stratum of the border at intervals of three or four years, and encouraged by slight manual top dressings to ramble near the surface of the soil, the operation of root-pruning, unless done bit by bit, is generally harmful.

TENNIS LAWNS: *A. B.* It being boggy land, the drains should be 4 feet deep, and 7 yards asunder. If there are trees near the lawn, use rubble instead of drain-pipes, or the roots will choke the drains in a few years, and put in the former to the thickness of 1 foot—or half that thickness if you use pipes—covering it with Brushwood, Heather, or thick sods. Two men should cut and lift 1000 turves in from two and a-half to three days, but much will depend on the nature of the soil, the number of hours worked, and if it be day or piecework.

TRAINING IN FRUIT GROWING: *A. B.* Yes, certainly, it is very necessary, if you mean to engage in fruit-growing for market, that you have a certain amount of insight into its methods and practices, just the same as a bookbinder or a shoemaker must learn the art of bookbinding or making foot-gear. Two years in a good commercial fruit farm is the least that you will require. Advertise in these columns.

VINES NEW-PLANTED, WHAT LENGTH OF ROD TO LEAVE: *W. D.* The Vines having been planted last autumn, may be cut down to the wall-plate, or to a point just above it if there is a stage or table for plants in that part of the vinery. As a general rule, the lower the point of severance, the stronger will be the leading shoot made, and that is one of the advantages of having a very low front wall, or none at all above-ground, the stems of the Vines then getting light and warmth their whole length, even when planted in an outside border. It cannot do a Vine any good to swathe the part outside the vinery wall in hay-bands or whatnot, which is only a little less injurious than full exposure during early forcing.

COMMUNICATIONS RECEIVED.—Dr. Kränzelin.—J. W. P.—J. C. R.—A. W. C.—W. R.—T. O.—H. M.—Laughton & Co.—J. B. W.—H. H.—W. E. B. Trinidad.—J. Hughes.—J. D.—J. J. W.—W. A. C.—A. W. W.—J. S.—A. D.—S. C.—H. B.—H. H. D'Ombrain.—C. B.—Subscriber (next week).—W. Stevens (shortly).—W. Lucas (next week).—F. W. B.—G. L.—John Byres (no roots of Bouvardia have reached this office).

DIED.—On January 20, at the Red Lion Hotel, Whittlesford, Cambs, the much respected host, CHARLES BUTTERS, from bronchitis, following influenza. Buried at Duxford, Cambs. The deceased was for 10 years head gardener at Luton Hoo Park, Beds.

—We regret to announce the death of EDWARD FREDERICK FAIRBAIRN, of the Edentown Nurseries, Stanwix, on January 18, 1892, aged seventy-three years.

COMPLETE COLLECTION OF VEGETABLE SEEDS For One Year's Supply.

Free by Parcel Post on receipt of P.O.O. value 10s.
6 pints Peas, best sorts for succession. 2-oz. pkt. Cress, Curled.
2 " Beans, Broad, best sort for succession. 1 pkt. Cucumber, Frame, named sorts.
1 " Cucumbers, for open ground.
1 " Endive, Curled.
1 " Lettuce, Cos and Cabbage varieties.
1 " Leeks, best variety.
2 " Mustard, White.
2 " Onion, best sorts.
1 " Parsley, Extra Fine Curled.
1 " Parsnip, best variety.
2 " Radish, best varieties.
1 " Savoy, best sort.
2 " Spinach, Winter and Summer.
1 " Cabbage, best for succession, two sorts.
1 " Cauliflower, finest variety.
1 " Celery, two sorts.
CATALOGUES, gratis and post-free.
Special Quotations per lb. and bush, to Market Gardeners.

B. L. COLEMAN, Seed Merchant
and Grower,
SANDWICH, KENT.



CLIMBING DELICATESS CUCUMBER.

TO THE TRADE.
100 packets, of ten seeds ... 25s.
50 packets ... 15s.
10 packets ... 4s.
1 packet ... 6d.

For description, see my Wholesale CATALOGUE, which can be obtained on application. Electros will also be lent, if desired.

J. C. SCHMIDT
ERFURT,
GERMANY.

WHOLESALE SEED CATALOGUE.

We have now published our Wholesale Catalogue of
VEGETABLE & FLOWER SEEDS
Containing also the best NOVELTIES of the SEASON, and LIST of over 150 varieties of choice Fern spores. MAY BE HAD ON APPLICATION. Any of our customers not having received one by post will oblige by letting us know, when another shall at once be posted.

WATKINS & SIMPSON,
BULB and SEED MERCHANTS,

EXETER ST., STRAND, LONDON, W.C.
Seed and Trial Grounds—Feltham and Twickenham, Middlesex.

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow.
74 ACRES IN STOCK.

See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Soils.

ROSES. Hundreds of Thousands.

BUSHES. Packing and Carriage Free for Cash with Order.
8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.
ORNAMENTAL TREES, 91 ACRES.
4 ACRES of GLASS.

CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS VEGETABLE, FLOWER, and FARM.
DESCRIPTIVE LIST, FREE.

RICHARD SMITH & CO., WORCESTER.

KELWAY'S ILLUSTRATED MANUAL of Horticulture and Agriculture for 1892. 1s., post-free; gratis to Customers.—KELWAY, Langport, Somerset.

W. ICETON has a large quantity of the above to offer, very reasonable, at from £2 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well-established, at £30 per 1000.
W. ICETON, Putney, S.W.

FRUITING VINES, good 3-yr. old, for Sale, 8 Gros Colmar, 38 Muscat of Alexandria, 17 Alicante, 5 Hamburgs, 3s. each. Very strong Chrysanthemum Cuttings, good roots, 50 post-free for 7d.—W. COMPTON, Lambley, Notts.

STANDARD TRAINED PEACHES AND NECTARINES, fine trees, bearing wood, fibrous roots. GRAPE VINES, well-ripened canes—a large stock.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large A. cuneatum, in 48's, 6d. per doz. Large Ferns, 10 saleable sorts, Aralia Sieboldii, Primulas, Solanums, superior stuff, all in 48's, 5s. 6d. per doz. Palms, Ficus, Erica bymialis, and Cyclamen, in 48's, 12s. per dozen, for bloom and fine foliage cannot be better. P. tremula, and A. cuneatum, selected bushy, for potting on, 16s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

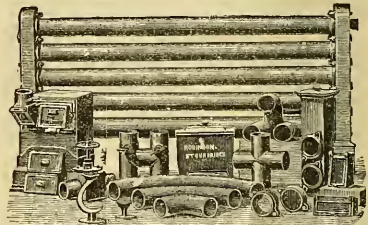
CALCEOLARIAS. SPOTTED.

H. CANNELL & SONS

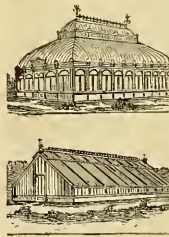
Have large quantities of the above in fine healthy plants all of their "Perfection" strain, from boxes, 1s. 6d. doz.; in 3 in. Pots, 3s. doz.

H. CANNELL & SONS, Swanley, Kent.

THOS. W. ROBINSON,
Dennis Park Ironworks, Stourbridge.



EXPANSION JOINT HOT-WATER PIPES,
SOCKET HOT-WATER PIPES.
Illustrated revised Price List on application, free.



JAS. BOYD & SONS,
HORTICULTURAL BUILDERS
and HEATING ENGINEERS,
PAISLEY.

**HORTICULTURAL
STRUCTURES**
of every description,
in either Wood or Iron,
or both combined.

Wooden Chapels,
Shooting Lodges, Cottages,
Tennis Courts, Verandas, &c.

Hot-water Apparatus
for warming Churches,
Schools, Public Buildings,
Manions, Harvest Rooms,
Drying Rooms, Hothouses, and
Buildings of every description.

Illustrated Circulars
Post-free.

Complete Catalogue, 3s.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of
**OUTDOOR WORK, CONSERVATORIES,
Greenhouses, Frames, &c.**
1 Cwt., and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.;
15, VICTORIA STREET, WESTMINSTER, S.W.1;
and BACHELOR'S WALK, DUBLIN.—Dissemin for Cash.

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price £310s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., 5s. per cwt., sent Carriage Paid to any Station in England, on receipt of P.O. for 5s.

Extracts from 16th Annual Collection of Reports:—**NATIVE GUANO, FOR POTATOS, VEGETABLES, &c.** H. BRINKWORTH, Potato Grower, Reading, used for Potatos, Onions, and Carrots, results:—“Very good; never had better crops.”—J. BUTLER, Sittingbourne:—“Used for Potatos, Celery, and other Market Garden Crops, with very good results; Potatos large, clean, and free from disease. Best and Cheapest Manure in the Market.”

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c. J. FEED & SONS, Streatham, used for Fruit Trees and Roses, results:—“Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian.”—J. FINCH, Orrell Gardens:—“Used for Vegetables, Tomatos, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatos, and many other things. The Cheapest Manure in the Market.”

Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

INNES' FERTILISERS.—THE VINE and PLANT FOOD.—Of all Nursery and Seedsmen, or direct, 15s. per cwt., carriage paid to all Stations. References and testimonials of the Sole Markers:—**W. INNES and CO.,** Sunny Hill Viney, Littleover, Derby.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatos, Peaches, &c., beyond any other Manure.

September 29, 1891.

“I am very pleased with your Silicate Manure. The effect upon the Vines is very marked, for they ripen and colour much better. Your Manure has given me great satisfaction for Tomatos; it is all you claim for.”

THOMAS PRICE,

Gardener to the Bishop of St. Asaph.

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ½ ton; £7 per ton.

THE PATENT SILICATE MANURE CO., THE CHEMICAL WORKS, HEMEL HEMPSTEAD, HERTS.

HORTICULTURAL SUPPLY CO.,
RELANCE FERTILISER for Fruit, Flowers, Vegetables, Lawns, &c. Sewalls, &c. to use. A highly concentrated and entire Plant Food, carefully compounded.

Prices.	2 lb.	7 lb.	14	28	56	112
Terms: Cash with order.	Post-free.		lb.	lb.	lb.	lb.
All free on Rail, Bags included.						
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Reliance Fertiliser	1	0	1	0	3	0
Best Peruvian Guano	1	0	1	0	3	0
Nitrate of Soda	1	0	1	0	2	6
Sulphate of Ammonia	1	0	1	0	2	6
Bones & Flour or Meal, and						
half-inch	0	9	1	0	3	2
Superphosphate	0	9	1	0	1	0

Carriage paid on 10s. orders of the above MANURE on Carter Paterson's road, or to any railway stations within 200 miles. Directions for Use with every lot.

Leaf-mould, Peat-mould, Loam, and Potting Compost, each, 3s. per sack, 1s. per bushel. Best Brown Peat, 5s. per sack, 1s. 6d. per bushel. Coarse-cut Fibre, 1s. 3d. per sack, 5s. for 6s. Silver Sand (coarse or fine), 1s. 6d. per bushel. Charcoal (nuts or fine), 2s. per bushel.

“Plant Foods and How to Apply Them,” a Descriptive List, post-free, 1d. Price Lists free. The Trade supplied on liberal terms.—**HORTICULTURAL SUPPLY CO.,** Old Shot Tower Wharf, London S.E.

“Nothing Succeeds like Success.” HUGHES' (SOLUBLE) INSECTICIDE FOR FREE OIL

The most reliable and best of all Insecticides for destroying Insects and Vermin on Plants and Fruit Trees, also on Animals, and Birds; and as a Disinfectant & Bleacher in Washing Clothes. Full Directions on the Labels of each Bottle.

Sold by Seedsmen & Chemists, 1/6, 2/6, & 4/6; 1/2-gallon 7/6, 1-gallon 12/6, or less in larger quantities. A Treatise on F.R. TREE OIL as an insecticide, its application to Plants and Animals, sent post free on application to the manufacturer, addressed to **E. CRITCHFIELD HUGHES, Victoria-st., Manchester.** Wholesale from all the London Seed Merchants and Patent Medicine Houses.

NEW YORK.—A. ROLKER & SONS.

IMPORTANT TO GARDENERS, AMATEURS, AND OTHERS, WHO FUMIGATE HOUSES, TO KILL “FLY,” OR “THRIP.”

You will shortly be ordering your Spring Supply of Fumigating Material. Why lay in a heavy stock of tobacco paper, uncertain in quality, often disappointing, and very unpleasant to use, when you can have a SAFE, RELIABLE article, and one that is pleasant to use?

THE FIRST
OF ITS
CLASS,
AND STILL
THE ONLY
ONE



CAMILLE'S FUMIGATING INSECTICIDE

On which you can thoroughly depend. The manufacture is much improved, and it can be ordered without any risk of the disappointing results often attending other fumigating materials.

PRICES:—
For houses with 1000 cubic ft., No. 3 Roll, 1s. each; 1st class capacity of 2000 cubic ft., 1s. 6d. each; 1/2 cwt. 1/3 s. 1/4 Free. The Rolls may be cut for houses of a smaller capacity, or to make up required quantities for larger houses.

LEMON OIL INSECTICIDE.—The safest and most effective Liquid Insecticide for dipping or syringing. Prices, post free:—Fruit, 1s. 10d.; quarts, 3s. 3d.; half-gallons, 5s. 9d.

CLIBRAN'S EUCARIS MITE KILLER.—A truly valuable remedy, has saved thousands of bulbs. Prices, post-free:—Half-pint, 1s. 4d.; pints, 2s. 9d.; quarts, 4s. 9d.; half-gallons, 8s.

OR FROM YOUR SEEDSMAN.

CLIBRAN'S OLDFIELD NURSERIES, ALTRINCHAM;

10 & 12 MARKET STREET, MANCHESTER; And Principally Nurseries, Dewdney, Llandudno.

For Green and Black Fly, American Blight, Camellia Scale, Red Spider, Mealy Bug, Brown and White Scale, Worms, Wood Lice, &c.

“PICRENA,” THE UNIVERSAL INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.
15, PRINCES STREET, EDINBURGH, July 15, 1887.—“Dear Sir, I have thoroughly tested a sample of a new insecticide in destroying Mealy Bug and other insects. At the rate of 1 oz. to a gallon of water at a temperature of 95°, I find it kills Green Fly immediately. Double this strength, or 2 oz. to a gallon at 160°, seals the rate of Scale of all sorts in a few seconds; while 3 oz. to a gallon at same temperature effectually destroys Mealy Bug, and so far as I have yet observed, without the slightest injury to leaf or flower, and it is withal a most agreeable compound to work with. All our insect remedies are applied through common syringe, or garden engine, a much severer test of efficiency than when applied by hand-washing or spray.—I remain, dear sir, yours truly. (Signed) A. MACKENZIE, of Messrs. Methven & Sons, Victoria and Paradise Nurseries, Upper Holloway, London, January 7, 1888.” “GENTLEMEN—I have given your Insecticide, ‘Picrena,’ a good trial in competition with many others, I am pleased to say that I have found it to be more effective in destroying Mealy Bug and other insects than anything I have ever used. It ought to command a good sale. (Signed) B. S. WILLIAMS.”

Sold by Chemists, Nurserymen, and Florists, in Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in Tin (1 and 2 gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and upwards, 8s. per gallon.

Prepared only by **DUNCAN, FLOCKHART & CO., Chemists to the Queen, Edinburgh.**

May be had from B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, London; and from **WILLIAM EDWARDS and SON, 187, Queen Victoria Street, London.**

THE “STOTT” SPECIALITIES

For Destruction of Insect Pests. Patent Distributor, Patent Syringe, Patent Sprayers.

KILLMRIGHT.
2-oz. Sample posted free on application. Testimonials and Price Lists on application. Retail from Ironmongers and Seedsmen. Wholesale and Retail from the **Stott Distributor Co., Ltd., Barton House, Manchester**

SAVE HALF THE COST.

GARSDIE'S BEDFORDSHIRE COARSE AND FINE SILVER SAND

Is admitted by the leading Nurserymen to be the Best Quality obtainable in the Trade. Consumers should Buy Direct from the Owner of these Celebrated and Extensive Works, which contain a practically inexhaustible supply of Splendid Sand, and thus save half the ordinary cost. NO TRAVELLERS or AGENTS. Apply direct to the Proprietor for Samples and Price free on Rail or Canal. All Orders executed with the utmost promptness and under personal supervision. Special Railway Rates in force to all parts. All kinds of PEAT supplied at lowest possible prices. Sample Bag sent on application to **GEO. GARSDIE, Jun., F.R.E.S., Leighton Buzzard, Beds.**

THE “CLIMAX” INSECTICIDE.

The Cheapest and Best of all Insecticides.

As a Wash for Plants for destroying all kinds of Insects and Parasites, which infest the foliage and roots, such as Green and Black Fly, Mealy Bug, Scale and Thrip, Red Spider, American Blight, Woolly Aphis, Caterpillar, Wood Lice, &c.

Price in tins—4-Pint, 1s.; 1 Pint, 1s. 6d.; 1 Quart, 3s.; 4-Gallon, 5s.; 1 Gallon, 9s.; 10 and 10-Gallon Drums, 3s. per Gallon. Carriage Paid.

Testimonials and Particulars sent free on application.

PREPARED SOLELY BY

**THE BOUNDARY CHEMICAL CO., LTD.,
LUTON STREET, LIVERPOOL.**

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of—**WATSON and SCULL, 90, Lower Thames Street, London, E.C.**

RICHARDS' NOTED ORCHID and other SELECTED PEATS (Cut from his Own Grounds), SOILS, MANURES, and every description of GARDEN SUNDRIES.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E.
Write for Samples and Price List, Post-free.
CHIEF PEAT DEPOT: RINGWOOD, HANTS.

ORCHD PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 25s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal order for Sample Sack. Special terms to the Trade. For Price List apply to **THE FORESTER, Joyden Wood, near Bexley, Kent.**

EPPE'S selected PEAT,

For ORCHIDS, STOVE PLANTS, Hardwood do., Ferns and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack, yard, ton, or truckload. FINEST ORCHID PEAT, in sack, yard, ton, or truckload. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **PEAT MOSS LISTER.**

The Original Peat Depot, **RINGWOOD, HANTS.**

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blights, 2 ounces to the gallon of soft water, or 4 to 16 ounces as a water dressing for Vines and Orchard house trees, in latter from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s. from the Trade. Wholesale from **PRICE'S PATENT CANDLE COMPANY (Limited), London.**

“DUROLINE”

(Transparent Wire Wove Roofing) **SUBSTITUTE for GLASS** UNBREAKABLE, FLEXIBLE, LARGELY USED IN ALL PARTS OF THE WORLD.

Government Officials, Fire Insurance Surveyors, Architects, Engineers, and numerous Experts have testified on oath that “DUROLINE” is preferable to and much safer than Glass for Roofs, Skylights, and other similar erections.

See Report “London County Council v. The New Wire Wove Roofing Co., Ltd.” May and June 1891. **INVALUABLE FOR FARM BUILDINGS.** Extensively used on the estates of H.R.H. The Prince of Wales, The Dukes of Westminster and Sutherland, and thousands of others.

SAMPLES AND FULL PARTICULARS OF THE **S.C.E. PATENTEE'S MANUFACTURES** **THE NEW WIRE WOVE ROOFING CO., LD.** 75b, Queen Victoria Street, LONDON, E.C.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS for GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, Etc.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.
Telegraphic Address—"HOT-WATER, London." Telephone, No. 4763.



**WARNE'S
(LATE MATHESON)
CELEBRATED WESTON
FLOWER POTS
AND
HORTICULTURAL
POTTERY.**

CONWAY G. WARNE, Limited,
Royal Potteries, Weston-super-Mare.

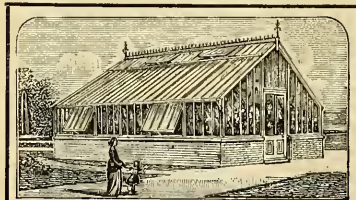
STOCK	SIZES
Inches.	Inches.
14x12	20x15
16x12	20x16
18x12	22x16
20x12	24x16
16x14	20x18
18x14	22x18
20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, ST. JOHN STREET, WEST SMITHFIELD, LONDON, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.



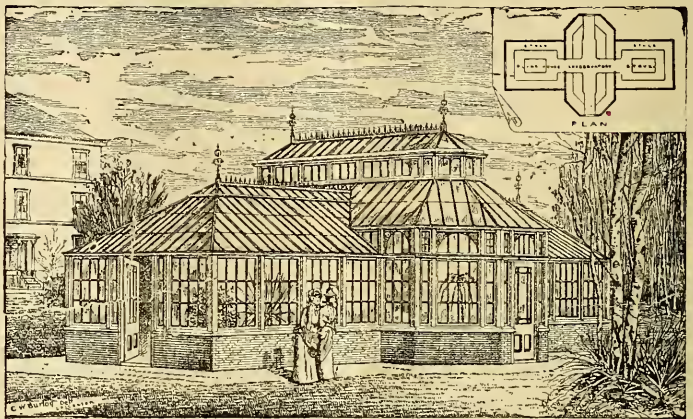
THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 12 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid.—1-light frame, 4 x 6, 35s. 6d.; 2-light frame, 6 x 8, 55s.; 3-light frame, 12 x 6, 85s. 6d.; Span-roof Frames, 12 x 4, £47s. 6d.; 9 x 5, £23 15s.; 10 x 6, £28 10s.

HARDY BRUIN & CO., Graham LEIGESTER
Street,

ORCHID PEAT; best Quality; **BROWN FIBROUS PEAT** for Stove and Greenhouse use, **RHODODENDRON and AZALEA PEAT.** Samples and Prices of **WALKER and CO.,** Farnborough, Hants.



MESSENGER & CO.'S New CATALOGUE of Greenhouses and Heating Apparatus,

Just issued, will be found the most complete, practical, and reliable guide to all about to build, alter, or heat Greenhouses. Illustrations of every description of Glasshouse, from the largest range of Winter Gardens to the simplest forms of Portable Greenhouses, Plant Protectors, and Garden Frames; also of all the best kind of Boilers, Hot-water Pipes, and all appliances for heating. This Catalogue, possessing hundreds of illustrations of all the latest improvements in greenhouse building and heating, is on a scale never before attempted. It should be in the hands of every one interested in gardening, as it contains many practical hints on the subjects of which it treats, the result of many years' experience. Price, 2s. post-free.

A large number of the illustrations are taken from greenhouses erected by us in various parts of the country; an inspection of this Catalogue shows, therefore, the efficiency of which has been well tested by actual use. The advantages possessed by us enable us to carry out work with the utmost promptness, and in the very best style, at prices which defy competition. Surveys made, and gentlemen waited on in any part of the country. Plans and Estimates free on application.

MESSENGER & COMPANY, LOUGHBOROUGH.

London Office:—163, Palmerston Buildings, Old Broad Street, E.C.

The Original and Only Makers of the
GENUINE RIVETED TRENTHAM BOILERS



WITH SOLID ENDS. Also—
SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.
Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

**ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,
AND ALL GARDEN SUNDRIES.**

SEND FOR A

PRICE LIST

from the Largest Manufacturer in the Trade,

H. C. SMYTH,

21, GOLDSMITH STREET,
DRURY LANE, W.C.

GARDEN REQUISITES, as supplied to the Royal Gardens.—**COCOA-NUT FIRE REFUSE,** 1s. 2d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton truck, 30s., free on rail near works. **FINE ORCHID PEAT,** 8s. 6d. per sack. **BROWN FIBROUS DO.** 5s. per sack, 5 for 22s. 6d. **BLACK DO.** 4s. 6d. per sack, 5 for 20s. **FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD,** each 3s. per sack. **COARSE SILVER-SAND,** 1s. 6d. per bushel, 11s. 4d. 25s. per ton. **CHARCOAL,** 8s. per sack. **SPHAGNUM,** 7s. 6d. per sack; all sacks and bags, 2d. each. **RUSSIA MATS,** 10ft. 6d. to 18s. per dozen. **RAFFIA, VIRGIN CORN STALKS, &c.** **BONES,** 1-inch, 11s. per cwt. **PURE BONE-DUST,** 11s. 6d. **TOBACCO-PAPER, Spécialité,** 10d. per lb., 28 lb. for 21s. **CLOTH,** 1s. per lb., 28 lb. for 26s. Price List, free. **W. HERBERT and CO.,** Hop Exchange Warehouses, Southwark St., London, S.E.

TO HORTICULTURISTS.—GREENHOUSE GAS COKE and SMUTTY COKE delivered in Truck-loads to any Station in England and Wales.—Address, **G. J. EYESON,** 26, Corporation Street, Birmingham.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN TREE GUARD, "The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire,
"Dec. 28, 1887.
"DEAR SIRS,—I have now had
an opportunity of trying your
FORTUNE TREE GUARDS, and they seem
quite to answer my purpose,
so you may send me
50 more as before. I enclose
cheque for your
account.

Yours truly,
RICHARD GREEN
Messrs. Hill & Smith.

BARB WIRE.

CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



CHEAPEST W. PEN DENNIS & CO. BEST

SAFETY POTTERIES, RUABON.

CHAS. FRAZER'S EXORNS.—Conservatories,
Orchid-houses, Vineries, Greenhouses, Plant and Forcing-
houses. Best Materials and Workmanship guaranteed, at Modest
Prices. Intending Purchasers waited upon by appointment.
HOT-WATER BOILERS and HEATING APPARATUS, for
large or small Greenhouses. Great variety of Garden Fences
and Handlights kept in stock. All kinds of Garden Requisites,
Poultry Appliances, Portable Summer-houses, Tool-houses,
Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely
illustrated CATALOGUE, post-free, for six stamps.
PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

BOILING WATER OR MILK.
EPPS'S
GRATEFUL-COMFORTING.
COCOA
BREAKFAST-SUPPER.

THREE MILLIONS
HAVE BEEN PAID BY THE
RAILWAY PASSENGERS
ASSURANCE COMPANY,
FOR
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN,

AGENTS WANTED for the SALE of NATIVE
GUANO. The Best and Cheapest Manure for all Farm
and Garden Crops.—THE NATIVE GUANO COMPANY,
LIMITED, 29, New Bridge Street, Blackfriars, London, E.C.

THE IMPROVED TREE-PRUNER, Coppin's
Patent, Awarded Certificate of Merit from the Royal
Horticultural Society. Used by the principal Parks and Gar-
dens in the United Kingdom and Germany. Lists, &c., free from
Patentees.—GEO. COPPIN AND SONS, Addington, Surrey.

SIX CABINET PORTRAITS, 3s.; three for
1s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d.
Right of Enlargement, 3s. three for 4s. Stamp-size, 2d. for
1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order,
and in about ten days you will receive Highly-finished Copies,
with Original.—FRANCIS AND CO., 29, Ludgate Hill, London.

FREE GRANTS OF LAND in MANITOBA
and other PARTS of CANADA.—The reports (illustrated)
of the twelve British Tenant-Farmers who visited Canada in
1890, and other pamphlets issued under the authority of the
Imperial and Dominion Governments, containing maps and
full information as to land regulations, homesteads, and
settlements, openings for capital, demand for labour, rates of wages,
cost of living, and all other particulars, may be had post-free,
on applying to the High Commissioner for Canada (Mr. J. G.
COLMER, C.M.G., Secretary), 17, Victoria Street, London,
S.W.; or to Mr. JOHN DYKE, Canadian Government Agent,
15, Water Street, Liverpool.

NOW READY.—THE GARDEN ANNUAL
Almanac and Address Book for 1892. Containing the
most authentic lists of (1), Nurserymen, Seedsmen, and Florists
in the United Kingdom; (2), Foreign Nurserymen, Seedsmen
and Florists; (3), Horticultural Builders, Engineers, and
Sundriesmen in the United Kingdom; (4), the Principal Nursery-
men and Florists in the United States, and their Addresses; (5),
the Principal Gardeners of the United Kingdom, in the
order of the Counties; (6), the Principal Gardeners and Out-
lets in the United Kingdom; (7), the Gardeners in the United
Kingdom, and their Addresses; and other information. Price
1s.; post-free, 1s. 3d., of all booksellers, newsgate, or from
the Publishing Office, 37, Southampton Street, Strand, London,
W.C.

Demy 8vo, cloth, 2s. 6d.

MY GARDENER. Illustrated by H. W.
Ward, F.R.H.S., Head Gardener to the Earl of Radnor,
Longford Castle, Salisbury.

"Clear, sensible, and full of instruction."—*Times*.
"This is the best work on gardening which we have come
across for a long period. . . . and certainly deserves a place
in every gardener's library or bookcase."—*Rural World*.
"As a practical handbook for the million, it has no superior
on the subject."—*Bells Weekly Messenger*.

"The book is replete with valuable cultural notes, indis-
pensable to the millions who are now turning to gardening
as a source of pleasure and profit."—*Gardener's Chronicle*.
"The professional gardener, amateur, and cottager may look
to it as a trustworthy guide in matters affecting the routine of
the garden."—*Gardener's Magazine*.

"It is likely to be most useful and very popular."—D. T.
FISH, Esq., Bury St. Edmunds.
"I hope for the good of the country it may meet with the
extensive sale it deserves."—W. THOMSON, Esq., Cliven-
don.

"I shall consult it myself with pleasure."—T. W. BUR-
RIDGE, Esq., Curator of Trinity College Botanical Gardens,
Dublin.

BYRLE AND SPOTTISWOODE, East Harding Street, E.C.,
and all Booksellers.

L. REEVE & CO.'S NEW WORKS.

Now ready, Part I., with four Coloured Plates, 6s.
THE HEMIPTERA HETEROPTERA of the
BRITISH ISLANDS. By EDWARD SAUNDERS, F.L.S.
Prospectus and form for Subscribers may be had on application.

New Vol. XLVII. for 1891, 42s. cloth.
THE BOTANICAL MAGAZINE. Figures
and Descriptions of New and Rare Plants. By Sir J. D.
HOOKER, F.R.S., &c. Third Series. Vols. I. to XLVI., each
42s. Published monthly, with six plates, 3s. 6d. coloured.
Annual subscription, 42s.

BRITISH FUNGI, Phycomyces and Ustilagi-
nae. By GEORGE MASSEE (Lecturer on Botany to
the London Society for the Extension of University Teaching).
Crown 8vo, with 8 Plates, 7s. 6d.

BRITISH FUNGOLGY. By the Rev. M. J.
BERKELEY, M.A., F.L.S. Re-issue. With a Supple-
ment of nearly 400 pages by WORTHINGTON G. SMITH, F.L.S.
2 vols. 24 coloured plates, 35s.

A few copies of the Supplement may be had separately,
post-free, by remitting 12s. to the Publishers.

THE NARCISSUS: its History and Culture.
By F. W. BURRIDGE, F.L.S.; with a Scientific Review
of the entire Genus, by J. G. BAKER, F.R.S., F.L.S. With
48 beautifully coloured plates. Super royal 8vo, 32s.

"Mr. Burrbridge has culled from various sources a large
amount of valuable or interesting information. . . . It is no
light book to be in any accessible form so large a series of
illustrations."—*Gardener's Chronicle*.

FLORAL PLATES from the FLORAL
MAGAZINE. Beautifully coloured, for Screens, Scrap-
books, Studies in Flowering paintings, &c. 6d. and 1s. each.
Lists of over 1000 varieties. One Stamp.

BOTANICAL PLATES from the BOTAN-
ICAL MAGAZINE. Beautifully-coloured Figures of
new and rare Plants. 6d. and 1s. each. Lists of nearly 3000
Types. One Stamp.

L. REEVE AND CO., 5, Henrietta Street, Covent Garden.

CATALOGUES RECEIVED.

W. SMITH & SON, Exchange Seed Warehouses, Aberdeen—
Seeds, Plants, &c.
C. R. SHILLING, Winchfield, Hants—Vegetable, Flower Seeds,
Plants, and Bulbs.
EDMONDSON BROTHERS, 10, Dim Street, Dublin—Vegetable,
Flower Seeds, &c.
R. NEAL, Trinity Road, Wandsworth—Flower, Vegetable,
Agricultural Seeds, Implements, &c.
ERNEST BENARY, Erfurt, Germany—Vegetables, Agricultural,
Flower, and other Seeds.
ARTHUR ROBINSON, Leadenhall Street, E.C.—Vegetables,
Flower, and Farm Seeds.
HARLAN P. KELLEY, Winville, North Carolina, U.S.A.—Native
Plants of the Southern Alleghany Mountains.
HAAGE & SCHMIDT, Erfurt—Vegetable and Flower Seeds,
and Plants.
JOHN HARRINGTON, Hertford—New and Select Seed, and
W. RUMSEY, Waltham Cross—Select Seeds for the Garden and
Farm.
THOMAS HORSMAN, Bradford—Choice Garden Seeds.
WILLIAM BULL, King's Road, Chelsea—Catalogue of Seeds.
HERB BROS., Penrith—Garden Seed, Gladioli, Marigolds, &c.
KEEL & SONS, Rosspell Park Nurseries, Norwood, S.E.—Seed
Catalogue.
B. L. COLEMAN, Salsburgh, Kent—Vegetable and Flower
Seeds, &c.
GEO. COULSON & SONS, Bath—Garden and Flower Seeds.
AGRICULTURAL AND HORTICULTURAL ASSOCIATION, Deptford,
E.C.—Vegetable and Flower Seeds.
HENRY ECKFORD, Wem, Salop—Sweet and Culinary Peas,
Vegetable and Flower Seeds.
ARMITAGE BROTHERS, Nottingham—Vegetable and Flower
Seeds.
ALEXANDER FISK YSON, Southampton—Flower and Veget-
able Seeds.
JOHN PERKINS & SONS, Market Square, Northampton—Veget-
able and Flower Seeds.

GARDENING APPOINTMENTS.

MR. J. WENLEY, formerly of Holybrook House, Southampton,
as Head Gardener to Captain SHAW-STORY, Elm Lodge,
Bursledon, Southampton.
MR. GEORGE COOK, formerly at Elkhington Hall, Louth, as
Gardener to R. BOTTERILL, Esq., Welton Manor, Louth,
Lincolnshire.
MR. W. CHISHOLM, as Head Gardener to J. H. SANDERS, Esq.,
Porter's Park, Sharncliffe, Herts.
MR. WAKEFIELD, as Head Gardener to C. A. BAAS, Esq.,
Round Hill House, Sydenham.
MR. YOUNG, as Head Gardener to Sir LEWIS CAVE, The Manor
House, Woodmansterne, Epsom.
MR. LEMAIR, as Head Gardener to W. NIVEN, Esq., Carswell
Manor, Frinton, Berks.
MR. JAS. THORPE, as Head Gardener to W. G. NELSON, Esq.,
Woodford Road, Snaresbrook, Essex.
MR. R. L. CANNING, for some time Gardener at Little Barford
House, St. Neots, Hunts, as Head Gardener to Captain F.
LEWIS, Phillips, Peasey, Garske, Romsey, South Wales.
MR. KING, late Gardener at Gleasch, Llandovery, Emsan-
worth, has been appointed Gardener and Bailiff to M.
JENKS, Esq., Canons Park, Edgware.
MR. ALFRED SHANT, formerly of St. Leonard's Hill, Dun-
fermline, N.B., as Head Gardener to Lord HENRY GOS-
VENER, Bulwick Park, Northants.

To Nurserymen.

WANTED, a PARTNERSHIP, in an
ESTABLISHED BUSINESS. Strictest investigation
on either side desired. New London preferred.—E. R., The
Pines, Attleborough, Norfolk.

WANTED, a WORKING PARTNER, with
about £75.—400 feet of Glass, 1 acre of Ground, in
suburb of London.—S. F., 41, Wellington Street, Strand, W.C.

WANTED, as PARTNER, a practical Man
for Cut Flower Trade, in a provincial town. Thorough
going concern. Income £250. HORTUS, *Gardener's*
Chronicle Office, 41, Wellington Street, Strand, W.C.

Cemetery Superintendent, St. Mary, Island, Irish.
THE BURIAL BOARD for this Parish
REQUIRE a SUPERINTENDENT and REGISTRAR for
their Cemetery at Finchley. Salary, £125 per annum, with
a residence. The person to be appointed must have had some
experience in the performance of similar duties, or be con-
versant with the laying out, planning, and drainage of a
cemetery, must be a fair penman, and give his whole time to the
duties of the office. No Candidate need apply who is above 45 years
of age.
Applications, enclosing not more than three testimonials, to
be sent to the Clerk on or before Monday, February 8 next.
By order of the Burial Board.

GEORGE WM. WOODFORD (Clerk).
Burial Board Offices, Vestry Hall, St. Mary, N., Jan. 22, 1892.

WANTED, in Devonshire, a HEAD WORK-
ING GARDENER, with five or six under him.—
Thoroughly experienced in Flowers, Kitchen, Fruit,
and Landscape Gardening. Age between 35 and 45. Married,
without family, or not exceeding two. Must have unexception-
able references. Address, stating previous situation, age,
of self, and family (if any), wages, and references, to M. L.
MARSTON, Roborough, South Devon.

WANTED, a GARDENER (indoors pre-
ferred) in a small good place. Must be a thoroughly
experienced and steady man, with full knowledge of con-
servatory, fruit, and kitchen gardening. Not be those able
to produce everything in season or under glass (if apply by
letter), stating age and full particulars.—MR. HUMPHREYS,
Holmesdale, New Gardens, Surrey.

WANTED, as GARDENER, a married man, who thoroughly understands Flower and Vegetable Gardening, and can take charge of Cow and Poultry. Wages, 25s., without Cottage.—Write R.G., May's Advertising Office, 162, Piccadilly, London.

WANTED, a reliable MAN for growing Plants and Out Flowers for Market. Must be a good wreath maker, quick and willing. Apply, stating full particulars, age, and wages required, to W. TROUGHTON, Nurseryman, Preston.

WANTED, as GARDENER, an industrious, sober, and good all-round man, to Manage a small compact place. Cottage on ground.—State age, family, wages, &c., by letter only, to A.Z., Ellenborough House, Roehampton.

WANTED, a really good SINGLE- HANDED GARDENER, in the suburbs, at once.—Apply by letter to Mr. WILLEY, 66, Ludgate Hill, E.C.

WANTED, a SINGLE-HANDED GAR- DENER, age about 30, who can Grow Tomatoes, Cucumbers, Flowers, and Pot Plants for Market. Only one that has been used to Growing for Market need apply, stating experience and wages required, to LUXTON BROS., Salisbury.

WANTED, as UNDER GARDENER, a strong and obliging young Man. Must have good character. Abstainer preferred.—Apply, THE GARDENS, Farnside, Child's Hill, London, N.W.

WANTED, an energetic MAN to undertake the Management and Work of a Small Nursery and Fruit grounds, about 4 acres, with 200 feet of glass. Applicants must have been used to Nursery and Market work. Part payment of percentage on the sales.—W. DALE, Hickmandias Nursery, Knockholt, Kent.

WANTED, a MAN, as MANAGER, for our Stall in Market.—Must have good knowledge of general Nursery Stock. Must be sober, and of good character. Wages, 40s. per week.—FOPE AND SONS, 120, Central Avenue, Market Hall, Birmingham.

To Gardeners out of Employment.
WANTED, a good MAN, to undertake alterations and after-management of medium-sized suburban garden for a Nurseryman. Send full particulars to FLORIST, Nutting & Sons, 100, Southwark Street, London, S.E.

WANTED, a thoroughly practical man as PROPAGATOR and GROWER for Market. One used to Cucumbers, Tomatoes, and Potatoes preferred. Apply, stating wages, to THOS. KNIGHT, Moss Side Nurseries, Ashton-under-Lyne.

WANTED, a young MAN, about 25, to Grow Cucumbers, Tomatoes, Plants, and Out Flowers for Market. To live indoors preferred. State wages, experience, &c., to P. W. JULYAN, Rectory Cottages, Rushden, Higham Ferrer's, Northamptonshire.

WANTED, as PROPAGATOR, for the Botanic Garden, Glasgow, a young MAN of good experience. Wages according to ability. Apply to ROBERT BULLEN, Curator.

WANTED, a young MAN, used to Growing Soft-wooded Plants.—Apply, stating age and wages required, to G. BENNETT, Florist, Hanwell, W.

WANTED, a young MAN, to Grow Soft- wooded Stuff, Tomatoes, &c., for Market. £1 per week, increasing according to abilities. In and Outdoors. Permanent.—CLARK, Seedsman, Derby.

WANTED, as FOREMAN, an energetic, smart, and honest man, where much of the produce is sold. Wages, 21s. per week, free lodgings, and perquisites. Must be a fair scholar.—Full particulars, stating age, experience, and where last employed, to DICKSON, BROWN, and TAIT, Seed Merchants, Manchester.

WANTED, in a Private Establishment, a FOREMAN for the Houses, well up in Fruit and Plant Growing.—State age, wages, and experience to J. EVANS, Melchett, Romsey, Hants.

WANTED, at ONCE, a young Man who thoroughly understands Chrysanthemums, Tree Carnations, and Tomatoes. No others need apply.—A. B., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a JOURNEYMAN, for Houses and, used to Grafting and Budding.—PRITCHARD AND SONS, Shrewsbury.

WANTED, a MARRIED COUPLE.—Man as GARDENER (two more kept); the Wife as LAUNDRESS. Every convenience for the Laundry in Gardeners' house.—Apply to Mrs. C. Long Ditton House, Long Ditton, Surrey.

WANTED, a young MAN, for Cut Flower work. Must be quick at Wreaths, Crowns, &c., and able to grow Plants and Cut Flowers for Market. State age, wages required, and full particulars, to FLORIST, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a young man for the Kitchen Garden and Lawn, and to take turn with Fires and Sunday duty. Must be active and willing. Wages, 18s., with board and vegetables.—Apply, giving full particulars, to A. TROTTE, Knowlton Court, Wingham, Dover.

WANTED, a young MAN, well experienced in Seed and Fruit Trade. Good Book-keeper preferred, and capable of taking Management.—Apply, with testimonials, salary expected, &c., to HARLEY AND SONS, Covent Garden Warehouse, Reform Street, Dundee.

WANTED, a young MAN, accustomed to MARKET WORK.—Must have good references.—Apply, stating wages required, to MARSHALL BROS. AND CO., Wholesale Florists, Barnham, Bognor.

WANTED, a young MAN, quick at Potting and General House work, with Market experience.—Age and full particulars to EDWIN HILLIER, Nurseries, Winchester.

WANTED.—YOUTH as INVOICE CLERK in a Nurseryman's office. Must have a knowledge of the trade and Apply, stating wages required, with references, to ACORN, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANT PLACES.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BALIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, The Vineyard and Nurseries, Garston, near Liverpool, wish to recommend to any Nobleman or Gentleman who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterspool, near Liverpool.—Full particulars on application to the Company.

Head Gardeners.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BALIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Standstead Park Nurseries, Forest Hill, London, S.E.

S. ANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS

Gardeners, Farm-Baliffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD); age 33.—J. E. MCCLAVE, eight years Head Gardener to B. Heywood Jones, Esq., Badworth Hall, Fonthot, is open to a re-engagement in a good establishment. Nineteen years' experience in all branches. Testimonials of the highest order.—Catsclough, Winsford, Cheshire.

GARDENER (HEAD); where three or four are kept.—Age 30; good experience in all branches of a first-class garden. Highest references.—F. H., Mr. Parsons, Pampford, Cambs.

GARDENER (HEAD).—Age 39, married, one boy. Good experience in the cultivation of Fruit, Flowers, and Vegetables, and the general requirements of a good establishment, where several under are employed. Excellent testimonials from each place previously filled.—W. S., 303, High Street, Acton, W.

GARDENER (HEAD), in a good establishment.—Age 33, single; understands the general routine of a good establishment, including Early and Late Forcing; also Horticultural Engineering. Good references.—D. E., The Gardens, Clarendon, Balham Hill, S.W.

GARDENER (HEAD).—Well up in Orchids, Vines, Store and Greenhouse Plants, Hardy Fruits, Vegetables, and Pleasure Grounds. Fourteen years in present situation; a death change of change. Accustomed to sing in choir; has two boys treble singers, both can read music well.—HORTUS, Mears Abby, Northampton.

GARDENER (HEAD), Scotch.—Age 42, married, no family; nearly ten years' good character from present employer. Has been in some of the best Gardens in Scotland and England. Is now open to re-engage to any Lady or Gentleman requiring a good all-round Gardener.—D. MACKAY, Maristow, Roborough, Devon; or Messrs. J. VEITCH AND SON, King's Road, Chelsea, London, S.W.

GARDENER (HEAD), where two or three are kept.—Age 25, married; ten years' experience in large establishments. Inside and Out. Good references of Abbot, &c., Mr. 15, Clifton Terrace, Ashville Road, Leytonstone, Essex.

GARDENER (Through, or HEAD).—Single. Trustworthy, intelligent, and thoroughly practical. Abstainer. High testimonials. Home Counties preferred.—J. H., 60, Gordon Place, Kensington.

GARDENER (HEAD).—Land and Woods, if required. Married. Upwards of twenty years' practical experience. Six years with present employer (Sir E. Buckley, Bart.). Can be well recommended.—S. BAILEY, Plas Gardens, Dinas Mawddwy, Merionethshire.

GARDENER (HEAD).—Age 46, married. Life experience in all branches, Land and Stock (fifteen years as Head). Excellent character and testimonials.—A. B., 3, Ferness Cottages, Stanley Road, East Sheen, Surrey.

GARDENER (HEAD).—Age 39; life experience; all branches, Land, Stock. Eleven years' Head. Good character and testimonials. Wife Dairy if required.—WINFIELD, Brook Glen, Redhill, Surrey.

GARDENER (HEAD WORKING).—Age 48, married, no incumbence. Twenty-four years' practical experience as Head Gardener. Sixteen years in last situation. Excellent character.—D. W. BAKER, Butleigh, Glastonbury, Somerset.

GARDENER (HEAD WORKING), where three or more are kept; married, no family; thoroughly experienced in all branches of gardening; five years in last situation, and fourteen years in previous ones.—C. SAYER, Barnley, Gildford.

GARDENER (HEAD WORKING).—Age 28. Fourteen years' practical experience in all branches. Excellent references and testimonials as to character and abilities.—GARDENER, Scutterdine, Mordiford, or, Hereford.

GARDENER (HEAD WORKING).—Age 42, no family; life experience, and thoroughly competent in all branches. Wife thorough laundress, if required. Near London preferred.—H. R., Gardener's Cottage, Wicken Rectory, Newport, Essex.

GARDENER (HEAD WORKING).—Thoroughly understands Vines, Peaches, Store and Greenhouse Plants, House and Table Decoration. Excellent character. Abstainer.—GARDENER, 99, Stadium Street, Ashburnham Road, Chelsea, S.W.

GARDENER (HEAD WORKING).—Age 33, married, one child; fourteen years' experience in good Gardens. Abstainer.—G. D., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING).—Age 26; well experienced in all kinds of Fruit Forcing, Store and Greenhouse Plants, Flower and Kitchen Gardens. Excellent testimonials. Eight years at Chuteworth. Present position, Fruit and Plant Foreman.—J. BESTWICK, The Wharf, Cromford, Derby.

GARDENER (HEAD WORKING).—Age 40, married, family. Thoroughly practical in all branches. Excellent references. Fifteen years' character from last situation.—S. ANGER, 29, Springfield Road, Chelmsford, Essex.

GARDENER (HEAD WORKING), where one or two others are kept. Age 23, married. Experienced in all branches. Good references.—A. HIBBS, The Gardens, Chilton Lodge, Hungerford.

GARDENER (HEAD WORKING), where three or four are kept.—Age 38, married, no children. Good reference. Address, stating wages, GARDENER, Bower Lodge, Havering, Romford.

GARDENER (HEAD WORKING).—A Gentleman, having sold his place, will be pleased to recommend his Head Gardener to any Lady or Gentleman in want of a thoroughly experienced Man in the Cultivation of Grapes, Peaches, Melons, Cucumbers, Tomatoes, Store and Greenhouse Plants, Orchids, and Chrysanthemums, Flower and Kitchen Gardens.—G. G., 11, Trinity Road, East Fanchley, London, N.

GARDENER (HEAD WORKING).—Age 32; married, no family; successful grower of Tomatoes, Grapes, Plants, &c. A thorough good all-round Gardener, both under Glass and Outdoors. Testimonials from past, and reference to present, employer.—GARDENER, The Lodge, Farnfield, Adlestree, Surrey.

GARDENER (HEAD WORKING).—Age 39, married; abstainer. Twenty-three years' experience with Grapes, Peaches, Melons, Cucumbers, Tomatoes, Mushrooms, Store and Greenhouse Plants, Flower and Kitchen Gardening, Early and Late Forcing. Good references. Please state particulars of place.—J., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING), where two or more are kept.—Fourteen years' experience in Fruits under Glass, Store and Greenhouse Plants, Flower and Kitchen Gardens. Excellent testimonials.—GARDENER, Eriwold, Epsbott.

GARDENER (HEAD WORKING).—Age 30. E. CLARKE, Canon Hall Gardens, Bursley, wishes to recommend his Foreman, A. Campin, to any Lady or Gentleman requiring a thorough practical Man. Fifteen years' experience in good places.

GARDENER (HEAD WORKING), where Surplus Produce is Disposed of.—Age 40, three children, youngest 10. Brought up to the profession. Thoroughly experienced in Growing Fruit, Flowers, and Vegetables, Inside and Out. Five years' character from present employer.—T. B., Redlands Gardens, Emsworth, Hants.

GARDENER (HEAD WORKING); age 36, married, three in family, youngest age six years.—EDWIN BECKETT, Gardener to H. H. Gibbs, Esq., M.P., can with the greatest confidence recommend through all the most successful Cultivators of Orchids and Chrysanthemums. Eleven years' excellent character.—The Gardens, Aldenham House, Elstree, Herts.

GARDENER (HEAD WORKING), where one or more are kept.—Age 25, married; life experience in all branches of Gardening. Highest testimonials.—S. B. West Mill, Buntingford, Herts.

GARDENER (GOOD SINGLE-HANDED, OR UNDER).—Age 28, single. A practical man seeks situation as above. Excellent character.—C. MASEN, Sydney Wharf, Bath.

GARDENER (GOOD SINGLE-HANDED, OR WHERE THE E AND R KEPT).—O. HANCOCK would be pleased to recommend his Foreman as above. Ten years' experience in good establishments. Married when suited.—The Gardens, Colbourne Park, near Andover, Hants, R.S.O.

GARDENER (GOOD SINGLE-HANDED).—Age 24. Eight years' experience in good gardens. Well recommended by present and previous employers.—J. H. The Gardens, Blackmoor House, Petersfield, Hants.

GARDENER (HEAD, OR GOOD SINGLE-HANDED).—Age 40, married, two children. Thoroughly good at all seasons. Hard-working, energetic, trustworthy. Two years' good character.—WOOD, Holmehorpe, Redhill.

GARDENER (HEAD, OR SINGLE-HANDED), married, no family; good all round man, with experience, first-class references from present and previous employers. P. DOIG, Swanland Manor Gardens, Borough, Yorks.

GARDENER.—Age 42, married, no income; thoroughly practical in all branches. Wife could undertake the duties of thorough Cook, Housekeeper, or Caretaker.—GARDNER, Railway Servants' Office, Derby.

GARDENER.—Age 45, married, energetic. Thoroughly practical, including Grapes, Peaches, and Potatoes. Hard-working, energetic. Good reasons for leaving. Highly recommended.—W. J. Brynall, Swansea, Wales.

GARDENER (SECOND).—Age 24; ten years' experience Inside and Out. Good references.—H. F. Lodge Gate, Kitzby Park, Highgate.

GARDENER (SECOND, OR HEAD) where another is kept.—Age 25. Seven years' experience Inside and Out. First-class references from present and previous situations. Leaving through place being let.—H. W. Bulwick, near Wansford.

GARDENER (UNDER), as, with a good Foreman, under Glass, or Inside and Out.—Age 23; eight years' experience Inside and Out. Height, 5 feet 9 inches. Abstainer.—J. COX, The Gardens, Malvern House, Sydenham.

GARDENER (UNDER).—Age 21; eight years' thorough good character. Four years in last situation. Left through breaking-up establishment.—S. REDSTONE, Hind Street, Bovey Tracey, Devon.

GARDENER (UNDER), Inside and Out, in a Gentleman's family.—Age 22. Case of leaving, through a change of establishment. First-class references from present and previous employers. Good references.—G. BURTON, Holwell Bury, Hitchin, Herts.

GARDENER (UNDER), Inside, or Inside and Out.—Age 23; eight years' experience in good gardens. Can be well recommended.—W. WEST, View Hollow Road, Wocwster.

GARDENER (UNDER).—Age 26; five years' character. Can be very well recommended.—A. R. Gordon Cottage, Gordon Road, Canterbury.

To Nurserymen

MANAGER OR TRAVELLER.—Thirty years' practical knowledge in leading Nurseries. Seven years in late position as Manager. First-class testimonials. Knows England, Scotland, and Ireland well.—H. O. The Vineyards, Garston, near Liverpool.

MANAGER.—Age 40, married; life experience in Growing large quantities of Fruit, Flowers, and Vegetables for Sale. Thoroughly versed in Management of Business. Five years in present position as Manager.—T. WILLS, Redland's Nursery, EmswORTH, Hants.

PROPAGATOR AND GROWER for Market.—Age 23. Twelve years' experience in Tomatoes, Cucumbers, Plants, Ferns, Roses, Balbs, Forcing, Wreaths, Bouquets, &c.—E. W., care of R. Cammille, Long Lane, Brighthelm, N.B.

GROWER.—Eleven years' experience in Growing Tea, Roses, Ferns, Choice Pot and Cut Stuff, Grapes, and Tomatoes. Good character.—F. I., Baltic Terrace, Portsmouth, Sussex.

FRUIT-GROWING.—A Gentleman wishes to recommend a young man, age 21, as WORKING INSTRUCTOR, or FOREMAN, in Fruit Growing, in Field and or Glass. His had four years' experience at the Crystal Palace in Landscapes Gardening, and two years at Swanley College in Fruit-growing. Salary £2 per week.—K. E. W., Post-Office, Igham, near Sevenoaks.

FOREMAN, Inside, where two or three are kept.—Mr. W. DAVIES would be pleased to recommend J. HUNTER as above. Abstainer. Wingfield Park Gardens, Peatrich, Derby.

FOREMAN (NURSERY), ROSE-GROWER OR PROPAGATOR. Good references. Age 31; married; disengaged middle of February. H. PEWTERESS, Fleet Road, Fleet, Hants.

FOREMAN, in the Houses, or SINGLE-HANDED, where there is Glass. Age 23; married when sold. Good character from present place.—W. G. WORKFOLD, Rose Cottage, Hasleby, near Warwick.

FOREMAN, age 29.—Mr. G. THOMSON, Gardener, Eassey, Ware, Herts, would like to recommend his Foreman, H. Carpenter, to any Gardener in want of a good man. Well experienced. Two years in present situation. Active. Abstainer.

To Nurserymen and Seedsmen.

FOREMAN.—Married. Sixteen years' practical experience in growing Cucumbers, Tomatoes, Rasas, Azaleas, Foliage Plants, Ferns, and soft-wooded stuff; also Cut flowers for Market. Good references. Five and a half years in present situation.—W. FENKIE, The Nurseries, Ammanford, R.S.O., South Wales.

FOREMAN, in a good establishment (INSIDE OR GENERAL).—Age 25. Good Plant and Fruit Grower. House and Table Decorations. Thorough experience. Good character.—S. JOUBEN, Writtle, Chelmsford.

FOREMAN (INSIDE, OR GENERAL), in a good establishment.—Age 29; fourteen years' experience in the general routine of Gardening; well up in Fruit and Flower Culture, including Orchids. Good character. Abstainer.—A. B. C. Mrs. Gibson, 1, Lindsay Terrace, Dumfries, N.B.

FOREMAN, to take charge of Houses.—Mr. GEO. BRADY, Knights, East Finchley, can confidently recommend J. Wells as above. Twelve years' general experience Inside and Out. Age 25. Abstainer. Two years in present place.

FOREMAN, in good Establishment.—Age 25; good practical experience in Store and Greenhouse Plants, also Chrysanthemums, Vines, Melons, Cucumbers, and Tomatoes.—A. H. Wadley, Garston, Aylesbury, Bucks.

FOREMAN, OR GROWER.—Age 26, married; Good experience in Hard and Soft Wood, Ferns, and Palms. Also good at Making-up.—MORRIS, 6, Capworth Street, Leyton.

FOREMAN (GENERAL); age 28.—Mr. GINSON, Lyme Park, Disley, Cheshire, would be pleased to recommend his Foreman, G. Howard, as above. Six years' experience as Foreman. Very energetic and trustworthy.

FOREMAN (GENERAL), or Inside.—Age 27; twelve years' experience. Good references. Scotch.—M. Mr. Bridge, Carville Hall, New Bridge, Brentford.

JOURNEYMAN, Inside, or Inside and Out.—Age 19; seven years' experience. Good character.—H. WARREN, 3, Plantation Cottages, Hextable, Kent.

JOURNEYMAN (FIRST) in the Houses in a good establishment.—Age 21. Two years' experience. Can be well recommended by previous and present employers.—W. PEARCE, London Road, Ascot, Berks.

JOURNEYMAN (FIRST), in the Houses, under Foreman, in a good Establishment.—Age 23; both preferred.—H. MIDDLETON, 53, The Grove, Ealing, W.

JOURNEYMAN in the Houses, or Inside and Out.—Age 21. Five years' experience. Good character.—G. H. The Gardens, Knowlton Court, Dover.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 30; six years' experience. Strong and active. Both preferred.—G. DOWNS, Barkham Gardens, Alton, Hants.

JOURNEYMAN, in the Houses.—Age 22; two years in last place. Can be well recommended.—K. HILL, The Gardens, Roslands, Woolston, Southampton.

JOURNEYMAN, in the Houses.—Age 23; seven years' experience Inside and Out. Good references from present and previous places.—J. HARDY, Wentworth Castle Gardens, Bursley, Yorks.

JOURNEYMAN (INSIDE).—Age 23. In good establishment; highly recommended. Eight years' experience. State wages, with Bothy, &c. to H. FRANCIS, The Gardens, Harrow Weald Park, Stanmore, Middlesex.

JOURNEYMAN, age 19.—W. COLE, Clewer Manor Gardens, Clewer, can with confidence recommend W. M. as above. Strong, active, and willing. Bothy preferred.

JOURNEYMAN, in the Houses; age 21.—T. LUTON, Gardener, Ospringe House, Faversham, can with confidence recommend Ernest Jouch as above for good establishment. Two and a half years in present situation.

JOURNEYMAN (SECOND OR THIRD), in Fruit or Plant Houses.—Age 22. Over seven years' experience. Fifteen months in last place. Bothy preferred. Total Abstainer.—G. CARTER, 69, Caversham Road, Reading, Berks.

JOURNEYMAN.—Age 23; experienced in Nursery and Private Establishments. Good references.—H. G. The Gardens' Chronicle Office, 41, Wellington Street, Strand, London, W.C.

JOURNEYMAN in the Houses.—Age 19. EDWIN BECKETT, gardener to H. H. Gibbs, M.P., will be pleased to recommend a young man as above, who has lived under him the last five years. Strong, active, and willing.—W. CHILDS, The Garden, Aldenham House, Elstree, Herts.

IMPROVER, in a general Market Nursery.—Age 18; three years' experience.—F. J. S., 59, The Chase, Clapham Common, S.W.

IMPROVER, under a good Gardener, Inside and Out.—Age 17; bothy preferred. Smart, active, and willing. Good character.—A. J. ELPHINSTONE, 116, Archway Road, Highgate, N.

IMPROVER, under a good Gardener (Inside and Out).—Age 18. Four years' experience. Good character. Bothy preferred.—W. EVERETT, Holyport, near Maidenhead, Berks.

IMPROVER.—I can highly recommend a strong willing youth (age 17). Three years here Indoors and Out. Bothy preferred.—GARDNER, Healey Hall, Ladbroke.

IMPROVER, in good establishment.—Age 23; fair knowledge Inside and Out. Five years' good character. Abstainer. Premium if required.—F. B., 53, Gayton Road, Hampstead, London, N.W.

GARDEN ASSISTANT, in a Private Establishment.—Kitchen Garden or Pleasure Grounds.—Age 19; desires to be useful and obliging. Can use Hand-Mowing Machine, Spade, &c. Strong, and healthy. Good references.—ROBERT BLOOMFIELD, Gillingham, near Beccles, Norfolk.

ASSISTANT.—Age 22; requires situation in Garden, Seed, and Bulb Warehouse. Four and a half years' experience with a leading Firm. Abstainer.—W. C. The Gardens' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO GENTLEMEN AND GARDENERS.—A young man, age 23, seeks re-engagement as UNDER GARDENER, where three or four are kept. Nine years' experience, and good references.—J. W. The Gardens' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS, &c.—A Clergyman highly recommends a sharp intelligent lad, aged 17, with two years' experience. To work under a Gardener where there is Glass, preferred.—T. W., Wyke Rectory, Weymouth.

TO GARDENERS, &c.—Situation wanted by a young Man (age 20) in the Houses. Total abstainer. Excellent character. Six years' experience Outside.—A. SLATER, Canal Terrace, Penkridge, Staffs.

TO GARDENERS' OR NURSERYMEN.—A respectable youth (age 16), requires a situation as IMPROVER.—J. WYTON, Felstead, Chelmsford.

TO NURSERYMEN, &c.—A young MAN wants situation as SHOP or WAREHOUSE ASSISTANT; willing to help in Nursery. Has had experience in Plant-houses, Bulb, Seed, and Flower Trade.—WHITE, 4, Vineyard Street, Garston, near Liverpool.

TO NURSERYMEN.—A young man seeks a situation as PALM and FERN GROWER. Age 21; well up in all branches. Wreaths, &c. Eight years in the trade. Good references.—W. BROWN, Ivy Cottage, Barnham, near Pognor, Sussex.

TO NURSERYMEN.—Wanted, by a young man (age 24), a situation in a Market Nursery. Well up in Ferns, Palms, and general Nursery Work.—J. O. The Gardens' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN, &c.—Engagement Wanted. Prize floral hand, knowledge of nursery staff, Bulbs, Seeds, Plants, and counter work; good window-dresser; could undertake books, correspondence, &c.; also travelling, management of business or branch preferred. Good appearance; age 24, single. P. H. B. The Gardens' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO FRUIT FARMERS AND GROWERS.—An appointment wanted as MANAGER, at Home or Abroad. Advertiser having thorough experience in Fruit Culture, and Management of Men. Age 25, married.—H. A. The Gardens' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO SEEDSMEN.—A Youth (age 16), just left school, is desirous of immediate employment in a London or Provincial Seed Establishment.—C. S., 25, Houston Road, Forest Hill, S.E.

TO MARKET GROWERS.—I shall be pleased to recommend a young man who has had nine years' experience in Market Work, where Grapes, Tomatoes, Cucumbers, Strawberries, Ferns, Balbs, Pelargoniums, Chrysanthemums, and all kinds of Bedding Plants, also Roses, Cut Blooms, &c., are grown for Market. He is honest, sober, industrious, and trustworthy; a capable workman for any of the above departments.—Apply for particulars to MANAGER, Calcut Gardens, Reading.

SHOPMAN.—Age 25; nine years' experience in Seed, Bulb, Plant, and Nursery Trade. Terms moderate. Good references.—The Gardens' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO FLORISTS.—A young Lady seeks situation as SECOND HAND. Good experience in Bouquets, Sprays, &c. First-class references.—A., 623, Harrow Road, W.

TO FLORISTS.—A Nurseryman's daughter desires re-engagement as ASSISTANT or IMPROVER; experienced; would assist with books if required.—S., 57, Hulse Road, Aston, Birmingham.

HOLLOWAY'S PILLS AND OINTMENT.—The most effectual Cure for Gout and Rheumatism. A frequent cause of these complaints is the inflammatory state of the blood, attended with bad digestion, indigestion, and great debility, showing the want of a proper circulation of the fluid, and the impurity of the blood greatly aggravated by the disorders. Holloway's Pills are of so purifying a nature, that a few doses taken in time are an effectual preventive against gout and rheumatism; and that anyone that has an attack of either, should use Holloway's Ointment also, the powerful properties of which, combined with the effects of the Pills, ensure a certain cure. The Ointment should be thoroughly rubbed into the parts affected at least twice a day, after they have been sufficiently fomented with warm water to open the pores to facilitate the introduction of the Ointment to the glands.

WOOD & SON

ARE CELEBRATED FOR THEIR

ORCHID PEAT (ALL BROWN, BRACKEN FIBRE),

HARD-WOOD and STOVE PLANTS exceptionally Good this Season
ALL SOUND TURVES.

LOAM (Surrey), Yellow Fibrous. Samples, with prices,
per return, Carriage Paid to any Station.



W. W. & S. ORCHID BASKETS,

OUR OWN MANUFACTURE. ALL SIZES.

SPECIAL OFFER FOR BONES,

£7 7s. 6d. per Ton on Rail, for Prompt Delivery.

TRY OUR PRIZE MANURES.

"**LE FRUITIER**," the Celebrated VINE MANURE.

"The Perfection of Plant Food."

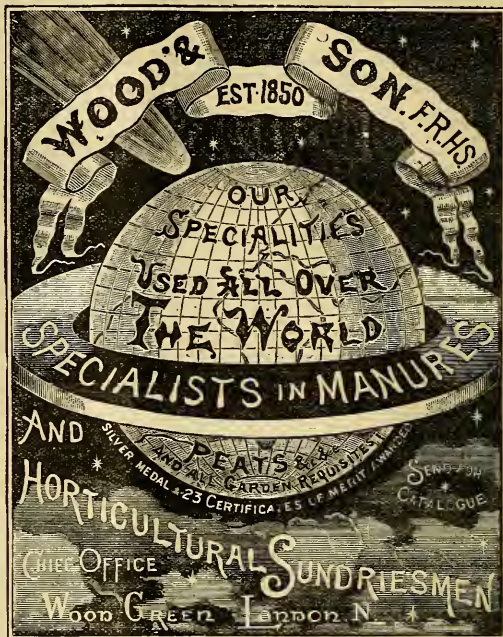
Tins, 1s. 3d.; 7 lb., 2s. 6d.; 1 cwt, 19s.

MATS, RAFFIA, TOBACCO-PAPER, CANES, &c.

BEFORE YOU BUY, inspect our NEW CATALOGUE.

SILVER MEDAL and 23 CERTIFICATES of MERIT awarded to—

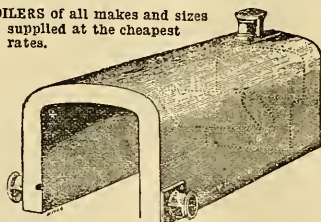
W. WOOD & SON, F.R.H.S. (ESTABLISHED 1850). Address **CHIEF OFFICE, WOOD GREEN, LONDON.**



BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

BOILERS of all makes and sizes
supplied at the cheapest
rates.

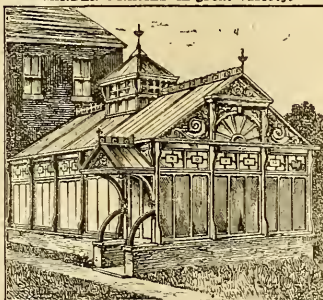


Our Celebrated
No. 4.—CHECK END BOILER.

To heat from 300 to 5000 feet of 4-inch piping.

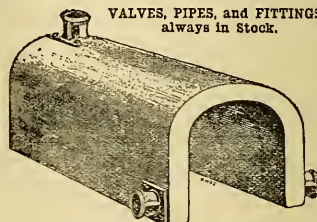
CATALOGUES of all our Manufactures, including HORTICULTURAL BUILDINGS and APPLIANCES, POULTRY, and KENNEL REQUISITES, &c., free on application.

GARDEN FRAMES in great variety.



ESTIMATES ON APPLICATION.

VALVES, PIPES, and FITTINGS
always in Stock.



No. 7.—PLAIN SADDLE BOILER.
To heat from 100 to 300 feet of 4-inch piping.

CUCUMBER-FRAME LIGHTS.

6 feet by 4 feet, painted and glazed ... 14s. 0d. each.
6 feet by 4 feet, unpainted and unglazed ... 5s. 6d. ..
Carriage paid on all Orders of 40s. value.

KEEP YOUR PIPES WARM.

FOSSIL MEAL PIPE LAGGING is the only effective means for preventing Loss of Heat, and Pipes Freezing. **CHEAPEST PACKING** existing. For Sample and Particulars, write to

MORITZ H. SCHÖNSTADT, 59, FARRINGDON ROAD, LONDON. E.C.

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, January 30, 1892. Agent for Manchester—JOHN HETWOOD.

ESTABLISHED 1841

No. 267.—VOL. XI. {THIRD
SERIES.}

SATURDAY, FEBRUARY 6, 1892.

No. 2667.

CONTENTS.

Apple crops, cur...	177	New or noteworthy	171
Aster farm at Erfurt	172	plants...	171
Bosks	175	Cassia Lichten-	171
Elements of agricul-	175	steinii...	171
ture...	175	Cypripedium Eschsch-	171
Illoker's Icones Planta-	175	rum	171
rum	175	Notes of the day...	175
Indische Heil und Nutz	175	Obituary...	175
pflanzen und der cul-	175	Rosa, S...	183
tur	175	Orchid Notes and Glean-	171
Brittle timber	182	ings...	171
Cale-borti, hardness of	181	Cattleya granulosa var.	171
Cattleya Percivaliana,	180	Schofieldiana...	171
Southgate var...	180	C. labiata var. Ludde-	171
Cedar of Gov...	180	maniana...	171
Celery, dwarf & tall	180	Laelia grand's var.	171
Oldroo culture in Corsica	182	tenebrosa...	171
Doke, watering...	172	Odontoglossum coronau-	171
Colonial notes	172	rum	171
"Ceylon"	172	O. phalaenopsis...	171
"Jamnia"	172	O. vexillarium...	171
"Trinidad"	172	Peas, a trio of...	181
Deron fruit farm, A	175	Pears, cracks and spots	175
Education in the villages,	175	oo...	180
technical	178	Pot plants for cut flowers	173
Education of gardeners,	178	Potato disease and the	173
technical	179	copper treatment...	173
Eucalyptus globulus,	180	Primula sinensis, some	178
flowering	180	notes on...	178
"Flora of Japan," illus-	178	Societies...	178
trations of...	178	Edinburgh Botanical	183
Florists' flowers, improve-	176	Hertford Horticultural	183
ment...	176	Mutual Improvement	178
Fruit—English versus	180	Liverpool Horticultural	183
Foreign...	177	Association...	183
Hedychium Gardenia-	177	National Rose...	176
rum	177	Regional Horticultural	169
Horticultural Exhibition,	177	Standards for Japanese	182
International...	177	Trees and Shrubs...	175
Myrsine and Tulip show	176	Corsean Pine...	174
at Hadden...	176	Diervilla hortensis...	174
Jasminum nudiflorum...	182	Week's work...	171
Law notes...	183	Hardy fruit garden...	175
Livestock in correlation,	179	Kitchen garden...	175
Australian species...	179	Orchid-houses...	175
Mistletoe...	179	Plants under glass...	171
	179	Zygopetalum Lindiana...	175

ILLUSTRATIONS.

Aster Farm at Erfurt	172	Supplement	175
Beijchium Gardenianum	177	Glasgow Botanic Garden (see	178
Supplement)	175	Jasminum nudiflorum	181
Zygopetalum Lindiana	175		178

CONFERENCE MICHAELMAS DAISIES.
including the beautiful new white, "J. Wood," shown by the Rev. C. Wolley Dod, at the Conference. Now offered, first time, by urgent request. LIST: Address—**HARDY PLANT CLUB, Kirkstall, Leeds.**

Prize Cob Filbert Trees.
Reading (the Rev. C. Wolley Dod), of Western Elms, is the largest grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good trees now ready for distribution.
Descriptive Price LIST, &c., on application.

STANDARD ROSES, 14s. per doz.; Bush
Roses, 6s. per doz.; best named Clematis, 14s. per doz.;
Ampelopsis Veitchii, 4s. per doz.; Variegated Ivy, 4s. per
doz.; Mrs. Sinkins Pine, 12s. per 100; Ferns, in pots, 15s.,
21s., and 45s. per 100. Catalogue, gratis and post-free.
H. ENGLISH, Clevedon Nurseries, Clevedon.

FOR SALE, several hundred ROSA RUGOSA,
3-year-old plants.
G. HOWES, Merton Gardens, Thetford.

LARCH, 1½ to 2½ and 3 to 4 ft. tall, clean,
healthy stuff, all twice transplanted; also SCOTCH,
various sizes. Prices on application to—
G. FROST, Nurseries, Bampton, Devon.

MAIDENHAIR FERNS—3000 for Sale, in
32s and 24-pots—dormant or started, good stuff.
J. SADDINGTON, Nurseryman, Richmond, Surrey.

SUTTON'S SUPERB CINERARIA.—

Unsurpassed by any other strain in cultivation.
Mr. CHARLES BLAIR, Gardener to Mrs. Malcolm, says:—
"Your strain of Cineraria is the finest I ever saw, both as
regards size and colour. I have several plants in flower which
I defy the artist to excel. They also possess a dwarf sturdy
habit, which is greatly in their favour."
Price of seed, 5s. and 2s. 6d. per packet, post-free.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

Amariyllis.
B. S. WILLIAMS AND SON are now offering
splendid Bulbs of this popular plant, at very low
prices, previous to re-potting, in consequence of want of room.
Named varieties from 42s. per dozen.
Seedlings 30s. per dozen.
Victoria and Paradise Nurseries, Upper Holloway, London, N.

VINES.—VINES.—VINES.

We hold a fine Stock of the above, both Fruiting and
Planting Canes. Names and prices sent on application.
**JOHN PRED AND SONS, Rouppell Park Nurseries, Norwood
Road, London, S.E.**

The Best Present for a Gardener. VINES and VINE CULTURE.

The most complete and exhaustive Treatise on
Grapes and their Culture ever published.
New Edition.
Price 5s., post-free, 5s. 8d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Descriptive CATALOGUES, post free, on application.

ELECTOR BROS., Oldsworth Nurseries, Chertsey, Surrey.

CHOICE GERMAN FLOWER AND VEGETABLE SEEDS.

FERD. ROEMER, Seed Grower, Quedlinburg, Germany.

ORCHIDS A SPECIALTY.

Please write for New Illustrated Price LIST of well-
established, healthy, and easily-grown plants.
W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate,
London, N. Nursery, Orchard Road.

Seed Potatoes.

H. AND F. SHARPE invite the attention of
the Seed Trade to their fine selected stocks of SEED
POTATOS, comprising all the varieties worthy of cultivation.
They have been grown expressly for Seed, and the samples
will be found very fine and well dressed. The prices will
compare favourably with those of other growers.
Seed Growing Establishment, Wisbech.

Hardy Fruits for the Midlands.

PROFITABLE FRUIT GROWING: What
to Plant, and How to Plant. New Edition up to date,
now ready, price 6d.—A. H. PEARSON, Chiswell, Notts.

BEGONIAS.—Davis's New, Rare, & Beautiful.

The Best BEGONIA CATALOGUE published.
Enumerates a magnificent and unsurpassed Collection, with
descriptions, illustrations, and much valuable information on
this now popular flower; post-free. The first grower to issue a
Begonia Catalogue was B. R. DAVIS, Begonia Grower, Yeovil
Nurseries, Yeovil, Somerset.

STANDARD TRAINED PEACHES AND NECTARINES, fine trees, bearing wood, fibrous roots.

WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

WANTED, SCOTCH FIR TREES, 12 feet

high; must be bushy, with good strong roots, and
have been moved previously. Apply—
J. A. 35, King William Street, London Bridge, E.C.

WANTED, COPIES OF THE GARDENERS' CHRONICLE.

No. 420, 1882; No. 455, 1883; No. 54, 1888;
No. 106, 1889; No. 159, 1890.
Also Vol. XV., January—June 1891. Bound or Unbound.
State price to PUBLISHER, 41, Wellington Street,
Strand, W.C.

CHRYSAANTHEMUMS.—CARTERS' ILLUSTRATED CATALOGUE OF THE FINEST COLLEC-

TION IN THE COUNTRY, including all the newest and best
varieties, now ready, gratis and post-free on application.—The
Queen's Seedsmen, 225 and 233, High Holborn, London, W.C.

CHRYSAANTHEMUMS.—Our Illustrated CATALOGUE will be sent free on application.

15 First Prizes. (10 this year.)
5 Gold Medals for Chrysanthemums.
REID AND BORNEMANN, Sydenham, London, S.E.

10,000 EUONYMUS (Green), bushy, well-

grown, 18 inches to 30 inches, 6s. to 15s. per
dozen. Less by the 1000. Cash with Order.
J. J. CLARK, Goldstone, West Brighton.

CUT FLOWERS.—ARTHUR L. BULLEN, Wholesale Flower Salesman and Grower, 73, Exeter St., Covent Garden, 271 and 274, Flower Market, Covent Garden, W.C., and Highfield Nursery, Bromley Common, Kent.

CONSIGNMENTS OF CHOICE FLOWERS SOLICITED.

W. D. BUNDAY, of Covent Garden Market, Commission, TOMATOES, GRAPES, &c. Good references.

37, Exeter Street, W.C., is open to SELL on
COMMISSION, TOMATOES, GRAPES, &c. Good references.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR The London Nursery, 4, Maida Vale, London, W.

RASPBERRY CANES.—Norwich Wonder, Carters' Prolific, also Fastolf, strong and well rooted, ALBERT BATH, Vine Court, Sevenoaks, Kent

STANDISH'S GARDENIAS.—Well-grown, clean and forward in flower—bud, 21s., 30s., and 42s. per dozen. Royal Nurseries, A & J.

CHRYSAANTHEMUMS.—Proved NOVEL- TIES IN EARLY JAPANESE, INCURVED, and other Select Varieties. New LIST free. Gave great satisfaction last year.

A. J. A. BRUCE, The Nurseries, Chorlton-cum-Hardy,
Manchester.

MYATT'S, 105s. per ton; VICTORS, 180s. per ton; MONA'S PRIDE, 150s. per ton, and every variety cheap, f.o.b. London, from 1 cwt. to 100 tons. Trade supplied. WM. WHITEHEAD COUSINS, Covent Garden Market, W.C.

CELOGYNE CRISTATA, well-grown, with bloom-spikes; also the CHATSWORTH, TRENTHAM, and MAXIMA VARIETIES, cheap.

TRUSTEES of the late J. STEVENSON, Timperley, Cheshire.

SEAKALE, extra strong for forcing, 7s. 6d. per 100; large Roots for Planting, 4s. 6d. per 100. Grown and offered by F. MILLER AND CO., 267, Fulham Road, London, S.W.; and Daffodil Farm, Spalding, Lincs.

150,000.—Special Offer of Kentias.

W. ICKTON has a large quantity of the
above to offer, very reasonable, at from 47 10s. per
1000. Thumbs, well-established, £10 per 1000; in 60's, well-
established, at £20 per 1000.
W. ICKTON, Putney, S.W.

TO ORCHID LOVERS.—"LE JOURNAL DES ORCHIDÉES," published in French, on the 1st and 15th of each month, 16 pages of text, by LUCIEN LINDEN, and 50 Selected Collaborateurs, furnishes the best information as to Culture.

Subscription, 8s. per annum, post-free, to be sent to the
Publisher, LUCIEN LINDEN, 100, Rue Belliard, Brussels.
Specimen Number sent Gratis on demand.

THOMSON'S IMPROVED VINE AND PLANT MANURE.—This valuable Manure is made only by us.

Every bag and tin has our name on it. To be had of all Nursery
and Seedsmen, and direct from us. 1 cwt. and over carriage
paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney.
WM. THOMSON AND SONS, Cloudfords, Galashiels, N.B.

J. WEEKS AND CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War De- partment, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tabular Bore.

King's Road, Chelsea, S.W.

SALES BY AUCTION.

THE
STAND HALL COLLECTION
OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.
HIGHLY IMPORTANT SALE
of the whole of this Renowned Collection,
Including many plants matchless in point of rarity, the whole
being unsurpassed for culture and condition.

MESSRS. PROTHEROE AND MORRIS are
favoured with instructions from the Executors of the
late Thomas Scatter, Esq., to SELL by AUCTION, early in
May, on the Premises, Stand Hall, Whitefield, near Man-
chester, the whole of the
CELEBRATED COLLECTION OF ESTABLISHED ORCHIDS.

Amongst the Gems may be mentioned the following:—

- | | |
|--------------------------------|------------------------------------|
| Angraecum sesquipedale | Dendrobium Phalaenopsis Stat- |
| Cattleya aurea | terianum |
| " " Statteriana, First- | " Scheiderianum |
| " " class Certificate | " Sanderianum |
| " " Acklandiae | " Venus |
| " " culmata, fine variety | Laelia Arnoldiana, rare |
| " " Gaskelliana | " Amesiana |
| " " intermedia alba, First- | " aneups Sanderiana |
| " " class Certificate | " " Schroederiae |
| " " Mendellii bella | " " Williamsii |
| " " Rex | " " Dawsonii |
| " " Skinnerii alba, grand | " " best white varieties |
| " " plants | " " elegans Turcici gigan- |
| " " Thorne, "Duke of Marl- | " " specimen |
| " " borough" | " " Turcici, varieties |
| " " Eccliae, unique | " " Statteriana, Award |
| " " Lemnais, grand va- | " " of Merit |
| " " rieties | " " Prescata, immense |
| " " Regina | " " plant |
| " " Johnsonii | " " Philbrickiana, nice |
| " " Plumosa, Award of | " " plant |
| " " Merit, R.H.S. | " " Stelzneriana |
| " " Walkeriana | " " Wolstenholmei |
| Cyclopogon cristata alba, fine | " " alba |
| " " plant | " " Blechnifera, won- |
| " " maxima, fine plant | " " derful plant |
| " " Lemnais, fine plant | " " Bluntii |
| " " Charlesworth var., fine | " " Dayana |
| " " plant | " " Gouldiana, First-class |
| " " Tretham var. | " " Certificate |
| Cymbidium eburneum | " " purpurata, varieties |
| " " Lowianum | " " Schroeder, large |
| Cypripedium argus Meenii | " " mass |
| " " Arburianum | " " Russelliana |
| " " Bartlettii | " " alba |
| " " Boissierianum | " " Williamsii |
| " " carolinense, extra fine | " " sulphurea |
| " " Charles Canham | " " tenebrosa |
| " " grande | " " Tressideriana, Award |
| " " Io grande | " " Merit, R.H.S. |
| " " Lathamianum | Lycaste Skinnerii alba gigan- |
| " " Morganiae Bufordiae, ex- | " " tum, grandest var. |
| " " plant | " " yet known |
| " " grand variety | " " alba, fine plants |
| " " Mooreanum | Odontoglossum crispum, the |
| " " Mastersianum | " " finest spotted and other |
| " " Mascellianum | " " varieties |
| " " Nobe | " " Andersonianum, grand |
| " " niveum album (true) | " " var. |
| " " onanthum superbum | " " Edwardii |
| " " Rothschidanium | " " Gleditsiana, Award of |
| " " Schroeder | " " Merit |
| " " Spectaculum magnificum | " " Jenningsianum |
| " " Salteri | " " Rossi, in grand var. |
| " " selligerium rubrum | " " Odontoglossum album |
| " " tessellatum porphyreum | " " Leopoldii |
| " " Tuxtilianum lepidum | " " ornithorhynchum album |
| " " vexillarium superbum | " " Sophronitis grandiflora, grand |
| " " Wallisii, very fine | " " varieties |
| " " plants | " " Vanda coerulea, finest var. |
| Dendrobium ainsworthii | " " Hookerii |
| " " roseum | " " alba |
| " " alba, wonderful speci- | " " Kimballiana |
| " " men, Award of Merit, | " " saavis |
| " " R.H.S. | " " tricolor |
| " " Falconeri giganteum | " " Tressideriana |
| " " Leechiana | " " Sanderianum, &c. |
| " " noble Cooksonii | |
| " " nobiliss | |
| " " giganteum | |

The Catalogues will be prepared in due course, and the
Auctioneers will be pleased to receive early applications.

Wednesday Next.—Palms, Ferns, Roses, Azaleas, &c.
MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, at their Central Sale Rooms, 67 and 68,
Cheapside, London, E.C., on WEDNESDAY NEXT,
February 10, at half-past 12 o'clock, 24 choice
MARCH LILIES, in pots, 40 lots of PLANTS from BELGIUM
including 100 AZALEA INDICA, FICUS ELASTICA, 150
PALMS in variety, GREENHOUSE FERNS, 1000 GLOXINIAS
and BEGONIAS, 100 lots of LILIES in variety, GLADIOLI
23 lots of Double and Single-named BEGONIAS, a very choice
strain; VALLOTTA PURPUREA, BEGONIA and CYCLOPS
20 SEEDLING AMARYLLIS from prize plants sent by a well-
known exhibitor—splendid strain; DAFFODILS, 100 lots of
DUTCH BULBS, comprising HYACINTHS, TULIPS, CRO-
CUSES, NARCISSUS, the surplus stock of a Seedsmans
RUSTIC FLOWER VASES, GARDEN SEEDS, &c.

On view morning of Sale, and Catalogues had.

Feltham, Middlesex.

TWO DAYS SALE of splendidly grown NURSERY STOCK.
Preliminary notice by order of Messrs. C. Lee & Son.

MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, on the Premises, Lee's Nursery,
Feltham, on TUESDAY and WEDNESDAY, March 1 and 2, a
large quantity of exceptionally well-grown NURSERY STOCK.

Monday Next.—Hardy Plants and Bulbs.
MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, at their Central Sale Rooms, 67 and 68,
Cheapside, London, E.C., on MONDAY NEXT, February 8,
at half-past 11 o'clock, many thousands of Hardy PE-
RENNALES, all being true to name: GLADIOLI, Pearl
TUBEROSES, NARCISSUS, a collection of CARNATIONS,
including a number of Continental varieties: HOLLYHOCKS,
PYRETHRUMS, PHLOXES, PEONIES, BEGONIAS, PASSI-
FLORAS, CLEMATIS, IVIES, CYPRIPEDIUM SPECTABILE,
Imported LILIES, DAHLIAS, pot roots, and a fine collection
of Home-grown LILIES, &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

LILIAM NEILGHERIENSE, L. WASHINGTONIANUM, L. HUMBOLDTII, L. COLCHICUM, HOME-GROWN LILIES in great variety, LILY OF THE VALLEY, CYPRIPEDIUM SPECABILE, L. THOPELII, CARNATIONS, TUBEROSES, GLADIOLI, BRECHLYNENSIS, choice BEGONIAS, and a large quantity of HARDY BULBS and PLANTS.

MESSRS. PROTHEROE AND MORRIS will
SELL the above by AUCTION, at their Rooms, 67 and 68,
Cheapside, London, E.C., on THURSDAY NEXT,
February 11, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next, February 12.

MESSRS. PROTHEROE AND MORRIS will
also SELL, by order of Mr. F. Sander, at their Rooms, 67
and 68, Cheapside, London, E.C., on FRIDAY NEXT, February 12, at half-past 12 o'clock.
A MAGNIFICENT LOT OF THE OLD CATTLEYA LABIATA,
Collected by order of Mr. Sander, from the mountains, woods,
and unexplored wildernesses of the labista country.

The Plants offered are in superb condition, and hardly any
two are alike in appearance, and, coming as they do, from
districts widely apart, we confidently expect a rich crop of
distinct and elegant forms to appear.

Great numbers of the plants are in sheath, and are strong,
vigorous and healthy. It has not been our privilege to offer
a select lot, and we recommend them to Buyers with the
utmost confidence.

On view morning of Sale, and Catalogues had.

Friday, February 12.

MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, by order of Mr. F. Sander, at their
Central Sale Rooms, 67 and 68, Cheapside, London,
E.C., on FRIDAY NEXT, February 12, at half-past 11 o'clock,
a grand importation, in extra fine order, of—
CATTLEYA IMPERIALIS,

collected in the same wilds from whence the grand forms that
appeared some three or four years since sprang.
Also a BURLINGTONIA, sp. n., a wonderful free-flowering
species. All the plants collected are offered.

In marvellous mosses—grand new Epidendrum.

SCHOMBURGKIA ERICSONII, new.

A grand importation of VANDA COKULEA,

in simply perfect condition.

A fine lot of MILTONIA WARSEWICZII, in finest
possible order.

Another grand batch of the famous
MONTANUM TYPE OF CYPRIPEDIUM INSIGNE.

A fine lot of a New ANGLOA or LYCASTE species from the old
Labista country. Flowers pure white, and 5 inches
across.

A new CYPOTOPIDIUM from the old Labista country.

A fine lot of ODONTOGLOSSUM WALLISII, ONCIDIUM
BARBATUM, DENDROBIIUM NOBILE, &c. &c.

Also 20 fine plants of CATTLEYA LAWRENCIANA, in
sheath.

On view morning of Sale, and Catalogues had.

Horsell Birch, near Woking, Surrey.

One mile from Woking Station, whence goods may be trans-
mitted to any part of the country.

TWO DAYS' SALE of unusually well-grown NURSERY
STOCK, in splendid condition for removal.

MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, on the Premises, the Nursery,
Horsell Birch, Woking, on TUESDAY and WEDNESDAY,
February 16 and 17, by order of Mr. A. Knowles, 2000
GREEN HOLLIES, 6 to 8 feet, well-rooted trees; Variegated
HOLLIES, 6 to 8 feet; Golden Yews, 10 to 12 feet; 2000
AUCUBAS, 1 to 4 feet, amongst them fine specimens; Golden
YEWs; 1200 FERTIL LAURELS, 2 to 4 feet; 1500 English
YEWs, 2 to 6 feet; 300 SPECIMEN SHURBS, 4 to 8 feet,
which will more than double the number of 2000
MANETTI STOCKS; a quantity of STANDARD ORNAMENTAL
TREES; and a large number of RHODODENDRONS,
BERBERIS, CUPRESSUS and other Stock.

May be viewed, Catalogues had, the Premises and of the
Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

Wanstead Flats.

CLEARANCE SALE of beautifully grown NURSERY STOCK,
the last being made for the making.

IMPORTANT TO FRUIT TREE GROWERS, NURSERYMEN,
and OTHERS.

MESSRS. PROTHEROE AND MORRIS are
instructed by Mr. T. East, to SELL by AUCTION, on the
Premises, the Wanstead Nurseries, Wanstead Flats, Essex, about
a mile from Leytonstone, 2000 Pyramid Cherries and quantities of
other Fruit Trees, 2000 choice Dwarf Roses, in 44 varieties; 9000
Limes, Planes, Poplars, and other Standard Trees; 4500 Ber-
beris, 3000 Aucubas, 1500 English Yews, 2000 Green Hollies,
3000 Rhododendrons, 2000 Pyramidal Cherries, and quantities of
Evergreens and Conifers, all in capital condition for removal.

May be viewed, Catalogues may be obtained on the Pre-
mises of the Auctioneers and Valuers, 67 and 68, Cheapside,
London, E.C., and Leytonstone.

By order of Messrs. G. & W. Steel, in consequence of the
death of the Senior Partner, and the intention of the
Vendor to relinquish the Business, SALE of the SECOND
PORTION of the well-grown NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS are
instructed to SELL by AUCTION, on the Premises, the
Common and Gasfield Nurseries, Richmond, Surrey, on TUES-
DAY and WEDNESDAY, February 23 and 24, the SECOND
PORTION of the well-grown NURSERY STOCK. Fuller
particulars will appear next week.

N.B.—The LEASE of the HOME NURSERY, and the
GOODWILL of the Old-established Business, is for Sale by
Private Treaty. Particulars may be had of the Auctioneers.

Chesterfield

SALE of SURPLUS NURSERY STOCK, the land being
required by new line of Railway.

MESSRS. PROTHEROE AND MORRIS, will
SELL by AUCTION, on the premises, the Nurseries,
Ashtree Road, Chesterfield, on WEDNESDAY, February 23rd and 24th, by order of Mr. R. W. Proctor, a large
assortment of GENERAL NURSERY STOCK, consisting of
Ornamental Evergreens, Deciduous Trees, Shrubs, and
Fruit Trees, a large quantity of Amalhas, Privet Ovalifolium,
Hollies, Yews, Limes, Chestnuts, &c.

May be viewed. Catalogues may be had on the premises and of
the Auctioneers, 47 and 68, Cheapside, London, E.C., and
Leytonstone.

Roehampton.—Preliminary Notice.

MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, on the Premises, Devonshire
House, Roehampton Lane, on THURSDAY, February 25, 1892,
the remaining portion of the noted COLLECTION of the
STOVE and GREENHOUSE PLANTS, formed by the late
D. B. Clifton.

Further particulars will appear next week.

Havant, Expiration of Lease.

The THIRD and FINAL PORTION of the NURSERY STOCK
on the Lensehold land, and the first portion on the Free-
hold land, by order of Messrs. Ewing & Co., who are reli-
quishing the business.

MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, on the premises, the Sea View
Nurseries, Havant, on Thursday, March 3, 1892, a large
quantity of well-grown NURSERY STOCK.

The PRECISE QUANTITY to be DISPOSED OF.

Particulars of the Auctioneers.

Preliminary Notice.

MESSRS. PROTHEROE AND MORRIS beg
to announce that they have received instructions from
Messrs. Charlesworth, Shuttleworth & Co., Heston, Bradford,
and 213, Park Road, Clapham, S.W., to OFFER by AUCTION,
at their Central Sale Rooms, on FRIDAY, February 19, a mar-
vellous consignment of—

CATTLEYA LAWRENCIANA,

CYPRIPEDIUM LINDELEYANUM, and many rare species just
received in excellent condition, also—

2000 ODONTOGLOSSUM CRISPUM, best Pacheco Strain.

For full particulars see large advertisement next week.

Wednesday and Saturday Next.

1000 Choice named and well-grown Standard and Dwarf ROSES,
1000 Standard, Dwarf, and Pyramid FRUIT
TREES, a large COLLECTION of BORDER PLANTS, STOVE
and GREENHOUSE PLANTS, Home-grown LILiums,
an importation of 1000 from Japan, 350,000 Pearl and
South African TUBEROSES, AMARYLLIS, PALM
SEEDS, &c.

MR. J. C. STEVENS will SELL the above
at his Auction, at his Great Rooms, 35, King Street,
London, on WEDNESDAY and SATURDAY NEXT,
February 10 and 12, at half-past 12 o'clock precisely each day.

On view mornings of Sale, and Catalogues had.

THOMAS B. JAMES (many years with
Protheroe & Morris) holds WEEKLY SALES at his
Rooms, 12, Bull Ring, Birmingham, of BULBS, PLANTS,
NURSERY STOCK, &c., every WEDNESDAY and FRIDAY, at
4.30 P.M. Sales of choice Cut Flowers. Fresh Entries invited,
Account Sales and cheques daily. Empty and labels found.

Matlock Bank Nurseries.

MESSRS. ELSE AND SON are instructed to
SELL by AUCTION (Without Reserve), on TUESDAY,
March 1, and following day (if necessary), on the above
grounds, an assortment of NURSERY STOCK, including
upwards of 100,000 Transplanted Rhododendrons, in sizes up
to 2 feet. Also Special Lots of Cupressus, Retinosporas, &c., in
some 1000 to 1500. Full particulars of which Catalogue
of particulars may be had free on application to
Messrs. ELSE AND SON, Auctioneers, &c., Matlock, Derbyshire.

MIDLAND COUNTIES.—TO BE SOLD

(Folio 7561), in an important town, an old-established
General NURSERY BUSINESS. Long Lease. Low rental.
Capital required, about £2500.

Apply to PROTHEROE AND MORRIS, Auction and Estate
Officers, 67 and 68, Cheapside, London, E.C.

KENT.—In the best District.—TO BE SOLD,

a compact FREEHOLD NURSERY, about 4 Acres of
Ground. Several modern Greenhouses, specially adapted for
Growing Fruit and Cut Flowers. Splendid opportunity.
Full particulars of PROTHEROE AND MORRIS, Estate
Officers, 67 and 68, Cheapside, E.C.

To Market and Cut Flower Growers. (Folio 7569.)

LONDON DISTRICT.—TO BE LET, either

as a whole or in two portions, a Large MARKET
NURSERY, containing about 5 Acres, four being covered with
glass. A Lease for 21 years will be granted. Only small
Stock planted out to be taken, remainder optional.
Full particulars of Messrs. PROTHEROE AND MORRIS,
67 and 68, Cheapside, London, E.C.

TO LET, A MARKET GARDEN AND DAIRY, within ten minutes' walk of Eton College, twenty to Windsor, where a large business in Fruit and Flowers has been done; containing Jewelling-House, Washroom and Forcing Houses, Show-House, and two large Green-Houses, stocked with Vines and Fruit Trees, a large Range of Pits, Stable, Barn, Dairy, Poultry-House, and Piggeries.

A Lease would be given to a Gentleman for extensions, to make it a larger residence, if required.

Enquire of Mr. MARTIN, Castle View, Ragstone Road, Slough.

TO BE SOLD, or a PARTNER may be ACCEPTED, in a Compact NURSERY and FLORISTS' SHOP, all Glass, near Covent Garden. This is a good chance for a pushing young man.

W. P., 73, Mordant Street, Stockwell, S.W.

South Coast.

16 ACRES of MATURED GARDEN.—20 Green and Vine-houses, 30 to 300 feet; 2 Cottages. Will pay well, to a valuer.

EDLIDGE, 2, Western Parade, Southsea.

SMALL NURSERIES, adjoining first-class junction on Crewe, Shrewsbury, Chester, and Cambrian Railways, containing about 2 acres of excellent land, part old turf, other part recently broken up. Three glass houses, plenty of water, town and pump. Good house and out-offices; lock-up coach-house, large room over, stable and loft, and large potting-shed. Immediate possession. Apply to RICHARD HUGHES, Ash Wood, Whitchurch, Salop.

To Market Gardeners.—Mortlake.

FRUIT and VEGETABLE GARDEN, of 4 or 5 acres, TO LET on LEASE, situated between Mortlake and Richmond. For particulars apply to Messrs. UPTON and BRITTON, Solicitors, 51, Lincoln's Inn Fields, W.C.

TO LET or SELL, on easy terms, 500 feet of GLASS, thoroughly heated, newly built, and Two Acres of NURSERY GROUND, 7 miles from Covent Garden.

T. C., 7, Lombard Road, Charlton, Kent.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Edeux, so faithfully illustrated in this journal of November 21, executed by FULHAM and SON, 50, Finsbury Square, London, E.C., and Buxton House, Herby. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE and MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Chesapeake, London, E.C.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have an immense stock of

ORCHIDS,

Both Established and Semi-Established, and they are constantly receiving

IMPORTATIONS

from various parts of the world.

INSPECTION IS VERY EARNESTLY INVITED.

The Company's Prices are all fixed as low as possible, with the view of inducing liberal Orders.

PRICED and DESCRIPTIVE CATALOGUE

Post-free on Application to the Company.

THE VINEYARD and NURSERIES, CARSTON, NEAR LIVERPOOL.

FOR ORCHIDS, and GARDENERS to Grow Them, apply to SANDERS, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

STANDISH'S RHODODENDRONS.—Choiest varieties, well-budded plants, 24s., 39s., and 42s., per dozen. Well-rooted and Bushy by POSTICUS of all sizes. Price per 100 or 1000 on application.

Royal Nurseries, Ascot.

LOVEL'S YORKSHIRE STRAWBERRIES.

—We offer for Cash, good sorts in nice plants, carriage paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample Dozen, ed. Descriptive List free.

W. LOVEL and SON, Strawberry Growers, Driffield.

BEGONIA SEED.—Sow now.—Box's strain is best and cheapest. Single, 1s., 2s., 6d., and 5s.; Double, 1s. 6d., 2s. 6d., and 5s. per packet. TUBERS also. Special List apply to W. N. WHITE and CO., Ltd., Covent Garden, London, W.C.

JOHN K. BOX (for 10 years Lain's sole Partner), Begonia Grower, Croydon.

Seed Potatoes.—Seed Potatoes.

MYATT'S PROLIFIC, the earliest of all Kidneys, which every one with early land should grow. Potatoes dug in July and August are always worth 100 per cent. more than later sorts. Price, 120s. per ton, grown in Lincolnshire.

MAGNUM BONUMS, later kind, for main crop. Price, 70s. per ton, grown in Lincolnshire.

Apply to W. N. WHITE and CO., Ltd., Covent Garden, London, W.C.

DOBBISS' CATALOGUE and COMPETITORS' GUIDE for 1892.—5th Annual Edition, 160 pages, illustrated. Described by one of the greatest authorities in England as "the most useful list published in the trade." Now ready, Gratis to all who apply for it and enclose 3d. to cover postage.—DOBBISS and CO., Seed Growers and Florists, Rothsay, Scotland.

ROSES. ROSES.

12 acres of Roses, 100,000 magnificent plants to select from, 22 Choice Standards, 21s.; 24 Half-Standards, 21s.; 12 Standards, 12s. 6d.; 12 Half-Standards, 10s. 6d.; 50 Choice Dwarfs, 10s. 6d.; 24 Choice dwarf Teas and Noisettes, 12s. 6d.; 12 choice climbing, 8s.; 12 beautiful Teas and Noisettes, 9s.; 6 lovely rambled Roses, 4s. 6d.; 6 Marchal Nels, 4s. 6d.; 6 Gloire de Dijons, 4s.; 6 choice Moss Roses, 3s. 6d.; 6 Old Cabbage Roses, 3s. 6d.; 6 Old-fashioned Roses, 3s. 6d.; 6 common Monthly Roses, 3s.; 6 pink Monthly Roses, 3s. 6d.; 6 white Monthly Roses, 3s. 6d.; 6 pink growing Climbing Roses, 2s. 6d.; 12 Sweet Briars, 3s. My selection, cash with order. Thousands of Testimonials. Catalogues free.

JAMES WALTERS, Rose Grower, Exeter.

"GOOD THINGS" from HARTLAND, Cork, for 1892.—AURICULA, Empress of India, try it for colour, which is deep indigo, magnificent, 2s. 6d. per packet. COSMUS bipinnatifidus, White Pearl, from America, beautiful, 6d. per packet. POLY, Snowdrift, double fringed bloom, like balls of cut tissue paper; thousands of packets now in circulation through a famous London wholesale firm, 1s. per packet. PHLOX Drummondii grandiflora, mixture, the finest in Europe; see coloured plate in Garden, from specimens grown in Hartland's unique mixture, 6d. and 1s. per pkt. BROCCOLI, April Queen (Hartland), the finest and purest variety in any part of Europe, 1s. per packet. SUNFLOWER, Hartland's Soleil d'or, plants, 1s. each, 7s. 6d. per dozen, post free.—WM. MAYNARD, HARTLAND, Seedsmen and Florist, 24, Patrick Street, Cork. "Year Book," for 1892, now ready, kindly write for it.

BEGONIAS A SPECIALITY.—Awarded

Four Gold Medals, and Gold Cup, and all First Prizes, Seed saved from Prize plants. Our Begonia Seed and Bulbs eclipse all previous years. Choicest mixed, single or double varieties, 1s., 2s. 6d., and 5s. per packet. Collections (Seed)—12, 12 named varieties, separate, 5s. 6d.; 6 ditto, 3s. Tubers, named singles, from 12s. to 42s. per dozen; unnamed seedlings, 12s. to 21s. per dozen; bedding, choicest, 4s., 5s., 6s., and 8s. per dozen; choicest named doubles, from 42s. per doz.; unnamed, choicest, 12s. to 30s. per dozen; choicest mixed, for bedding, 9s. and 12s. per dozen. Catalogues gratis.

JOHN LAING and SONS, Begonia Growers, &c., Forest Hill, London.

Seeds.—Carriage Paid.—Seeds.

DICKSON and ROBINSON'S DESCRIPTIVE CATALOGUE for 1892. Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOES, MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application.

COLLECTIONS OF VEGETABLE SEEDS, from 5s. to 81s. COLLECTIONS OF FLOWER SEEDS, from 2s. 6d. to 8s.

Seed Warehouse, 12, Old Millgate, Manchester.

PETER LAWSON and SON, LIMITED,

WHOLESALE SEED GROWERS and MERCHANTS, EDINBURGH.

have posted their ANNUAL CATALOGUE of VEGETABLE and FLOWER SEEDS to their Customers; if not received in any case, a copy will be posted upon application.

The ANNUAL CATALOGUE of AGRICULTURAL SEEDS will be published later on, meanwhile special offers will be made when requested.

Many Acres of Lilies of the Valley!

T. J. JANNACH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, quality, unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. J. JANNACH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

WANTED.

To PURCHASE, IMMEDIATELY, in any quantity, from 1 lb. to 1 cwt., good

SWEET PEA SEED,

In Mixed and Separate Colours. State price, and quantity to offer, to—

PITCBER & MANDA, The United States Nurseries, HEXTABLE, SWANLEY, KENT.

STANDARD ROSES.—All leading kinds, good stuff, £1 to £3 10s. per 100, to clear at once.

JOHN NEWMAN, Stratford, San, Beds.

FOR SALE, a handsome pair of CYCAS REVOLUTA PALMS, stands 2 feet, with 20 to 26 leaves quite clean, Price moderate.

R. FOULGER, Holly Bank Nurseries, Potter's Bar.

Sharpe's Victor Potatoes.

W. W. JOHNSON and SON, SEED GROWERS and MERCHANTS, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

ROSES! ROSES! ROSES!—Plant now, 100 strong dwarf, H.P. Roses for 27s. 6d.; or £12 10s. per 1000. The finest in the Trade.

Send for Sample Dozen, 5s. Cash with Order.

CATALOGUES, free on application.

C. H. GORRINGE, Roslands Nursery, Eastbourne.

THUJA LOBBII.—50,000 propagated yearly; adapted to all soils and situations; of vigorous growth. Wood of finest quality, not subject to spring or autumn frosts, 10 to 12 inch, 40s. per 1000; 12 to 15 inch, 50s. per 1000; 15 to 18 inch, 60s. per 1000. All sizes to 8 feet.

GARLIES MITCHELL, Nurseryman, Staxoaur.

ASPARAGUS, of fine quality—for forcing and planting; 2-yr. old, 2s. 3d. per 100; 3-yr. old, good roots, 2s. per 100; ditto, selected, 4s. per 100; 6d. per 100 less for quantities of 1000 and upwards. For forcing, 4-yr. old, 5s. per 100; 5-yr. old, 6s. per 100; 6-yr. old, 7s. per 100; ditto selected, 12s. 6d. per 100; 6-yr. old, extra fine, 15s. per 100. Cash with order. My Asparagus always makes top price at Covent Garden.

Read the following unsolicited testimonial:—"Please send me another 200 of 5-yr. old Asparagus Roots. I may say that the last 200 were the best lot of forcing roots I ever bought, and my employer says the quality is excellent.—C. H. PERKINS, The Gardens, Milton, Abingdon, Oxford."

J. J. CLARK, Market Gardener, Goldstone, Brighton.

BOX EDGING, for Sale, 3s. 6d. per yard, carriage paid. Send for sample.

W. S. A. C. R. Y., Stanmore, Middlesex.

LAPAGERIA ALBA.—Healthy, well-rooted plants, in pots, single shoots, 5 to 6 feet long, 7s. 6d. each; stronger plants, 10s. 6d. each.

THOS. CREPS and SON, Tunbridge Wells Nurseries, Kent.

SCARLET RUNNER BEANS, 40 bushels, 9s. per bushel; 20 bushels, over 1-yr. Beans, 5s. per bushel. FRED. DEEKS, Little Coggeshall, Essex.

Thirty-seventh issue.

W. THOMPSON, SEEDSMAN, Tavern Street, Ipswich, begs to announce that the SUPPLEMENT to his CATALOGUE of FLOWER SEEDS for the present season is now ready, and has been forwarded to all his Patrons. Will be sent post free with the general catalogue, to any address. Both include many Rare and Choice Seeds, and at moderate prices.

CHRYSANTHEMUM Lady Lawrence, best White, for Market Work. Young plants, 15s. per 10, for cash with order.—JOHN HORSEFIELD, Nurseryman, Hampton-on-Thames.

ALL LOVERS, COLLECTORS, GROWERS, and PLANTERS of HARDY FLOWERS, should send for particulars of—
THE HARDY PLANT CLUB, Kirkstall, Leeds.

FOR SALE, giving up FLOUR, 1000 STRAW-BERRIES, of lending sorts; good crowns.

Also 100 DOUBLE PRIMULAS, best sorts, fit for present decoration; and

200 LADY PLYMOUTH GERANIUMS, last spring struck.

WHAT OFFERS?

F. LEE, Lynford, Mundford, R. S. O.

Now is the Time to Plant

PEONIES and DELPHINIUMS, the two noblest of Hardy Summer and Autumn-blooming Flowers; superb in variety, form, and colouring. Priced Lists in KELWAY'S MANUAL, 1s., post-free (deducted from first order); gratis to former customers.

KELWAY and SON, Langport, Somerset.

BUNYARD'S Exhibition BROAD BEAN (true), gigantic well-filled pods, 1s. 6d. per qt., post free. Grown and offered by F. MILLER and CO., 267, Fulham Road, London, S.W.; and Defford Farm, Spalding, Lincs.

Trade Offer of Large Palms.

W. ITCOTON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliate Plants. Lowest Prices quoted on application.

W. ITCOTON, Putney, S.W.

Vegetable and Agricultural Seeds.

H. and F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

WM. PAUL AND SON respectfully invite inspection of the following TREES and SHRUBS, now on sale. Prices (on application) very reasonable, and quality unexceptionable as to roots, tops, and stems.

BEECH, purple, best variety	12 to 18 feet.
common	12 feet.
BIRCH, Silver and others	12 to 14 feet.
ELMS, four sorts	12 to 18 feet.
LABURNUMS	8 to 10 feet.
LIMES	8 to 12 feet.
MOUNTAIN ASH	12 to 18 feet.
NORWAY MAPLES	12 to 18 feet.
PLAINS	12 to 18 feet.
POPLARS, six sorts	12 to 18 feet.
SYCAMORE	12 to 18 feet.
THORNs, Frail's Double Scarlet	12 to 14 feet.
(The finest Trees in the Trade.)	
FLOWERING SHRUBS, various	4 to 5 feet.
ARBOR-VITÆ, American	6 feet.
AUCUBAS	3 to 4½ feet.
BOX of sorts	3 to 5 feet.
CEDRUS ATLANTICA	5 to 10 feet.
DEODARA	8 to 12 feet.
CUPRESSUS LAWSONIANA	6 to 7 feet.
HOLLY, Variegated	6 to 12 feet.
Green, named sorts	6 to 12 feet.
FIR, Scotch	8 to 9 feet.
Austrian	3 to 8 feet.
LAURELS	3 to 7 feet.
OSMANTHUS	2 to 4 feet.
PICEA PINSAPO	6 to 8 feet.
RHODODENDRON PONTICUM, off loam	2 to 4 feet.
Hybrid	4 to 4 feet.
Named sorts	2 to 4 feet.
YEWs, Common, and others	3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and Pyramids.
APPLES and PEARS, Horizontal-trained.
CHERRIES and PLUMS, Fan-trained.
ASPARAGUS for Forcing.

PAULS' NURSERIES, WALTHAM CROSS.
South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station,
Great Eastern Railway.

FERNS A SPECIALITY
The finest & most interesting Collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy Exotic & British
EVERY ONE interested in FERNS SHOULD
SEND FOR OUR partially descriptive.
CATALOGUE FREE ON APPLICATION.
also our ILLUSTRATED CATALOGUE No. 21.
Price 1/6 post free.
W. & J. BIRKENHEAD
FERN NURSERY SALE-MANCHESTER

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow.
174 ACRES IN STOCK.
See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Sells.

ROSES. Hundreds of Thousands.
BUSHES, Packing and Carriage Free for Cash with Order.
8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.
ORNAMENTAL TREES, 91 ACRES.
4 ACRES OF GLASS.

CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS! VEGETABLE, FLOWER, and FARM.
DESCRIPTIVE LIST, FREE.
RICHARD SMITH & CO., WORCESTER.

FOREST TREES.—Alders, 2 to 3 feet, 16s. per 1000; Ash, 3-yr., 2s. 6d. per 1000; 1½ to 2 feet, 13s. per 1000; 2 to 3 feet, 16s. per 1000; 3 to 4 feet, 20s. per 1000; Ash, Mountain, 3 to 4 feet, 21s. per 1000; Beech, 2 to 2½ feet, 22s. per 1000; 4 to 5 feet, 40s. per 1000; Chestnut, Horse, 2 feet, 16s. per 1000; Spanish C., 1½ to 2½ feet, 16s. per 1000; Elm Wych, 2 to 2½ feet, 16s. per 1000; Larch, 12 to 18 inch, 14s. per 1000; 1½ to 2 feet, 20s. per 1000; 2 to 2½ feet, 24s. per 1000; Spruce Fir, 1½ to 2 feet, 14s. per 1000; Scotch Fir, 2-yr., 1s. 10s. per 1000; 2 feet, 20s. per 1000; Hazels, 1½ to 3 feet, 20s. per 1000; Hornbeam, 2 to 3 feet, 16s. per 1000; Oak, English, 1½ feet, 12s. per 1000; 2 feet, 14s. per 1000; 2½ to 3 feet, 18s. per 1000; Privets, Oval, 1½ to 2 feet, 30s. per 1000; Privets, Common, 1½ feet, 12s. per 1000; Sycamores, 1½ to 2 feet, 12s. per 1000; 4 to 5 feet, 40s. per 1000; Thorns, 2 feet, 10s. per 1000; 2½ feet, 12s. per 1000; 3 feet, 15s. per 1000; 3 to 4 feet, 17s. per 1000.

GARLIES MITCHELL, Nurseryman, Stranraer.

THE NEW FORCING LETTUCE, CARTERS' HARBINGER,



Supplies a want long felt.

Distinct and Delicious.

Price in Sealed Packets, 2 6 & 5/- each, post-free.

Seedsmen by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales.

237 HIGH HOLBORN, LONDON

TRADE OFFER OF PALMS.

COCOS Weddelliana, in thumbs ... at 20s. per 100.
in 60's, ... at 55s. per 100.
KENTIA Fosteriana and Belmoran, in thumbs, at 20s. per 100.
in 60's, ... at 60s. per 100.
in 38's, ... at 24s. per doz.
in 48's, ... at 48s. per doz.
SEAPORTHIA Elegans, in 80's, ... at 32s. per 100.
in 48's, ... at 25s. per 100.
W. Icton has a fine Stock of Asparagus plumosus manne, in 48's and 60's; Pandanus Veitchii, Dracenas Lindenii, and Ficus elastica.—W. ICTON, Putney, S.W.

Select VEGETABLE, Choice FLOWER, The best qualities at Moderate Prices.
The Best SEED POTATOS, Garden Tools, Sundries, &c., &c.
Illustrated Descriptive Catalogue, No. 403 POST FREE ON APPLICATION.
Dicksons Seed Growers, Chester. (Limited)

LOBELIA'S.

EMPEROR WILLIAM, best blue, for bedding, 5s. per 100.
MAGNIFICA, fine deep blue, large flowers, 5s. per 100.
REINE BLANCHE (new), the finest white, good grower, large pure white flowers. Certificate of Merit from R.H.S. 10s. per 100.
MAID OF MORAY (new), blue, with large white eye, compact grower; fine for bedding. 10s. per 100.
The above quotations are for strong, healthy plants, from store boxes, and will give a lot of stock.
H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton.



CLIMBING DELICATESSE CUCUMBER.

TO THE TRADE.
100 packets, of ten seeds ... 25s.
50 packets ... 15s.
10 packets ... 4s.
1 packet ... 6d.

For description, see my Wholesale CATALOGUE, which can be obtained on application.
Electros will also be sent, if desired.

J.C. SCHMIDT
ERFURT,
GERMANY.

SEASON 1892. WM. CLIBRAN & SON Beg to inform their patrons that their NEW CATALOGUE OF

SELECT VEGETABLE SEEDS

AND CHOICE FLOWER SEEDS

Is NOW READY, and will be sent post-free on application. It contains Descriptions of all the STANDARD VARIETIES of VEGETABLE and FLOWER SEEDS, with a careful selection of the most promising NOVELTIES. BUYERS of GENUINE, RELIABLE SEEDS should send for a copy before placing their Orders. Insecticides, IMPLEMENTS, TOOLS, and Miscellaneous Requisites of every description, for the GARDEN or FARM, supplied.
10 & 12, MARKET ST., OLDFIELD NURSERIES, MANCHESTER, ALTRINCHAM, And Principality Nurseries, Deane, W. Llandudno.

NEW ENGLISH CHRYSANTHEMUMS For 1892.

Mrs. ROBINSON KING, 6 F.C.C.'s, new Golden-yellow Sport from G. Empress. The WHOLE of the CERTIFICATED STOCK in my POSSESSION (see Notice). PRELUDE or striped Alfred Lyon, Noel Pragnell or striped Empress. Excelsior, Jap., rose-cerise, F.C.C. F. W. Flight, Jap., crimson-carmine, 2 F.C.C.'s. G. C. Schwabe, J., carmine rose, 3 F.C.C.'s. Mrs. Nisbet, J., purple-amaranth, F.C.C. Peter Blair, J., yellow and crimson, F.C.C. William Tannington, J., chestnut-red, Com. Atlantic, J., white and rose; Budget, J., red and yellow; Charles Bonstedt, J., lilac-rose; J. B. Kinship, J., crimson; J. P. Kendall, J., amaranth; Majestic, J., carmine-rose; Masterpiece, J., ruby-red; Mrs. Carr-Gomm, J., white; Mrs. C. Russell, J., buff; Mrs. Gladstone, J., cream; Mrs. H. F. Spaulding, J., blush; Richard Nisbet, J., red and yellow; Standard, J., rose-magenta; Empire, J., lilac-rose; Miss Lillian Cope, J., or White Étoile de Lyon.

Descriptions and prices, see Catalogue (free). Orders booked and executed in rotation during February and March.

R. OWEN, Floral Nursery, Maidenhead.

"AMERICAN SPECIALTIES."

We have this year without doubt the finest Novelties in

CHRYSANTHEMUMS

Ever yet seen, and for which we received last year more

MEDALS, PRIZES, &c., than any other firm.

OUR NEW DESCRIPTIVE

CATALOGUE Now Ready.

Post-free on Application to—

Pitcher & Manda, THE UNITED STATES NURSERIES, HEXTABLE, SWANLEY, KENT.

SHARPE'S STANDARD SEEDS
SHARPE'S VICTOR POTATO.
"Earliest of all Earlies."
TO OBTAIN THE True Yellow-fleshed Variety, Apply to
CHARLES SHARPE & CO., SLEAFORD.

CLEARANCE SALE OF PALMS, DRACENAS, &c.

Strong Small Palms, averaging 10 to 12 inches high, of SEAPORTHIA ELEGANS, LATANIA BORBONICA, ARECA SAPIDA, CORYPHA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of each, 14 plants in all, 5s.; 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.

Price per 100 or 1000 on application.
* LATANIA BORBONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.
* CHAMEXIPS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.
* Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.
* DRACENA CANIFOLIA, 5 to 6 feet high, 21s. each.
* Ditto ditto 4 feet high, 15s. each.
* PHENIX TENUIS, 3 feet high, 5s. each.
* Ditto ditto 18 inches, 15s. per dozen.
* DRACENA INDIVISA, 3 feet 6 inches high, 5s. each.
* Ditto RUBRA, 2 feet high, 18s. per dozen.
* Ditto CONGESTA, 2 feet high, 18s. per dozen.
* SEAPORTHIA ELEGANS, in 40's for 4s.; strong, 6s. doz.
Price per 100 on application.
Those marked * are Packed Free, but NOT Carriage Paid.
W. OWEN, 106, Stamford Hill, N.

SEEDS

ESTABLISHED 1793.

THE BEST

AND

THE CHEAPEST.

SEND FOR FREE TO ALL CATALOGUE. JOHN K. KING, Royal Seed Grower, COGGESHALL, ESSEX.

SEEDS

SEEDS! SEEDS!! SEEDS!!!

VEGETABLE AND FLOWER SEEDS saved from CHOICE SELECTED STOCKS. Everyone with a garden and every market gardener should send for a Catalogue before purchasing elsewhere. Special Low Quotations to large buyers.

B. L. COLEMAN, Seed Merchant and Grower, SANDWICH, KENT.

FRUIT TREES AND ROSES!

VAST QUANTITIES TO OFFER, of the usual excellent quality.

HUGH LOW & CO.,
Bush Hill Park Nursery, ENFIELD.

THE NEW EARLY DESSERT APPLE, COOLING'S BEAUTY OF BATH,

Is the handsomest and best-flavoured First Early APPLE yet introduced, and should be in every collection.

MAIDENS, 2s. each.
PYRAMIDS, 3s. 6d. and 5s. each.
FAN-TRAINED, 5s. and 7s. 6d. each.
STANDARDS, 3s. 6d. each.

Trade price on application.

Descriptive FRUIT TREE and ROSE CATALOGUE, Post-free on application.

GEO. COOLING & SONS,
THE NURSERIES, BATH.

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,
THE NURSERIES,
SAWBRIDGEWORTH, HERTS.

CHRYSA nthemums, AND HOW TO GROW THEM.

Now in the Press.

The large and increasing demand for this popular work has made it necessary to print a New and Revised Edition (Eleventh Thousand). This will contain a Practical and Scientific Treatise on Culture, and also a Critical Analysis of the New Varieties of the present season, by C. E. SIEGA, Esq., A short History of the Chrysanthemum, by C. H. PAYNE, Esq.; and a Chrysanthemum Calendar, by Mr. H. SPOONER. In addition to above, Illustrations of two of the best New Varieties of the year are included in my new Chrysanthemum Catalogue, which also contains the most complete List of New Varieties ever brought together, and embraces selections from all the known Chrysanthemum world.

All the secrets of successful culture given, making this the most valuable work on the Chrysanthemum ever published. Post free, nine stamps; to Secretaries of Societies, for members, 6s. per dozen.

H. J. JONES, Rycroft Nursery Lewisham, S.E.

BARR'S SEEDS, BULBS, & PLANTS.

VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 3000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candidus, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.

BARR & SON, 12, King St., Covent Garden, London.

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standards, Pyramids, and Wall-trained), Apples, Pears, Cherries, Peaches, Filberts, and Plums; 20,000 noble tall standard Victoria Plums and Damsons, six years old. The Trees are without blemish, and twice transplanted, splendidly rooted, and intended for the tenants and hedgerows on the Estate. Guaranteed true to name. The superb Rhododendrons, specimen Shrubs, and Hollies, secured but recently regardless of cost. 2000 Maiden Standards, and Dwarf Roses; 40,000 Black and Red Currants, four years old; and forty kinds of Gooseberries. 3000 Raspberries, Price, half their value. See Catalogues, Removing.—LAND STEWARD, Hon. GERTRUDE JONES, Churchfield, Cradley, near Malvern.

CHARLES NOBLE

HAS FINELY BUDDED

RHODODENDRONS, named kinds.

ANDREDA FLORIBUNDA.

AZALEA, finest Ghent kind.

Ditto, Seedlings.

RHODO OCCIDENTALIS.

RHODORA CANADENSIS.

DWARF ROSES, H. P., B., and TEAS.

THUIOPSIS BOREALIS.

THUIA LORRIB.

Ditto, AMERICANA.

CUPRESSUS LAWSONIANA.

HYPERICUM CALYCINUM.

PORTUGAL LAURELS, 2 to 3 feet.

HARDY HEATHS.

CLEMATIS, 3 and 4 years old.

The General assortment of NURSERY STOCK will be found superior in every way.

BAGSHOT, February, 1892.

GROUND REQUIRED FOR BUILDING. TO BE SOLD, CHEAP.

1000 PINUS AUSTRIACA, 2 to 3 and 5 feet.

1000 LAURELS, bushy, 4 to 7 feet.

500 MOUNTAIN ASH, 10 to 15 feet.

500 LABURNUMS, 8 to 10 feet.

200 SPANISH C. ESTUNTS, 8 to 10 feet.

500 POPLARS, ITALIAN, 12 to 18 feet.

JOHN PEEB & SONS,

The Nurseries, Mitcham Road, Streatham, S.W.

COVERT FOR GAME.

LAURELS, Common, 1½ to 2 feet, bushy, 70s. per 1000.

2 to 3 feet, bushy, 100s. per 1000.

PRIVET, Evergreen, 2 to 3 feet, bushy, 35s. per 1000.

Extra strong, 4 to 5 feet, bushy, 50s. per 1000.

BERBERIS AQUIFOLIA, 1½ to 2 feet, bushy, 80s. per 1000.

BEECH, extra strong, 3 to 4 feet, 40s. per 1000.

HOLLIES, very bushy, 1½ to 2 feet, 30s. per 1000.

2 to 3 feet, 50s. per 1000.

BLACK and WHITE THORNS, LARCH and SCOTCH FIRS,

and other TREES, equally cheap.

CATALOGUES, and Samples, free on application.

R. TUCKER, Nurseries, Faringdon, Berks.

CHEAL'S new TOM THUMB DAHLIAS.

Cheal's mixed seed of above can now be supplied at 2s. 6d. per packet.

CHEAL'S CACTUS DAHLIAS, carefully

selected Seed, 1s. 6d. and 2s. 6d. per packet.

CHEAL'S SINGLE DAHLIAS, carefully

selected Seed, 1s. 6d. per packet.

NEW CATALOGUE OF DAHLIAS, containing

many Novelties, will be ready shortly, post free.

J. CHEAL and SONS, The Nurseries, CRAWLEY.

POPULAR CELERIES.

HARRISON'S EARLY ROSE, easily

blanches, fine for exhibition ...

HARRISON'S LEICESTER RED,

solid, the best late, very hardy ...

PENGELLY WHITE, a quick

grower ...

Nothing is more disappointing than a soft, stringy Celery.

The above will not disappoint you.

ILLUSTRATED LIST OF LEICESTER SEEDS, free.

HARRISON & SONS, Seed Growers, LEICESTER.

KELWAY'S ILLUSTRATED MANUAL of Horticulture and Agriculture for 1892. 1s., post-free; gratis to Customers.—KELWAY, Langport, Somerset.

SMALL SHRUBS and CONIFERÆ.—Abies orientalis, 4-yr., 40s. per 1000; Cupressus macrocarpa, 1-yr., 30s. per 1000; C. Lawsoniana, 1 foot, 40s. per 1000; C. erecta viridis, 8 to 9 inch. 30s. per 1000; Cutenaster Simonsii, 1 foot, 30s. per 1000; Escallonia macrantha, 9 inch, 8s. per 100; Ivy, Irish, 2-yr., 30s. per 1000; Lonicera, 2-yr., 30s. per 1000; Laurestinus, 6 to 8 inch, 7s. per 100; Oaks, evergreen, 3-yr., drilled, 10 inch, 50s. per 1000; Picea canadensis, 3-yr. transplanted, 40s. per 1000; P. Nordmannia, 2-yr. transplanted, 60s. per 1000; P. nobilis, 2-year transplanted, 6s. per 100; Privets, oval, 9 inch, 8s. per 1000; ditto, 10 to 12 inch, 14s. per 1000; Retinospora plumosa, 8 inch, transplanted, 40s. per 1000; R. aurea, 6 to 8 inch, 8s. per 100; Rhododendron ponticum, transplanted, 4 to 5 inch, 40s. per 1000; 6 to 9 inch, 55s. per 1000; Veronica Traversii, 8 inch, 7s. per 100; V. Fingifolia, 6 inch, 8s. per 100; Yew, English, 2-yr., 1-yr. transplanted, 20s. per 1000; Irish Yew, 5 to 9 inch, 8s. per 100.

GARLIES MITCHELL, Nurseryman, Stranraer.

WHEELER'S GAMBRIAN FAVOURITE MELON.

A grand New Melon, which we believe will prove to be one of the finest standard varieties in cultivation.

Per packet, 2s. 6d.; small pkt., 1s. 6d., post-free.

Mr. J. MUIR, in writing of it, says:—"It is extremely handsome, and the flavour is all that could be desired; indeed, it combines more good points than I ever found in any other Melon."

Wheeler's List of Specialties and Novelties will be forwarded, gratis and post-free, on application.

WHEELER & SON,
Seed Growers, GLOUCESTER.



NOW READY.

**SHARPE'S
TRADE CATALOGUE
OF
GARDEN AND FARM SEEDS
for 1892,**

Post-free on application to

CHARLES SHARPE & CO.,
Seed Farmers and Merchants, SLEAFORD.

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Primroses, Pansies, Violas, Pelygoniums, Penstemons, Petunias, Phloxes, Finks, Potentillas, Primulas, Pyrethras, Verbenas, Herbaceous Plants, &c.; also of my true and reliable strain of

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now justly celebrated all the world over. In 5 distinct sorts, crimson, purple, scarlet, white, and Wallflower-leaved white, each sort, 1s. 2s. 6d., and 5s. per packet.

It is an indispensable Reference-Book on all sections of Florist's Flowers, and should be carefully perused by all buyers of flowers.

Free on application.

JOHN FORBES, Nurseryman, Hawick, Scotland.

FRUIT TREES.

STEPHEN SPOONER & SONS

can offer the following, in really good stuff.

Standard and Half-Standard EARLY PEARS, strong.

Standard Max Codlin APPLES, 5 to 6 feet stems, strong.

Dwarf-trained PEAR and PLUM PLANTS, fine.

Dwarf-trained PEARS and PLUMS, of sorts.

Dwarf-trained MORELLO CHERRIES.

Dwarf-trained APPLES, a few sorts extra strong.

Maiden PEARS PLUMS, APPLES, and CHERRIES, of sorts.

Three-year-old WILLIAM PEARS.

Also on the list of 8-year-old Earl Suffield, Hawthornden, Cord, &c.

Orange, King Pippin, and Wellington, &c. &c.

A large and varied stock of FRUIT TREES of all kinds, in 1,

2, and 3-year-old stuff; and a quantity of 2-year Bush

Victoria and Fuchsia CHERRIES.

Standard LIVES, 10 to 12 feet, stout.

Standard General Jacquemont ROSES; also other varieties.

LISTS on application. Prices moderate.

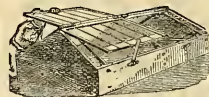
HOUNSLOW NURSERIES, HOUNSLOW, MIDDLESEX.

KEEP YOUR PIPES WARM.

FOSSIL MEAL PIPE LAGGING is the only effective means for preventing Loss of Heat, and Pipes Freezing. **CHEAPEST PACKING** existing. For Sample and Particulars, write to **MORITZ H. SCHÖNSTADT, 59, FARRINGDON ROAD, LONDON, E.C.**

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.
GARDEN FRAMES in great VARIETY.



No. 60.
PORTABLE PLANT PRESERVER.

CASH PRICES. CARRIAGE PAID.
6 ft. by 3 ft. ... £2 0 0 | 6 ft. by 4 ft. ... £2 5 0
12 ft. by 3 ft. ... 3 2 0 | 12 ft. by 4 ft. ... 3 15 0

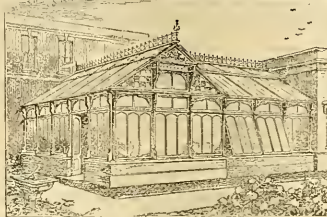
No. 73.
NEW SPAN-ROOF GARDEN FRAME.



CASH PRICES. CARRIAGE PAID.
4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 14 0
8 ft. by 6 ft. ... 4 4 0 | 16 ft. by 6 ft. ... 7 4
All Frames made of Select Red Deal, painted three times, and Lights glazed with 21-oz. sheet glass.
Carriage paid on all Orders of 40s. value.

BOILERS

Of all makes and sizes supplied at the cheapest rates.
VALVES, PIPES, and FITTINGS always in Stock.



Estimates on Application.

GARDEN FRAMES in great VARIETY.

No. 74.
THREE-QUARTER SPAN GARDEN FRAME.
CASH PRICES. CARRIAGE PAID.



4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 17 0
8 ft. by 6 ft. ... 4 5 6 | 16 ft. by 6 ft. ... 7 8 6

No. 75.
MELON AND CUCUMBER FRAME.
CASH PRICES. CARRIAGE PAID.

4 ft. by 6 ft. ... £2 0 0 | 12 ft. by 6 ft. ... £4 3 0
8 ft. by 6 ft. ... 3 0 0 | 16 ft. by 6 ft. ... 5 6 0

CUCUMBER-FRAME LIGHTS.
6 feet by 4 feet, painted and glazed ... 14s. 6d. each.
6 feet by 4 feet, unpainted and unglazed ... 5s. 6d. ..
Catalogue of all our Manufactures, post-free on application.

HENRY CANNELL & SONS'



Our NEW CATALOGUES

OF PLANTS AND SEEDS,

Indeed, EVERYTHING FOR THE GARDEN, have been posted to our Customers, and we shall be pleased to also send them to all who contemplate purchasing.

H. CANNELL & SONS,

Nurserymen and Seedsmen to nearly all the Royal Families and "Heads" in the World.

SWANLEY, KENT.

HENDER'S PETUNIAS.

The Grandest Strain grown. Seed saved entirely from large flowers, beautifully mottled and striped, 1s. and 2s. per packet.
PRIMUMA.—Large frilled flowers, mixed, geranium, rose, white, and blue, special strain, 1s. 6d. & 2s. 6d. per packet.
BEGONIA.—Saved from the best-named Double and single flowers, 1s., 2s. 6d., and 5s. per packet.

HENDER AND SONS, Nursery, Plymouth.

EXTRA STRONG FRUIT TREES.

Trained VICTORIA PLUMS, 8 to 10 feet high and wide.
Standard APPLES, large heads.
Standard PEARS.
Bush and Pyramids of both the former, 6 to 8 feet.
WALNUTS, very strong Trees.
Fine GOOSEBERRIES and CURRANTS.

JOHN PEDD & SONS

The Nurseries, Mitcham Road, Streatham.

BARR'S SURPLUS CLEARANCE SALE OF DAFFODILS

Prices greatly reduced. Bulbs in prime condition for Potting, Bedding, and Naturalisation.
Detailed Priced LIST on application.

Per 1000, 15s., 25s., 42s., 63s., 84s., and 105s.

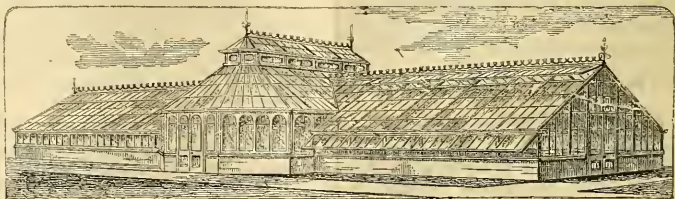
BARR'S CLEARANCE SALE OF HYACINTHS, TULIPS, POLYANTHUS-NARCISSUS, CROCUS, SNOWDROPS, CHIONODOXA, SCILLAS, SNOWFLAKES, and other Spring-flowering Bulbs, ALL in PRIME CONDITION. PRICES GREATLY REDUCED. LIST ON APPLICATION.

Important Descriptive LISTS now ready, free on application:—

CONFERENCE MICHAELMAS DAISIES, and PERENNIAL SUNFLOWERS.
GLADIOLUS, CARNATIONS, PICOTEEES, PINKS, HELLEBORES, and LILLIES.
SINGLE PÆONIES, DOUBLE PÆONIES, HELLEBORES, and IRIS.

BARR & SON, 12, King St., Covent Garden, London.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOthouse BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Sashes, Hotbed Boxes, &c., always in stock.

Plans, Estimates and Catalogues free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

DAMSONS.—Strong Standards for fledgerow Planting; fine stuff, a little rough. Special cheap offer £3 per 100.
J. R. PEARSON & SONS, Chilwell Nurseries, Notts.

Raspberry Canes and Currant Trees.
BAUMFORTH'S SEEDLING. 40s. per 1000; 30s. per 1000. Sample 100 of either sort, 6s. **RED CURRANT TREES**, ss. per 100. Cash with order. Free on rail. Apply—
R. H. BATH, Wisbech.

GOOD STOCKS, carefully Hand-picked, of BEANS—
Harrington and Green Windsor, White and Green Longpod.

Abundance, Berkshire Marrow, Dr. McLean, Fortyfold, Fillbasket, Gladiator, Hundredfold, Little Gem, Ne Plus Ultra, Paradise Marrow, Princess Royal, Pride of Market, Stratagom, Telegraph, Triumph, and Yorkshire Hero.

CARTERS' ELEPHANT SWEDE.
To effect a speedy Clearance, these will be Sold CHEAP FOR CASH, in Large or Small Quantities. Apply—
GEORGE ELSOM, Seed Grower and Merchant, Spalding.

FERNS! FERNS!!—Trade.—Greenhouse and Store, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cucullatum, 4s. each; Solanum, Cypress, and Primulas, all in 48's, 6s. per doz. Palms and Ficus, 1s. each. Large Ferns, 10 best sorts, 5s. 6d. per doz., in 48's. Cinerarias, Spruces, and Cyclamen, full bloom, 9s. per dozen, in 48's. Adiantum cucullatum and P. tremula, extra size, in 2½-inch pots, 16s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Lambhoro Junction, S.W.

SPECIAL CHEAP OFFER.—Fastolf RASPBERRIES, strong healthy Canes, 3s. 6d. per 100; 27s. 6d. per 1000. ROSES, choicest Varieties, half-standards, 8s. standards, 12s. per doz. QUICK, strong transplanted, 9s.; extra stout, 14s. per 1000. Common LAURELS, 2 to 3 feet, 8s. per 100; 60s. per 1000; ditto, 3 to 4 feet, 12s. per 100; 80s. per 1000. AUSTRIAN PINES, 3 to 5 feet, 2s. 6d. per doz.; 13s. per 100. SYCAMORES, 5 to 7 feet, 1s. per doz.; 4s. 6d. per 100. Free on rail.—LAWS, Nurseries, Reckes.

PINES FOR SALE.—QUEEN'S, CHARLOTTE ROTHSCHILD'S, and SMOOTH CAYENNES. Very fine lot of 500 in 7 and 8-inch pots, ready to put into fruiting-pots, very clean, and in perfect health; also, fine fruiting plants of the same varieties, ready for immediate throwing up. Giving up Pine Growing, reason for disposal.
Apply, H. E. GRIBBLE, Wynyard Park, Stockton-on-Tees.

LAURELS.—CAUCASICUM, LATIFOLIA, ROTUNDIFOLIA, and COMMON, fine bushy plants, well rooted, 2 to 5 feet.
PORTUGAL LAURELS, Standards, feu heads, CATALOGUE on application.
H. LANE AND SON, Nurseries, Berkhamsted, Herts.

For Exhibition!
BROAD BEAN, BIDDLES' MONSTER LONGPOD.—Extra long, fine quality. Per quart, 1s. 6d.
CARKOT, BIDDLES' SCARLET PRIZETAKER, Intermediate, the finest exhibition Carrot grown. Per oz., 1s.
ONTON, BIDDLES' GIANT SPRING.—Too well known as a prize-winner to need further recommendation. Per 6z. 1s.
BIDDLES AND CO., THE PENNY PACKET SEED CO., Loughborough, Leicestershire.

Fruit Trees a Specialty.
APPLES, PEARS, PLUMS, STRAWBERRIES, and all sorts of Small and Hardy Fruits grown in immense quantities. The best of the Old and New Varieties either to grow for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most complete issued, 6d. Ordinary LIST free. JOHN WATKINS, Pomona Farm Nurseries, Withington, Hereford.

L'HORTICULTURE INTERNATIONALE (Orchid Emporium), Leopold Park, Brussels.
THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateur and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

Quality not Quantity.
THE PENNY PACKET SEED COMPANY, (BIDDLES & Co., Proprietors), LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete Seed Catalogue and Guide, which will be sent gratis and post free on application.
399 Varieties catalogued, 500 Illustrations.

ROSES.
STANDARDS, from 21s. per dozen.
DWARFS, from 6s. per dozen.

CATALOGUES, post-free.
FRANK CANT, BRAISWICK NURSERY, COLCHESTER.

ANTHONY WATERER invites from intending Planters an inspection of the following well-grown and finely-rooted EVERGREENS:—
ABIES CANADENSIS (Hemlock Spruce), 5 to 8 feet.
DOUGLAS, 6 to 12 feet.
GLAUCOA, 5 to 8 feet.
HOOKERIANA (Patoniana), 3 to 6 feet.
CEDRUS ATLANTICA, 4 to 5 feet.

GLAUCOA, 3 to 6 feet.
LIBANI (Cedar of Lebanon), 4 to 10 feet.
CUPRESSUS LAWSONIANA ERECTA VIRIDIS, 4 to 8 feet.
JUNIPERUS CHINENSIS, 3 to 10 feet.
AUREA (Golden Chinese Juniper), 3 to 8 feet.
PICEA CONCOLOR, 3 to 7 feet.
GLANDIS, 3 to 5 feet.
LASIOCARPA, 4 to 8 feet.
MAGNIFICA, 3 to 5 feet.
PUNGENS, 1½ to 4 feet.

PINUS AUSTRIACA, 3 to 7 feet.
LARIO, 3 to 4 feet.
THUOPSIS BOREALIS, 4 to 7 feet.
DOLABRATA and VARIEGATA, 3 to 8 feet.
THUJA LOBBI (gigantea), 5 to 9 feet.
OCCIDENTALIS LUTEA (Golden), 3 to 4 feet.
LIGNITONIA GIGANTEA, 3 to 7 feet.
YEW, 3 to 6 feet.

Golden, of all sizes up to 10 feet, in various forms, Pyramids, Globes, and Standards, in point of variety, size, and quality unequalled.
Golden Seedlings, 3, 4, to 8 feet.
Irish, 5 to 10 feet.
Golden, 3 to 6 feet.

AFROBIA JAPONICA, 2½ to 4 feet.
BAMBUA METATA, fine clump, 4 to 7 feet.
BOX, Green and Variegated, 3, 4, 5, and 8 feet.
HOLLIES, Common, from 3 to 10 feet.
ALTIACRENSIS.
HODGINS or NOBILIS.
LAURIFOLIA.
MYRTIFOLIA.
SCOTICA.

Yellow berried, and other sorts
Variegated, of sorts, 3, 5, up to 10 feet.
Golden Queen, 4, 5, up to 10 feet.
Silver Queen, 4, 5, up to 10 feet.
Weeping Perry's (Silver Variegated), on straight stems, with heads of 10 to 15 years' growth.
New Golden Weeping.
RHODODENDRONS, 3 to 5 feet.
Knapp Hill Nursery, Woking, Surrey.

PLANTING SEASON.
HARDILY-GROWN
FOREST, FRUIT, & ALL OTHER TREES & PLANTS, EVERGREENS, ROSES, &c.
A ALL OTHER
NURSERIES 400 ACRES:
VERY EXTENSIVE STOCK. Inspection Invited.
Priced Catalogues Gratis & Post Free.
DICKSONS THE NURSERIES (LIMITED) CHESTER.

GEORGE JACKMAN & SON, WOKING NURSERY, SURREY,
INVITE INSPECTION OF THE FOLLOWING WELL-GROWN STUFF:—
FRUIT TREES.—A fine stock of Apples, Pears, Plums, and Damsons, in Standard, Pyramid, and Dwarf-trained trees; also Dwarf-trained Apricots, Peaches, and Nectarines.
ROSES.—A large Collection of Dwarf and Standard Hybrid Perpetual and Tea Roses, in all the leading varieties; also Tea Roses, in pots, for forcing.
RHODODENDRONS.—Choice named varieties set with flower-buds; also Hybrid Seedlings and Ponicums.
CONIFERS.—Fine stuff, in various Sorts, for Lawn and Shrubbery planting.
SHRUBS.—Ornamental and Flowering, adapted for Belts, Shrubberies, Screens, &c.
CLIMBERS.—Including their celebrated Clematis, suitable for Walls, Trellis-work, Rockwork, &c.
ORNAMENTAL TREES.—For Parks, Avenues, Streets, and Private Gardens.
FOREST TREES.—In large quantities, for Coverts, Woods, &c.
CATALOGUES FREE ON APPLICATION.
LANDSCAPE GARDENING.—A leading Feature. Plans designed, and Advice given as to Laying-out, Planting, or Renovating Parks, Comesteries, Recreation Grounds, and Private Gardens.

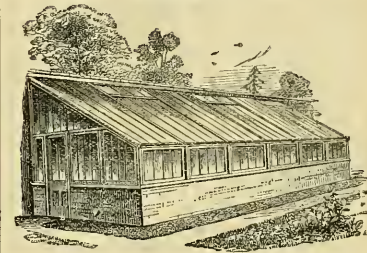
FOR SALE.—A quantity of KENTIAS FOSTERIANA and BELMORIANA; also SEAFORTHIA ELEGANS, in 48 and 60-pots. Clean and good. No room the reason of selling.
W. OLLIS, 262a, Clapham Road, Stockwell, S.W.

SEED POTATOS—SEED POTATOS—
CHANGE YOUR SEED.—Reading Giant, Beauty of Hebron, Early Rose, White Elephant, 5s. 6d. per sack, 112 lb., sacks included. Cheaper by the ton. On Rail at Reading. Cash with order.—HARRY BRINKWORTH, Potato Grower, Reading.

MUSHROOM SPAWN, finest quality possible, 3s. 6d. per bushel of 16 bricks; RAFFIA or RUSH-GRASS, best quality, 6d. per lb., postage extra. Offered by F. MILLER and CO., 127, Fulham Road, London, S.W.; and Defford Farm, Spalding, Lincs.

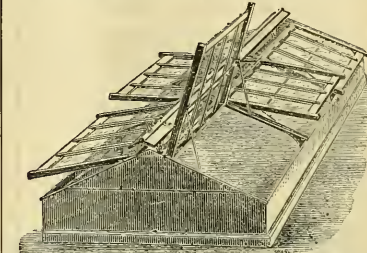
THE IMPROVED TREE-PRUNER, Coppin's Patent, Awarded Certificate of Merit from the Royal Horticultural Society. Used in the principal Parks and Gardens in the United Kingdom and Germany. Lists, &c., free from Patentees.—GEO. COPPIN and SONS, Aclington, Surrey.

W. H. LASCELLES & CO.,
HORTICULTURAL BUILDERS,
121, BUNHILL ROW,
LONDON, E.C.



CONSERVATORIES,
GREENHOUSES,
ORCHID HOUSES,
VINERIES,
PEACH HOUSES, &c.
Plans and Estimates Free.

RICHARDSON'S IMPROVED GARDEN FRAMES.



WITH ADJUSTABLE RIDGE VENTILATION.
Lights can be instantly removed or fixed open at any angle without interfering with the plants.

CARRIAGE PAID TO ANY STATION.
W. RICHARDSON & CO.,
Horticultural Builders and Hot-water Engineers,
DARLINGTON.

VEITCH'S CHOICE FLOWER SEEDS.

VEITCH'S EMPRESS ASTER, Crimson & White.

Two magnificent new varieties, which for size, substance, and beauty, far surpass all other varieties.

Crimson, per Packet, 1s. 6d.

White, per Packet, 1s. 6d., post-free.

VEITCH'S DIADEM ASTER.

A large and attractive new Aster, flowers bright crimson, edged pure-white; valuable for cutting.

Per Packet, 1s. 6d., post-free.

CARNATION MARQUERITE.

A new race of Glove-scented Double Carnations of various bright rich colours. If sown in February or March come into bloom in July or August. Highly decorative, and excellent for cutting.

Mixed, per Packet, 1s. 6d., post-free.

Pure White, per Packet, 2s. 6d., post-free.

STREPTOCARPUS, NEW HYBRIDS.

Beautiful Greenhouse Plants, remarkable for their abundance of bloom, which are produced for about four months in the summer and early autumn. The flowers, which are very graceful in form, are trumpet-shaped, and of rich, striking, and varied colours.

Per Packet, 2s. 6d., post-free.

For full descriptions of the above and other Choice See is, see CATALOGUE for 1892, forwarded Post-free on application.

JAMES VEITCH & SONS

ROYAL EXOTIC NURSERY,
CHELSEA, S.W.

The Best Celery.

WEBBS' MAMMOTH RED CELERY.

6d. and 1s. per packet, post-free.

This is a very large, quick-growing variety; solid, crisp, and possessing an excellent nutty flavour. It is the hardest Celery to summer-grow successfully everywhere, and consequently very popular.

From Mr. J. MOORE, Close Cottage.

"I decidedly prefer Webb's Mammoth Red Celery for a first crop, as it is quick in growth, and will cut a larger heart than Celery twice as thick."

WEBBS' SPRING CATALOGUE,

Containing Six Coloured Plates, &c. Post-free, 1s.

ABRIDGED EDITION, Gratis and Post-free.

WEBBS' SEEDS

Can only be obtained direct from

WORDSLEY, STOURBRIDGE.



PAULS' NURSERIES, WALTHAM CROSS.

South Entrance, four minutes' walk from Waltham Cross Station (G.E.R.); West Entrance, three minutes' walk from Theobald's Grove Station (G.E.R.).



ROSES.

The Largest and Finest Stock in the Country.

NEW ROSES A SPECIALTY.

Also Books on Roses, by Wm. Paul, F.L.S.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



SEEDS & BULBS

OF BEST QUALITY.

ALSO

MUSHROOM SPAWN, GARDEN MATS, MANURES, INSECTICIDES, and all other GARDEN REQUISITES.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



FRUIT TREES AND GRAPE VINES.

An enormous Stock of Fruiting and Other Trees unsurpassed in quality, being vigorous, clean, and true to name.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



HARDY TREES AND SHRUBS.

EVERGREEN, DECIDUOUS, and CONIFERS, in endless variety, kept constantly transplanted.

RHODODENDRONS off Loom.

HARDY CLIMBING PLANTS a specialty.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



CAMELLIAS

The Largest Stock in the Country.

Plants well set with Bloom-buds.

Also,

AZALEAS, LAPAGERIAS, and other GREENHOUSE CLIMBERS.

Descriptive Priced CATALOGUE Free by Post.

Prices strictly moderate; reduced rates for large quantities. Inspection of stock invited. Goods packed by experienced hands for all parts of the world. Gardeners of character and experience recommended.

Important: Observe the Christian Name and Address—

WM. PAUL & SON,
WALTHAM CROSS,
HERTS.

SUTTON'S NEW FORCING BEAN.

The demand for Dwarf Beans before it is possible to gather from plants in the open, is now so wide-spread, that a variety especially adapted for forcing has become indispensable, and we are glad to be able to offer a new Bean peculiarly suited to the purpose. Sutton's Forcing is the dwarfest-growing variety with which we are acquainted. It comes remarkably early and is very prolific. The seed resembles that of *No Plus Ultra*, but in growth the plant is quite distinct.

Per Quart, 2s. 6d.

SUTTON'S SEEDS
GENUINE ONLY FROM SUTTON & SONS, READING.

SHRUBS and CONIFERÆ.—American Arbor-vite, 2½ feet, 25s. per 100; Berberis aquifolium, 2 feet, 18s. per 100; Box Tree, 1½ feet, 12s. per 100; Ceanothus microphylla, 2 feet, 12s. per 100; C. Simonsii, 3 feet, 12s. per 100; Escallonia macrantha, rot. 2 feet, 24s. per 100; Laurel, Common, 1½ feet, 10s. per 100; 2 to 2½ feet, 14s. per 100; 3 to 3½ feet, 20s. per 100; rotundifolia, 2 to 2½ feet, 18s. per 100; Portugal Laurel, 2 to 2½ feet, 12s. per 100; Rhododendron ponticum, 1½ to 2 feet, 25s. per 100; 2 to 2½ feet, 32s. per 100; 3 feet, 40s. per 100; full of buds; Yew, English, 1½ to 2 feet, 24s. per 100; 2 to 2½ feet, 30s. per 100; Araucaria imbricata, 3 to 3½ feet, 30s. per doz.; 4 feet, 40s. per doz.; Cupressus Lawsonii, 2 to 3 feet, 30s. per 100; 3 to 4 feet, 30s. per 100; Erecta, viridis, 2 to 2½ feet, 30s. per 100; 3 to 3½ feet, 40s. per 100; Picea Nordmannia, 2 feet, 60s. per 100; 2½ to 3 feet, 12s. per dozen; Retinospora plumosa, 2½ feet, 30s. per 100; 4 to 4½ feet, 50s. per 100; Thuya Lobbi, 3 to 4 feet, 30s. per 100; 5 feet, 50s. per 100; 6 feet, 70s. per 100; 7 feet, extra, 80s. per 100; Thuopsis dolabrata, 2 feet, 40s. per 100; 2½ feet to 3 feet, fine specimens, 24s. per dozen; 4 to 5 feet, 4s. each.

GARLIES MITCHELL, Nurseryman, Stranraer.

THE BEST CUCUMBER

GROWN.

**CARTERS'
MODEL.**

FOR SIZE,
FOR FLAVOUR,
FOR EXHIBITION.

A Customer writes—
"I cut 900 fruit from 4 plants."

Price, in Sealed Packets,
2/3 and 3/6 each, post-free.

Seedsman by Royal Warrants to H.M. the Queen, and H.R.H. the Prince of Wales.

237
238 HIGH HOLBORN, LONDON.

THE PROLIFIC LABIATA.

Why not come and see
SWAINSON'S LABIATA.

Do come and see
THE OLD LABIATA.

Won't you come and see
THE NEW LABIATA.

Could you not come and see
THE MAJESTICA LABIATA.

Will you not come and see
THE GLORIOSA LABIATA.

Won't you come and see
THE QUEEN OF LABIATAS.

You must come and see
THE EMPRESS OF LABIATAS

If you do come, you will see
THE KING OF LABIATAS.

All the above have been gathered by
our own men and natives, from the
mountains, woods, and unexplored
wildernesses of the Labiata country,
in upwards of twenty localities.

THE VARIETIES are ENDLESS.

Buyers are earnestly requested to
inspect this magnificent lot of plants,
which will be offered by

PROTHEROE & MORRIS,
On FRIDAY NEXT.

COME AND SEE

The varieties now in bloom,
at the

ORCHID FARM, ST. ALBANS,
Thirty Minutes from St. Pancras.

Williams

WORLD-RENOUNDED

GOLD MEDAL STRAINS

OF

Primula

Per Packet, 1/6, 2/6, 3/6, & 5/-.

Cyclamen

Per Packet, 1/6, 2/6, 3/6, & 5/-.

Calceolaria

Per Packet, 1/6, 2/6, 3/6, & 5/-.

Cineraria

Per Packet, 1/6, 2/6, 3/6, & 5/-.

Cockscomb

Per Packet, 1/6 and 2/6.

Gloxinia

Per Packet, 1/6 and 2/6.

Pansy

Per Packet, 1/- and 2/6.

FLOWER SEEDS POST FREE.

In ORDERING OUR FLORIST'S
FLOWER SEEDS, see that every Packet
bears our Registered Trade Mark, without
which none are genuine.

ILLUSTRATED SEED CATALOGUE
for 1892, containing Select List of Vegetable
and Flower Seeds, and everything necessary
and requisite for the Garden, gratis and post-
free on application.

W.S. Williams & Son,
UPPER HOLLOWAY,
LONDON. N.



THE

Gardeners' Chronicle.

SATURDAY, FEBRUARY 6, 1892.

ROYAL HORTICULTURAL
SOCIETY.

THE following are extracts from the report of
the Council for the year 1891—92, which will
be presented to the annual meeting of Fellows,
to be held at the Society's offices, 117, Victoria
Street, Westminster, on Tuesday, February 9,
at 3 P.M.:—

The year 1891 has again been one of steady
work and progress for our Society.

Four Conferences have been held at Chiswick,
viz., on Hardy Summer Perennials; on Straw-
berries, Raspberries, Currants, and other small
fruits; on Perennial Sunflowers and Michaelmas
Daisies, and on Conifers. The attendance of
Fellows and others at these Conferences, as also
at the fortnightly lectures in the Drill Hall, has
been decidedly more encouraging than in pre-
vious years. Fellows would greatly assist the
Council by making these meetings and lectures
better known among the general public.

Seventeen Fruit and Floral Meetings have
been held in the Drill Hall, besides those held
at Chiswick, and lectures have been delivered at
fifteen of them. The number of awards has
been as follows:—On the recommendation of the
Floral Committee, 33 First-class Certificates
against 40 in 1890, 183 Awards of Merit against
117, 4 Commendations against 2 last year, and
8 Botanical Certificates. On the recommenda-
tion of the Orchid Committee, 34 First-class
Certificates against 56 last year, 38 Awards of
Merit against 47, 10 Botanical Certificates
against 9. On the recommendation of the Fruit
and Vegetable Committee, 6 First-class Certifi-
cates against 6, and 7 Awards of Merit against
7 last year; Commendations 1.

The Society's great show, held (by the renewed
kindness of the Treasurer and Benchers) in the
Inner Temple Gardens, and opened by Her
Royal Highness the Princess Christian, was as
great a success as ever, alike in the number of
visitors, the quantity and quality of the exhibits,
the propitiousness of the elements, and the con-
sequent pecuniary result. The best thanks of
the Society are due to all who so kindly brought
their plants for exhibition, or otherwise contri-
buted to the success of this Show.

The Conference on Conifers, held at Chiswick
on October 7 and 8, was most unfortunate in
the weather experienced, and in the consequent
smallness of the attendance of Fellows. In all
other respects it was most successful, the papers
read being most valuable, and the exhibition of
specimens such as has certainly never been
gathered together in one place before. The
report on the Conference is being kept back, in
order that the lists of Conifers may be made
quite complete, with their synonyms and short
descriptive notes, a work which entails an enor-
mous amount of labour and reference. It is
hoped that the volume may be ready in March.

The Society's general work of scientific experiment and investigation, and of the practical trial of various plants, has been going on steadily at Chiswick, under the superintendence of Mr. Barron. Trial has been made of 117 varieties of Tomatoes, 43 of Turnips, 31 of Celery, 33 of Leeks, 43 of Runner Beans, and 49 of Dwarf French Beans. Ninety-seven new varieties of Potatoes, and 72 new Peas have been tested. In the Floral Department 225 varieties of Carnations, 50 of Picotees, and 50 of Pinks, 300 Dahlias, 60 Ivy-leaved Pelargoniums, 59 Violas, and 74 Pansies, 15 different strains of China Asters, 116 Fuchsias, and 32 of Sweet Peas, have been tried. A very large collection of perennial Asters (Michaelmas Daisies) and Sunflowers have been grown, and very carefully examined by a Committee of experts, both in regard to their proper nomenclature, and also their value as hardy border flowers. The confusion found amongst them was so great and so widespread that it has been decided to withhold the Committee's Report until the plants shall have flowered again, and the Committee's decisions verified and confirmed. Experiments have also been made with a Fruit Evaporator, kindly presented to the Gardens by Messrs. Mayfarth, and most satisfactory and encouraging results have been obtained in the drying of both Apples and Plums.

The Society's *Journal* has been continued so as to enable Fellows at a distance to enter more fully into and reap the benefits of the study and work of those more actively engaged at headquarters. Three parts, forming vol. xiii., 646 pages, with 69 Plates of new plants, &c., have been published during the twelve months, and letters are constantly received from the most distant and diverse sources testifying to the Fellows' appreciation of this renewed branch of the Society's work.

The Council wish to repeat *verbatim* one paragraph of their last year's Report, which runs as follows:—

"All these Conferences and Meetings, and especially the work and maintenance of the Chiswick Gardens and the publication of the *Journal*, have involved the Society in a very large outlay, and the Council take this opportunity of endeavouring to impress upon Fellows the absolute necessity there is for them all individually (as many as have the Society's welfare at heart) to endeavour to secure new Fellows to the Society if its work is not only to be continued at its present standard, but still more so if the ever-opening and extended opportunities of usefulness are to be embraced and accepted. The adoption of £1 ls. as one rate of subscription was, no doubt, a popular movement, but the Council desire to remind the Fellows that such a low rate of Fellowship can only be self-supporting if it draws into the Society a very large number (far larger than at present exists) of additional Fellows. The Council, therefore, venture to express the hope that every Fellow of the Society will make an endeavour to obtain at least one new Fellow during the present year."

The figures published in full in the report show a net increase in income, £448 17s. 6d., and a numerical increase of Fellows to the extent of 344.

The most noticeable features in last year's work, besides the Conifer Conference, were the issue of a pamphlet on fruit trees, recommended for cottagers and small farmers; and the improvement of the condition of the gardens at Chiswick. The fruit pamphlet was purposely issued at a price below the actual cost, in order to promote as wide a circulation as possible.

Two editions have been prepared, one for England and another for Scotland. Of these, 52,000 copies have been put into circulation, 13,000 being issued at the expense of the Society.

In round figures, about £1728 has been expended at Chiswick this year on the general work, and repairs and keeping up of the gardens. A further sum of about £200 has been laid out in special repairs, viz., in the rebuilding of House No. 6, and in furnishing a new boiler, &c., to the great vinery. The receipts from the gardens by sale of surplus produce amount to about £630, making the net cost of the gardens about £1300.

The Council of the Society have been in communication with several County Councils with respect to the lectures on gardening which are now being given in many parts of the country, and have undertaken to conduct examinations on behalf of any County Council so wishing it, at the conclusion of these courses of lectures, and to award suitable certificates, &c., to proficient students.

The Council regret that the scheme for the erection of a horticultural hall has, for various reasons, been for the present abandoned, and the guarantors released from their promises of support. It is hoped, however, that at some future time, when circumstances are more favourable, these promises may be voluntarily renewed.

In conjunction with the Lindley Library trustees, the Society's library has received considerable attention. All serial publications have been kept up to date, and a large number of valuable volumes have been bound.

The best thanks of the Society are due to all those who, either at home or abroad, have so kindly and liberally presented books to the library, or plants or seeds to the gardens. A list of the donors has been prepared, and will appear in the next number of the *Journal*. The Council also wish to express, in their own name and in that of all Fellows of the Society, their great indebtedness to all who have so kindly contributed, either by the exhibition of plants, fruits, flowers, or vegetables, or by the reading of papers, to the success of the Conferences and fortnightly meetings. Special thanks are due to those who so kindly contributed Conifer specimens for the Conference in October.

The hearty thanks of the Society are due to the Chiswick Board and to all the Members of the Standing Committees, viz., the Scientific, the Fruit and Vegetable, the Floral, the Orchid, and the Narcissus Committees, for the kind and patient attention which they have severally given to their departments; also to the exhibitors who have contributed to so great an extent to produce the valuable results of the various conferences held.

The Council have the sad duty of recording the death of forty-four Fellows during the year, and amongst them they regret to find the names of the Duke of Devonshire, Earl Granville, Earl of Dartmouth, Sir R. Wallace, The Right Hon. W. H. Smith, J. van Volxem, W. A. Dickson, J. Dornay, C. Haycock, W. Richards, W. Barron.

During the last few years the Council have, amongst other matters, been considering methods of interesting amateurs more in the Society and its work, and of rendering to them a greater personal return for their subscriptions. To this end they have already established the fortnightly lectures, and the great Temple Show; have promoted various Conferences on interesting horticultural subjects, and have revived the publication of the *Journal*. In 1890 they further decided to re-establish the Society's ancient custom of

offering prizes to amateurs, and a Schedule was circulated in the "Arrangements for 1891." The Council regret that these prizes attracted so little competition; but they have decided to continue them again in the year now commencing, and a total sum of £515 will be found offered, as it is possible that the Schedule last year was hardly sufficiently known.

A scheme for the affiliation of local societies was put forward last year, and about forty local societies have availed themselves of it. The Council express the hope that Fellows will promote the affiliation of societies in their own immediate neighbourhood.

Attention having lately been directed to the desirability of establishing a National School for Technical Education in Gardening and Spade Industry, the Council have consented to co-operate with the Worshipful Company of Gardeners in the matter. The Council have not thought it right, without a special mandate from the Fellows, to devote any portion of the Society's income to this purpose; but they think it highly desirable to afford the undertaking the use of all existing facilities at Chiswick. An arrangement is therefore in course of preparation whereby a Home will be opened at Chiswick, in the joint name of the Society and the Company, for students of the age of fifteen to eighteen, and a three-years' course of practical lessons will be given in the gardens, accompanied by elementary lectures on plant-life and chemistry, and other branches of study helpful to gardening, the whole of the expense being borne by the Company, the gardens supplied by the Society, and the management placed in the hands of a joint-committee. The superintendent is of opinion that the work of the students can be so arranged as in no way to interfere with the present use of the gardens.

A proposal has been made to hold an International Fruit Show in London this autumn, and the Society has been invited to join in carrying it out. The Council have appointed the Chairman of the Fruit Committee as a delegate to the Provisional Committee, and they hope to be able to give cordial support to the proposed show.

Royal Horticultural Society: Annual Revenue and Expenditure Account for the Year ending December 31, 1891.

Dr.				
To Establishment Expenses—				
Salaries and wages	...	...	£	s. d.
Rent of office	...	...	123	3 0
Printing and stationery	...	...	144	16 2
Publications— <i>Journal</i> , &c.	...	...	536	9 0
Postage	...	...	71	2 8
Coal, gas, and water	...	...	42	10 2
Miscellaneous	...	...	43	14 10
			1221	10 6
To Shows, Meetings, and Conferences—				
Rent of Drill-hall and cleaning	...	...	92	16 0
Special shows—Temple...	...	...	534	10 11
Others...	...	...	39	3 2
Advertising	...	...	18	0 0
Prizes and medals	...	...	164	18 0
Printing, &c.	...	...	57	8 4
Labour	...	...	87	8 11
Superintendent of flower-shows	...	...	50	0 0
			1044	5 4
To Chiswick Gardens—				
Rent, rates, taxes, and insurance	...	...	258	6 3
Superintendent's salary	...	...	225	0 0
Labour	...	...	699	5 1
Manure, implements, &c.	...	...	92	10 1
Coal and coke	...	...	184	19 11
Repairs	...	...	148	4 7
Special repairs	...	...	186	10 0
Water and gas	...	...	17	11 5
Miscellaneous	...	...	82	0 11
			1914	8 3
To Horticultural Hall—				
To Balance to General Revenue Account	...	...	37	1 1
			218	16 8
			£4439	1 10

CR.	£	s.	d.	£	s.	d.
By annual subscriptions				2306	18	4
By Shows—Temple—						
Tickets, advertisements, donations, &c.	614	13	1			
By meetings and conferences	26	15	0			
By Advertisements				641	8	1
By Miscellaneous—				147	4	0
Sale of Journal and Reports				37	10	5
By Dividends—						
Davis Bequest and Parry's Legacy	56	18	4			
Interest on Deposits				5	19	11
By Prizes and Medals				62	18	3
By Fruit Pamphlet				33	9	0
By Chickwick Gardens—				44	7	0
Produce sold						
Admissions and members' tickets	623	4	2			
Miscellaneous	5	5	6			
Chickwick Horticultural Society	236	0	0			
Less—						
Expenses	6	0	0			
				30	0	0
				665	6	9
				2439	1	10

We have examined the above accounts, and

find the same correct.

(Signed)

HARRY TURNER,
HENRY WILLIAMS,
A. H. PEARSON,
HARPER BROS., Chartered Accountants.

Auditors.

January 22, 1892.

Royal Horticultural Society, Balance-Sheet, December 31, 1891.

	£	s.	d.	£	s.	d.
To sundry creditors				299	4	3
Subscriptions, 1892, paid in advance	90	8	0			
Donations	345	0	0			
General revenue account—						
Balance January 1, 1891	1196	15	1			
Less—						
Subscriptions for 1890, not paid, and bad debts	39	0	3			
	1765	14	10			
Balance for the year 1891, as per revenue account	218	16	8	1985	11	6
				2720	3	9
				£	s.	d.
By Sundry debtors—				£	s.	d.
Annual subscriptions outstanding	31	10	0			
Garden produce	85	0	7			
Temple Show donations	14	14	0			
Rents	36	0	0			
Advertisements in schedules	49	7	6			
				217	12	1
Investments—						
2½ per Cent. Consols, £2122 8s. 9d. cost						
(2022 8s. 9d. of this sum is held by the Society, subject to the provisions of the will of the late J. Davis, Esq.)						
Cash at London and County Bank—						
On current account	260	15	7			
On deposit account	345	0	0			
Cash in hand	4	4	10			
				810	0	5
				2720	3	9

We have examined the above accounts, and find the same correct.

(Signed)

HARRY TURNER,
HENRY WILLIAMS,
A. H. PEARSON,
HARPER BROS., Chartered Accountants.

Auditors.

January 22, 1892.

NEW OR NOTEWORTHY PLANTS.

CYPRIPEDIUM BACONIS, n. hybr.*

HERE we have a new hybrid, raised by crossing C. chloropis, Rchb. (hybr. of C. Hartwegii × Pearcei) with the pollen of C. Schlumieri. The best

* *Cypripedium Baconis*, n. hybr.—Folius linearibus acumina-
tis supra laete infra pallide viridibus; capis plurifloro
subdisticho; ovario 2-poll., longi incurvo puberulo; sepalis
dorsali oblongo acuto extus roseo, intus viridi pallide roseo
marginato; sepalis lateralibus cuneatis cymbiformibus apice
viridibus; labellis manifeste trilobis lobis lateralibus basi rotun-
datis extus rectangularibus acutangulis sparsim serrulatis, lobo
intermedio longe triangulari acuminato apice incrassato marginem
omnino integro, toto labello plani viridi margine presertim
ad apicem loborum fuscis, medio in disco bruno-
adspersis; gynostemio brevi dentibus 2 longissimis subulatis
in medio ungue labelli descendebatibus; antheram non vidi, pol-
linis angustis oblongis, caudiculis lineari angustis, glandula
pro genere minus.—Accepta a domino W. Leuchs, principis
Liechtenstein horticulture fautoris hortulano. Dr. Kränzlin.

we can say about this new hybrid is as to its very easy and luxuriant growth. Mr. F. Sander informs us that the seed was sown November 4, 1888. The seedlings sprang up in the first week of March, 1889, and the first flowers were in full development in the last week of January of this year. That is surely the quickest development of a hybrid we have heard of—but alas! the only merit we can mention. The leaves and the habit of C. Pearcei, the spike of C. Schlumieri, and the flowers of C. chloropis, give an idea of this new enrichment of our collections.

There is a proverb in Germany—"Children must be cautious in the selection of their parents"—a frivolous, but, at all events, a correct expression of Mr. Darwin's theory. To apply this theory to a practical point of view, we must admit that good results can never be obtained if C. Pearcei has had a prevalent influence in the crossing. This new hybrid is dedicated to the memory of Francis Bacon (Viscount of St. Albans, the first Englishman who pointed out the merits of practical experiments against purely theoretical research), Dr. F. Kränzlin.

CATASETUM LIECHTENSTEINII, n. sp.*

This new species of *Catasetum* is no doubt the nearest to C. Trulla, and at first sight I inclined to consider it as a mere variety of that species; but the characters of the lip, so constant in all the flowers seen by me, are so different from those of the true C. Trulla, that I resolved to describe it as a new species. It is very difficult to give a good idea of this very striking plant. The old C. Trulla, described in 1840, was never very common in England, and *Catasetum* has never been fashionable in our collections. Imagine a dense pendent raceme of about twenty flowers, each 1½ or 2 inches across. The petals and the dorsal sepal are connivent, and form a sort of cup; the lateral sepals are spreading, and all these parts are dull grassy-green; the lip—the botanical characters of which are pointed out in the diagnosis—is also green, with blackish-brown on the edges and the lower parts of it. Green and brown are not the colours to make a flower bright and attractive, and the plant will never become a serious rival to the Cattleyas and the *Odontoglossa*, but everybody who likes to turn his eyes from these big blotches of purple, and rose, and yellow to the more modest colours will be more than satisfied by the striking forms of the *Cataseta* and several allied genera. It is to be hoped that some amateurs will turn their special attention to this group, the generic peculiarities of which are of the highest interest, and till now unknown for the greater part of the described species. The culture of *Cataseta* is by no means difficult, K.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM VEXILLARIUM.

If amateurs and gardeners will examine any plants of this species not in good health, they will probably find traces of thrips; the tiny insects themselves are not always visible, although they sometimes come out in very warm weather from the axils of the leaves. I was recently looking over a collection of Orchids, and on coming to a group of well-grown specimens of this *Odontoglossum*, I found several plants had damaged leaves, which I

* *Catasetum Liechtensteinii*, n. sp.—Affine C. Trulla, Lindl., C. tridentat., Rchb. f. Racemo compacto pendulo; bracteis oblongis acutis dimidiis ovarii aequantibus; sepalis petalo-
loque intermedio conniventibus; sepalis lateralibus divergen-
tibus omnibus subimbricatis oblongis acutis acuminate
viridibus; labellis manifeste trilobis lobis lateralibus basi rotun-
datis extus rectangularibus acutangulis sparsim serrulatis, lobo
intermedio longe triangulari acuminato apice incrassato marginem
omnino integro, toto labello plani viridi margine presertim
ad apicem loborum fuscis, medio in disco bruno-
adspersis; gynostemio brevi dentibus 2 longissimis subulatis
in medio ungue labelli descendebatibus; antheram non vidi, pol-
linis angustis oblongis, caudiculis lineari angustis, glandula
pro genere minus.—Accepta a domino W. Leuchs, principis
Liechtenstein horticulture fautoris hortulano. Dr. Kränzlin.

was informed happened by fumigating the house with tobacco-smoke. I was convinced from the very first that this fine *Odontoglossum* would not stand the fumes of tobacco-smoke strong enough to kill thrips. The only way to keep them clean is to periodically dip the plants in tobacco-water. We have large specimens about twelve years old that have been kept in good health by dipping the leaves about once in six weeks as a preventive. The last dipping must take place just as the flower-spikes are coming up, and they cannot be dipped again until the flowering period is over, as the tobacco-water injures the flowers in bud. Cool Orchids are often injured by tobacco-smoke, although they are sometimes fumigated. On one occasion I smelt tobacco-smoke in a structure, and enquired of the gardener if they fumigated the cool-house Orchids. "Well," he replied, "we are supposed to do so, and I put in the fumigator to make a smell." J. Douglas.

ODONTOGLOSSUM PHALENOPSIS.

A well-flowered specimen of this species is a very distinct and pretty feature in a collection of Orchids, but it does not seem to prosper so well as O. Roesslii and O. vexillarium do. I remember the late Mr. Snyers saying that it was subject to the attack of a small species of thrip, almost invisible to the naked eye. Probably this is the reason that the plants are seen in good collections to a declining state of health. I have not seen a really good well-flowered specimen since Mr. John Ward exhibited it about fifteen years ago at the summer exhibition in London. The two fine plants grown by him were sold at Stevens' Rooms, King Street, Covent Garden, for 30 guineas each. I have followed his system of culture, and our small stock of plants does well. They are grown in a compost of peat and sphagnum, and are kept near the glass on the shady side of the cool-house. Mr. Ward repotted his plants in February, and they had been grown for many years without being divided. I find they do not like being divided, and we now repot the large plants every second year; merely surface dressing with some fresh clean live sphagnum and fibrous peat when they are not repotted. The plants are dipped occasionally to destroy this tiny insect pest, and it is a good time to do so before surface-dressing them. I use soft scapy-water, with a little tobacco-liquor in it. J. Douglas.

LELIA GRANDIS VAR. TENEBROSA, Reichenbachia, 2nd ser., t. 33.

A very dark and exceedingly distinct form, the sepals and petals flatter than in the type, less undulate, and of a decided copper-bronze tint, and the lip purple, more or less margined with white, with some deep purple at the sides of the throat. Native of Brazil, near Bahia.

CATTLEYA LABIATA VAR. LUDDEMANNIANA, Reichenbachia, 2nd ser., t. 34.

This is stated to be synonymous with C. Dawsoni, and is subject to variation in colour from pure white to light rose-purple, but all are readily distinguishable by the relatively narrow lip. There is generally a pair of pale yellow or white blotches at the top of the throat, with lines of reddish-purple on the disc. Its flowers are produced on the newly-formed growths of the current year, and before the resting season. It should be grown in the Dendrobium-house, a sunny, bright, and very warm position suiting it best.

ODONTOGLOSSUM CORONARIUM, Reichenbachia, t. 35, 2nd ser.

This, says Mr. Sander, is best grown in cradles, thus affording plenty of drainage, in peat and sphagnum, and plenty of moisture, near the roof of a cool moist-house.

CATTLEYA GRANULOSA VAR. SCHOEFIELDIANA, Reichenbachia, 2nd ser., t. 36.

The difficulties to be overcome in collecting this and other Brazilian Orchids are not to be lightly estimated. Growing in the forks of trees, surrounded

by the accumulated *débris* of years, they form the abiding place of myriads of ants—significantly called fire-ants, scorpions, and the diminutive but virulent snake of the country. With these obstacles to face, the collector has oftentimes been brought to a standstill, and has to exert all his eloquence and persuasive powers to induce the natives to venture on a task from which he himself shrinks. More often than not, to settle all doubts, the tree is cut down, and hence is opened the chance for a little nefarious business on the part of his native assistant, who, if so inclined, has the opportunity of substituting some more easily-reached plant, the appearance of which differs so slightly, that to pass it is excusable. The treatment of *Cattleya amethystoglossa* will admirably suit *C. Schofieldiana*; placed in the warmest end of the *Cattleya*-house, with considerable moisture during the growing season, potting in the same way, and keeping comparatively dry during the season of rest, it will do easily and well, flowering freely, and proving itself one of the most attractive objects to be found in any collection of Orchids.

COLONIAL NOTES.

TRINIDAD.

THE Annual Report of the Royal Botanic Gardens for the year 1890 is quite an imposing document, giving full particulars of the garden and its departments, together with numerous photographs of characteristic trees. Mr. Hart has an interesting note on *Coryanthes macrantha*, in which it is shown that while bees effect the fertilisation of the flower, they do not, as alleged, feed on the fleshy plates of the lip. It is the black-beetle (*Blatta occidentalis*) which does this part of the work. The average rainfall is about 65 inches, the greatest fall being in June, 7·8; July, 9·3; August, 10·6; September, 8·0; and falling as low as 1·8 in February and March. The mean annual temperature is 77°·5, average maximum, 86°; average minimum, 69°; highest in September, 89°; lowest, February, 66°.

JAMAICA.

Mr. G. S. Jenman continues his descriptive list of the Ferns of the island in the *Bulletin* of the Botanical Department, Jamaica. It is to be hoped it will eventually be published in some more generally accessible form.

CEYLON.

Mr. J. Alexander has issued a brief account of the timber trees of the Central province, on the occasion of the Colombo Exhibition.

THE CULTURE OF PRIMULA SINENSIS.

WE hear much of the good cultivation of the *Primula* in these days, and our young men are inclined to boast of their exploits, and some old ones as well, who have forgotten the successes of the gardeners of 30 and 40 years ago; and they are apt to imagine that *Primulas* were never so fine or so large as now. The writer knew one of the Wells of Redleaf fame—proprietor and gardener were alike named Wells, who could grow the good ordinary strain of *P. sinensis* for winter blooming up to 2 feet and more in diameter. The seed, mostly home-saved, was sown in April and May in pans that were kept in a Melon-pit or mild hot-bed, and always close to the glass. Here they remained till the seedlings had made a rough leaf or two, when the seed-pans were looked over, and all those plants that had reached that amount of development were lifted with a sharp-pointed label carefully out of the mould, and pricked-off into other pans—generally in a line round the edge; and if there were many, two lines might be made. The middle was always left bare of plants, as it was generally found that they damped-off there from excess of moisture—probably, just as in the opposite way we find seedling tuberous *Begonias* go off near the sides of the pans they are pricked-off or sown in.

These pricked-off *Primulas* went—together with the seed-pans, which had been carefully levelled by putting some sandy loam and leaf-mould into the holes made in transferring the seedlings—into the place whence they had been taken, first affording them all a gentle watering. These plants would stay there for a fortnight, and at the expiration of that time, if the hotbed had not declined much in warmth, they would be placed in a cool pit kept moderately close. This pit was filled up with a coal-ash bed to within 1 foot of the glass in front, and 1½ foot at the back, and the *Primulas* were stood on inverted pots so as to bring them well up to the light. In very hot days a mat might be thrown over them

conservatory, well repaying the gardener for his pains. Of course the gardener had two successions of plants under way at the same time—the one year and the two year—and a considerable amount of glass was occupied with them.

As our readers know, the *Primula sinensis* is not a plant of annual duration, although we choose to cultivate it as if it really were an annual, so that there is nothing abnormal in the plant lasting for two years.

In some places and soils the *Primula* is apt to go off with canker between wind and water, but I have found that a good admixture of burnt earth with the potting soil, sprinkling also a little over the surface of the ball when the potting of the plant is finished, will in a great measure protect the plant from this evil. M.

ZYGOPETALUM LINDENI.

WE here present our readers with a figure of this singular-looking Orchid, which was introduced by *L'Horticulture Internationale*, Brussels, and named in honour of Madame Lucien Linden. For a full description of the plant we would refer our readers to our issue for December 26, 1891, p. 759.

MR. T. C. HEINEMANN'S ASTER FARM AT ERFURT.

THE accompanying illustration (fig. 28), taken from a photograph, supplies an excellent representation of one of the extensive Aster farms of Germany, that of Mr. T. C. Heinemann, of Erfurt. Erfurt is one of the great centres of the seed-growing industry on the Continent, and as Aster seeds are in great demand, it is necessary that the plants should be grown very extensively, in order to furnish an adequate supply. The picture of the Aster beds, given in the representation, may convey to the readers of the *Gardeners' Chronicle* some idea of the large extent of land devoted to their culture. The greatest care is taken to keep the several types true to character, and of uniform fine quality; and the competition among the growers of Asters in Germany and other parts, operates to maintain these features. The introduction of new types during the past ten or twelve years, of which the Comet Aster forms so distinguished an example, has been remarkable.

On the large Aster farms, seeds are sown in pots or pans, or in the open ground. In the case of the latter method, sowing generally takes place at the end of March or early in April; the seeds are placed thinly in drills, and covered with fine soil. Many, probably most of the growers, cover the seeds sown with frames; they are protected by means of straw mats by day, and from the sun by shading, when at its greatest power. Something like ten days are required for the germination of the seeds, and as the seedlings increase in size, air is admitted in order to induce robustness and a hardy character. At this stage insects are liable to injure the young plants; woodlice and a black spider are the most troublesome. The plants are thinned out as required. They are well cared for in all stages of growth, and they bloom during August and September. It is sometimes the practice to make successional sowings, but the most vigorous plants bearing the finest flowers are said to be produced on plants sown at the end of March.

When the seeds are sown in pots or pans, it is usual to cover them with a piece of glass whitened upon the upper side. This is done to temper the sun's rays; it prevents a too rapid drying of the surface, and prevents insects from attacking the seedlings. It is the usual practice to start these seeds in a warm frame or in a house of a temperature of 65° or so. When the seedlings are through the soil the glass is raised on one side to admit air, and the white covering to the glass is washed off in order to admit light. The glass is dispensed with as soon as the leaves of the young plants touch it.

At the end of March these seedlings are pricked



FIG. 27.—*ZYGOPETALUM LINDENI*.

from 12 o'clock till 2, but as a matter of fact, they had to get used to full sunshine by July. When large enough they were potted and repotted, until by the autumn they had got into large 48's, and always kept close to the glass in the cold pit. A little manure-water, guano-water was afforded them, and no flower was allowed to show. In winter the plants were kept in a pit impervious to frost, and always gently moving, no flowers being allowed to develop. In the spring they were shifted into 32's, and in August into 24's, the treatment being similar in every way to that of the previous summer.

In October of the second year they were 2 feet, and some of them nearly 3 feet in their stretch of foliage; and when at last—say, late in the year—they were allowed to flower, they really formed a showy feature in the

in prepared beds in the open. A light rich soil is employed to grow them, and top dressings of vegetable mould given the plants at distances apart according to the character of growth. Some protection is given by night if required, and water early in the day when the atmosphere is warmest. It is the practice of some growers to transplant during the first half of June, giving the plants much more room in which to develop; but this is more particularly the case with those desirous of obtaining extra fine blooms. The plants are cared for in the matter of watering, and the surface is kept stirred and clean. Plants treated in this way will produce a large number of very fine blooms. The foregoing details are intended to impart some idea of the practice generally adopted on the German seed farms, rather than as illustrating the practice of any particular one. There are differences of details in culture, as in the case of our home establishments,

but be this as it may, as gardeners, we must yield to the wishes of our employers, and should meet reasonable requests cheerfully. At the same time gardeners deserve consideration, and ought not to be expected to revolutionise a system of plant culture in a season with little or no additional outlay. Exotic plants do not spring up spontaneously in this country, and time and money are needful if some kinds are to be replaced by others.

Many of the plants, however, that are best for furnishing flowers are readily increased, and, once a stock is obtained, the desired number can be maintained without much difficulty. I will name a few of these, giving a brief description of my treatment of them—at least, of such as we grow in quantity to supply the demand for cut flowers in the dull season.

Of these, perhaps the deciduous *Calanthes* are the most useful, they being not only very floriferous, and their spikes graceful, giving them a charm when

Eucharis are indispensable, and of the several species under cultivation *E. amazonica* is still the best and most free to bloom. Its spikes of pure white flowers are always valued, and they are pretty when arranged alone with suitable foliage, or when associated with those of *Cliveas* or similar subjects. I grow this plant together with *Pancratium*, *Hymenocallis*, and *Phaius grandifolius*, in the stove, where at no time they are allowed to feel the want of water either at the roots or over the foliage, and they push numerous flower spikes twice in the year once at the present time when they are most useful, I am loth to disturb the bulbs of large plants, and only do so when they begin to grow less vigorously, which they usually do in four or five years after being repotted. This failing in health arises from the crowded state of the bulbs and a soured and infertile soil. The potting soil consists of fibry loam, mixed with a moderate quantity of peat and

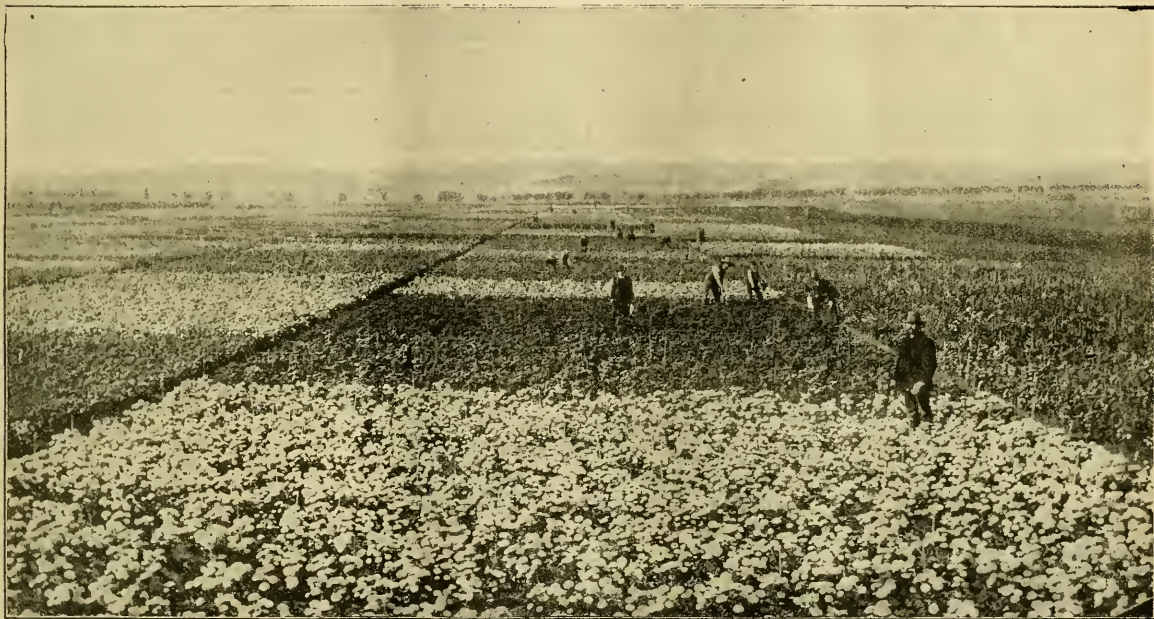


FIG. 28.—ASTER GROUNDS, IN F. C. HEINEMANN'S NURSERY, ERFURT. (SEE P. 172)

Early blooming is necessary to secure a good harvest of plump, well-matured seed-grains, and it would appear that while the character of the weather in this country during last summer was of a nature to interfere with the proper maturation of *Aster* seeds, the Erfurt seed harvest was generally of a favourable character. One noticeable development in the *Aster* of late is in the direction of greater brilliancy of hue; the ruby, scarlet, and crimson-flowered varieties are now remarkably fine, and of the greatest decorative value. *R. D.*

POT PLANTS FOR CUT FLOWERS.

THE grand specimen hard-wooded plants that required great skill to grow them, and which were the pride of their possessors, have, in many gardens, given place to a more easily-grown class of plants suitable to furnish flowers for vases, &c. Some gardeners consider this to be a retrogressive movement;

mixed with suitable foliage, unequalled by any other cheap and easily managed plant, but the blossoms last a long time in perfection, both on plants and after they are cut. Their culture is simple. The pseudo-bulbs should be potted when growth begins, and placed on a shelf near the glass in a stove, and very sparingly watered till the roots have obtained a good hold of the soil, when more liberal supplies become necessary. Liquid manure should be occasionally afforded the plant at that time. The plants should now be syringed, and although they delight in atmospheric moisture, they must be protected from powerful sunshine, and water gradually withheld as the foliage decays, and entirely so while the bulb is at rest. A good compost for *Calanthes* consists of fibrous peat and loam in equal parts, mixed with a moderate amount of silver sand and dry cow manure. Free drainage is needful, and 6-inch or 7-inch pots should be employed if large spikes are coveted. The varieties and species have become numerous, and we have this season flowered some pretty seedlings raised from seed sown three years ago.

sand; liquid manure and soot water are freely employed during the season of active growth, and bright sunshine is at all times excluded from the plants.

The common white *Arum* is another plant that produces valuable flowers or spathes for cutting, and particularly suitable are these, assisted with their own foliage, for filling large trumpet-glasses or similar vessels. This plant can be well cultivated under different modes of treatment. I adopt the following. Early in June the plants are taken from their pots, much of the soil shaken from the roots, their suckers removed, and any that have two or more stems are divided, confining each plant to a single stem or crown. These are planted out in trenches, where they are carefully watered, and assisted with liquid manure. In September they are lifted, and potted in 8-inch pots, the soil used being loam, to which a little leaf-soil is added. When potted, the plants are placed in a cool pit, and kept rather close, syringed, and shaded, until they have recovered from being lifted, when they are given plenty of air, and

exposed to the sun. They soon establish themselves in the pots, and are then removed to a warm house in quantities as required. Here they demand copious supplies of water and liquid manure. I am growing the miniature form, but have not had sufficient experience with it to enable me to speak with certainty of its merits.

Of *Cypripediums*, *C. insignis* is one of the freest of winter-flowering species, and although frequently neglected, its blossoms are invaluable, and last a long time in perfect condition. During the summer months my plants are grown in a cool-house, where they are partially shaded by Roses on a trellis, and continually have a gentle current of air. Here they succeed well, making luxuriant growth, but in winter they are placed in an intermediate temperature, where they blossom freely. This plant is not very particular about soil, growing well in peat, or a mixture of peat and fibry loam. Plants that are well-rooted, and in good health, enjoy weak applications of liquid manure made of sheep's droppings. *Thomas Coomber*.

TREES AND SHRUBS.

DIERVILLA HORTENSIS.

DURING the summer months the Japanese *Weigela* form a very important feature in the shrubbery-border, the colour of their flowers varying from white to rich red. *Diervilla hortensis* is without doubt one of the finest and freest bloomers of the white-flowered section, and the flowers are borne in great profusion along the shoots for about 20 inches to 2 feet from the tip. A clump of several plants, or a good-sized plant, with its branches radiating in every direction when in full flower, is a sight well worthy of anybody's attention. It is not at all particular as regards soil, flowering freely in most kinds, but it delights in a sunny position, so as to have its wood thoroughly ripened. Unfortunately it is apt to be cut by very severe winters, and more especially when young; but if some slight protection be afforded the plant, it will flower abundantly in June and July. It is very much sought after for forcing purposes, and it does not require a great amount of heat to induce it to flower, for if brought on gradually, and the plants removed to a cooler structure when they are about to open, the flowers will last for a longer period, and stand much longer in a cut state than if it be hard forced. Propagation is easily effected if cuttings be made either in autumn or February, and planted on a warm border, burying the cutting, which should be about 8 inches long, up to a couple of eyes from the top, the soil being pressed firmly round the base of each cutting, and by the following autumn they will have made nice useful stuff, and be fit for replanting. It also strikes root very readily if cuttings are taken off in August of the current year's growth, the wood being well ripened and made about 4 inches long, and dibbled round the sides of an ordinary cutting-pot and plunged in close cases in a warmth of 60°, and in spring these cuttings will be ready for planting out in the nursery. *H.*

THE CORSIAN PINE.

This tree (*Pinus Laricio*) stands ahead of all others of the evergreen tribe for fast growth. Not far from here, about 8 acres were planted with this variety and Scotch Fir, the latter predominating in numbers, about eight years since. It is plain enough to see now which variety grows the quicker. The Corsican shows a yard or more above the Scotch regularly over the piece planted. Many of them are now 11 feet high, which for evergreen kinds is a good growth, allowing, of course, for the time almost lost the first year after planting, as seldom do they make very much growth the first year. The wood of this Fir is said to be of good quality, and valuable for building purposes. If so, this, combined with its rapid growth, should render this tree one of the most profitable to plant. I do not think it is at all particular as to what soil it grows in, but like all evergreen Firs, is partial to a sandy loam. *S.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

TOMATOS.—If cuttings of Tomatos have been grown on through the winter, the beginning of February will be a good time for seed-sowing, but in cases where the first supply of this fruit has to be obtained from plants raised from seed, a start should have been made at the beginning of January with them, or as soon after as possible. If seeds are sown thinly in a rich compost, and given a warm temperature, plants will soon be secured.

CUCUMBERS.—To get Cucumbers by May, the seed should be started at the new year, and the plants in their early stages of growth treated the same as recommended for Melons. No time should be lost in getting the seed sown if not already done.

ROOT STORES.—In many gardens too little attention is paid towards providing a supply of vegetables for the late spring months from roots. I need hardly go into details here, but I may point out a few of the most useful kinds. *Salsafy* and *Scorzenera*: which are not used nearly so much as they deserve, owing, no doubt, to the trouble entailed in cooking. If the seeds are put in too early, half the crop is lost by running to seed, and when sown too late small roots are the result; too much manure, on the other hand, tends to produce forked or stringy roots. The so-called Chinese Artichoke (*Stachys tubifera*), though small, finds favour in a few establishments, and it is an excellent vegetable. I find the tubers keep best in the ground till required for use, taking care to cover with litter in severe weather; they may be had in good condition till late in the spring. Jerusalem Artichokes are too well known to need description, and, when well grown, are not to be despised.

Celeriac is not grown as much as it should be, although it is a valuable winter and spring vegetable. It can be readily grown, and if protected, the roots may be left in the ground till required for use.

Celery, although chiefly used as a salad, is, I consider, superior to *Seakale* as a vegetable, when properly cooked. *Cardoons*, again, are seldom grown in small gardens, but those who can give space and attention to their culture will find them valuable for early winter use; these succumb to severe frost, so require lifting at the approach of frost. *Chicory* is seldom used as a vegetable, but it is deserving of a place in large gardens. The *Witloef*, or large-leaved *Brussels*, may be forced slowly, and used in a similar manner to *Seakale*. The *Asparagus Chicory* is also worth cultivation, and resembles *Spinach*. *Carrots* are valuable for winter and spring use when sown in July, and the roots left in the ground during winter, but covered with litter in severe weather. These late roots, though small, are of excellent flavour, and always in demand in the winter months. The ground should be prepared by frequently forking over, and a free use made of lime or root and wood-ashes, as the roots are more subject to disease than the spring-sown ones.

Seakale and *Asparagus* come under the head of forced vegetables, but the former should be more generally grown on a late border, and covered in February with some light protecting material, to produce a late supply. I have referred to these roots now, so that in ordering the seeds for the year the foregoing subjects may not be overlooked. *Seakale* is best grown from root-cuttings planted in April.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Penrice Gardens, Swansea.

EPACRIS.—Plants going out of bloom should be cut back, after the soil in which they are growing has become somewhat dry. The cutting-back should be within 2 or 3 inches of the wood of last year, and any neglected in this respect will result in a few years in leggy and unsightly plants, many of the species and varieties having an erect habit. Great care is necessary in affording water, unless they have begun to emit fresh growth, and it will be much safer to err on the dry side than to over-water. A low brick pit, where the temperature is maintained at from 40° to 45°, until the plants commence to break, will be the most suitable for them. Should any plant require repotting, pot it in turfy peat of the best quality; also see that the pots are washed clean, and have perfect drainage by placing in the pot one-fourth its depth of clean crocks, large ones at the

bottom, finishing with quite small ones at the top. Sufficient sharp sand should be mixed with the peat to keep it open. A few of the roots around the outside should be loosened from the ball with a pointed stick, and when potting, the fresh material should be placed in the pot in small pieces, at the same time making it firm, by using a tapering potting-stick; and precaution should be taken not to place the ball deeper in the pot than it was previously, and sufficient space allowed for holding water enough to thoroughly moisten the ball at one watering, which on all occasions should be rain-water.

TUBEROSES.—In case the first batch of these have not been potted, no time should be lost in doing so; and to form a succession, fresh batches may be potted up at intervals of a month till the end of May. The bulbs may be potted singly in 6-inch pots, or three in an 8-inch, placing them round the sides of the pot, at equal distances apart. A good compost for Tuberozes is one consisting of a rich fibrous loam, with sufficient sharp sand to make it porous. In potting the bulbs, keep the tops a little above the surface of the soil, making the latter moderately firm. The pots should then be plunged in *Coccoa-nut* fibre refuse, or in a leaf-bed having a bottom-heat of 80° to 85°. They will require scarcely any water at the roots till started, and by syringing them occasionally they will receive, in most cases, sufficient water till growth commences. When the leaves have grown several inches, they should be syringed freely overhead with tepid water, so as to prevent the encroachment of the spider, and to serve as an aid to growth. To have large and well-developed spikes of bloom, tepid manure-water, or a light sprinkling of some well-tried fertiliser, should be afforded the plants occasionally.

GARDENIAS.—Young stock intended to be grown in pots, and now requiring more root-space, may have a liberal repotting into a compost consisting of three parts rich fibrous loam, one part leaf-soil or peat, and sufficient sharp sand to keep the whole porous. Grow the plants in a house having a night temperature of 60° to 65°, and by day of 70° to 80°. Syringe the plants freely when the weather is bright, to encourage a freedom of growth; and as mealy-bug is very troublesome, a constant watch should be kept for them. Large established plants which are now swelling their flower-buds should be occasionally assisted with tepid manure-water, or a sprinkling of some fertiliser. Syringe freely about 2 p.m. with tepid water, keeping the night temperature from 65° to 70°, with a rise of 5° or 10° with sun-heat, but do not wet the blooms.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

FRUITING PINES.—The beginning of February is a good time to empty the Pine bed and have it refilled with materials that will maintain a steady and prolonged heat. Oak and Beech leaves are undoubtedly the best things to employ for this purpose, and if obtainable in a fairly dry condition, so much the better. These ought to be made as firm as possible, and when tanner's bark can be easily procured, a foot in depth of it on the surface of the leaves will form an excellent bed to plunge the pots in. Sawdust and *Coccoa-nut* fibre refuse are also used for this work, but all are more a matter of appearance and convenience than as essential items in Pine culture, for good examples of this fruit are grown without the aid of either. When the bed has attained a temperature of 75°, transfer the fruiting plants, and the strongest of those from the succession-house into it; and in doing so, make the material firm around the pots. Bottom-heat thermometers will tell the degree of warmth, and if this does not exceed 90° at any time all will be well; but should it get beyond this point, loosen the pots to allow the heat to escape by their sides. Water applied to the roots once a week will be often enough, but the time to apply it will vary with the weather, and the kind to employ will depend on the plants themselves. For fruiting Pines, nitrate of potash, kainit, or soot, will be found useful, and growing plants will improve with the assistance of nitrogenous manures.

SUCKERS put in last autumn may now be repotted, using a compost of two-thirds good fibrous yellow loam and wood-ash, horse-droppings and bone-manure in a fine state to make up the other third. The compost should be of the same temperature as the atmosphere of the house, and in the condition that when squeezed by the hand the particles cohere but slightly. In potting, use pots 3 inches larger

than the ones the plants have been rooted in, and pot firmly. The succession-house will be the place for these, where a minimum temperature of from 70° to 75°, with a maximum of 5° to 15° higher, and a humid temperature is kept. Admit air when the sun raises the temperature 10° above the minimum, and increase the quantity in accordance with external conditions. Syringe the beds and damp the pathways in the morning, and when the house is shut up in the afternoon.

APRICOTS.—Admit air freely to the Apricot-house at all times when the external temperature is above the freezing-point, and see that the borders are not dry. The trees will be benefited by an occasional touch-up with the syringe on the mornings of fine days.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, Gardener, Barham Court, Maidstone.

APRICOTS.—The bloom buds of the Apricot are very liable to injury by early frosts, and considering that the buds are now plumping so rapidly, owing to the mildness of the weather, no time should be lost in bringing the pruning, nailing, and tying of the trees to a finish. If the spurs are numerous and long, a few of them should be cut back annually, which will give those that are left a better appearance, and the blossoms better protection from the wall. In many gardens, Apricot trees are very perplexing subjects for the gardener, for no sooner has a tree grown old enough to carry good crops of fruit than it begins to gum, with the result that many large branches will die. To get over this difficulty, we use glass coping, and this is what I would recommend, as since this coping has been placed over the trees, we have had no unsightly gaps in the trees, or any lack of fruit.

WORK IN GENERAL.—All fruit quarters where the pruning is finished should now be lightly forked over, just sufficient to bury small weeds, and sweeten the surface; large weeds being hoed up and collected into heaps, to decay, otherwise deeper digging will be necessary to bury them than is good for the trees. Manure put on as top-dressing should have stones mixed with it, as I have found that their presence gives excellent results, either when on the surface or forked into the soil; failing broken bricks, with a few shovelluls of earth, to keep the birds from disturbing it, thrown upon it. Any nails which have been drawn from the walls and are likely to be wanted this season, should be put on an old shovel and heated in a furnace and then plunged into lined oil, and when cool strained through a fine-meshed sieve, which treatment will, in a great measure, keep them from further rusting.

DAMSONS.—These are very hardy fruit trees, and consequently, are usually planted in exposed positions, or as protection for other fruits. For some reason or other, the Damson is often allowed to take care of itself, which is a mistake, as the past season showed, for where the trees were fairly well attended to, larger fruit was gathered, and the prospects for the coming year much enhanced. As much care should be exercised to keep the heads from becoming crowded, and the roots manured as advised for other fruit trees, care being taken not to injure the roots in digging the ground, as this is a fertile cause of suckers springing up. All suckers should now be grubbed up with a mattock, and if the tree is on its own roots, some of the strongest can be bedded in for future requirements. For pruning the Damson, use a *secateur*, it being a much handier instrument than the knife, and more quickly used. Keep the centre of the head quite open, and the branches well thinned; shorten back all long shoots.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

HERBACEOUS PERENNIALS.—Where the arrangement and the division of clumps of these plants have not been as yet attended to, no time should be lost in setting about this kind of work. In the planting or replanting of herbaceous plants in beds and borders, regard must be paid to the colour of the flowers, so that discordant combinations do not occur, such as two or more tints of the same or approaching colours; also the various heights to which the plants grow, and the rate of lateral increase in size, the form of the foliage and its extent. The necessary alterations which will have to be made in the arranging of the plants, as to colour, the following spring, should be noted down when the plants are in flower, the want of harmony in the

different shades of colour and heights of the several plants being then fully apparent. The dividing and transplanting of the bulbous and fibrous-rooted plants must be performed with skill, replanting the divided portions at about the same depth in the ground, assuming that they were not too deep before, and making the soil moderately firm and level about them. A dressing of short well-rotted manure should be laid on the border when the planting is finished, and slightly fork. Most herbaceous plants will do well in any fairly good soil, inclining to be light rather than heavy, and away from the shade of trees, that is, fully exposed to the beneficial influence of the sun all day long; but when given a light, sandy loam, enriched with well-decomposed manure, results of the most satisfactory description in size, form, texture, and colour of flowers may be looked for.

THINNING AND TRANSPLANTING TREES AND SHRUBS.—There is still time to thin out crowded shrubberies, and transplant the shrubs, &c., if these be taken up with good balls in other quarters. In pruning trees and shrubs into any desired shape, care should be taken to leave no visible signs of the pruning-knife or the saw. All that requires to be done is to exhibit them in symmetrical and graceful outline, and the workman to exercise judgment and skill in giving effect to his ideas on these points. There should be no mere cutting and slashing of the branches, with no definite notion of what is wanted; but, on the contrary, if a tree or shrub is lop-sided, or branch is too luxuriant in its development, these points should be remedied by cutting in here and there, and by that means diverting the flow of sap to other parts, and so produce a uniformity of development. Flowering shrubs and trees, to wit Forsythia, Vitex, Guedrea rose, Calycanthus fragrans, Chimonanthus, Syringa, Philadelphus, Quince, Kholerutera, and Laburnum should have most of the weak growths cut back to within one or two buds of their base, and shortening unduly long growths [if not flowering ones]. Use the knife very sparingly on trees of drooping habit, especially in the case of those trees whose young erect growths acquire a drooping form when in flower, being weighed down by their own inflorescence—the Laburnum being one in point. Any dead or decaying branches that happen to be on trees or shrubs should be cut back into healthy wood, and the wounds made smooth.

GENERAL WORK.—This will consist in paring edgings of turf, sweeping lawns, and dressing moss-covered ones with a slight sprinkling of gas-lime. Impoverished lawns may be improved in appearance by top-dressing them with a mixture of sifted loam, leaf-soil, wood-ashes, and a small quantity of fresh soot. If a 6 inch potful of Thomson's Vine and Plant Manure be added to one bushel of fine garden-soil or leaf-mould, a like result would follow. When the dressing has got washed down to the roots of the grasses, the lawn may be rolled—not before. If moss is very thick, and its presence in the grass is disliked by the family, which is by no means always the case, as much as possible should be dragged out with a rake before dressing it.

THE ORCHID HOUSES.

By H. A. BURDELL, Orchid Grower, Highbury, Birmingham.

DENDROBIUM.—For this desirable genus the most suitable house is a lofty one, well exposed to the sun. The summer blinds should be made from very thin material. Many of the genus grow best in shallow pans or baskets, the smaller the better, and these should be suspended close to the glass of the roof. Denobros, in most establishments, will be somewhat scattered in various houses at this season, and there the plants should remain until the sun gains power. *Dendrobium Wardianum*, *D. crassinode*, *D. Finleyanum*, *D. nobile*, *D. Dominianum*, *D. Ainsworthii*, and *D. heterocarpum*, which may be required to flower late, may still be kept in a temperature of 40° to 50°; and those which have flowered or are still flowering may be accommodated in an intermediate temperature, where the growth will be slow till the season is more advanced. In a compartment which is kept at a temperature of 60° to 65°, and the air is moderately dry, we rest the *Dendros* from Torres Straits, viz., those valuable winter-flowering species, *D. bigibbium*, *D. superbiens*, and *D. phalaenopsis*. Since the month of October until the present time, we have had them in flower, and some of the flower-spikes have measured from 2 to 3 feet in length. This division also contains others that will not stand

resting in very cold quarters, namely, *D. stratiotes*, *D. Bensoni*, *D. formosum giganteum*, *D. Huttoni*, *D. aggregatum majus*, *D. Desaii*, *D. Macfarlanei*, *D. Lowii*, *D. superbum*, and *D. rhodostoma*. *D. chrysanthum* is also kept here, as it is a species which has no season of complete rest, and it is now growing freely. If the compost is not in sweet condition it should be renewed, using good peat and sphagnum moss. Some species that are found to grow well in the Cattleya-house, and never removed from it, are *D. thyrsoideum*, *D. densiflorum*, *D. suavisimium*, and *D. chrysotoxum*.

PRUNING DENDROBIUMS.—I cannot recommend this practice. Nothing more than the cutting off of a few of the oldest stems which have become unsightly should be done.

POTTING.—The repotting of Orchids should be pushed forward, and a good supply of clean crocks and pots and baskets, sphagnum, and peat prepared. A commencement may be made with *Laelia anceps*, should any require repotting or rebasketing, especially any which may have begun to form fresh roots. It is a good plan when repotting these plants to place each leading growth so that it may grow towards the centre of the pot, so as to form a natural-looking self-supporting mass. This is better than letting them grow over the rim of the pot, and calling for repotting the next year. The white varieties of *L. anceps* I prefer to repot or rebasket in the month of September, as their roots are active throughout the winter, and these are more inclined than others to stray over the sides of the pot, and on this account the plants should not be repotted unless there is real need for it; but the young roots should be trained or directed so as to enter the compost, otherwise they will be injured in various ways. *Phalaenopsis* may also be repotted, after thoroughly cleaning the roots of all decayed materials. *Phalaenopsis* are best suspended near the light, in baskets or pans.

THE APIARY.

By EXPERT.

CLIPPING QUEEN'S WINGS.—The practice of cutting the wings of queens, with the object of preventing swarms from absconding, has never found much favour in this country, although it is largely resorted to in America, and in this, as in some other of the practices connected with the management of bees, there is no question that they are ahead of our country across the water. Some time ago a beekeeper there, who was evidently in favour of this mutilation of queens, suggested that, if sticks were stuck in the ground, at an angle of about 45°, near the hives, the queen on issuing, and finding herself unable to fly, would run up one of them, where the swarm would find her out and cluster. Unfortunately it happens that the queen is just as likely to go anywhere else as crawl up a stick, although she might do so by accident, and therefore like many another theory, this one is not of much practical value. One of the main drawbacks of clipping a queen's wings is, that the bees will dethrone her when they discover that she is imperfect—this occurring before she has a chance of leaving with a swarm. In such a case, the colony would probably be queenless for a considerable time, and reduced in numbers at a period when it should be gaining in strength. Supposing the bees do not depose the queen in this way, and everything goes right, so that the swarm issues forth, and she goes out with the rest; being unable to fly, she, of course, falls to the ground, where she stands the chance of being snappd up by a toad, or, in all probability, gets lost, unless some one happens to be near to secure her at once. Having secured the queen, the swarm may give trouble, as it has been observed that when queens are detained or unable to go with swarms, the bees seldom "cluster," and remain very much longer on the wing than when a queen is with them, oftentimes spreading themselves out, and alighting all over the apiary. If another hive in the locality happens to throw a swarm at the same time, if anything is amiss with either of the queens, the bees of the two swarms are almost sure to amalgamate and cluster together, so that a neighbouring bee-keeper may unwittingly reap an advantage at the expense of the owner of the clipped queen. It is altogether advisable in the management of bees to work on lines that are opposed as little as possible to their natural instincts and proclivities, and there can be no question that the clipping of the wings of queens does not conduce to the well-being of the bees or the advantage of the bee-keeper, and that it is an unnecessary proceeding.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY	Feb. 9.	Royal Horticultural Society, Annual General Meeting, at 117, Victoria Street. Committees at the Drill Hall, James Street.
THURSDAY	Feb. 11.	Brighton and Sussex "New" Horticultural Society.
FRIDAY	Feb. 12.	Wakefield Paxton Society.
SATURDAY	Feb. 13.	Royal Botanic Society's General Meeting.

SALES.

MONDAY,	FEB. 8.	Carnations, Pyrethrum, Anemones, Lily of the Valley, &c., at Frotheroe & Morris' Rooms.
WEDNESDAY,	FEB. 10.	Palms, Greenhouse Ferns, Roses, Daffodils, Amaryllis, Begonias, at Frotheroe & Morris' Rooms.
THURSDAY	FEB. 11.	1000 Choice English-grown Roses, and 1000 Fruit Trees at Stevens' Rooms.
THURSDAY	FEB. 11.	Cypripedium spectabile, Tuberoses, Gladioli, Home-grown Lilies, &c., at Frotheroe & Morris' Rooms.
FRIDAY,	FEB. 12.	Imported and established Orchids at Frotheroe & Morris' Rooms.
SATURDAY,	FEB. 13.	Border plants Tuberoses, Amaryllis, Palm seeds, &c., at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°J.

No one can look upon a collection of these garden flowers in all their rich and varied colours without admiring the work of those patient florists who, by skill and perseverance, have been able to so change the appearance of wilding plants, that even experienced botanists are unable confidently to trace the origin of some of the productions of Art with Nature combined. The production of choice florists' flowers from seeds is not a matter of mere guess work, and the cultivator must not trust to chance.

Take the show Auricula, for instance. It is not easy to discern in the curious green, grey, and white-edged corollas, with the exquisite combination of colours and symmetrical form, the simple yellow-flowered *Primula Auricula* of the Alps, or, indeed, any of the alleged original forms mentioned at the *Primula* Conference. We may fairly ask the question, "Why have certain species become improved, while many other alpine *Primulas* have not changed their character?" One reason is, that many of them do not take kindly to cultivation. They will grow fairly well for a few years, but do not increase freely, and cannot long be preserved without the most skilful culture; such delicate subjects are not likely to be improved as garden plants.

Of all the alpine *Primulas*, *P. Auricula* is probably the most amenable to garden culture. It may be, as shown at the Conference, and in the discussions in these columns which followed it, that all the variation in the *Auricula* is not exclusively derived from *P. auricula*. Probably the purple *P. venusta* has become in

some way linked with it. The alpine *Auricula*, as it is termed, must not be in this connection; it is, as much as the show *Auricula*, a garden plant, but it has not yet put on anything like the same amount of variation. One parent of these alpine *Auriculas*, *P. pubescens*, is supposed to be a natural hybrid.

Rightly or wrongly, the florists have pretty unanimously decided that the main point in the standard of excellence of an *Auricula* or other garden flower of this type is "form." This point is essential, and the cultivator works up to this. The seed-bearing parent, at least, ought to produce flowers of rounded and symmetrical form, broad, and of good substance; the edge of the petals without roughness or indentation upon the edge. It is rather remarkable that anything like a perfect green, grey, or self-edged *Auricula*, from a florist's point of view, was not obtained until the production of Lancashire Hero, raised by a Lancashire hand-loom weaver, Mr. ROBERT LANCASHIRE, in the year 1846. Later, even better results were obtained by Mr. RICHARD HEADLY, who produced quite a model show *Auricula* in George Lightbody, a grey-edged variety. Even now, after a lapse of forty years, this kind obtains the prize as the best show *Auricula* in the exhibitions.

The florist, in hybridising for raising new varieties, must be careful to keep the four classes distinct. The green-edge is always placed first, but, according to Mr. Douglas, it is probably the most difficult class to improve. The most interesting way is to deal with one class only at a time; and although the green-edged section is the most difficult of the four, it is as easy for the tyro in the work to deal with that class as with any other. The two best varieties at present in the trade are Prince of Greens and Rev. F. D. Horner; they have both faults, but the one has qualities that the other lacks. The first-named has a weak watery throat to the corolla, which dies off a blackish tint before the other part of it does; Rev. F. D. Horner has a good yellow "tube," as it is termed, but an angular paste, which the florists have decided ought to be circular. By crossing these two, we may hope to obtain a new green-edge with the round paste of Prince of Greens and the golden tube of Rev. F. D. Horner. If we could obtain a seedling with the best points of each variety with the bad eliminated, this would be a vigorous plant, throwing up a full truss with stout footstalk. The corolla well formed, the throat yellow, the paste round, white, and thickly laid on; the ground colour almost black, the edge quite green and free from the farina spots. This is a fault from which many green-edged *Auriculas* are not free; indeed, out of a hundred seedlings from such purely green-edged varieties not more than one or two would have the edge green, minus the small white farina dots.

The grey-edged class, which is intermediate between the green and white-edged, frequently merges into the other. For instance, Lancashire Hero, alluded to above, has often been exhibited and has won first prizes as a green-edged *Auricula*, although it is usually grey. A seedling of Mr. Douglas's, Mrs. Moore, received several First-class Certificates as a green-edge, but it is, we believe, usually grey. The green-edge state invariably comes from a truss which has been formed in November or December, deep down in the axil of one of the lower leaves. The truss slowly develops and the flowers expand about the end of April. Why a centre truss never has a green edge, while a side truss often develops green-edges, is a question we may ask, but who would venture to give a reply? Such questions as

these continually crop up in the daily life of the florist. George Lightbody is a model grey edge, and may be crossed with Marmion or Mrs. Moore aforsaid, both vigorous growing sorts.

The white-edged class contains some good old varieties of vigorous constitution, and grow into full-sized plants, which the best of the new ones, Conservative and Acme, do not. The best seed bearers of these old varieties are Taylor's Glory, Smith's Ne Plus Ultra, and Heaps' Smiling Beauty. Any of them may be hybridised with the pollen of Conservative or Acme.

Although it is right to insist on keeping the classes by themselves, the fancier must not suppose that his seedling plants will be all of the same class as the seeds were saved from. This is by no means the case. There will be yellow selfs, and some from which all trace of the maroon or dark purple colour of the parents have fled, leaving a yellow ground, with a white, grey, or green edge. Many will have lost all trace of edge, and come out as full blown maroon or purple selfs—evidence of the old *P. venusta* parentage. The selfs of the florist seem to be totally distinct from his edged flowers, and although from these edged flowers there are plenty of selfs amongst the seedlings, we never have a reversion the other way, edged flowers being rarely, if ever, produced from selfs. The reversion of the edged flowers to selfs is nothing more than a natural tendency which all cultivated garden flowers had to revert to the primitive state from whence they have been derived.

The time for saving seeds of the *Auricula* will soon be here, and we may conclude with precise instructions, for which we are indebted to Mr. DOUGLAS, how to proceed. Before the corolla (pips) are quite open, take the plant, and invert it, and with a pair of sharply-pointed scissors cut the stamens quite out, the pollen-cases will not have burst; this is to prevent any chance of the seed-bearing parent being self-fertilised. In two or three days the stigmatic part of the flower will be ready to be fertilised with the pollen of the male parent. The pollen should be dry, and be conveyed to the stigma with a fine brush. The flowers upon a truss are not all open at one time, and it may be ten days before one truss is quite finished. The seeds ripen in July, and should be sown at once. They will vegetate during the autumn and ensuing spring months in a shady place under a hand-light.

ROYAL HORTICULTURAL SOCIETY.—The Society's second show this year will be held in the Drill Hall, James Street, Westminster, on Tuesday, February 9. Besides the usual plants, flowers, and fruits to be submitted to the various committees, a Silver Medal, presented by Messrs. BARR & SON, will be offered for the best collection of forced Daffodils, Polyanthus varieties excluded. At 3 o'clock, instead of the usual lecture, the annual general meeting of the Fellows will be held in the Lindley Library, 117, Victoria Street, when the Report for 1891 will be submitted, and officers for the current year elected.

NATIONAL ROSE SOCIETY.—A meeting of the Executive Committee will be held, by kind permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 9th inst., at 3.30 p.m.

HYACINTH AND TULIP SHOW AT HAARLEM IN APRIL.—Last autumn, two show beds of Hyacinths were planted in Meers. E. H. KRELOE & SON's nursery grounds at Haarlem, each containing more than 600 bulbs, selected from the best, most choice, and newest varieties. In April next, these beds will present a brilliant show, and be a great



INK-PRINC. SPRING 8.1. 1892. EAST-GLASGOW STREET FETTER LINE, GL.

HEDYCHUM CORONARIUM, GLASGOW BOTANIC GARDEN.

attraction to English visitors on an Easter trip to Haarlem. A spacious tent will be put over the beds during the flowering period. Similar shows were held in the same gardens from 1880 to 1881, and again in 1889, and they have always attracted much attention from native and foreign lovers of the Tulip. Near these Hyacinth beds are two large beds of early florist's Tulips, single and double varieties, and a separate tent will be devoted to them. Messrs. KRELLAGE & SON will endeavour to get their Tulips to flower at the same time as the Hyacinths, as they were able to do in 1889.

THE LINNEAN SOCIETY.—On the occasion of the meeting of the Linnean Society on January 21, Professor STEWART, President, in the chair, Messrs. B. J. AUSTIN, STANLEY EDWARDS, and F. TURNER were elected Fellows of the Society, and Mr. T. J. MOORE, of Liverpool, an Associate. On a motion by the President, it was unanimously resolved that an expression of respectful sympathy should be conveyed to Her Majesty the QUEEN, and to H.R.H. the Prince of WALES, on the loss sustained by the death of H.R.H. the late Duke of CLARENCE AND AVONDALE. Mr. D. MORRIS communicated some further notes upon the tick pest of Jamaica, upon which an animated discussion took place. A paper was then read by Mr. F. E. WEISS, "On the Development of the Caoutchouc, containing cells of *Eucommia ulmoides*, Oliver." He found that the bark and leaves of this tree, used medicinally by the Chinese, and called by them "Tu-chung," contain numerous elastic threads of silky appearance, which proved to be of the nature of Caoutchouc. They are contained in long unbranching cells, somewhat like latex cells which are found in the cortex and in the secondary phloem, and accompany in large numbers the ramifying bundles of the leaf and the pericarp. Unlike the ordinary latex cells, they are not derived from specialised cells of the embryo, but originate in all new growths, and can be seen forming in the cortex, the pith and the parenchyma surrounding the bundle of the petiole. They originate in twos, by longitudinal division of a very granular cell, both daughter cells growing out at their two extremities into a long tube, which makes its way along the intercellular spaces by sliding growth. They never contain more than one nucleus, and the large granules of Caoutchouc, which soon make their appearance, finally coalesce into a single solid mass, which has, when the tissues are broken, the appearance of a silky thread. Mr. WEISS regards these cells as a primitive form of latex cells, similar to those from which the more elaborate ones of the ordinary Euphorbiaceæ may have been derived. The meeting was brought to a close with a paper by Dr. JEAN MÜLLER on the "Lichens of Manipur."

INTERNATIONAL HORTICULTURAL EXHIBITION, EARL'S COURT, LONDON, 1892.—The following preliminary programme has been issued. Flower Shows:—May 7, Groups of Plants (flowering and foliage) from Nurserymen; Medals. June 27 and 28, Great Summer Flower Show; Cash Prizes. June 6, 7, and 8, Market Growers' Show; Medals. July 5 and 6, Roses, Table Decorations, &c.; Cash Prizes. August 1, 2, and 3, Market Growers' and Cottagers' Show (Carnations, &c.); Cash Prizes and Medals. September 7, 8, and 9, Autumn Flowers; Cash Prizes. October, two shows; 1. Hardy Fruits; 2. Hardy Ornamental Trees and Shrubs. In addition, there will be permanent displays of groups of flowering plants throughout the season, arranged for effect. The entire net profits will be devoted to such gardening institutions as the executive may select.

SCHEDULE.

GROUP A.

Class 1. Plant houses (*eg.*, conservatories, show houses, winter gardens), hot houses, vineries, peach houses, forcing houses, stoves, fruit rooms, frames; pits; 1 Gold, 2 Silver, 2 Bronze Medals, Certificates. Class 2. Systems of patent glazing and ventilation. Certificates. Class 3. Systems of heating, including hot water boilers; 1 Gold, 1 Silver, 1 Bronze Medal.

GROUP B.

Class 4. Lawn mowers (hand and horse machines); 1 Gold, 1 Silver, 1 Bronze Medal. Class 5. Garden rollers; Silver Medal. Class 6. Water barrows, syringes, pumps, spray distributors; 1 Gold, 2 Silver, 1 Bronze Medal, Certificates. Class 7. Garden tools and cutlery; Silver Medal, Certificates. Class 8. Thermometers, barometers; Silver Medals, Certificates. Class 9. Rain and snow gauges; Silver Medal, Certificates.

GROUP C.

Class 10. Garden tents; certificates. Class 11. Garden seats, band stands; Silver Medal, Certificates. Class 12. Flower stands and baskets for conservatory decoration; Silver Medal, Certificates. Class 13. Rustic summer-houses and seats; 1 Silver, 1 Bronze Medal.

GROUP D.

Class 14. Ornamental iron work for conservatories and hot houses; Silver Medal, Certificates. Class 15. Ornamental wire work, trellises, arches, aviaries, aviaries, borders; 1 Gold, 1 Silver, 1 Bronze Medal. Class 16. Fences, gates, tree guards.

GROUP E.

Class 15A. Shadings (various kinds); certificates. Class 16A. Paints and wood-preserving materials; Certificates. Class 17. Labels, sticks, Bamboo canes; Certificates. Class 18. Cocoa fibres, refuse manures, and silver sand; Certificates. Class 19. Ropes, lines, and twines; Certificates. Class 20. Russia mats, Archangel, Taganrog, and Petersburg; Certificates. Class 21. Raffia fibre; Certificates. Class 22. Fumigating materials and processes; Certificates. Class 23. Insecticides and weed-killers; Certificates. Class 24. Horticultural glass; Certificates.

GROUP F.

Class 25. Orchid and other pests; Certificates. Class 25A. Fuel for general horticultural purposes (Comparative value and enduring powers of various materials—coal, coke, gas, oil, &c.); Silver Medal.

GROUP G.

Class 26. Ferneries, portable and permanent; 1 Silver, 1 Bronze Medal. Class 27. Rockwork, built in natural stone; do., do., artificial material; 1 Gold, 1 Silver Medal.

GROUP H.

Class 28. Garden pottery; 1 Silver, 1 Bronze Medal, Certificates. Class 29. Statuary, fountains, vases, edgings, &c.; 1 Gold, 1 Silver, 1 Bronze Medal.

GROUP I.

Class 30. Tree transplanting machines; 1 Gold, 1 Silver Medal. Class 30A. Tree tubs; 1 Silver Medal, Certificates.

GROUP K.

Class 31. New or patent inventions amongst garden requisites; Silver Medal, Certificates.

GROUP L.

Class 32. Miscellaneous decorative requisites, such as bouquet-holders, papers, &c.

GROUP M.

Class 33. Machinery for seed cleaning and sowing. Class 34. Do., for extracting essential oils. Class 35. Perfumes. Class 36. Fruit evaporators. Class 37. Pumps, methods of irrigation. N.B.—Practical trials will be made in the various classes, where necessary, in order to arrive at satisfactory decisions.

GROUP N.

Class 38. Stands exhibiting models of produce from seeds provided by exhibitor; 1 Gold, 1 Silver, 1 Bronze Medal, Certificates. Class 39. Collections of flower and vegetable seeds; Silver Medal. Class 40. Do., agricultural seeds; Silver Medal. Class 41. Do., grass seeds (mixtures) for permanent pastures and lawns, according to soil; Silver Medal. Class 42. Flower seeds—12 most popular sorts; Silver Medal. Class 43. Vegetable seeds—12 most popular sorts; Silver Medal. Class 44. Grass seeds—6 sorts, distinct; Bronze Medal. Class 45. Agricultural seeds—6 sorts, distinct; Silver Medal.

GROUP O.

Class 46. Designs for the laying-out of a typical estate of 100 acres, enclosed by grounds, 5 miles

from town in Midlands, with ground sloping gradually towards south. Class 47. Designs for Improvements of grounds to private residences. Class 48. Photographs of trees and shrubs. Class 49. Garden scenes.

GROUP P.

Essays on the progress of gardening since 1866. Do., practical education of gardeners, embracing scheme for a school of horticulture. Do., practical education of foresters, embracing scheme for a school of forestry.

GROUP Q.

Methods of determining the nature and fertility of soils, with tabulated statements of ingredients required to improve under different conditions. Methods of determining germinating powers of seeds. Methods of using the electric light in the growth of plants.

BAY RUM.—It was not known until of late years, from what plant Bay rum was prepared, but it is now ascertained, says the *Bulletin of the Jamaica Botanical Department*, that Bay rum, which one only sees in the hairdresser's windows, is manufactured in Dominica from the dried leaves of *Pimenta acris*. Bay rum is procured by distillation, and this in a very simple manner. The leaves are picked from the trees and then dried; in this state they are placed in the retort, which is then filled with water, and the process of distillation is carried on. The vapour is then condensed in the usual way, and forms what is known as "Bay oil," a very small quantity of which is required for each puncheon of rum. The manufacture of Bay rum is carried on at the northern end of Dominica, and proves a very lucrative business to those engaged in it, as the plants are plentiful in this district. The following is an estimate of rum, &c., required:—

1 puncheon rum—100 gals. about 18 to 19 proof,	
say, at 2s. per gal....	£10 0 0
Empty puncheon	1 0 0
½ pint bottle Bay-oil, pure, to a puncheon of rum	0 16 8
	£11 16 8

The rum must be of the strength of 18 to 19 proof, or the oil will not amalgamate properly.

OUR APPLE-CROP.—Where is it now? Certainly not in our fruiterers' shop-windows, where, as a rule, the only Apples to be seen are the well-known American and Australian varieties. Many papers are discussing the question started by a correspondent of this Journal recently as to what has become of our Apple crop. Thus, the *East Anglian Daily Times* says:—"Can it be, it is asked, that our immense crop is all sold and eaten? Or is it the case that there are plenty of English Apples yet at home which cannot find a purchaser while the foreign Apples are in the market?" Unhappily, the latter suggestion seems only too likely to be the true solution. The correspondent, however, does not raise the cry for Protection, which would probably only foster unskilful fruit-growing, and compel English housewives to make puddings with Apples both inferior and dear.

ENGLISH v. FOREIGN.—Mr. WILLIAM HORNE, of Cliffe, made a suggestion at the British Fruit Growers' dinner, held at the Hotel Windsor, Victoria Street, London, on Thursday evening of last week, that as the Association was formed not only to educate and instruct the masses in fruit growing, steps should be taken to bring the matter before Parliament, to put a stop to unprincipled fruit-sellers labelling fruit other than with its true name, simply on purpose to work off a spurious article on the public. Also that all fruit should be labelled "Foreign" or "English" as the case may be. Mr. ALBERT BATE, Sevenoaks, thought it might be brought under the Food Adulteration Act. The suggestion was well received, and is to be brought forward at the next meeting.

"INDISCHE HEIL UND NUTZ PFLANZEN UND DER INDIAN." VON A. TSCHIRCH.—This is a treatise on Indian medicinal and economical plants by the

Director of the Pharmaceutical Institute of the University of Berne, and is one result of the author's journey in India and Java in 1888-89. Cultivation in general is divided according as it takes place in fields, gardens, avenues (*allies*), and mixed culture where two or more plants are grown together. The plants mentioned are Cinchona, Tea, Coffee, Cocoa, Guarana, Gutta Percha, Tamarinds, Pepper, Vanilla, and various other economic plants. No fewer than 128 photographic illustrations show the plants, their mode of culture, and preparation for export.

HERTFORD HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—This Society was inaugurated on January 7 last. It has for some time past been felt in the neighbourhood that something of the kind was needed to bring together those of all classes who are interested in gardening, and the venture promises to be a success, as already there are about fifty members. The first general meeting of members was held on Wednesday last, when Mr. J. FITT, gardener to Lord COWPER, read a paper on "Apple Culture," which was rendered interesting by a number of Apples exhibited by him. The reading of the paper was followed by a discussion on modes of culture, varieties, storing, &c. The next meeting will be on February 10, when Mr. C. COX, gardener to J. TROTTER, Esq., of Brickenden Grange, will contribute a paper on "Chrysanthemums;" Mr. COX is thoroughly master of the art of growing these plants, and he is also a successful exhibitor.

TECHNICAL EDUCATION IN THE VILLAGES.—It would be a grievous misfortune, says the *Sunday Magazine* for January, if through any mischance the efforts now being made to extend a system of technical education to the country districts should be lightly or impatiently abandoned. We have to feel our way, to make our own paths. We do not find everything already prepared for our coming; and, of course, mistakes are inevitable. But then, as a philosopher has reminded us, the man who never makes a mistake, never makes anything; and this is as true in education as it is in other matters. We cannot expect to hit on the best methods without experience, and to ensure success at the first attempt. Still, in many parts of the country, where the scheme has been taken up with hopefulness and energy, it is already possible to point to a large amount of excellent work. The teaching that has been given may not have done much for agriculture, but it has done a great deal for the agricultural labourer. And it is on men, not on machines, that the success of agriculture, like success in every other calling, mainly depends. The great end at which we have to aim is to reach the men and the women who work on the land, to fill them with new intelligence and interest, to lift them to a higher level of being. When they have learned how their food may be made more attractive and wholesome, when their eyes have been opened to some of Nature's simple wonders that surround them at every step, they will have gained a new inspiration and a new power, that will make its influence felt through the dull round of their daily life. To raise the quality of the work, we must first raise the character of the workers.

ILLUSTRATIONS OF THE FLORA OF JAPAN.—Mr. TOMIARO MARINO is publishing a series of lithographic plates for the use of botanists of the native plants of Japan. The quarto plates are very well executed, and the details carefully and accurately drawn. As so many of the plants are of horticultural importance, this is a publication which the libraries of our botanic gardens should not be without. It is published in monthly parts at Tokio by KINOYOSHA. The text is in Japanese.

A DEVON FRUIT FARM.—A Company has been formed at Torquay, to be known as the South Devon Fruit Farm Company, who have, says the *Western Mercury*, taken 16 acres of ground at Cockington,

where about 9000 fruit trees and bushes are being planted for supplying the town with fruit. In addition to this, about 30,000 feet of glass are to be erected for the production of delicate fruits, Tomatoes, Cucumbers, Mushrooms, &c.

HOOKE'S "ICONES PLANTARUM."—The fourth part of the first volume (xxi. of the whole work) of the fourth series has appeared, completing this volume, which is devoted to the illustration by Sir JOSEPH HOOKE of Indian Orchids of a less conspicuous character than those commonly cultivated. The work is now published for the Bentham Trustees, and sold at 4s. per part, by DELAY & Co., of London. The third series, consisting of ten volumes, containing 1000 figures of interesting plants, is on sale by the same firm at £5 the set. Only a limited issue is printed, and when exhausted, it will not be reproduced.

POTATO DISEASE AND THE COPPER TREATMENT.—With the object of testing the merits of *bouillie bordelaise* as a remedy for Potato disease, says our contemporary the *Morning Post*, the Highland and Agricultural Society instituted experiments last season upon farms situated respectively in Haddingtonshire, Forfarshire, and Renfrewshire. Two mixtures were tested: the one consisting of 20 lb. of sulphate of copper, 10 lb. of burnt lime, and 80 gallons of water; and the other of 15 lb. of sulphate of copper, 5 lb. of burnt lime, and again 80 gallons of water. These quantities were applied per acre, and also in half doses per acre. Repeated observations were made during the growing season, but in no case was any distinction visible among the plots. The drills that were sprayed, as well as the unsprayed drills between them, grew quite uniformly; and when disease appeared on the leaves it seemed to be fairly distributed over the whole area. The report states that the general and quite evident conclusion to be drawn from these experiments is that the Bordeaux spray has entirely failed to have any restraining effect whatever on the progress of the Potato disease. The opinion is further expressed that, if the spray is a protective against the Potato disease, it can only be so when the disease attacks the plants while they are still young, and their entire surface is capable of being reached by successive sprayings. At the same time, it is considered possible that such complete drenching of the young plant with the *bouillie bordelaise* might seriously impair its vitality, and thus prove worse even than the disease itself. The general result of these experiments is such as to afford growers little, if any, confidence in the efficacy of this mode of treatment. On the whole, it may be said that the results of the Scottish trials are decidedly confirmatory of the negative issue of the extensive series of field experiments upon Potatoes conducted by Messrs. SUTTON & SONS at their trial grounds near Reading.

HORTICULTURAL CLUB.—The Annual Dinner will take place at the Hotel Windsor, Victoria Street, on February 9, at 6 P.M., HARRY J. VEITCH, Esq., in the Chair.

PUBLICATION RECEIVED.—*Index Seminum in hortis Musaei Parisiensis, anno 1891 collectorum.* (Paris, Rue Cuvier, 27.)

HEDYCHIMUM GARDNERIANUM.

[SUPPLEMENTARY SHEET.]

OUR Supplementary illustration this week shows a part of the Winter Garden at the Glasgow Botanic Garden, in which a mass of *Hedychium Gardnerianum* in bloom forms at this time one of the most conspicuous features. *Hedychiums*, as most of our readers know, are imposing-looking herbaceous plants, belonging to the Gingerworts, and flowering during the autumn months. They are plants of

easy growth, requiring a good rich loamy soil, large pots if grown in that manner, and plenty of water during the season of growth and flowering. After the bloom is past they require less and less water, and cool treatment, till the stems decay, when they should have the latter cleared off, and be stored away in the greenhouse; or in the case of a plant in a border, the soil around the roots should be allowed to remain dry during the winter.

In warm seasons, *Hedychiums* flower well out-of-doors if grown in pots, and it is then that their powerful aroma is most appreciated; indoors it is apt to be overpowering, and to cause headache. We are indebted to Mr. Bullen, the Curator of the Glasgow Botanic Gardens for the photograph from which the photogravure was taken.

NOTES OF THE DAY.

(From a Correspondent.)

WHAT interests and concerns us most is, On what lines do the Worshipful Company of Gardeners intend working, in order to acquire what I may well call the backbone of their prospectus—the "smaller agricultural holdings?" Granting, for the moment, the proposed scheme to have been started, and carried out as detailed in the prospectus, the effects of which on the gardening community of this country in, say, another two years time, had better be imagined than described.

Let the company first promote a scheme whereby small holdings can be, with the least inconvenience and expense, easily secured at fair rentals—no tithes, rates and taxes paid by the landlord, and above all, fixity of tenure assured. They will then have taken the "bull by the horns," and be on the high road to a correct solution of the present land problem.

This once accomplished, the proper husbandmen would speedily follow. Whether the Company of Gardeners or some other public body take the initiative on similar lines as above, matters little; but until this is done, all such petty makeshifts on a matter of so much importance to the country at large are a mere delusion.

For the guidance of the company, I specially recommend to their notice a paper by the Rev. W. Tuckwell in this month's *Contemporary Review*.

The solution of the land problem will most certainly be a knotty point to deal with, but nevertheless it is one which awaits our legislators of the near future—nearer perhaps than many of them imagine. Until this is satisfactorily settled, and as one means whereby its consummation may be hastened, let every railway company in the country turn to account their immense landed property in the shape of innumerable slopes and embankments, hundreds of acres of which are admirably adapted to the growth and culture of early small fruits and vegetables. It is really pitiable in the eyes of practical people to see so much good land laying in a state which is worse than useless—waste. Were this at once taken in hand by the railway companies in a thoroughly earnest manner, if only in the spirit and hope of swelling their annual incomes, it would ultimately, I am convinced, lead our large landed proprietors to encourage and grant such facilities and terms to small holders as to very materially lessen and even smooth the rough edge of whatever legislation may be required for what we feel is so generally desired—a permanent re-adjustment of our present land laws.

Your monthly stock-taking account is worthy of the most careful study by economists, and all those concerned in the cultivation of the soil in this country. Those items relating to raw fruits and vegetables are very interesting, and should set even the varietal tyro in agri-horticulture reflecting on why such tremendous sums should annually be handed over to foreigners; and more especially so, when he is told that under other conditions—or such similar conditions as those the foreigner enjoys—this country

could produce treble the quantity of the products in question, and those, too, of first quality.

It is simply crying over spilt milk, and too stereotyped to listen to, to bewail, as so many do, our climate. The climate is a fairly good one, and well suited, in a very large majority of our seasons, when combined with intelligent management, and attention to details, to the production of the very best Apples, small fruits, and vegetables. *Pomum*.

THE AUSTRALIAN SPECIES OF LIVISTONA.

THERE has been some confusion in gardens with regard to the proper application of the names *Livistona australis* and *L. inermis*, and perhaps also *L. humilis*, three species described by R. Brown in *Prodromus Florae Novae Hollandiae*, p. 267, the first under *Corypha*. Allan Cunningham is credited with having introduced all three of these Palms into English gardens as early as 1824, but it is exceedingly doubtful whether there are, or ever were, more than two Australian species of *Livistona* in cultivation. It is also probable that his *L. inermis* and *L. humilis* are states of the same species, the latter differing only in having more or less prickly petioles. *L. Leichardtii* of Mueller is also, as Sir F. Mueller himself suggests, the same species, but these questions can only be decided upon more complete material than is to be found in the herbaria at the British Museum and Kew. From an examination of Brown's specimens and comparisons with his descriptions, however, it is quite clear what Palm he intended by *Corypha australis*, and it may be added that he himself suggested that it might, perhaps, be better placed in the genus *Livistona*, to which Martius subsequently referred it.

Brown described *L. australis* as having flabellate-palmate—that is, fan-shaped—leaves, and a globose fruit; and *L. inermis* and *L. humilis* as having pinnately-palmate leaves. These distinctions are so evident in the cultivated specimens, it is somewhat surprising that confusion should have arisen. The leaves of the latter are remarkable, in being intermediate between the fan and feather forms of structure; and the fruit associated with this type of leaf is oblong or ovoid.

Livistona australis appears to have been the only one of the three that long survived their introduction by Cunningham—or, at least, the only one that grew to a large size at Kew. It is one of the few of the large Palms enumerated in the *Guide to Kew Gardens* as long ago as 1851. In 1877, it was figured in the *Botanical Magazine*, plate 6274, where we are informed that it flowered annually at Kew in the spring months for many years. At that date it had outgrown the limits of the Palm-house, and was felled.

This was, undoubtedly, the *Corypha australis* of Brown, the common Palm of subtropical and temperate regions of eastern Australia, found as far south as the Snowy Range in Victoria. Nevertheless, some botanists had conceived that it was the true *Livistona inermis*, and this alteration found its way into gardens, but the late Mr. Denthon rectified the error in his *Flora Australiensis*. Yet even he did not seize upon the distinctive characters of the foliage. Both *L. inermis* and *L. humilis*, with pinnately-palmate leaves, were collected by Brown in the islands of the Gulf of Carpentaria. But the most curious fact is to come: About three years ago an exploring party, including Professor Baldwin Spencer and Mr. C. French, F.L.S., visited Croajonglong, in the extreme east of Victoria, and at about 37° S. latitude, where they discovered a Palm in some plenty, growing to a height of more than 100 feet. This Palm was taken by them to be *Livistona australis*; but from the photographs reproduced in the *Victorian Naturalist*, vi., p. 8, the leaves are pinnate rather than palmate, and have even more of the pinnate character than *L. inermis*. This is shown both in young and adult trees, therefore it seems uncertain what this Palm is that attains such a stature in so rude a climate. It is stated, how-

ever, that directly the heads of the Palms grow out into the open above the general vegetation of the valley, the sun's heat seems to scorch the leaves up, and they have a brown withered appearance. *W. Botting Hemslay*.

HOME CORRESPONDENCE.

TECHNICAL EDUCATION OF GARDENERS.—I have followed with much interest the discussion of the question of technical education for horticulturists which has appeared in your columns during the past few weeks. There is an aspect not yet touched upon by your correspondents, which has much weight in guiding my own feeling, and which ought logically to be considered by all who have to form an opinion on the subject. I allude to the analogy with other arts and industrial occupations. As one of the founders of the Yorkshire College at Leeds, established nearly twenty years since, upon the original basis of giving instruction in such sciences as may be applicable to the manufactures, mining, or agriculture of the district, I have seen the experiment attended with brilliant success in systematic teaching applied to textile manufactures, dyeing, mechanical engineering, coal mining, &c. But our fundamental principle has been to supplement practice, not to substitute it by theory. Our students pass through ordinary workshops as formerly, but they are taught at the college the *rationale* of operations that come within their daily duties. Of course, those who are training for masters and foremen take long courses of daily instruction, but even the younger workmen fill evening classes in each subject. I am happy to know that Dr. Threlton Dyer is intimately acquainted with this work of the Yorkshire College, in relation especially to dyeing and the investigation of new dyeing materials. But the analogy which I wish to press home is based on the more recent inclusion of agriculture as a subject of instruction. An admirable historical article on agricultural education appears in *Whitaker's Almanack* for the present year, and its perusal will repay any reader. The establishment of purely agricultural colleges at Cirencester, Downton, Aspatria, and Edinburgh indicates the sense of need for such instruction in its higher aspects, and its provision for secondary and elementary classes is developing rapidly under the stimulus of liberal grants from various county councils. Supported by subsidies from the three county councils of Yorkshire, the Yorkshire College sends out three travelling lecturers, whose whole time is devoted to teaching agricultural classes in various districts. Professor Muir reports that nearly 300 elementary schoolmasters are attending at five different centres in the county, and he urges that if the education of scholars in country districts better fitted them for rural life, the present flow of the population to the towns would receive a check. Now, the step from agriculture to horticulture is a very short one, and it is absolutely impossible that the combination of "practice with science" demanded by the first of these sister arts should be indifferent to the second. Of the two, horticulture seems to have many facilities denied to its bigger sister. It is attracted by, and serves the great centres of population with their quick-acting brain. It represents the *petite culture*, which other countries have developed earlier than we have done. It is one of the most laudable recreations for our town population. The amateur gardener, of either sex, alike with the intelligent youth adapting this as his daily calling, will gladly welcome sound instruction in the principles of the art. The wants of particular districts would, doubtless, give the bias to the teaching, whether fruit, vegetables, or flowers claimed the first attention locally. I can believe that at first there will be difficulties in finding teachers equipped equally with science and practice, but a few are to be found. That the system will come into operation is as certain as "the flowers in May," and those who help it forward may well recollect Bacon's aphorism, "God first planted a garden." *Richard Reynolds, Cliff Lodge, Leeds*.

—I cannot agree as to "Shopman's" views, that a gardener in a good situation is worse paid than a mechanic, when we come to total house-rent, fuel, vegetables, and perhaps a few other additions to the gardener's advantage; and besides the above things, to a mechanic's disadvantage, he in many cases lives from three to ten miles from his work. Let "Shopman" note this—2s. to 4s. a week taken out

of the mechanic's earnings merely for transit to and fro; moreover, he is constrained to take his mid-day meal away from home, which also entails some extra outlay. Now, "Shopman" must know, as he is in the trade, that all foremen, managers, travellers in trade nurseries, market growers' establishments, &c., are well paid; and does not their usual long service with the firm answer this question, for in nearly all the best establishments there are many under-men who are merely waiting for a rise or something advantageous occurring, at a much less wage than "Shopman" quotes, this being considered by them better than idleness; besides, there is usually much to be picked up of a useful practical nature. The merely book-learned man will never, in a gardening point of view, win the race with the man who alone has done hard work in either first-class private gardens or our go-ahead great fruit and plant-producing establishments. *W. R.*

—There are two rather dogmatically expressed dictums in "W.E.G.'s" letter on p. 147, that many will be disposed to cavil at. The first is, that "the best men are not in the best places." The answer to this, that employers are not as a rule fools or too indulgent masters. If their gardeners fall short of the standard they require, they generally receive peremptory notice to quit. And this is also the case with men who are good horticulturists, but bad managers of men. It is not always the case that the men who are most before the public as writers to gardening papers, or as exhibitors and judges at flower-shows, are the best gardeners and best managers. The contrary is very often the case; of this, I can speak from experience. The second expression of opinion that many will demur at, is the advice that gentlemen requiring head gardeners, should leave the choice to nurserymen. This is surely an impracticable wish; for everybody, who has the dignity of the craft at heart, would like to see gardeners as independent of nurserymen as possible. The morality of business is very much the same in every branch of trade, and nurserymen would very likely recommend good customers of their own. Again, what do nurserymen know of the foremen in large and well-ordered gardens who are the men most likely to make good and efficient head gardeners, or of the promising young men in botanic gardens? *Vagabond*.

—Your correspondent, "W.", p. 116, may well ask the question, "Where are we now?" for a more sensible and crushing reply to those theoretical educated "prophets" I have never read. No sensible man would say a single word against the advantages of education; but if the best situations could only be obtained by examinations in botany, &c., the first-rate places would be available only to the few. Is it not a fact that some of our best and most successful gardeners, now holding leading situations, have justly and deservedly gained those positions by being thoroughly practical in the various branches of horticulture, and yet some of them cannot properly write out the character of a young man? Gentlemen and nurserymen want practical men; gardening is not good enough for parents to educate their sons in Greek and Latin for it. I have yet to learn that gardeners, as a class, are less educated than men of other trades. *Thomas Oldham, Stoughton Grange, Leicester*.

MISTLETO.—If it is as stated by M. Gaston Bonnier that the Mistletoe instead of doing harm to trees on which it grows is beneficial to them, the Mistletoe will be much more grown than it is, as up to the present there has been little or no effort made to cultivate or have it in gardens or orchards, for the reason that it, like all parasites, has been regarded as inimical to the health of the plant it grows on. I am strongly of opinion myself that this is so, and until further experiments are made, and fresh proofs given, I do not think the statement will be accepted, as no one, I think, has ever seen healthy vigorous Apple or other trees that have Mistletoe attached to their branches. If they have, such experience has been different to mine, and it will be interesting and profitable to hear what others have to say on the matter. It seems to me that an evergreen on a deciduous tree must, in a great measure, alter its nature and draw on it for support, independent of what the leaves of the Mistletoe take in from the air, and if so it must be like burning the candle at both ends to keep a deciduous tree at work during the winter. For all this, the Mistletoe is coveted by many, and regarded as a great curiosity by all except those who happen to reside in districts where it is plentiful. Anyone who may desire to have it, may easily get it established by simply rubbing or placing

the seed on the bark of a branch of an Apple, Thorn, Lime, or Poplar, as owing to the viscous matter with which the seed is enveloped it adheres and germinates, although the process is slow and little progress is made in growth the first season. I have been watching some trees that had bruised berries placed on them three years ago, and most of the seeds grew, and the trees now have several bunches of Mistletoe. *J. Sheppard, Woolverstone Park.*

CRACKS AND SPOTS ON PEARS.—The old saying of the blight that comes on the east wind, should not be ridiculed. It is one of those observations of our forefathers connecting certain effects and causes without explaining the process step by step by which they were brought about. And there are many such, which have been handed down to us by those who did not live in times of mutual improvement, as ours. Who shall say how frequently the men of science of to-day have been put on the right track by popular folk-lore? When a long spell of east wind sets in, vegetation is checked in its growth, insects seize the opportunity, and the energies of the tree are still further reduced. There is no more powerful cause of blight than an east wind. The assertion that spots on Pears are caused by fungus, is about as unsatisfactory an explanation of the trouble, and as unworthy of the learning of to-day, as if your correspondent had told us that blight was caused by insects. Plant a Pear tree where there is a gravelly or unsuitable subsoil, and it will, perhaps, bear good fruit for several years. [The Pear suffers much from a dry soil, and soon gets unfruitful. *En.*] Gradually, however, fungus spots and cracks appear and increase. Remove the tree to a fresh site; or if to occupy the same position, cut off all tap-roots, and afford something to tempt the roots near to the surface. As soon as the tree has become established in the fresh soil, its fruit is clear and free from spots, and only after several years, when the roots have again descended into the subsoil, do the cracks and fungus spots re-appear. This would appear to tell us that such a soil is unsuitable to that variety of Pear, and that the strongest predisposing cause to the attacks of fungus is the crude infertile subsoil. Will any other readers of the *Gardeners' Chronicle* state their experiences in this matter, and what it is that induces spots to appear on the rind of Pears? Are these blemishes caused by fungus? *Will Taylor.* [The circular corky spots of a brownish colour, which at first are surrounded by a black ring, which is bordered by a white fine line, are, caused by a fungus, *Fusicladium pirinum*. Reddish-yellow or red patches, on which columnar warts several millimeters long develop, whose cell-walls at last open in a meshed or sieve-like manner, and allow the escape of a yellow dust, are caused by another fungus—*Gymnosporangium Sabinae*. The Pear tree in all its parts is liable to the attacks of many foes, and it is not always possible, from a cursory examination, to say with certainty what has caused a certain injury. *En.*]

DWARF v. TALL CELERY.—The great advantage dwarf Celery has over the tall kinds is shown in an unmistakable way during the winter, when one has to protect the plants. The dwarf varieties may easily have what few leaves there are projecting above the ridge covered, but the tall kinds cannot be well protected from the frost. Not only is tall Celery objectionable on this account, but it involves more labour in earthing up, and after all, there is not more useable material in it than in a good dwarf variety, such as the Sandringham or Locomotive kinds. There are now some excellent intermediate kinds, such as Veitch's White and Veitch's Early Rose; but the long-staked sorts I do not consider are now worth growing. For late work, I think the Rose or Red sorts keep best, and I used to cultivate Major Clarke's, which stands well in the spring, but when the weather sets in warm, most of it will bolt. *J. S.*

WATERING COKE BEFORE USE.—The notes by Mr. E. Jenkins (p. 117) open a very interesting subject, and having had much practical experience in the use of both coke and anthracite coal as fuel, a few remarks from me may be of interest to your readers. Dealing with the real question of watering coke, or even using coke from the open, it will take no very wise head or scientific mind to know, that before any particular unit of heat is obtained, all damp or moisture must of necessity be removed. Mr. E. Jenkins very graphically describes the why and wherefore of this. As an old practical stoker, I can honestly affirm that using 1 ton of coke is far

more laborious than for the same quantity of anthracite. Besides, while using coke, there is always a doubt lest the fire should be below. With anthracite, after twelve hours' burning, days and days go by when but little stoking is required. There are various degrees of quality in coals, but good coke at 15s. per ton will be dearer than anthracite at 20s. Generally, coke will require clinking at least twice a day, and more in sharp weather. Then there is the drawback of loss in heat at banking up time with coke; besides we have to reduce the draught, to keep the fire in, say for eight hours, 10 P.M. to 6 A.M., while anthracite virtually abolishes night stoking. I guarantee a temperature of 5° higher in the latter case, compared with the eight hours of coke burning. Coke, to get its full heating value, should by all means be used dry. How to use anthracite coal is now my purpose to explain. I will be particular, because many fail in the management of this. First of all, the stoker must forget his experience in the use of coke, the anthracite requiring less attention. Once a day is all that is wanted to remove the clinkers. Ashes will be less. After the fire is well alight, put on coal until the desired heat is obtained, then reduce the draught. To get a fire quickly, all that is wanted is to gently put the poker between the bars to remove the dust. In banking-up, push a good portion of the fire to the back, making up the front with coal. By so doing, the present heat is well maintained, and if low at the front in the morning, there will be a good fire in the back to work at. For saddle boilers, I consider there is not the least doubt of economy in the use of anthracite. In boilers up to 4 feet long, nuts or cobbles are preferable, while those 5 feet in length, will take the larger ordinary coal. To give some idea of the intense heat of anthracite, I may say that I have to use leather gloves in stoking. More than once I have been asked if the intense heat in using anthracite will burn out the boiler bars more than with coke, but so far I am not able to say. Bars apparently stand well. While anthracite is well suited for all practical purposes for garden use, I particularly impress on young beginners to give a good eye to the damper. Conserve the heat; it will be there when it is wanted. For cleanliness—as compared with coke—I am certain no one would wish to go back to coke after using anthracite. The only fear, to my mind, is the question of price. Gas coke, I fully expect, will get to a low figure, very much less being used for garden purposes. Anthracite coal, on the other hand, is rising in price, and I cannot see any immediate prospect of improvement. To economise the consumption of anthracite, more particularly if good coke can be laid down at a lower figure than I have quoted, can be used thus: after heat is got up, more particularly in bright weather, the fire can be made up with coke. The only objection to this is that clinkers will have to be again drawn out before tea, to keep up the desired heat. Then we must not forget that, while using coke it is absolutely necessary to clean the flues and boiler at least once a week. They can work three weeks with the entire use of anthracite coal, and even then there will not be so much dust, soot, &c. *Stephen Castle, F.R.H.S., Ashford Vineyard, Fording-bridge, Salisbury.*

FUELS AND STOKING.—I read with considerable interest the remarks of your correspondent on "Fuels and Stoking," in answer to "A Stoker," on p. 89 of the *Gardeners' Chronicle*, and I should like to make a few remarks in reply, more particularly to question No. 2:—"What fuel suitable for hothouse furnaces is best, say, for a saddle-boiler, weight for weight, which gives out the most heat?" My experience convinces me that anthracite coal is the most suitable of all fuels, and taken weight for weight, is much the cheapest. I have used anthracite coal for something over two years, and have found a wonderful saving of labour in using it—certainly not more than half the labour required to drive the same fires with coals. Then there is the fact that it is smokeless, and almost entirely free from sulphur, and it is very durable and uniform in its work, and can be left to burn with perfect safety in the sharpest weather, from ten to thirty hours, according to the size of the boiler, and will maintain an even temperature throughout. My boilers are situate close to the East India Orchid-house, inside the potting-shed, so that the absence of smoke and sulphur fumes is with me a very important matter. When I started to use anthracite, I had to take the stoking in my own hands, as my man said it would not burn, and be wanted some house-coal to light it with, and to renew it with two or three times a day; so I tried it for a few days. At first, I must say, I did

not make it go any better than my man had done, but on the second day I found out the grand secret, viz., that it did not require stoking—that is, poking about at all, but simply to keep the furnace clean, pull out the damper, fill up the furnace, and leave it to do its work, and it did it. I must say, however, that the furnace-bars and flues must be thoroughly cleaned at least three times a week, by pulling out the fire, and cleaning the fire-bars from front to back, and then starting the fire anew. I have inquired of a brother gardener in this town the results of his experiments with this kind of coal, which he has used for twelve months, and he says that it is clean in use, durable, trustworthy, and cheaper than coke. *H. J. Southgate, Morpeth House Gardens, Ipswich.*

WARWICK CASTLE.—In the *Gardeners' Chronicle* of January 16, I was surprised in reading an article on the above to find various mis-statements. It is not my object to point them out, further than to correct the one regarding the tree planted by H.R.H. Princess Mary of Teck. That interesting ceremony took place on January 14, 1888, when the Princess, in presence of her own family, and several members of the Warwick family, planted a Cedar of Lebanon (not atlantica); the tree at that time was 3½ feet high, with a spread of 3 feet of bottom branches. It is most important to all lovers of trees that correct date and name should be given of trees planted as commemorative, memorial, or otherwise, that may be referred to in the future. *C. D. A.*

EUCALYPTUS GLOBULUS FLOWERING.—A plant of this is now flowering in Messrs. Thomson's Nursery, Sparkhill, Birmingham, which was raised from seed three years ago, and is still growing in a 5½-inch pot, and the plant is 7 feet high. There are sixteen flowers and buds, which were formed last June, and remained in the same state with but slight alteration in size until just before bursting. A few days since, when the calyx divides in the centre in a horizontal position, the upper part, resembling a cap, is thrown off; the centre of the flower forming a cup of bright green and yellow, surrounded with hundreds of anthers of a pale lemon colour, the flowers measuring 2 inches across, and emits a peculiar odour. The buds are produced in pairs at the axis of the leaves. I enclose a spray, and should like to know if the flowering of the Eucalyptus is of a frequent occurrence. *C. H. H.*

CEDARS OF GOA.—In a recent issue there was a notice by Mr. Burbridge of this Cedar, the most graceful, perhaps, of them all. The country to see them in their full perfection is Portugal. The Portuguese were the first Europeans to make a permanent settlement in India, and consequently this Cedar was very early introduced into their country from Goa [?]. Many fine specimens are to be seen in the gardens of villas; and at Montserrat, near Cintra, there is a flourishing avenue of them. At Colares also, near Cintra, the high road is lined with towering Eucalyptus trees. During the present dearth of the oil, the inhabitants of the district would do well to try and extract this valuable essence. The vineyards at this place have never been devastated by the Phylloxera. The reason is that the Vines are growing in an alluvial soil, below 3 or 4 feet of sand. The young Vines are planted in pits, and after they have reached the level of the sand, the sand is allowed to fill up the pits. The larvae of the Phylloxera are thus unable to reach the roots. *Vagabond.*

CALOCHORTI IN THE OPEN AIR.—My experience of Calochorti in the open air has been much the same as that of Mr. Gumbleton, as given by him on p. 138. The principal variance that I can think of is with regard to C. Howellii, that blossomed freely here, and certainly has a place in my affections. Its flowers are white. *H. Ewbank, Ryde.*

CATTLEYA PERCIVALIANA, SOUTHGATE VAR.—I am not a little amused to read the remarks of your correspondent, "P. W." in your issue of the 23rd inst., to the effect that Mr. Measures says that his variety is only equalled by one other in Captain Vipan's collection. It reminds me of the old saying, that "It is never safe to prophecy unless you know." How can Mr. Measures have even an idea as to the quality of the many varieties of this Orchid grown in the North of England, which, I submit, might more accurately be described as the home of C. Percivaliana, as immense quantities of were purchased

by the late Mr. Percival and his many friends in the North, and have been more or less successfully grown and flowered by them. I have only to-day seen several plants which, I venture to say, will compare favourably both in size, form, and colour, with either the Woodlands or Captain Vipan's plants, and have suggested to the owner, Mr. George Hardy, that he

assured. Much has been done during the past half century in acclimatising, and it may be that the Calochorti will accommodate themselves to our climate. However that may be, my object in writing this is to give my own experience in their culture. In the autumn of 1879 when I had charge at Gunnersbury Park, I secured a collection of

department of the garden suffered most. I know we lost many choice herbaceous plants that winter, and among them the whole of the Calochorti. A few of the clumps made a futile effort to survive, but their vitality was so seriously impaired that they soon faded away. A portion of the stock was potted, and protected in frames, but these were not so satis-



FIG. 29.—JASMINUM NUDIFLORUM: WINTER-FLOWERING HARDY SHRUB; FLOWERS YELLOW. (SEE P. 182.)

should send you a bloom in support of my contention, that "*Palmarum qui meruit ferat*," F. H. A. [We have a splendid bloom before us. Ed.]

HARDINESS OF CALOCHORTI.—The tribute paid to the beauty of this genus by Mr. Gumbleton on p. 138 is well deserved, and his success in growing and flowering them most encouraging. If we could feel certain of their hardiness, their popularity would be

Calochorti, and planted them on a well-drained sunny border facing west. The soil was a light loam, and had been thoroughly trenched and enriched with well-decayed manure. They were planted in clumps, and the following season I was rewarded with a nice display of bloom, and felt satisfied with my experience for that season. The following winter, 1880-81, proved a most trying one for all kinds of hardy plants, and I think the herbaceous

factory as the plants grown in the open border. They certainly merit extended trials, in various soils and positions, as their beauty is quite uncommon. I hope Mr. Gumbleton's second season's experience with them will prove more successful than mine. J. Roberts, Shepperton.

A TRIO OF PEAS.—An amateur who had a weakness for novelties, and has been a loser in con-

sequence, lately asked me to recommend Peas in a few varieties to give a supply through the season. He annually, he said, perused several seed catalogues, and ordered Peas of new highly recommended varieties, sufficient, as he thought, to supply his wants; but which, after costing a high price, and having been carefully cultivated, proved, in many instances, more or less disappointing. This gentleman is not alone in being unfortunate in relying upon novelties, and will probably not be the last to make a mistake of this kind, notwithstanding cautions upon this point being frequently given by experienced cultivators. But returning to my subject, I gave three as the least number of Peas that we have found will yield a continual supply through the season of Peas, of first-rate quality. Some growers may think this number too few, and possibly, under some circumstances, it may be so, yet here we find it enough, although we yearly test, in a limited way, some of the newer kinds. The varieties I recommend are William I., Criterion, and Ne Plus Ultra and this trio, taking all their qualities into consideration, is difficult to beat. The first-named well-known variety is a few days later than some others, but its general excellent properties amply make up for this drawback. Criterion is unsurpassed as a main-crop kind, and its free-bearing propensity, combined with good flavour, will keep it from being easily beaten; while Ne Plus Ultra for late use is all that can be desired, and although old, is still, in my opinion, unequalled for late crops. *Thomas Coomber.*

STANDS FOR JAPANESE CHRYSANTHEMUMS—If Mr. Divers were an exhibitor of cut blooms, and had to travel, perhaps, 12 miles by road, and 200 miles by railway, to visit one show, I do not suppose that he would advise that a stand for twelve blooms should be of the size he named; and, again, if he were the secretary of a flourishing Chrysanthemum society, which has difficulty enough now to find space to accommodate all exhibitors, I think he would hesitate before advising such an increase in the size of the stands. Fancy eighteen entries in a class for forty-eight blooms, the Japanese in that class alone occupying no less than 96 feet of tabling run! And most likely the present size would be found to be quite large enough for half of the exhibits. I think Mr. Divers does not quite realise what the size of a travelling box would have to be to contain forty-eight Japanese blooms, if the size he recommends were to be made compulsory on exhibitors. By all means, let the present size be increased, but consider that there is a limit even to the space needed for the giants of to-day. Blooms with too much space suffer in consequence—they appear dwarf, and apparently lose in effect; it is not the green boards that we wish to see—there is too much already of that for some persons. I would suggest to those who may be responsible for any alteration, to think the matter well over before deciding, and then not to make any size compulsory—for some time, at least. If any exhibitors are slow to adopt the proper suggestions as to size, let them obtain a lesson or two on the exhibition table by taking a back place, in consequence of having to retire before better taste in arranging the blooms by exhibitors who have advanced with the times. There is nothing like a practical lesson to open the eyes of the dullards, who must be dull if they do not copy what is manifestly superior to their own. A little coaching, as it were, will soon lead those who are prejudiced in any desired direction, as it will in regard to increasing the size of the stands for Japanese. *E. M.*

BRITTLE TIMBER.—Replying to "R. S." on this subject, neither of the statements, in my opinion, can be taken as the rule, although in some cases it may appear so. The variation of soils governs the durability of timber rather than anything else; for instance, take an Oak tree on clayey soil, which grows very fast, the tree itself will be very vigorous, but will, when having attained a good size, have a greater percentage of sap in it than a tree planted on sharp, gravelly soil; the latter tree would be somewhat brittle. Now, with the Beech, the rule is different, this wood is used for handles of tools, mallets, and various articles which sometimes are used violently, and the timber is preferred for their manufacture, which has been grown on a stony or gravelly soil, and has matured slowly. Beech that grows on clay and stiff soils thrives freely, but when it comes to be used generally splinters and breaks. The Ash, which is our toughest timber, varies on different soils as to its rate of growth. In some cases this tree will grow very fast, and make to all

appearances a deal of timber in a very few years, but it will not bear comparison as regards toughness and durability with a tree that has grown half as fast. *J. Garbett, Hale Park, Hants.*

JASMINUM NUDIFLORUM.

THERE are very few plants which have the commendable quality of flowering at the close of the month of December, and even if there were, it is possible that the sharp frosts and dense fogs of that season would soon mar the beauty of their blossom; but a better plant than the above could scarcely be found. *Jasminum nudiflorum* (see fig. 29) is one species out of some ninety others belonging to the genus, which will stand the rigours of our severest winters, and, like a horticultural Mark Tapley, "come out strong," under great difficulties, just at the dull season of the year. This *Jasmin* may be seen in many gardens, either trained on a wall, or up a trellis round cottagers' doors, and nearly always flowering profusely.

Although so hardy, *J. nudiflorum*, or the "Naked-flowered *Jasmin*," as it is called, is not indigenous to our islands, but is a native of Northern China, and is a great favourite with the natives of Nankin, Shanghai, and other towns. Among the numerous useful and ornamental plants introduced from various parts of the world some years ago by the collectors of the Royal Horticultural Society, this one found its way into cultivation through the means of Robert Fortune, who was sent out by the Society to collect plants in the Celestial Empire, and with what beneficial results to our gardens may almost everywhere be seen at the present day. The plant made its appearance in the Royal Horticultural Society's gardens at Chiswick in 1844, and it was first described in the Society's *Journal* (vol. i., 1846, p. 153), by Dr. Lindley, at that time Assistant Secretary. From Chiswick it has been widely distributed, and may be looked upon—after less than fifty years—as one of our most useful and hardy decorative winter shrubs. At first it was thought safer to treat it as a greenhouse plant, but in a few years' time it was found to be quite hardy in England, and in 1852, a plate appeared in the *Botanical Magazine*, t. 4649, from a plant which had survived the preceding winter. Since that time it has been grown as a hardy plant. Although the leaves and flowers do not appear at the same time, the former dropping off in the autumn as a rule, and the flowers appearing in December, I know one plant which bears leaves during the winter months; it is on a sheltered wall, and has flowered about January or February for the past two years, the sheltered situation having probably something to do with this. *J. W.*

It delights in a rich deep loam and good drainage, and in a position fully exposed to the sun, where it will be able to ripen its wood thoroughly. Whilst growing, it should be watered occasionally, and it will greatly benefit by a syringing now and again, as it will help to clear away the dirt that settles on its leaves and shoots. It is principally propagated by cuttings taken off in August, when the wood is about half-ripened, and dibbled round the sides of 5-inch pots in light soil, and afterwards plunged in a close case. In a few weeks they will emit roots, and can be placed in cold frames for the winter, and in spring will be nice little stuff for planting out in nursery rows, which should be in a mixture of loam and leaf-mould. There is a light-yellow coloured form, *J. nudiflorum*, which, when in leaf, has a pretty effect, but it is not nearly so free-flowering as the species. *T. H.*

CITRON CULTURE IN CORSICA.

(Continued from p. 150.)

FUMAGINE, smut, or Citron-black is almost as destructive as white-root; it is described as a black fungoid growth which attacks the bark and upper surface of the leaf. It absorbs the juices and nourishment necessary for the tree, which soon becomes feeble and ceases to bear in consequence.

Fumagine is at present destroyed by a process

efficacious and easy of application. It consists of whitewashing the tree with limewash as far as the bark extends, and in syringing the leaves with the same preparation. Syringing with tobacco-juice and soft-soap gives equally good results. As it is usually in damp and shady situations that smut shows itself, and as the trees affected are generally those which have not been allowed sufficient space, they must be first subjected to moderate syringing, and afterwards to a good pruning in order to give access to air and light.

The kermes disease does great harm to the Citron; the tree affected by this insect presents the appearance of a number of small brown excrescences on its branches, about the size of a Pea. This is the chrysalis of the female insect, which dies shortly after depositing its eggs. In the spring the eggs hatch, the larvæ spread over the young leaves consuming them, and destroying the sap of the tree. Myriads of microscopically small eggs may be destroyed which have been deposited beneath the dried and hardened husk of the dead female adhering to the tree, by rubbing the ligneous parts with a cloth dipped in a boiling decoction formed of 4 quarts of soapy-water, in which are dissolved a pound of soft-soap and sufficient lime to give consistency. An equally good remedy consists in the application, with a brush, of a decoction of tobacco-juice, Walnut husks, and chlorate of lime. In order to guard against kermes, the following treatment has been found successful: Dissolve a quarter-pound of soft soap in 2 quarts of water, add a quarter of a gill of tobacco-juice and three spoonfuls of essence of turpentine. This mixture having been prepared over night and strained, is syringed over the trees every two or three days.

The oseline, or Orange-fly, is an insect which causes white mould, and is the source of much damage to the Citron as well as to the Lemon trees. A large quantity of this fly collects on the under-surface of the leaf and absorbs the sap, the leaves rapidly lose their green tint, and become whitish; the tree sickens, and the young shoots appear feeble, and fall off. Towards the end of May, the winged insect appears. The female fly attacks the young fruit, piercing the rind by means of a borer which she carries like a sting, and deposits her eggs within the pulp of the fruit. The egg produces a caterpillar which decomposes the surrounding substance, giving exit to a gummy issue from the fruit; finally, the fruit detaches itself, and falls to the ground before arriving at maturity. This insect is easily destroyed by a decoction of lupine applied to the leaves by means of a garden syringe. The fly attacks the lower surface of the leaves, and if the plant be syringed so as to affect the fly, it will never resist this excellent insecticide. A mixture of one quart of tobacco-juice with two quarts of water may also be used. A third treatment is to dissolve 2 lb. of soft-soap in two quarts of water, adding 2 lb. nicotine of 12° strength, and spray the leaves with a fine syringe. In all these remedies, and in many others which have been employed to contend with these diseases, the ingredients have always been quicklime, cinders, sulphur, tobacco-juice, and soft-soap. If these agents do not completely cure the disease, they, at all events, prevent the propagation of the insect, and arrest its ravages.

In addition to the diseases mentioned, two other causes tend to the degeneration of the Citron trees, and render them more liable to disease; these are, firstly, the methods employed for reproduction; secondly, the want of proper and suitable manuring. The trees are nearly always reproduced from shoots or slips. This system, no doubt, allows of a quicker return, as the trees arrive sooner at maturity; but these more rapidly grown trees have not so long a life, and soon deteriorate. They are far from having the vigorous, if slower, growth and longevity of trees raised from seed. Daily experience tends to prove that trees imported from G-enoa, and obtained from seed, are in a much better condition than those obtained from cuttings

It is time that this degeneration, which is already assuming alarming proportions, was checked. If, instead of continuing the fatal system of cuttings, seedling nurseries had been established, in the course of ten years a large number of new plants would have been produced, ready to take the place of those trees which had gradually weakened, and become sterile.

The following is the method of procedure for raising seedling trees: The choicest fruit is selected and exposed to the sun in a heap, allowed to ferment from eight to ten days, then thrown into water to soak for a few hours, and then broken up by hand. After remaining a few minutes, the good seeds sink and are collected, leaving the bad ones, which float. When dry, the seeds must be either sown at once or kept dry in sand. They are sown in pots or shallow boxes filled with peat-mould, and covered with a slight layer of leaf-mould and sand, and a layer of straw above. They must be kept sufficiently watered to ensure the moisture necessary for germination. The month of April is most favourable for sowing. The first year it will be sufficient to keep the plants free from weeds, and watered. One or two years after, the young seedlings are pricked out, taking care when removing them, to retain the mould adhering to the roots. They are then planted in the nursery at about 18 inches to 2 feet apart. In the spring of the third year the lower branches are pruned in order to ensure a strong stem.

Regarding the remunerative value of the Citron culture, it is stated that last year's crop, which was a fair average one of fine quality, amounted to about 2000 tons, 300 tons of which were exported in brine to England and Germany, the rest being taken by the Dutch, American, and Italian markets. The value of Corsican Citrons in brine is stated to be about £25 per ton. On the prospects of the successful cultivation of the Citron in the colonies of East and South Africa, the following remarks are made: The question as to whether the cultivation of the Corsican Citron tree could be made equally remunerative in other countries, in some of our colonies, for instance, is one on which it is impossible to express an opinion without accurate data concerning the latitude, temperature, rainfall, condition of soil, &c., in the region proposed. As may be gathered from the opinions quoted, the principal requisites—a suitable soil having been found—are shelter, warmth, water, and manuring. These desiderata apply equally to the cultivation of all delicate trees, and the rich soils which produce the Cardamoms and Cinnamon of Ceylon and the Cloves of Zanzibar would probably be well worth experimenting upon with a view of the cultivation of the Cedrat. The high-lying valleys on the mountain slopes of our newly-acquired protectorates in Africa would probably form an excellent position for conducting a series of experiments in various cultures, of which the Cedrat and Lemon might form a portion, and no great outlay would be necessary for the establishment of an experimental plantation.

SOCIETIES.

ROYAL HORTICULTURAL.

THE new members of Council proposed for election on February 9, are:—Sir Herbert Maxwell, Bart., M.P., Owen Thomas, C. J. Lucas, in the place of Sir J. T. D. Llewellyn, Bart.; Everard Hambro and Martin R. Smith. The officers proposed are Sir Trevor Lawrence, Bart., M.P., President; Philip Crowley, Treasurer; Rev. W. Wilks, Secretary; Harry Turner, Henry Williams, and A. H. Pearson, Auditors.

LIVERPOOL HORTICULTURAL ASSOCIATION.

GREAT interest was taken in the annual meeting of the Liverpool Horticultural Association, which was held in the lecture hall of the Free Public Library on Saturday evening. In the absence,

through indisposition, of Mr. White, the President, the chair was taken by Mr. T. Powell, of the Botanic Gardens, and there was a large attendance. The committee's report showed that the expenditure of the spring, summer, and autumn meetings all exceeded the receipts by £144 6s. 8d., £306 4s. 4d., and £300 respectively. The subscriptions amounted to £537, and the sum of £50 had to be drawn from the previous year's balance in order to meet the expenditure. The attendance at the summer and autumn shows was much below the average, but the competition was keen, and the exhibits very fine. At the spring show there were 3035 visitors, 6007 at the summer, 5558 at the autumn show. The committee thanked the proprietors of the *Gardeners' Magazine* and the *Amateur Gardener* for prizes given; also Messrs. R. P. Ker & Sons for the Challenge Vase. The essays on various horticultural subjects had not been as numerous as was desired. Mr. A. Kime, Woolton, gained the prize for an essay on the "Culture of Cinerarias, Primulas, and Calceolarias;" and Mr. Ed. Williams, Llanfyllin, for the essay on "Cool Orchids."

Great regret was expressed at the death of Mr. Fletcher Rogers, for many years Hon. Treasurer of the Association, and one of its warmest and most valuable supporters. Mr. E. Bridge, who has done valuable work as Secretary of the Association, resigned office, and after keen speaking and voting, Mr. Wm. Dixon, chartered accountant, 25, Victoria Street, Liverpool, was elected Secretary, at a salary of £30 a year. Mr. Geo. Blackmore was re-elected Sub-Treasurer, and the appointment of Treasurer was left in the hands of the committee.

LAW NOTE.

HAMILL v. REID & BORNEMANN.

THIS was an action brought by Mr. R. J. Hamill, a gardener of Sydenham, against Messrs. Reid & Bornemann, nurserymen, of Sydenham, to recover £4 10s., balance of wages in lieu of notice and damages against Mr. Bornemann for slander. Mr. Le Breton appeared for the plaintiff, and Mr. Johnson Watson for the defendants. After the close of the plaintiff's case, Mr. Justice Grantham suggested to Counsel that the matter was one for a settlement, and a consultation thereupon took place with the Judge in his private room, and a settlement of the action arrived at. The defendants, by their Counsel, withdrawing in open Court all imputations against the plaintiff and paying him £25 towards his costs, a juror by consent being withdrawn.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

REMOVAL OF STRAWBERRY PLANTS.—Will some of our readers kindly inform "J. F." if the law permits a market-gardener on leaving his holding to remove Strawberry plants which were planted last year for fruiting.

Obituary.

STEPHEN ROSS.—We regret to have to announce the sudden death of Mr. Stephen Ross, who died from syncope on the morning of January 27, at Hammersmith. Mr. Ross was a native of Banffshire, and started as a lad at Cullen House, a noted place of the Seafield family, after which he came to London and filled various appointments there and in the provinces. In 1859 the firm of John & Charles Lee secured him the appointment as Head Gardener to the late Earl of Carnarvon, in which capacity he spent twenty-five years. While at Highclere he carried out many alterations and improvements in the grounds, and was the raiser of several new Azaleas and Rhododendrons. On his retirement from Lord Carnarvon's service, his lordship granted him a pension. On leaving Highclere his friends and fellow-servants presented him with a gold watch and chain as a token of their regard and good wishes. Soon after

leaving Highclere he went into the service of the Board of Works, Hammersmith, to superintend the planting, &c., of the street trees, where he faithfully served for eight years, and died at the age of 60. He has left a wife and five children to mourn his loss.

THE WEATHER.

By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 45° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.				Total Fall since Jan. 3, 1892.		Percentage of possible Duration for the Week.	
	Above (+) or below (—) the Mean ending January 30.	Above 45° for the Week.	Below 45° for the Week.	Above 45° difference from Mean since Jan. 3, 1892.	Below 45° difference from Mean since Jan. 3, 1892.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 3, 1892.	Total Fall since Jan. 3, 1892.
0	4 +	23	13	— 7 +	62 10 +	23	5.1	13
1	5 +	28	17	— 5 +	54 3 +	15	2.2	28
2	5 +	16	13	Aver 6 +	45 3 +	13	1.3	21
3	4 +	16	28	— 13 +	60 2 +	15	1.6	26
4	4 +	29	17	— 7 +	55 4 +	16	1.5	22
5	3 +	25	15	— 13 +	38 5 +	13	0.9	22
6	5 +	28	7	— 12 +	40 8 +	21	4.5	15
7	4 +	21	6	— 13 +	29 2 +	19	3.1	14
8	2 +	25	10	— 15 +	52 5 +	17	2.2	28
9	3 +	21	8	— 29 +	38 1 +	20	2.7	13
10	3 +	33	5	— 37 +	54 5 +	17	2.6	16
* 2 +	29	0	—	19 +	14 6 +	22	1.9	20

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending January 30, is furnished from the Meteorological Office:—

"The weather this week was mild and humid in all parts of the Kingdom; very frequent and heavy falls of rain occurred in the extreme north and north-west, but in the more eastern and southern districts the fall was slight and less frequent, and some bright intervals were experienced.

"The temperature was above the mean in all districts, the excess ranging from 2° in 'England, S.W.' and the 'Channel Islands,' to as much as 5° in 'Scotland, E. and W.' and 'England, N.E.' The highest of the maxima were recorded at most stations on the 29th, when they varied from 59° in 'Scotland, E.' 57° in 'Ireland, S.,' and 56° in 'England, N.E.' to 52° in the 'Channel Islands.' The lowest of the minima were registered either on the 24th or 25th, and ranged from 25° in the 'Midland Counties,' to 34° in 'Scotland, W.' and the 'Channel Islands.'

"The rainfall was considerably more than the mean in 'Scotland, N. and W.,' and rather more in 'Ireland, N.' and 'England, N.W.' In all other districts, however, there was a deficit. Over the eastern and southern districts the fall was very slight.

"The bright sunshine was much more prevalent than during the preceding week, and exceeded the mean in nearly all districts. The percentage of the possible duration ranged from 13 in 'Ireland, N.' and 'Scotland, N.,' and 14 in 'England, N.W.,' to 29 in 'England, S.W.' and the 'Channel Islands.'"

MARKETS.

COVENT GARDEN, February 4.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise their list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day, E.D.]

Business still keeps quiet, Grapes being a slower trade. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Acacia or Mimosa,	Narcissus, paper-
French, per bunch 1 6-2 0	white, Fr., p. bunch 0 6-0 9
Arum Lilies, doz. bl. 6 0-8 0	Orchids
Azalea, p. doz. spray 1 0-1 0	Calliopsis, 12 blms. 6 0-12 0
Camellias, white, doz. 3 0-4 0	Odoletoglossum
— red, per doz. 1 0-1 0	crispum, 12 blms. 3 0-6 0
Carnations, 12 doz. 2 0-3 0	Pelargoniums, scar-
Chrysanthemums, 12	let, per doz. bunch 9 0-12 0
blooms ... 1 0-5 0	— 12 sprays ... 1 0-1 0
— 12 bunches ... 5 0-24 0	Poinsettias, 12 blooms 4 0-9 0
Eucharis, per dozen 6 0-8 0	Poinsettias, 12 bunch 4 0-6 0
Gardenia, per doz. 4 0-9 0	Roman Hyacinth, 12
Heliotrope, 12 sprays 0 6-9 0	sprays ... 0 9-1 0
Lilac white (French)	Roses, Tea, per dozen 1 0-3 0
per bunch ... 5 0-7 0	— coloured, doz. 2 0-3 0
Lilium Harrisii, doz. 6 0-10 0	— yellow (Maré-
Lily of the Valley, per	chals), per dozen 8 0-12 0
doz. sprays ... 0 9-1 0	— red, per dozen 1 6-2 0
Maiden Hair Fern,	Tuberose, 12 blms. 1 0-1 0
12 bunches ... 4 0-9 0	Tulips, p. doz. blms. 1 0-2 0
Marguerites, per doz.	Violets, Parme, per
bunches ... 3 0-4 0	bunch ... 4 6-5 0
Mignonne, per doz.	— Car, per bunch 2 0-3 0
bunches ... 1 6-2 0	— English, 12bun. 1 6-2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantums, per doz. 4 0-12 0	Ferns, various, doz. 4 0-9 0
Arum, per dozen ... 12 0-18 0	Ferns, per 100 ... 8 0-10 0
Aspidistra, per doz. 18 0-63 0	Ficus, each ... 1 6-7 0
Begonia, per doz. 4 0-10 0	Hyacinth, 12bun. 4 0-9 0
Begonia, per doz. 4 0-10 0	Lily of the Valley, pot 2 0-3 0
Chrysanthemums,	Marguerites, per doz. 6 0-12 0
per dozen ... 6 0-8 0	Primula, various, doz. 4 0-6 0
— large, each ... 2 0-3 0	Palma, various, each 2 0-21 0
Cyclamens, per doz. 9 0-18 0	specimens, each 6 84 0
Cyperus, per dozen 4 0-10 0	Pelargoniums, Scar-
Dracaena, each ... 1 0-5 0	let, per doz. ... 6 0-9 0
Epiphyllum, per doz. 12 0-18 0	Poinsettias, per doz. 12 0-18 0
— pots ... 9 0-18 0	Roman Hyacinth, p.
Erica hyemalis, per	doz. pots ... 9 0-12 0
dozen ... 12 0-18 0	Solanum, per dozen 9 0-12 0
Erica gracilis doz. 8 0-12 0	Tulips, per doz. pots 8 0-9 0

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples, Canadian, per	Kent Cobs, 100 lb. 35 0-40 0
barrel ... 10 0-18 0	Lemons, per case ... 15 0-30 0
Apples, ½-size ... 1 0-4 0	Pine-apples, St. Mi-
Grapes ... 1 9-3 6	chael, each ... 2 0-6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.	s. d. s. d.
Artichokes Globe,	Lettuces, per doz. ... 1 6-2 0
each ... 0 4-6 0	Mushrooms, bunch 2 0-3 0
Beans, French, lb. 1 6-2 0	Mustard and Cress,
Beet, red, per dozen 2 0-3 0	punnet ... 0 4-6 0
Carrots, per bunch ... 0 4-6 0	Parsley, per bunch ... 0 3-6 0
Cauliflowers, each ... 0 3-6 0	Seakale, p. basket ... 0 3-6 0
Celery, per bundle ... 1 0-3 0	Shallots, per lb. ... 0 6-6 0
Cucumbers, each ... 0 6-9 0	Spinach, per bushel 3 0-6 0
Endive, per dozen ... 2 0-3 0	Tomatoes, per lb. ... 0 6-1 0
Herts, per bunch ... 0 6-1 0	Turpins, per bunch ... 0 4-6 0

POTATOES.

Since last reports arrivals have been very heavy, and stocks have increased much. Prices for medium and ordinary sample rule 6s. to 10s. lower. Market very flat. Best samples, 90s. to 100s., Medium, 70s. to 80s., and Blackland, 55s. to 65s., per ton. *J. B. Thomas.*

SEEDS.

LONDON: Feb. 3.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., report a thin attendance of buyers on to-day's market, with but few transactions passing. American cables come firm, but brown and inferior home-grown seeds are lower. Seedsmen of Alaska, white, and Trollid, show no change. Eye-grasses are hardening in value. French and Italian are dull. Sainfoin is advancing. Peas and Haricots move off slowly. In Rapeseed the tendency is upwards. Mustard keeps firm.

FRUITS AND VEGETABLES.

BOROUGH, Feb. 2.—Quotations:—Savoy, 3s. to 5s.; Broccoli, 10s. to 15s. per tally; Spinach, 1s. 6d. to 2s. 6d. per bushel; Brussels Sprouts, 1s. to 1s. 6d. per half sieve; Greens, 1s. 6d. to 2s. 6d.; Turnips, 2s. 6d. to 3s. 6d.; Carrots, 1s. 6d. to 1s. 9d. per dozen bunches; English Onions, 6s. to 7s. 6d. per cwt.; Apples, 2s. 6d. to 6s. per bushel; Canadian do., 10s. to 20s., and Newtown Pippins, 18s. to 22s. per barrel.

SPITALFIELDS, Feb. 2.—Quotations:—Savoy, 1s. 6d. to 3s. 6d.; Cauliflowers, 6s. to 12s. per tally; Greens, 1s. 3d. to 1s. 9d.; Turnips, 2s. to 3s. 6d.; Carrots, 1s. 6d. to 2s. 6d.; Parsley, 2s. to 3s. per dozen bunches; Spinach, 9d. to 1s. 6d. per bushel; Turnip-tops, 2s. 6d. to 3s.; Sprouting Broccoli, 1s. to 1s. 6d. per sack; Parsnips, 4d. to 6d. per score; Endive, 1s. to 1s. 6d.; Cabbage Lettuce, 4d. to 1s.; Beetroot, 3d. to 4d. per dozen; Leeks, 2s. 6d. to 3s. 6d. per dozen bunches; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; English Onions, 6s. 6d. to 7s. per cwt.; Bordeaux do., 5s. to 6s. 6d.; Spanish do., 6s. 6d. to 7s. 6d. per cwt.; Belgian do., 5s. to 6s. 6d.; Dutch do., 5s. to 5s. 9d. per bag of 110 lb.; Celery, 4d. to 1s.; Horse-radish, 1s. to 1s. 1d. per bundle; English Apples, 2s. to 5s. per bushel; American do., 10s. to 16s. per barrel; Foreign Tomatoes, 1s. to 2s. per case; Seakale, 1s. to 1s. 6d. per punnet.

STRATFORD, Feb. 2.—There has been a good supply at this market during the past week, and a brisk trade was done at the undermentioned prices:—Savoy, 2s. 6d. to 5s. per tally; Greens, 1s. to 1s. 6d. per sieve; do., 2s. to 3s. per dozen bunches; Cauliflowers, 1s. to 1s. 6d. per dozen; Turnips, 1s. 6d. to 2s. 6d. per dozen; Carrots, 1s. 6d. to 2s. 6d. per dozen; Parsnips, 4d. to 1s. per score; Mangel, 16s. to 18s. per ton; Swedes, 16s. to 22s. do.; Onions, English, 10s. to 13s. do.; do., Dutch, 4s. to 5s. per bag; do., Bordeaux, 5s. to 6s. 6d.; Apples, English, 2s. 6d. to 6s. per bushel; do., American, 12s. to 20s. per barrel; Celery, 8d. to 1s. per roll; Horse Radish, 1s. to 1s. 6d. per bundle; Brussels Sprouts, 1s. 3d. to 1s. 9d. per half-sieve; do., 2s. 6d. to 3s. per sieve.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure, for the week ending January 30, and for the corresponding period last year:—1891, Wheat, 33s. 10d.; Barley, 28s. 9d.; Oats, 20s. 3d. 1891, Wheat, 32s. 6d.; Barley, 28s. 10d.; Oats, 18s.

HAY.

Averages.—The following are the averages of the prices at the various metropolitan markets during the past week:—Clover, prime, 80s. to 105s.; inferior, do., 48s. to 75s.; hay, best, 60s. to 92s.; inferior, do., 26s. to 50s.; and straw, 20s. to 23s. per load.

POTATOES.

BOROUGH, Feb. 2.—Quotations:—Hebrons and Elephants, 70s. to 80s.; Imperators, 80s. to 85s.; Bruce Magnums, 60s. to 90s.; Dunbars, 100s. to 110s. per ton.

SPITALFIELDS, Feb. 2.—Quotations:—Magnum, 55s. to 70s.; Regents, 55s. to 70s.; Imperators, 60s. to 75s.; Hebrons, 60s. to 75s.; Main Crop, 60s. to 80s.; Snowdrops, 60s. to 75s.; Bruce Magnums, 60s. to 75s. per ton.

FARRINGTON, Feb. 4.—Quotations:—Bruce Magnums, 75s. to 110s.; Imperators, 70s. to 90s.; Magnum Bonum, 60s. to 110s.; Sutton's Abundance, 55s. to 110s. per ton.

STRATFORD, Feb. 3.—Quotations:—Magnum, 60s. to 80s.; Bruce do., 60s. to 85s.; Imperators, 65s. to 80s.; Main Crop, 90s. to 105s. per ton.

TIMBER.

At a sale of timber at Gaddesden Place Estate, Herts, on the 22nd ult., there was a large attendance of timber merchants from London and the country. The 634 trees, divided into 107 lots, were disposed of at very satisfactory prices, several of the trees realising over £20, and the total of the sale exceeding £3000. The Elm realised about 1s. 6d. per cubic foot; Beech realised about 2s. 3d. per cubic foot; Oak realised from 2s. 6d. to 3s. 6d. per cubic foot; Ash realised about 4s. per cubic foot.

NOTICES TO CORRESPONDENTS.

ARUM LILIES: *J. B.* You may purchase the roots at once, and pot them. Let them come on very gradually in a cool-house, and when they have started well, freely supply them with water, and stand the pots in summer time in full sun, over saucers filled with water, or plant them out in trenches and treat just like Celery. As you desire to have as many plants as possible, put one root in a pot.

CAMELLIA POTS: *G. L.* Washing garden pots with a solution of carbolic acid would do no harm to the roots of the plants, provided the pots were well rinsed with clean water afterwards.

CINERARIAS: *W. H. S.* The white appearance of the underside of the leaf is due to the presence of mildew—a dangerous enemy to this plant, which must be carefully watched for, and on its first appearance, the undersides of the leaves dressed with flowers of sulphur.

COAL: *T. B. T.* The quantity available at a workable depth has been estimated at 146,480,000,000 statute tons, or sufficient to last for 1000 years at a consumption of 146,000,000 tons per annum.—*W. B. S.* Anthracite coal contains little or no bitumen; Culm is another name for it (used in parliamentary returns), also stone coal. By culm, more commonly is meant an impure kind of shaly coal, or anthracite shale. Steam coal is merely a term given to some of the coals from the Newcastle (north side of the Tyne and at Blythe) and South Wales coal fields, which from the relatively large amount of carbon they contain are well adapted for heating marine and other boilers.

FRENCH HORTICULTURAL JOURNALS: *Reillyson.* We published on January 23, p. 118, the names of the principal of these, with in some instances the price per copy, place of publication, and editors' name; and to this list we have nothing further to add. A copy of *Gardeners' Chronicle* costs by post 3½d.

FRUIT ROOM: *J. A. H.* There should be some drains with gratings on the foot of the wall, communicating with the outer air, and a window high up in the wall with a swinging casement. There should be another window to throw light into the room, and both should be fitted with stout shutters. After fruit has been stored in the room, and for a month after the last large quantity has been put into it, the room should be aired night and day, after that little ventilation should be required.

INSECTS: *J. R. P.* The grub which is so destructive to your Christmas Roses, is the larva of the common brown awlet moth (*Hepialus fuscus*). It is omnivorous, and must be killed as soon as possible. *I. O. W.*

LÆLIA: *J. Cowan.* The coloured bloom is a superior form of *L. anceps*, as is the white one of *L. a. Stella*.

MUSA: *X. I. Z.* The appearances of the piece of root sent, are consistent, with a bad state of the soil, arising from want of proper drainage. Dig out the whole mass, and replant in fresh soil.

NAMES OF FRUITS: *C. W. C.* 1, Moss Nonpareil; 2, Lemon Pippin; 3, not recognised, past its season; 4, probably Beauty of Kent; 5, not recognised, past its season; 6, Dunelov's Seedling.—*W. Lucas.* 1, yellow Bellefleur; 2, Pear, Leon Leclerc de Laval; 3, Verulam; 5, Gravenstein; 6, Fearn's Pippin.—*F. S.* Catillac, the best baking Pear grown. As the fruit grew on a standard tree, and last season was less warm than usual, it did not get quite matured, hence its shrivelling before its time.

NAMES OF PLANTS: *R. G.* *Agathae celestia*; *A. W.* *Zygopetalum Mackaii*; *A. B. C.* 1, *Retinospora filifera* of gardens; 2, *Juniperus chinensis*; 3, *Retinospora squarrosa*; 4, *Cupressus Lawsoniana* var.; 5, *Cupressus*, perhaps *Goveniana*; 6, *Cupressus Lawsoniana*.—*G. L. B.* 1, *Asclepias curassavica*; 2, *Streptosolen Jamesonii*; 3, *Juniperus virginiana*.—*A. R.* 1, *Primula sinensis*; 2, *Jasminum gracillimum*; 3, *send flowers*; 5, *Adiantum cucumetum*; 6, *Selaginella Widenovii*.—*W. Lucas.* 7, *Curculigo recurvata*; 9, *Cœloglyna cristata*.

ORCHID: *W. B.* Good ordinary form of *Lælia anceps* Bella.

PEACH HOUSE IN HANTS: *Subscriber.* You should commence the work of fitting your three-quarter span greenhouse for a Peach-house by wheeling out all the soil, to a depth of 1½ foot, and if the sub-soil is retentive, 6 inches deeper, putting in 6 inches of stones, broken brickbats or chalk, the large pieces at the bottom, and the finer on the top. This mass of material should have a slight slope to a rubble or pipe drain emptying into a dry well or pit filled with stones. Then obtain sufficient fibry loam as will make a bed 2 feet thick. This should be chopped up roughly, and thrown in on the drainage; first covering it with the toughest sods, grass downwards. Finely broken chalk or lime rubbish from old buildings, and broken bones should be pretty liberally spread over the surface, and dug into and mixed well into the mass; make the soil firm by treading it evenly all over. In planting the trees, take out shallow holes, say 6 inches deep for small trees, slightly deeper for large ones; fork in and incorporate a small quantity of leaf-mould, or sandy potting-bench refuse soil, with the soil at the

bottom of the holes. Plant the tree with its roots at various levels, mixing some of the lightening materials with the soil thrown back over the roots. If the soil is wet when wheeled in, let it dry considerably before going on with the operations of mixing and treading; but in any case water the soil about the roots before quite closing the holes. Do not mulch the soil, unless it be of a very light description, as this would only tend to cause gross growth, the soddening and souring of the soil, and to keep it cool. Place large pebbles or boulders, or flat roofing tiles over the roots; these retain heat and moisture, and consolidate the loose soil by their weight; and, where they are employed, the roots or many of them keep near the surface. When the feeding of the trees becomes necessary—in perhaps 4 or 5 years—use liquid manure in autumn and winter, affording one good drenching in October or November, and another just before the house is started; and two more may be wanted in June and August. But much will depend on the kind of growth made, and the amount of the crop of fruit. Afford clear water when the test-stick shows that the soil is becoming dry; do not wait till it is dry. The house, unless you heat it artificially, will be merely a protector; and the trees must be retarded as much as possible by admitting the outside air day and night during the latter part of the winter, otherwise the trees will flower unduly early, and there will be a danger of losing the crop by frosts in March, unless you reside near the sea coast. Good varieties of Peaches are Waterloo, Washington, Rath-ripe, Walbution Admirable, Noblesee or its improvement Vanguard, Teton de Venus, Stirling Castle, this and the first named are excellent early fruiters; Sea Eagle is a fine late variety, Princess of Wales and Grosse Mignonne. Nectarines—Spencer, Stanwick Elruge, Victoria, Violette Hative, Pine-apple, River's Elruge, an early variety; Putnam Orange, Humboldt, Hunt's Tawny, and Lord Napier, one of the earliest.

PEACH TREES—PREVENTING BLISTER: *L. D.* If the trees are unprotected with glass, blister cannot be prevented. Unless the malady is very bad, the timely removal of the shoots and leaves affected will prevent any great check to growth taking place, the trees recovering their health when warm weather comes.

ROSES: *G. L.* So far as we are able to understand your question, you require to be informed of the varieties of Roses, which are known in gardens, of the following species:—Noisettiana, a hybrid, probably of indica and some other species; Indica, Centifolia, Damascena, Gallica, Banksia; these have been the parents, on one side or the other, of most of our modern Roses, and to enumerate their number, and give the parentage of these, is beyond our province in these answers to our correspondents. *R. sulphurea*, the double form has been in gardens for a great number of years; the single form, *R. Rapini*, has not been long discovered. Of *R. pimpinellifolia*, one species, one variety; *R. microphylla*, one species; *R. canina*, one species, nine varieties; *R. multiflora*, one species, three varieties; *R. cinamomifolia*, two species; *R. repens* (Ayrshire Rose), many varieties; *R. moschata*, one species, and several varieties.

THE MONUMENT TO ROEHL: *L.* The illustration we gave at p. 45, January 9, is of the model, not from the actual statue, which is not yet erected.

VINES: *Subscriber.* We have examined the soil you have sent, and do not find any trace of insects or injurious matter, although we should term it very poor; also the roots, which appear to be for the most part dead, and the shoot, which is quite green and unripe. We can only conjecture that the soil did not suit them in some way—that the roots never took hold of it—and so the Vines did not grow, not at all an uncommon occurrence with newly-planted Vines. It is one of those cases which require investigation on the spot at the time.

COMMUNICATIONS RECEIVED.—W. B.—N. E. B.—W. B. H.—A. L.—J. McF.—Philadelphia—W. W.—J. D.—E. Webb & Sons.—J. Feary.—C. de K.—A. Constant Reader.—A. W.—C. W.—H. B.—H. G.—W. E. B.—T. N.—W. G. T.—J. P.—J. R.—J. G.—Fleuris.—J. D.—J. A.—C. H. B.—A. P.—J. O'H.—W. E.—J. B. W.—E. M.—Hartwell.—C. P.—J. Robertson—these last three next week.

PHOTOGRAPHS RECEIVED WITH THANKS.—W. B., Salisbury.

HORTICULTURAL GLASS.

A Large Stock
always on Hand.

Special quotations for quantities.

WHITE LEAD, OILS, AND COLOURS
At lowest possible prices.

NICHOLLS & CLARKE,
6, HIGH STREET, SHOREDITCH,
LONDON, E.

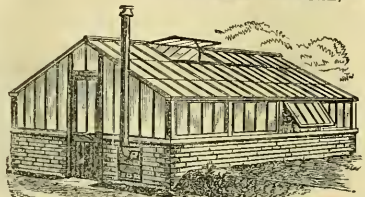
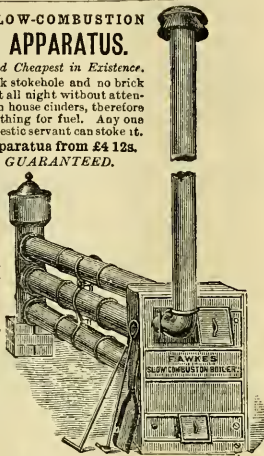
FAWKES' SLOW-COMBUSTION HEATING APPARATUS.

Most Efficient and Cheapest in Existence. Requires no sunk stockhole and no brick setting. Will last all night without attention. Will burn house clinders, therefore costs next to nothing for fuel. Any one can fix it. A domestic servant can stoke it. Complete Apparatus from £4 12s. SUCCESS GUARANTEED.

Enormous numbers in use all over the country. Only Slow Combustion Apparatus of the kind.

CAUTION. Beware of inefficient incomplete Apparatus, which will not last all night.

Full particulars and Prices of every sized Apparatus, and see numerous Testimonials for the last five seasons, showing enormous success, post-free on application.



BEST CONSTRUCTED AND CHEAPEST
Greenhouses, Forcing-houses, Pits, Frames, Plant
Protectors, Potting Sheds, Tool-houses, &c.

Illustrated Priced Catalogue post-free from

CROMPTON & FAWKES,
CHELMSFORD.

THE DOUBLE-POINTED NAIL.

THE BEST FENCE NAIL INVENTED. This Nail renders any wooden fence perfectly unclimbable. It is a complete protection against trespassers and cats.

In use at Horse Park and Hurl Racecourses, Lord's Cricket-ground, and hundreds of other places.
A—HAMMER HEAD. B—CHISEL EDGE.
Price of Fence Nails in Malleable Iron—1½, 2, 2½, 3, 4, 5, and 6-in. 7½ Bags, 3s. 6d.; per cwt., 35s. 1½-in. Steel Nails, for thin palings, 1s. per gross. MACHINE-CUT NAILS, for dwelling joinery, wood block flooring, &c., 1, 1½, and 2-in. per gross. Sample boxes, assorted sizes, 6d.; by post, 8d.

DURRAN'S PATENT NAIL SYNDICATE, Limited,
43 & 44, UPPER BAKER STREET, LONDON, N.W.

CARSON'S PAINT

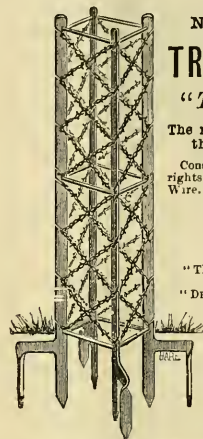
Patronised by 20,000 of the Nobility, Gentry,
and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES,
Greenhouses, Frames, &c.

1 Cwt. and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.;
15, VICTORIA STREET, WESTMINSTER, S.W.;
and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

HILL & SMITH,
BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN
TREE GUARD,
"The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittern, Herefordshire.

"Dec. 28, 1887.

"DEAR SIRS,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 50 more as before. I enclose cheque for your account.

Yours truly,
RICH. GREEN.
Messrs. Hill & Smith.

STOCK	SIZES
Inches.	Inches.
14x12	20x16
16x12	20x16
18x12	22x16
20x12	24x16
16x14	20x18
18x14	22x18
20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."

GEORGE FARMILOE & SONS,

LEAD, GLASS, OIL, AND COLOUR MERCHANTS.

34, St. John Street, West Smithfield, London, E.C.

Stock Lists and Prices on application. Please quote Chronicle.

HEATING APPARATUS

BUY DIRECT FROM

THOS. W. ROBINSON,

STOURBRIDGE,

DENNIS PARKIRON WORKS

PRICE LISTS
FREE

THE MANUFACTURER

THE BEST OF ALL

TELEGRAMS:—"ALPHA"
BRETTLE-LANE

HOT WATER JOINTS

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO

THE LONGFORD WIRE CO.

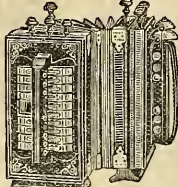
(LIMITED),
WARRINGTON.



W. PEN DENNIS & SONS
GARDEN
POTTERIES, RUABON.

CHEERFUL WINTER EVENINGS. CAMPBELL'S BROAD REED MELODEONS (Patent). GRAND NEW MODELS.

MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS



MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS

NO HOME SHOULD BE WITHOUT ONE.
CAMPBELL'S world-famed MELODEONS have Organ and Celestial Tone and Charming Bell Accompaniments, The Solemn Psalm, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming Instruments. No knowledge of Music is required by the player.

GOOD NEWS! CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.
To readers of the *Gardeners' Chronicle*.
OUR GRAND PRIZE MEDAL "GEM" MELODEON.
6s. 6d.
With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 5s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.
To readers of the *Gardeners' Chronicle*.
OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON.
10s.
With Two Sets of Broad Reeds, Organ and Celestial Tone, and the Charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS.
Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales:—"Campbell's Patent Melodeons are the finest instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready, 100,000 of these valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS,
116, TRONGATE, GLASGOW.
ESTABLISHED 50 YEARS.

"DUROLINE" (Transparent Wire Wove Roofing) SUBSTITUTE FOR GLASS UNBREAKABLE. FLEXIBLE. LARGELY USED IN ALL PARTS OF THE WORLD.

Government Officials, Fire Insurance Surveyors, Architects, Engineers, and numerous Experts have testified on oath that "DUROLINE" is preferable to and much safer than Glass for Roofs, Skylights, and other similar erections.

See Report "London County Council v. The New Wire Wove Roofing Co., Ltd." May and June 1891.

INVALUABLE FOR FARM BUILDINGS.
Extensively used on the estates of H.R.H. The Prince of Wales, The Duke of Westminster and Sutherland, and the thousands of others.

SAMPLES AND FULL PARTICULARS OF THE SOLE PATENTERS AND MANUFACTURERS
THE NEW WIRE WOVE ROOFING CO., LTD.
75a, Queen Victoria Street, LONDON, E.C.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

EPPE'S Selected PEAT,

For ORCHIDS, STOVE PLANTS, Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT**, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.** The Original Peat Depot, RINGWOOD, HANTS.

RICHARDS' NOTED ORCHID and other SELECTED PEATS (Out from his Own Grounds), SOILS, MANURES, and every description of GARDEN SUNDRIES.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E.

Write for Samples and Price List. Post free.
CHIEF PEAT DEPOT: RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 23s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.
Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vinerias, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely Illustrated CATALOGUE, post-free, for six stamps.
PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE,

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack, 5 sacks, 22s.; sacks, 4d. each.

COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.

SPHAGNUM MOSS, 5s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—**H. G. SMYTHE, F.R.H.S.**, 21, Goldsmith's Street, Drury Lane (lately called 17a, Coal Yard), W.C.

GARDEN REQUISITES, as supplied to the Royal Gardens.—**COCOA-NUT FIBRE REFUSE**, 1s. 6d. per sack, 10 for 12s.; 20 for 20s.; 30 for 28s.; sacks free; 2-ton truck, 30s. free on rail near works. **FINE ORCHID PEAT**, 8s. 6d. per sack. **BROWN FIBROUS DO.**, 5s. per sack, 5 for 22s. 6d. **BLACK DO.**, 4s. 6d. per sack, 5 for 20s. **FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD**, each 3s. per sack. **COARSE SILVER-SAND**, 1s. 6d. per bushel, 14s. 3d. ton, 25s. per ton. **CHARCOAL**, 8s. per sack. **SPHAGNUM**, 7s. 6d. per sack; all sacks and bags, 2d. each. **RUSSIA MATS**, 10s. 6d. to 15s. per dozen. **RAFFIA, VIRGIN CORK, STAKES, &c.** BONES, 3-inch, 11s. per cwt. **Pure BONE-DUST**, 11s. 6d. **TOBACCO-PAPER, Spécialité**, 10d. per lb., 28 lb. for 21s. **CLOTH**, 1s. per lb., 28 lb. for 26s. **Price List**, free. **W. HERBERT AND CO.**
Hop Exchange Warehouses, Southwark Street, London, S.E.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—
SILVESTER'S PATENT TRENTHAM, With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant. Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

SANKEY'S famous GARDEN POTS * Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong, and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your Garden Pots," and still had them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

From _____ To _____
THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.
_____ 1892.
Please send me "THE GARDENERS' CHRONICLE" for _____ Months,
commencing _____, for which I enclose P.O.O. _____

Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM.—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. G.
Feb. 6, 1892.

HORTICULTURAL SUPPLY CO.—
RELIANCE FERTILISER for Fruit, Flowers, Vegetables, Lawns, &c. Scintless, and cleanly to use. A highly concentrated and entire Plant Food, carefully compounded.

Prices.	2 lb. Parcels, post-free.	7 lb.	14 lb.	28 lb.	56 lb.	112 lb.
Reliance Fertiliser ...	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Best Peruvian Guano ...	1 0	1 9	3 5	6 10	10 18	0
Nitrate of Soda ...	1 0	1 6	3 9	6 10	10 18	0
Sulphate of Ammonia ...	1 0	1 9	3 5	6 10	10 18	0
Bones: Flour or Meal, and half-finch ...	0 9	1 3	3 0	6 6	10 10	16
Superphosphate ...	0 9	1 0	1 9	3 6	6 10	16

Carriage paid on 10s. orders of the above MANURES on Carter Paterson's round, or to any railway stations within 200 miles. Directions for Use with every lot.

Best Peat, Peat-mould, peat, and Potting Compost, each, 3s. per sack, 1s. per bushel. Best Brown Peat, 5s. per sack, 6s. per bushel. Cocoa-nut Fibre, 1s. 3d. per sack, 5s. for 65 lbs. Silver Sand (coarse or fine), 1s. 6d. per bushel. Charcoal (cut or split), 2s. per bushel.

"Plant Foods and How to Apply Them," a Descriptive List, post-free, 1d. Price Lists free. The Trade supplied on liberal terms.—**HORTICULTURAL SUPPLY CO.**, Old Shot Tower Wharf, London S.E.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

Field Crawley, Sussex, Sept. 14, 1891. "The effect of this manure is most noticeable in the development, ripening, and colouring of the fruit. In consequence of the wet and sunless weather, I could not get my Tomatoes growing in an unheated and rather damp house to ripen; but within three days of applying your Manure they began to colour, and I have been gathering splendid fruit almost daily since." (Signed), B. C. RAVENSCROFT.

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ½ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,

THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

NATIVE GUANO.—BEST AND CHEAPEST
MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cw-mould, per cwt.; 1 cwt., Sample bag, sent Carriage Paid to any Station in England, on receipt of P.O. for 5s. Extracts from 16th Annual Collection of Reports:—

NATIVE GUANO, FOR POTATOES, VEGETABLES, &c.
H. BRIDGEMAN, Potato Grower, Hending, used for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne:—"Used for Potato, Celery, and other Market Garden crops, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOES, &c.
J. PEED & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. FINCH, Orrell Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

THE "STOTT" SPECIALTIES

For Destruction of Insect Pests.

Patent Distributor, Patent Syringe, Patent Sprayers.

KILLMRIGHT,
2-oz. Sample posted free on application.
Testimonials and Price LISTS on application. Retail from Ironmongers and Seedsmen. Wholesale and Retail from the Stott Distributor Co., Ltd., Barton House, Manchester

THE "CLIMAX" INSECTICIDE.

The Cheapest and Best of all Insecticides.

As a Wash for Plants for destroying all kinds of Insects and Parasites, which infect the foliage and roots, such as Green and Black Fly, Mealy Bug, Scale and Thrip, Red Spider, American Blight, Woolly Aphis, Caterpillar, Wood Lice, &c.

Price in tins—½ Pint, 1s.; 1 Pint, 1s. 9d.; 1 Quart, 3s.; ½ Gallon, 5s.; 1 Gallon, 9s.; 5 and 10-Gallon Drums, 3s. per Gallon. Carriage Paid.

Testimonials and Particulars sent free on application.

PREPARED SOLELY BY

THE BOUNDARY CHEMICAL CO., LTD.,
LUTON STREET, LIVERPOOL.

BENTLEY'S—BENTLEY'S

WEED DESTROYER

Has paved the way for many imitators, but maintains its position of superiority, and acknowledges no equal. Has the largest sale, and the confidence of the leading gardeners. 3 gallons, 5s. 6d.; 6 gallons, 10s.; 12 gallons, 18s.; 18 gallons, 27s. 6d.; 40 gallons, 50s. Carriage paid.

SOLE INVENTOR—

JOSEPH BENTLEY,
CHEMICAL WORKS,
BARROW-ON-UMBER, HULL.

For all INSECT PESTS
in Greenhouses and
Frames, nothing has
proved equal to the

LETHORION (VAPOUR CONE),

(PATENT).



They are now universally admitted to be thoroughly uniform in strength, and safe for any Plant or Flower, even if four times the quantity are used.

Scale and Mealy Bug may be completely eradicated by using the Cones double strength.

PRICES.—For Frames, &c., of 50 cubic feet, 6d.; 100 ft., 9d.; 500 feet, 1s.; 1000 feet, 1s. 6d.; 4000 feet, 5s. each. THE HOUSES SHOULD BE WELL SECURED.

CORRY & CO., Ltd., 16, Finsbury Street, LONDON, E.C.

IMPORTANT TO GARDENERS, AMATEURS, AND OTHERS, WHO FUMIGATE HOUSES

TO KILL "FLY," OR "THRIP."
You will shortly be ordering your Spring Supply of Fumigating Material. Why lay in a heavy stock of tobacco paper, uncertain in quality, often disappointing, and very unpleasant to use, when you can have a SAFE, RELIABLE article, and one that is pleasant to use?

THE FIRST
OF ITS
CLASS,
AND STILL
THE ONLY
ONE



On which you can thoroughly depend. The manufacture is much improved and it can be ordered without any risk of the disappointments often attending other fumigating materials.

PRICES:—
For houses with 1000 cubic ft., No. 3 Roll, 1/- each; Post a capacity of 2000 " " " " 1/9 " " Free. The Rolls may be cut for houses of a smaller capacity, or to make up required quantities for larger houses.

LEMON OIL INSECTICIDE.—The safest and most effective Liquid Insecticide for dipping or syringing. PRICES, post free:—Pints, 1s. 10d.; quarts, 3s. 3d.; half gallons, 5s. 9d.

CLIBRAN'S EUCARIS MITE KILLER.—A truly valuable remedy, has saved thousands of bulbs. PRICES, post-free:—Half-pints, 1s. 9d.; pints, 2s. 9d.; quarts, 4s. 9d.; half-gallons, 8s.

OR FROM YOUR SEEDSMAN.

CLIBRAN'S OLD-FIELD ALTRINCHAM;
10 & 12 MARKET STREET, MANCHESTER;
And Principally Nurseries, Beguawly, Llandudno.

INNES' FERTILISERS.—THE VINE AND PLANT FOOD.—Of all Nurseries and Seedsmen, or direct, 15s. per cwt., carriage paid to all Stations. References and testimonials of the Sole Makers—W. INNES AND CO., Sunny Hill Viney, Littleover, Derby.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in later from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s. 3d., and 1s. 6d.

GISHURSTINE keeps roots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 " ..	0 3 6	16 " ..	0 9 0
6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s. If set across three Columns the lowest charge will be 30s. Page, 48; Half Page, 44 10s.; Column, 25.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths, and Marriages, 5s. each insertion. POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column. POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER. Advertisements for the current week must reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER. Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months; Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

London County Council.—To Horticultural Builders and CONTRACTORS.

TENDERS are invited for the ERECTION of a PALM HOUSE in BATTERSEA PARK, to be constructed chiefly of iron. Persons desirous of submitting Tenders may obtain a copy of the Specifications, Drawings, Form of Tender, and other particulars at the Office of the Architect of the Council, at Spring Gardens, on payment of a sum of one guinea, which will be returned on receipt of a *bona fide* Tender. Persons tendering will be required to declare in their Tender that they pay such rates of wages and observe such hours of labour as are generally accepted as fair in their trade. The Tenders, which must be on the form supplied from this Office, and be addressed to "The Clerk of the Council," and endorsed "Tender for Palm House, Battersea Park," are to be delivered at this Office before 10 o'clock A.M. on February 23, 1892, and no Tender will be received after that hour. Any Tender which is not fully filled up in every particular will be rejected.

The Council does not bind itself to accept the lowest or any Tender.

H. D. LA HOOD, Clerk of the Council.

Spring Gardens, S.W., February 4, 1892.


TO HORTICULTURISTS.—GREENHOUSE GAS COKE AND SMITH'S COKE delivered in Truckloads at any Station in England and Wales.—Address, G. J. EVESON, 26, Corporation Street, Birmingham.

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices at WATSON and SCULL, 90, Lower Thames Street, London, E.C.

AGENTS WANTED FOR THE SALE OF NATIVE GUANO. The Best and Cheapest Manure for all Farm and Garden Crops.—THE NATIVE GUANO COMPANY, LIMITED, 29, New Bridge Street, Blackfriars, London, E.C.

SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 6s. Stamp size, 2s. 4d. for 1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—FRANCIS AND CO., 28, Ludgate Hill, London.

FREE GRANTS OF LAND IN MANITOBA and other PARTS OF CANADA.—The reports (illustrated) of the twelve British Tenant-Farmers who visited Canada in 1890, and other pamphlets issued under the authority of the Imperial and Dominion Governments, containing maps and full information as to land regulations, bonuses granted to settlers, openings for capital, demand for labour, rates of wages, cost of living, and all other particulars, may be had post-free, on applying to the High Commissioner for Canada (Mr. J. G. COLMER, C.M.G., Secretary), 17, Victoria Street, London, S.W.; or to Mr. JOHN DYKE, Canadian Government Agent, 15, Water Street, Liverpool.



WARNE'S
(LATE MATTHEWS)
CELEBRATED WESTON
FLOWER POTS
AND
HORTICULTURAL
POTTERY.

CONWAY G. WARNE, Limited,
Royal Potteries, Weston-super-Mare.

BOILING WATER OR MILK.
EPPS'S
GRATEFUL—COMFORTING.
COCOA
BREAKFAST—SUPPER.

THREE MILLIONS
HAVE BEEN PAID BY THE
RAILWAY PASSENGERS
ASSURANCE COMPANY,
FOR
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, J. Secs.
A. VIAN,

My GARDENER. Illustrated by H. W. Ward, F.R.H.S., Head Gardener to the Earl of Radnor, Longford Castle, Salisbury.

"Clear, sensible, and full of instruction."—*Times*.

"This is the best work on gardening which we have come across for a long period . . . and certainly deserves a place in every gardener's library or bookcase."—*Rural World*.

"A practical handbook for the million, it has no superior on the subject."—*Daily Telegraph*.

"The book is replete with valuable cultural notes, indispensable to the millions who are now turning to gardening as a source of pleasure and profit."—*Gardeners' Chronicle*.

"The professional gardener, amateur, and cottager may look to it as a trustworthy guide in matters affecting the routine of the garden."—*Gardeners' Magazine*.

"It is likely to be most useful and very popular."—*D. T. Fish, Esq.,* Exeter.

"I hope for the good of the country it may meet with the extensive sale it deserves."—*W. H. THOMSON, Esq.,* Clonfert.

"I shall consult it myself with pleasure."—*F. W. BURBIDGE, Esq.,* Curator of Trinity College Botanical Gardens, Dublin.

BYRKE AND SPOTTISWOODE, East Harding Street, E.C., and all Booksellers.

AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

THE AMERICAN GARDEN,

WHICH INCLUDES—

THE AMERICAN GARDEN	18th Year.	United in ONE.
THE GARDENERS' MONTHLY	32nd Year.	
AND HORTICULTURIST	44th Year.	
THE FLORAL CABINET	19th Year.	

Making the Largest, Best, Oldest, Liveliest, Handsomest Gardening Magazine in America.

THE LEADING AMERICAN JOURNAL FOR HORTICULTURAL ADVERTISEMENTS.

Subscription Price for England and Countries in the Universal Postal Union, 10s.

E. H. LIBBY, Publisher, Times Building, New York, U.S.A.

Agents for Great Britain and Ireland—

STEEL AND JONES, 4, Spring Gardens, Charing Cross, London, S.W., to whom Orders for Advertisements and Subscriptions may be sent. A Specimen Copy post-free for 10d. (stamp).

CATALOGUES RECEIVED.

V. DOPFEL, Erfurt, Germany—Vegetable and Flower Seeds, &c.

THOS. IMRIE & SONS, 137, High Street, Ayr, N.E.—Garden Seeds.

W.M. WATTS, Cupar and Perth—Garden Seeds and Sundries.

J. B. THYNE, 81, St. Vincent Street, Glasgow—Garden Seeds, Implements, &c.

G. BRUCE & CO., 35, Market Street, Aberdeen—Garden Seeds, Tubers, &c.

W. L. LEWIS & CO., Cheshide, Southgate, London, N.—Special offer of Orchids.

F. FROMY & SONS, Chiswick, London, W.—Garden Seeds, &c.

W. F. GUN & CO., 3, Stockton Road, Sunderland—Garden Seeds, &c.

J. JEFFERIES & SONS, Cirencester—Seeds and Bulbs for Spring Planting.

HOGG & WOOD, Coldstream and Dunee, N.B.—Insecticides, Weed Killers, Mildew Destroyers, &c., also Garden Seeds.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham—Flower and Vegetable Seeds, B. gonals, and Chrysanthemums.

CARTER & CO., High Holborn, London—New Chrysanthemums.

H. CANNELL & SONS, Swanley, Kent—Flower and Vegetable Seeds, &c.

M. BUTCHER & SONS, High Barnet—Vegetable, Flower, and Farm Seeds.

FOTHERINGHAM & CO., Corn Exchange, Dumfries—Seed Catalogue.

W. DRUMMOND & SONS, Dawson Street, Dublin—Vegetable and Flower Seeds, &c.

W. P. LAIRD & SINGLAI, Dundee—Garden Seeds.

D. S. THOMPSON & SONS, Wimbledon, Surrey—Gar'en Seeds, Implements, &c.

JOHN GREEN, Norfolk Nurseries, Dereham—Vegetable and Flower Seeds, Rooted Cuttings, &c.

W. SAMSON & CO., Kilmarock—Seeds and Plants.

F. MILLER & CO., Fulham Road, London, S.W.—Vegetable and Flower Seeds.

JAMES YATES, Little Underbank, Stockport—Vegetable and Flower Seeds.

H. CANNELL & SONS, Swanley—Floral Guide and Garden Seeds.

SAMUEL M. CAUSLAND, Victoria Street, Belfast—Seed Catalogue.

BRUCE & ROBBIE, Castle Street, Forfar—Garden Seeds.

VILMORIN-ANDRIEU & CO.—Catalogue Générale de Graines, Fruites, &c., Quai de la Mégisserie, Paris.

J. A. ANDERSON, Wine Street, Sligo—Garden Seeds.

FLETCHER, SON & CO., Cheshide—Garden Seeds.

WEBB & SONS, Worsley, Stockbridge—Farm Seeds.

PITCHER & MAXDA, The United States Nurseries, Hextable, Swanley—Chrysanthemums.

GARDENING APPOINTMENTS.

MR. C. BELLIS, until recently Foreman in the gardens at Henley Hall, as Head Gardener to Sir C. H. ROUSE BOURTON, Bart., Dowton Hall, Ludlow.
MR. ARTHUR WAITE, until recently at Fern Hill, Hutton, as Head Gardener to Alderman NEILL, J.P., Eastwood House, Rotherham.
MR. J. WATTS will commence his duties as Head Gardener to Mrs. Wood, Moorfield, Glossop, on February 8.

TO THE NURSERY TRADE & GROWERS.

A GENTLEMAN, desirous of LEARNING the BUSINESS, is willing to GIVE TIME, or INVEST MONEY in a SOUND AFFAIR.—Letters to ARTHUR ROBINSON, 8, Leadenhall Street, London, E.C.

To Nurserymen.

WANTED, a PARTNERSHIP, in an ESTABLISHED BUSINESS. Strictest investigation on either side desired. Address London preferred.—E. K. The Pines, Attleborough, Norfolk.

WANTED, a Person willing to JOIN an OLD-ESTABLISHED NURSERY as a PARTNER, with £300 to £1000. The Lessee has just obtained a new lease for thirty years at a low rental. Apply by letter to J. S. Gardeners' Chronicle Office, 41, Wellington St., Strand, W.C.

WANTED.—H. CANNELL and SONS are desirous of ENGAGING a young MAN to proceed to New York as LEADING HAND in a small Nursery, under the Proprietor, and to take charge in his absence. State experience, &c.—Swanley, Kent.

To Gardeners.

WANTED, a thoroughly experienced MAN, to take the entire Management of a Garden of 10 Acres, 4 acres of which are glass, situated at Hillingdon, near Uxbridge. Only thoroughly experienced men, accustomed to grow for market, and whose characters will bear the strictest investigation, need apply, stating fully the whole of past experience, age, and salary required. House found, but no commission or any extras allowed.—Apply, by letter only, marked Private, to WILLIAM WHITELEY, Westbourne Grove, London, W.

WANTED, a WORKING MANAGER, under principal, for Market Nursery. Must be thoroughly experienced in Cucumbers, Tomatoes, Mushrooms, Chrysanthemums, and all sorts of Bulbs for forcing and Softwooded Plants and Cut Flowers, all grown exclusively for Market; a permanent situation to a thorough energetic and reliable man; good House on premises. State full particulars, age, experience, and salary required.—G. A. WILLIAMSON, Smithfield Market, Manchester.

WANTED, as HEAD GARDENER, an energetic, practical, and obliging Man.—He must thoroughly understand his business, and be able to produce a constant supply of Fruit, Flowers, and Vegetables; garden contains the usual quantity of glass and a permanent situation to a middle-aged man without family.—Letters, with all particulars, to H. K. Messrs D. Gosden & Co., 17, Tavistock Street, Covent Garden, London, W.C.

WANTED, a HEAD WORKING GARDENER.—Must thoroughly understand Vines, Peaches, Vegetable and Flower Garden, London Suburb. Must be competent to Manage Stock. Cowman kept. State age and family, and wages required (excellent Cottage, with Garden, Coals, Gas, Vegetables, and Milk, being found). Copies only of testimonials to be sent.—Address H. D. Gardeners' Chronicle Office, 41, Wellington Street, Strand, London, W.C.

WANTED, a HEAD WORKING GARDENER, near London, where several others are kept. Must be married, no family, and well up in Grapes, Melons, Cucumbers, Greenhouses, Flower and Kitchen Gardens, and have some knowledge of Stock.—Apply, stating age, experience, and wages required, to G. G. St. Harry Street, W.

WANTED, as HEAD WORKING GARDENER, an intelligent experienced all-round man, with an interest in his work. Two under him, with extra help as required. Apply, G. H. HADFIELD, Morston, Ross, Herefordshire.

WANTED, a WORKING GARDENER, where two others are kept.—Must be well up in the management of Stove Plants, Early and Late Vineries, Orchard House and Outdoor work, and have exceptional skill in testimonials. Wages, 24s., with good Cottage and Fire.—Apply, stating age, what family (if any), and particulars of former engagements, to R. F. & S., 35, Lincoln's Inn Fields, W.C.

WANTED, a WORKING GARDENER, for Surrey, with thorough knowledge of Vegetable and Flower Garden. Small Conservatory, assistance given. Good personal reference from last employer. Wages to commence about 35s.—Apply by letter only to S. B. Mr. Barker, Castle Court, Croydon, E.C.

WANTED, in Devonshire, a HEAD WORKING GARDENER, with five or six under him.—Thoroughly experienced in Flowers, Kitchen, Forcing, Fruit, and Landscape Gardening. Age between 35 and 45. Married, without family, or not exceeding two. Must have unexceptionable references. Address, stating previous situation, age, of self, and family (if any), wages, and references, to M. L. MARISTOWE, Rothernough, South Devon.

WANTED, as GARDENER, a man from 25 to 30 years. Must have good experience in Market Staff. Constant work.—J. HARRISON, Abbey Road, Barking.

WANTED, an active GARDENER (22 to 30); must be a good Fern and Palm Grower. Wages to commence, £1 a week; permanent to suitable man.—COLLINS and COLLINS, Cumberland Park Nursery, Wilsden Junction, N.W.

WANTED, a SINGLE-HANDED GARDENER (thoroughly competent).—Single, or married with no children preferred. Must be hard-working, energetic, and obliging; thorough knowledge of Glass-work and Frogging indispensable.—W. VISON, "Walnuts," Orpington, Kent.

WANTED, on Tyneside, a good active man, as SINGLE-HANDED GARDENER, with knowledge of Greenhouse, Stove, and Conserva ry, Vegetable and Flower Gardens. House, Coal, and Water, free.—Apply, stating age, salary, and qualifications.—No. 91, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, as GARDENER, a married man, about 35, without any family, as Under Gardener, and to live at the entrance Lodge. He must be thoroughly up in all Kitchen Garden Work, and have unexceptional references. Wages, £1 a week.—Apply, by letter only, stating age, how long married, and where previously employed, JOHN INNES, Merton, Surrey.

WANTED, a good plain GARDENER.—Married, without family; Wife as Caretaker, in a partly-furnished private house.—Apply, with full particulars, giving references, to Mr. W. L. HUBBLE, Allington, Maidstone.

WANTED, as SECOND GARDENER (three other kept), a strong active young man, about 25. Must be smart in appearance, and thoroughly conversant with all requirements of a gentleman's establishment, especially Kitchen Garden Work. Must have good references. Reply by letter only, stating experience, wages required, &c., to T. SCHOLLEY, Heathside Cottages, Potter's Bar.

WANTED, a young MAN, as SECOND, where four are kept.—Must understand Inside and Outside Work, and be one for a Job in Kitchen Garden. Used to Mowing Machine and Scythe preferred. Bothy and vegetables. State age and wages to C. BARNETT, Hilton Park Gardens, Wolverhampton.

WANTED, a young MAN well up in growing flowers, as GARDENER. To live in house, and assist in housework; all found. Wages, 7s. to 8s. Address, T. G. 24, Bowyer Terrace, Clapham, S.W.

WANTED a thorough practical, trustworthy Man as FOREMAN.—W. WHIBBERLEY, Gardens, Oulton Park, Llangefylli, Cheshire.

WANTED, about FIFTEEN active MEN, for a Branch Nursery, being built, where Cucumbers are the chief thing grown.—JOHN RICHMOND, Tully Street, Waltham Cross. Nearest station, Forty Hill, G.E.R.

WANTED, an ALL-ROUND MAN, to take charge of Inside and Outside. Understands Tomatoes, Chrysanthemums, and Cucumbers.—R. T. WHITE, Hart, Richmond, Surrey.

WANTED, a thorough all-round MAN, to Grow perfectly Grapes, Peaches, Tomatoes, Roses, Gardenias, Azaleas, and other Plants. Must have a good character in every respect. Abstainer preferred. Three Glass Houses, usual Flower and Kitchen Gardens. None but a thorough workman will suit. Active and quick at his work, and with interest in the place.—State full particulars to W. A. GLYNN, Seagrove, near Ryde.

WANTED for a Market Nursery a sharp, active young MAN to take charge of a set of House under the principal; one with a knowledge of Roses, Carnations, and Bourdains preferred. 21s. progress per week; state age and experience. Also a young MAN, quick at potting; wages, 15s.—TURNER BROS., Green Hill Nursery, Garston, Liverpool.

WANTED, a young MAN, about 25, for the Pleasure Grounds. Must thoroughly understand his work, and the working of horse lawn mower, and the use of scythes, Wages, 10s. no bothy. Apply, MR. DEBEN, Tilgate Gardens, Crawley.

WANTED, a young MAN experienced Inside and Out, who understands Plant Growing, and want under 24. Wages 17s. 6d. per week and bothy.—H. FOSTER, The Gardens, St. Ives, Bingley, Yorkshire.

WANTED, a single MAN, with good expe-rience, for Kitchen Garden and Pleasure Grounds. Must be accustomed to Scythe and Pony Machine. Wages 15s. per week.—T. OLDHAM, Sloughdown Grange, Leicester.

WANTED, a competent MAN, well up in Growing Double Primulas, Bourdains, and other Plants for Market. The Culture of the Cut Flower, Fruit and Herbaceous stuff. Good references, and state wages.—35, Queen Street, Cardiff.

WANTED, a reliable and energetic MAN, age 26 to 31; for Propagating and Growing Pot Plants and Cut Flowers for Market. None need apply unless thoroughly experienced, and whose character will bear the strictest investigation. Wages, as per position, as to ability, references, wages expected, and enclose photo to RELIABLE, *Gardeners' Chronicle* Office, 41, Wellington Street, Covent Garden, London, W.C.

WANTED, a young MAN of good experience, where cut-wooded Plants, Ferns, and Palms are grown for the London market. Good references required. Apply to J. WILLIAMS, College Park Nursery, Lewisham, S.E.

WANTED an Energetic MAN, not under 25, as FOREMAN for the Houses. Must have a good knowledge of Plants, Orchids, Ferns, &c., also Melons and Cucumbers.—State age, wages, and experience.—J. BUDD, Lockley Hall, near Rotherham.

WANTED, SEVERAL young MEN, in a large Market Nursery, with a knowledge of Cucumber and Tomato Growing, and willing to make themselves generally useful. Also a married MAN required for NIGHT STOKING. Permanent employment for suitable men.—Apply, stating experience and wages required, to GUYVER BROTHERS and LAWS, Durant's Nursery, Ponder's End, Middlesex.

WANTED, a young MAN, accustomed to Chrysanthemums and Tomatoes.—State age, references and wages expected, to MANAGER, Lily Owen Gardens, St. Clears, Carmarthenshire.

WANTED, a steady, honest, sober MAN, who can grow Vegetables, &c., Understands Vine and Fruit Trees, and can clean up small gardens in a neat way. Age 30 to 40. A fairer preferred. Constant work, &c. Wages as to his ability.—A. GROOMBRIDGE, Totthill Nursery, Plymouth.

WANTED, at ONCE, an ASSISTANT for the Cut Flower, Plant, and Seed Business. Must be quick at Writing, Book-keeping, &c. State age, wages, and experience to W. BALCHIN and SONS, 145, Church Road, Hove.

WANTED, a thoroughly reliable married MAN of about 30, as MANAGER in a Shop. Must have a fair knowledge of the Seed Trade, and a thorough knowledge of the Cut Flower and Plant Trade. Character and ability must bear the strictest investigation.—MARSHALL BROS. and CO., Barnham Junction, Bognor.

WANTED, Immediately, an ASSISTANT SHOPMAN, one with a knowledge of the Cut Flower Trade preferred. Apply, with references, stating age, and wages required, to JAMES COCKER and SONS, 130, Union Street, Aberdeen.

WANTED, a young MAN for Flower Garden and Lawn, and to take turn with fires and Sunday duty. Must be strong, active, and willing. Wages, 15s., with bothy and vegetables. Apply, giving full particulars, to J. PENSON, Witley Gardens, Ewelling, Salop.

WANTED, an ASSISTANT, for the Seed, Bulb, Plant, and Floral Business.—A preference given to one accustomed to the Floral Business. Applicants to state age, wages, and references.—P. Q. Hurst & Co., Houndsditch, London, E.C.

WANTED, a TRAVELLER and SHOP-MAN. We have a VACANCY for such. Full particulars of age, experience, reference, and salary to HARRISON and SONS, Seed Merchants, &c., Leicester.

WANT PLACES.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BALIFFS, or GARDENERS.

JAMES CARTER and CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

SCOTCH GARDENERS.—I have at present several very superior MEN on my Register, whose character and ability will bear the strictest investigation.—JOHN DOWIE, Seedsman, 144, Princes Street, Edinburgh.

RICHARD SMITH and CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and trust they will be enabled to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), married, The Vineyard and Nurseries, Garston, near Liverpool, wish to recommend to any Noblemen or Gentlemen who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterspool, near Liverpool.—Full particulars on application to the Company.

Head Gardeners.

JOHN LAING and SONS can at present recommend with every confidence several energetic and practical MEN of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BALIFFS, and Mr. D. GARDENERS for first-class Establishments or Single-handed Situations, can be suited and have full particulars by applying at Staunsted Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS

Gardeners, Farm-Baliffs, Foresters, &c. **DICKSONS, Royal Nurseries, Chester** (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD).—Mr. WILLS, of the Royal Exotic Nursery, South Kensington, can with the most perfect confidence recommend a thoroughly good Head Gardener. Mr. Wills has known him for upwards of twenty years. He can be highly recommended by several employers. He has had the management of the picturesque gardens connected with The Mote, Ighiteam, Kent, for fifteen years, and has besides the charge of large fruit gardens for market purposes at The Mote. His age is right, and he has comparatively no encumbrances.—L. ISMAY, Boro Green, Sevenoaks, Kent.

GARDENER (HEAD).—Age 39; life expe-rience; all branches Land, Stock. Eleven years' Head. Good character and testimonials. Wife, Dairy if required.—WINFIELD, Brook Glen, Redhill, Surrey.

GARDENER (HEAD).—Age 38, single; thoroughly experienced in Fruits, Flowers, and Vegetables; indoors and out; six and a half years' good character. A Death case of leaving.—E. JAINES, 2, Union Place, Union Street, Stratford, E.

GARDENER (HEAD); age 46, married. Scotch.—A GENTLEMAN wishes to recommend his Gardener as a thoroughly practical man in all branches of his business, including Early Fruit Forcing, Orchids, Stove Plants, and the general management of all the above. Please state particulars.—S. Wheatfield Cottage, Callow, Worcester.

GARDENER (HEAD).—Age 39, married, one boy. Good experience in the cultivation of Fruit, Flowers, and Vegetables, and the general management of a good garden, where several under are employed. Excellent testimonials from each place previously filled.—W. S., 306, High Street, Acton, W.

GARDENER (HEAD); age 33, married, three children.—A Nurseryman can strongly recommend his Foreman, who was formerly Foreman in a Nobleman's garden, who is a thoroughly experienced trustworthy all-round Gardener, well up in everything for Market, if required.—E. D., 4, Station Road, Bexley Heath, Kent.

GARDENER (HEAD); age 34, married, no family.—Mr. J. WILLY, Head Gardener, to the Baroness Burdett-Coutts, Holly Lodge, Highgate, N., is in a position to recommend to any Lady, Nobleman, or Gentleman a thorough practical man in the above capacity. Five years as Head in present place; well versed in the management of all kinds of Fruits, Plants, and Vegetables, and the requirements of a large Establishment.—For full particulars, please reply as above.

GARDENER (HEAD), in good establishment.—Married, no family. Abstainer. Life experience in Early and Late Forcing all kinds of Fruits, Flowers, Vegetables, Mushrooms, also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' character from present employer, and sixteen years' previous references.—J. D., Normansfield Lodge, Hampton Wick, Middlesex.

GARDENER (HEAD), where three or four are kept.—Age 30, single; sixteen years' experience in all branches. Good references.—A. G., Basing Park Gardens, Alton, Hants.

GARDENER (HEAD).—Mr. WARD, gardener to the Right Hon. Lady Emily Foley, Stoke Edith Gardens, Hereford, would be pleased to recommend his Foreman (Edw. Wild) to any Lady or Gentleman requiring the services of a first-class practical man. He has had fourteen years' experience in all branches of the profession, has lived in first-class establishments, and can be well recommended by previous employer.

GARDENER (HEAD); age 35; married, one boy of nine years.—Mrs. SANCROFT HOLMES, Gawdy Hall, Harleston, Norfolk, highly recommends Head Gardener as above. Thoroughly understands his duties; excellent references.

GARDENER (HEAD).—Age 46, married. Life experience in all branches, Land and Stock (fifteen years as Head). Excellent character and testimonials.—A. B., 3, Ferness Cottage, Stanley Road, East Sheen, Surrey.

GARDENER (HEAD).—Mr. SIMPSON, Gar-dener to the Earl of Winton, Cliff, near Witley, Sheffield, can recommend his present General Foreman as above, to any Lady or Gentleman. First-class man, and good testimonials.

GARDENER (HEAD), where two or three are kept.—Age 25, married; ten years' experience in large establishments, Inside and Out. Good references. Abstainer.—G. M., 13, Cliffton Terrace, Ashville Road, Leytonstone, Essex.

GARDENER (HEAD).—Age 42; married, one child, age 11; thoroughly forcing Fruit, Vegetables, and Flowers, and a good Orchid grower. Eight testimonials.—M. HERASMAN, 45, Waterford Road, Fulham, S.W.

MARTON HALL, E.S.O. Yorks, wishes to recommend a Foreman to any Lady or Gentleman requiring the services of a practical man; fourteen years' experience.

GARDENER (HEAD).—Age 43; married six-teen years. Head Gardener to the late Lord Cottesloe. Thoroughly practical in all branches of the profession.—F. SMALL, Witley, Bucks.

GARDENER (HEAD), in a large establish-ment; age 44, widower, two children, youngest 9 years.—E. S. WILES, who has had charge of the Elgote Gardens for the last thirteen years, will be engaged on March 25, and is open to re-engage to any Lady or Gentleman requiring a good all-round Gardener. Excellent characters from present and previous employers.—E. S. WILES, Elgote, Ransbury, Oxon.

GARDENER (HEAD).—Mr. CLARKE, Head Gardener to the Earl of Lonsdale, Louth Castle, Leicestershire, can with every confidence recommend his Foreman to any Lady or Gentleman requiring the services of a thorough practical man; experienced in all branches.

GARDENER (HEAD).—Land and Woods, if required. Married. Upwards of twenty years' practical experience. Six years with present employer (Sir B. Buckley, Bart.). Can be well recommended. —S. BAILEY, Plas Gardens, Dinas Mawddwy, Merionethshire.

GARDENER (HEAD).—Married, age 42. No young children. Vines, Peaches, Stove and Greenhouse Plants, Flower and Kitchen Garden. Home Farm not objected to. Six and twelve years' characters from last two situations. —C. CRECHLEY, Hatch End, Pinner.

GARDENER (HEAD).—Scotch.—Age 42, married, no family; nearly ten years' good character from present employer. Has been in some of the best Gardens in Scotland and England. Is now open to re-engage to any Lady or Gentleman requiring a good all-round Gardener. —D. MACKAY, Maristow, Roborough, Devon; or Messrs. J. VEITCH and SON, King's Road, Chelsea, London, S.W.

GARDENER (HEAD).—Age 44, married; no family; thoroughly experienced in Noblemen's and Gentlemen's Gardens. Fifteen years in present situation. Highly recommended. —S. L. SHIPLEY, Tonbridge, Kent.

GARDENER (HEAD WORKING).—Age 30, married; well experienced in the Culture of Plants, Orchids, Fruits and Vegetables, and the requirements of a good Establishment. Life experience. Excellent testimonials. Death cause of leaving. —A. C., The Gardens, Shales, Bittern, Southampton.

GARDENER (HEAD WORKING).—Age 33, married, two children, ages 9 and 6; Scotch.—A GENTLEMAN wishes to recommend his deceased father's Gardener, as a thoroughly experienced and trustworthy man, who has been in his service for four years. Excellent testimonials from previous employers. —J. P., 59, Warrington Crescent, Maida Hill, W.

GARDENER (HEAD WORKING).—where two or more are kept.—Age 30. Fifteen years' experience in all branches. Three years foreman in present place. Excellent references from present and previous employers. —A. CANTIN, Cannon Hall Gardens, Barnsley.

GARDENER (HEAD WORKING).—where three or more are kept.—Age 31, married, no family; eighteen years' thorough experience in good all-round Gardening, including Table Decorations. Good testimonials and references. —P. T., Firtled Gardens, Addlestone, Surrey.

GARDENER (HEAD WORKING).—No family; life experience, and thoroughly competent in all branches. —F. G., Star Hill, Newport, Essex.

GARDENER (HEAD WORKING) where assistance is given.—Age 24, single. Eight years' experience and two years' good character from present employer. —T. B., Mr. Billimore, Caversham Nurseries, Reading.

GARDENER (HEAD WORKING), where one or two are kept.—Age 25, married when suited; twelve years' experience inside and out, with good characters from previous and present employer. —G. L., 4, St. Mary's Cottages, Westfield, Barnes, Surrey.

GARDENER (HEAD WORKING).—Age 33, married, one child; fourteen years' experience in good Gardens. Absent.—G. D., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING), where three or four are kept.—Age 33, married, no children. Good reference. Address, stating wages, GARDENER, Bower Lodge, Havering, Romford.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 35, married. Thoroughly experienced in all branches of gardening. Twelve years' character from present employer. GARDENER, The Beacon, West End Lane, West Hampstead, London, N.W.

GARDENER (HEAD WORKING), where three or four are kept. Has had thorough experience in good establishments. In excellent character as abstarner. —GARDENER, 29, Stadium Street, Ashburnham Road, Chelsea, S.W.

GARDENER (HEAD WORKING), where another or more are kept.—Age 29, married, no family; twelve years' experience in Vines, Flowers, and Fruit; Flower and Kitchen Gardening. Excellent characters. —J. W. SMITH, Hampton Park, Hereford.

GARDENER (HEAD WORKING).—Age 34, married; thoroughly experienced; six years' good character from last situation. —E. W., 7, Poplar Cottages, Rathall Common, Tunbridge Wells.

GARDENER (HEAD WORKING) or GARDENER and BALLIFF.—Age 40; thorough practical and life experience in all its branches, including Laying-out Grounds, &c., and the Keeping up well of good Gardens. Eighteen years' good character, also previous excellent references. —B. A., Mr. A. Saywood, Shenfield, Brentwood, Essex.

GARDENER (HEAD WORKING).—Age 36, married; thoroughly experienced. Seven years in present situation, three years previously as Head. Formerly six years as Under with the Earl of Jersey. Thorough good references from each place. Land and Stock, if required. —T. HICKS, Brookfield Farm, Buckingham.

GARDENER (HEAD WORKING).—Age 38, married, one child (age 12). Thoroughly practical, good references.—WM. COUSINS, The Lodge, South Park, Sevenoaks.

GARDENER (HEAD WORKING).—Age 32, married, no family. Thoroughly practical in all branches. Seventeen years' experience. Excellent testimonials and references. Nearly four years in present situation, leaving through a death. —H. TULLETT, The Trowlock, Teddington.

GARDENER (HEAD WORKING).—Age 32, married, no family; excellent character through life; also life experience in all branches of Gardening.—E. W. JENKINSON, 104, South Bridge Road, Croydon.

GARDENER (HEAD WORKING).—Middle-aged, single; thoroughly practical in all branches, including Decorating and Laying-out. First-class testimonials. —M. M., 1, Peel Place, Silver Street, Kensington, W.

GARDENER (HEAD WORKING), where Surplus Produce is disposed of.—Age 40, three children, youngest 10. Brought up to the profession. Thoroughly experienced in Growing Fruit, Flowers, and Vegetables, Inside and Out. Five years' character from present employer. —T. B., Redlands Gardens, Emsworth, Hants.

GARDENER (HEAD WORKING).—Age 37, married, two children, youngest 12; twenty-three years' experience with Grapes, Peaches, Melons, Cucumbers, Tomatoes, Mushrooms, Stove and Greenhouse Plants, Flower and Kitchen Garden, and Early and Late Forcing. Abstainer. Good references. Please state particulars of place, GARDENER, Lumpets, Huddesdon, Herts.

GARDENER, age 31, married.—Situation wanted in Isle of Wight or Devon. Capable of Growing Bedding and Soft-wooded Plants, Palms, Ferns, Cucumbers, Tomatoes, and Cut flowers. Twelve years' good character from present employer. —A. FLOYD, 54, Malet Road, Hither Green, Lewisham, S.E.

GARDENER.—Age 28, married when suited. —A HEAD GARDENER highly recommends his Second. Man as a good all-round practical Gardener all in branches, to any Gentleman requiring same. —K. *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

GARDENER (SINGLE-HANDED, or otherwise).—Age 40, married, no family; good all-round man. Both total abstinents, and both can be well recommended. —GARDENER, 31, Bruce Road, High Isaret.

GARDENER (SECOND).—Age 22; seven years' experience Inside and Out. Good character.—F. UPTON, 23, Prospect Road, Childs' Hill, N.W.

GARDENER, where one or two undermen are kept.—Age 23, single. Member of the Church of England.—LEWIS MILLER, Mrs. Arnold, Hardwick, near Aylesbury.

GARDENER (HEAD, or SINGLE-HANDED).—Age 25; twenty years' experience in the profession. Wife Laurend or Dairy, if required. Testimonials and character. —S. B., West Mill, Ealingford, Herts.

GARDENER (SINGLE-HANDED, or UNDER).—Age 25; seven years' experience. Good references. —K. DERNAM, Spring Cottages, Stanmore, Middlesex.

GARDENER (HEAD, or SINGLE-HANDED), married, no family; good all-round practical experience, first-class references from present and previous employers. —F. DODG, Swanland Manor Gardens, Brough, Yorks.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 40, married, two children. Thoroughly good all-round man. Hard-working energetic, trustworthy. Two years' good character.—WOOD, Holmesthorpe, Redhill.

GARDENER (SINGLE-HANDED).—Age 22; life experience in all branches; well recommended by present and previous employers.—A. S., 17, Nightingale Lane, Balham, S.W.

GARDENER (SINGLE-HANDED).—Understands all branches. Good references.—J. CURRY, 24, Rickford's Lane, Teignmouth, South Devon.

GARDENER (SINGLE-HANDED, or with help).—Middle-aged, one girl (age 13). Good character. Seventeen years' previous as Head. Would not object to charge of Cows or Stock.—W. GREEN, 51, Woodcote Place, West Norwood, Surrey.

GARDENER (SECOND, or SINGLE-HANDED).—Age 22; seven years' experience Inside and Out. Good references.—A. SNELLING, 26, Stamford Terrace, Stamford Hill, N.

GARDENER (SECOND or JOURNEYMAN).—Age 23; thoroughly reliable; strong, active young man; abstainer.—Apply, in first instance, HEAD GARDENER, The Elms, Banbury.

GARDENER, where two or three are kept.—Age 40, Inside and Out, SINGLE-HANDED.—Age 39, two years' good character, and three years' previous.—F. COLES, 5, Park Terrace, Upper Caterham, Surrey.

GARDENER (SECOND).—Age 22. Over eight years' experience, inside and out. Excellent characters.—F. S., Mrs. Horrid, Highwood Hill, Mill Hill, N.W.

GARDENER (good SECOND).—Age 25, single. —C. WINGROVE, The Gardens, Sunbury Park, Sunbury, can thoroughly recommend good all-round man, as above. Well up in Plants, Forcing Grapes, Fruits, &c. Seven and two-and-a-half years' references.

GARDENER (UNDER, or SINGLE-HANDED).—Age 22. Total abstinents; good references.—H. A., 4, Church Street, Lower Edmonton, N.

GARDENER (UNDER, or SINGLE-HANDED).—Age 20; willing to make himself generally useful.—E. T., Kingswood Cottage, Shortlands, Kent.

GARDENER (UNDER), in a gentleman's establishment.—Age 23; nine years' good character; experienced in all branches.—J., 32, Glenary Street, Cardiff.

GARDENER (UNDER).—Respectable young man, age 18; good knowledge of In and Out-door work. Three years in present situation; excellent testimonials. Highly preferred.—REDFMAN, Eynsham, St. Neots, Hants.

GARDENER (UNDER, or SINGLE-HANDED).—Married, no family. No objection to one or two Cows. Six years' character.—GARDENER, Duke's Row, near Chelmsford, Essex.

GARDENERS.—Two seek re-engagements, Inside, or Inside and Out (age 20 and 22). Five and seven years' experience, and can have excellent references from present and previous employers.—H. YOUNG, Shiplake Court Gardens, Henley-on-Thames.

To Nurserymen.

PROPAGATOR.—Age 23. Nine years' experience in Stove and Soft-wooded Stuff, Ferns, &c., for Market. Good references.—E. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR.—Age 22; well up in Budding and Grafting, Growing of Fruit Trees, Roses, Clematis, and Conifers.—THOS. ANDERSON, Elm Tree Cottage, Darley Dale, Matlock.

PROPAGATOR and GROWER.—Age 23; nine years' experience in Palms, Ferns, double Primulas, Begonias, Cyclamen, Poinsettias, Potting Cinerarias, and general Stove Plants, &c. Good references.—W. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR or GROWER (Soft-wood, or otherwise).—Age 24; good references. Ten years' experience. London or elsewhere preferred.—H. B., Ivy Terrace, Biddow Road, Chelmsford, Essex.

PROPAGATOR and GROWER of Ferns, Ficus, &c.—Dracanae, Soft-wooded and other Market Stuff.—Age 24. Nine years' experience. Good character.—H. H., 41, Wellington Street, Strand, W.C.

To Nurserymen.

PROPAGATOR and GROWER.—Age 26. Soft-wooded Stuff, Ferns, Bouvardias, &c. Near London preferred.—M. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Covent Garden, Strand, W.C.

To Nurserymen.

GROWER.—Age 26; good experience in Growing Cucumbers, Grapes, Tomatoes, Melons, Mushrooms, Cut Flowers, Palms, Dracanae, and can do any work to Greenhouses and Pipes.—W. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

GROWER (SECOND).—Age 23; seven years' experience in all kinds of Market Stuff in London and Provincial Nurseries. Good Salesman. Abstainer. Good references.—E. SMITH, 13, Elm Terrace, Eltham, Kent.

To Nurserymen.

GROWER.—Age 20; twelve years' experience. Well up in Palms, Dracanae, Ferns, Ficus, and in Forcing Plants, Roses, and Fruit, also can do any work to Boilers and Glasshouses.—S. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

MANAGER.—Age 40, married; life experience in Growing large quantities of Fruit, Flowers, and Vegetables for Sale. Thoroughly versed in Management of a Business. Five years in present position as Manager.—T. WILLS, Redland's Nursery, Emsworth, Hants.

FOREMAN GROWER.—20 Years in a Market Nursery; Ferns, Palms, Chrysanthemums, or would manage branch Nursery where good private trade is done. —State particulars to A. Z., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Nurserymen.

FOREMAN (HOUSE).—Thoroughly practical. Twenty years' experience. Good Propagator and Grower of general Indoor Stock, Salsam, Florist, and forcing for Cut Flowers. Has held the above position with several leading firms.—G. F., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN.—Age 24; seven years' experience in Stove and Greenhouse Departments. Good character.—W. SELLEY, The Gardens, Brookland House, Farnsworth Road, Gloucester.

FOREMAN, age 29.—Mr. G. THOMSON, Gardener, Easney, Ware, Herts., would like to recommend his Foreman, H. Carpenter, to any Gardener in want of a good man. Well experienced. Two years in present situation. Active. Abstainer.

FOREMAN in a good Establishment.—Good Plant and Fruit Grower. Two years as General Foreman in last situation. Well recommended.—A. C., 2, Rosehill, Alexandra Road, Epsom, Surrey.

FOREMAN in a good Establishment.—C. PRZY can with every confidence recommend his Foreman, F. Lupton, as above.—Scampton Hall, Billington, Yorks.

FOREMAN or PROPAGATOR.—Age 23; married; fourteen years' experience in growing Roses, Azaleas, Ferns, Foliage and Soft-wooded Plants, and Cut Flowers for Market; good references; four years in last place.—W. H., 15, Choumert Grove, Peckham, S.E.

FOREMAN.—Age 25; good experience in Stove and Greenhouse Plants; also Chrysanthemums, Vines, Peaches, Cucumbers, and Melons. —J. SHERLOCK, Moor Park Gardens, Rickmansworth, Herts.

To Market and Fruit Growers.

FOREMAN.—Age 43, married; experienced in all branches. Highly recommended. —J. M., 9, Grace Road, Aylestone Park, Leicester.

FOREMAN, to take charge of Houses. —Mr. G. CO. BRADY, Knights, East Finchley, can confidently recommend J. Wells as above. Twelve years' general experience inside and out. Age 28. Abstainer. Two years in present place.

FOREMAN.—W. INNES & Co. have much pleasure in recommending their Foreman, who has been with them for eighteen months as Indoor Foreman in either Private or Market establishment. Seven and a half years in his last situation. Well up in Fruit, Plants, and Out Flowers. —A. DAVIES, Sanninghill Viney, Littleover, Derby.

FOREMAN PROPAGATOR, or GROWER —Married; fourteen years' experience in London and general Nurseries. Hard and Soft-wooded Stuff, Palms, Ferns, Cacti, Wreaths, &c. Good references. —A. W., 4, Portcullis, Church End, Finchley, N.

NURSEY FOREMAN, age 32, married. —R. J. HAMILTON is now open to a re-engagement in a good establishment as above. Twelve years as Foreman in leading London and Provincial Nurseries. Thoroughly practical, energetic and reliable. Special knowledge of Herbaceous and Alpine Plants, Florist's Flowers, Chrysanthemums, &c. First-class references and excellent testimonials. Could travel. —Mayow Cottage, Sydenham, S.E.

FOREMAN or MANAGER.—Twenty years' experience in London and Provinces, in some of the largest nurseries; a thorough general knowledge of the trade. —H. MORLEY, Bloomsbury Lane, Timperley, Manchester.

FOREMAN (INSIDE, or GENERAL).—Age 28; thirteen years' experience. Well up in Plants, Fruits, Orchids, House and Table Decorations. Two years Foreman in Nobleman's place. Abstainer. —FOREMAN, 2, Lincoln Street, Sloane Square, Chelsea, S.W.

FOREMAN (INSIDE, or GENERAL).—Age 27. Mr. GRAY can with every confidence recommend his Foreman, W. Duffin, as above. Twelve years good practical experience. —Rodgers Gardens, B.S.O., Angles-y, N. Wales.

FOREMAN, in a good establishment. —Age 25; five years' good experience. Good Plant and Fruit Grower, also Decorator. First-class character and testimonials. —S. YOUNDEN, Writtle, Chelmsford.

FOREMAN (GENERAL), in small establishment, or good JOURNEYMAN. —Age 26; ten years' experience inside and out, including Orchids. Total abstainer. Good characters. —M. D. STAMMORE, Middlesex.

JOURNEYMAN in the Houses, or Inside and Out.—Age 20; six years' experience. Strong and active. Bothy preferred. —G. DOWNS, Burkhams Gardens, Alton, Hants.

JOURNEYMAN, age 19. —W. COLE, Clewer Manor Gardens, Clewer, can with confidence recommend W. Moss as above. Strong, active, and willing. Bothy preferred.

JOURNEYMAN, Outside, or Inside and Out. —Age 21; good character. Six years' experience. —S. HARPER, 1, Brook Place, Beckenham, Kent.

JOURNEYMAN (FIRST) in the Houses in a good establishment. —Age 21. Ten years' experience. Can be well recommended by present and previous employers. —W. PEARCE, The Hermitage Gardens, Ascot, Berks.

JOURNEYMAN, Inside, or Inside and Out. —Age 18; five years' experience; good character. —T. PITT, West End, Essex.

JOURNEYMAN in the Houses. —Age 21. Five years' experience in Market Nurseries, both Fruit and Plants. Good references. —G. H., 1, Raleigh Road, Richmond, Surrey, S.W.

JOURNEYMAN, under a Foreman or good Grower. —Age 21; used to General Market Stuff, Tomatoes, &c. Six years' experience. Good character. —G. C., 41, Wellington Street, Strand, W.C.

JOURNEYMAN, Inside, or Inside and Out. —Good practical knowledge. Seven years' excellent character. Bothy preferred. —A. CHILMAN, Brasted, Sevenoaks, Kent.

JOURNEYMAN. —Age 22; six and half years' experience. Three years in present situation; three and half in previous. —J. WILLCOX, The Gardens, Elsham House, Gratham.

JOURNEYMAN with charge, in good establishment. —Age 21; eight years' experience; nearly three years in present situation; above good testimonials. —W. WRIGLESWORTH, Grimston Garden, Tadcaster.

JOURNEYMAN (FIRST), in the Fruit Houses, under Foreman, in a good Establishment. —Age 23; bothy preferred. —G. CLARKSON, Moor Park Gardens, Rickmansworth, Herts.

JOURNEYMAN, in a Private Establishment, where Gardening is carried out extensively. —Age 21; bothy preferred. Good character. Three years in present situation. —E. COOK, Duckden Towers, Huntingdon.

JOURNEYMAN in the Houses. —R. DONKIN, Gardener to E. H. Charlott, Esq., will be pleased to recommend an energetic young man as above. —The Gardens, Nantur, Ranelagh, Surrey.

JOURNEYMAN in the Houses. —Age 22; two years in last place. Can be well recommended. —R. HILL, The Gardens, Roslands, Woolston, Southampton.

JOURNEYMAN in the Houses; age 21. —T. LEWTON, Gardener, Gyringe House, Faversham, can with confidence recommend Ernest Douch as above, for a good establishment. Two and a half years' in present situation.

JOURNEYMAN (SECOND or THIRD), in Fruit or Plant Houses. —Age 22. Over seven years' experience. Fifteen months in last place. Bothy preferred. Total Abstainer. —G. CARTER, 69, Caversham Road, Reading, Berks.

JOURNEYMAN (INSIDE), in a good Establishment. —Age 22; eight years' experience, two years in present situation. Good references. —E. TODD, The Gardens, Willey Park, Kewley, Salop.

JOURNEYMAN, in a market or private establishment. —Age 20. Six years' experience inside and out. Two and a half years' experience. Abstainer. —J. WIGGINS, The Gardens, Toldington, Winchcomb, Gloucestershire.

JOURNEYMAN in the Houses. —Age 23; seven years' experience inside and out. Good references from present and previous places. —J. HARDY, Wentworth Castle Gardens, Barnsley.

JOURNEYMAN (FIRST or SECOND), where four or five are kept. —Age 23. Nine years' experience; leaving to improve himself. —GARDENER, J. Yoss, Finches, Liffeld, Sussex.

JOURNEYMAN in the Houses; private establishment preferred. —Age 21; good references. —S. SMALLBRIDGE, 69, West Street, E. Gristead, Sussex.

JOURNEYMAN GARDENER (UNDER), or FOREMAN. —Wanted to recommend as above. Had seven years' experience in Gardening. Three years in last situation. —H. HURLEY, St. John's, Ipswich.

JOURNEYMAN in a good establishment. —Age 23. E. GODDARD is anxious for improvement in the Houses, and bothy preferred. —Hilton Park, near Wolverhampton.

JOURNEYMAN in the Houses; age 22; eleven years' experience. Bothy preferred. —E. WALKER, Gardener, Rotham Hall, Rotherham, Yorkshire, will be glad to recommend a young man (L. Cross), as above, who has lived under him three years. Strong, active, and willing.

JOURNEYMAN, in a large place, or SECOND in a smaller place. —F. W. RUSSELL, Head Gardener, Wood Green Park, Cheshunt, Herts, would be pleased to recommend a thoroughly industrious and trustworthy young man as above, who has been here three years and a half. Full particulars as above.

IMPROVER, under a good gardener in bothy. —Age 18. Two years' character. No objection to small premium. —R. WATSON, The Gardens, Letton Hall, Thetford.

IMPROVER, in the Houses, under a good Gardener. —Age 17; two years' experience inside and out. Bothy preferred. —J. CHAMBERS, The Gardens, Kellham Hall, Newark, Notts.

IMPROVER, in a Market Nursery (Tomatoes, Cucumbers, &c.). —Age 18; three years' experience. —F. J. S., 59, The Chase, Clapham Common, London, S.W.

IMPROVER in the Houses. —Age 19; three years and a half experience inside and out; bothy preferred; good character. —F. SAUNDERS, Worton House, Steple Aston, Oxon.

IMPROVER, in the Houses. —Nearly two years' experience. —H., 90, St. Ann's Hill, Wandsworth, London, S.W.

IMPROVER, under a good Gardener, Inside and Out. —Age 17; bothy preferred. Smart, active, and willing. Good character. —A. J. ELPHINSTONE, 116, Archway Road, Highgate, N.

IMPROVER. —I can highly recommend a strong willing youth (age 17). Three years here Ludlow and Out. Bothy preferred. —GARDENER, Henley Hall, Ludlow.

IMPROVER. —A Lady wishes to obtain a situation for a strong active intelligent youth, age 19, who has had some experience in the gardens, and can be highly recommended. Reference can also be made to the Head Gardener at Neston House. —Mrs. DICKIN, Cherrington House, Shipston-on-Stour.

IMPROVER, in a Gentleman's Garden, under a Glass preferred. —Youth, age 19; four years' character. Well recommended. —W. WALTERS, Treburey Gardens, Llaneston.

IMPROVER. —J. FRIEND, The Gardens, Roostest, Gostolone, can highly recommend a young man (age 17) as above. Three years' good character.

IMPROVER under a good Gardener. —Age 19. Five years' experience. Good character. —DAVID PLEASANT, Bowers Gifford, South Essex.

TO GENTLEMEN and GARDENERS. —A young man, age 23, seeks re-engagement as UNDER GARDENER, where three or four are kept. Nine years' experience. Good references. —J. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO HEAD GARDENERS. —R. FOULGER, Holly Bank Nurseries, Potter's Bar, wishes to recommend a young man, age 20, tall and strong, as SECOND Under Glass, or partly Outdoors.

TO GARDENERS and NURSERYMEN. —A young Man (age 30) seeks a situation in the Houses. Practical experience in Vines, Peaches, and Plant Houses. Seven years' excellent character. —Mr. F. SMITH, The Gardens, Kingsworthy House, near Winchester, Hants.

TO GARDENERS, &c. —A young man (age 20), seeks a situation in the Houses, or Inside and Out. Three years inside in last situation, on first-class estate. Good characters. —GROVES, 1, Cyprus Villas, Isle of Wight.

TO SEEDSMEN. —Wanted Situation for Lad, age 16, under a Gardener to work his way up. Three years' good character. —CHARLES LAWRENCE, Stone House Farm, Brompton.

TO NURSERYMEN. —A young Man, age 20, requires a situation in a Nursery in the Houses; has been used to market and retail business; good character. —A. Z., 2, Maud Cottages, Wolsey Road, Hampton Hill, Middlesex.

TO NURSERYMEN. —Wanted to APPRENTICE a strong youth (age 16). Particularly to G. S. S., Messrs. Deacons, Leadenhall Street, London, E.C.

TO NURSERYMEN. —Appointment wanted in good nursery office; long experience of the business. For many years had charge of correspondence and cash in a large establishment. Highest testimonials from past and present employers. —SCOTT, Old Nurseries, Maidstone.

TO NURSERYMEN. —Advertiser (age 21) seeks a situation in a good Nursery. Well up in Stove and Greenhouse, and all kinds of Hard and Soft-wooded Plants, and Out Flowers for Market. Seven years' experience. Strongly recommended. —T. W. P., 41, Wellington Street, Strand, W.C.

TO NURSERYMEN. —A young Man seeks a situation as PALM and FEEN Grower. Age 21. Well up in all branches, Wreaths, &c. Eight years in the Trade. Good references. —BROWN, 117, Upper Brook Street, Winchester, Hants.

TO FRUIT FARMERS and GROWERS. —An appointment wanted as MANAGER, at Home or Abroad. Advertiser having thorough experience in Fruit Culture, and Management of Men. Age 32, married. —H. A., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO FRUIT GROWERS. —Young Man (age 23) seeks engagement in a Market Nursery, where fruits are the chief things grown; good references. —T. R. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO THE TRADE. —Advertiser is open for an engagement as NURSERY MANAGER, or GENERAL TRAVELLER, in a good establishment. Has had a thorough practical training in all departments, also in Office-work, and can produce references of the highest order. For further particulars apply to W. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SEED TRADE. —A young man, age 19, five years' London experience in the agricultural seed trade, desires situation as CLERK and ASSISTANT, town or country. Highest references. —E. K., 61, Vicarage Lane, West Ham, E.

SHOPMAN (ASSISTANT). —A young man, well recommended, seeks situation as above in retail seed warehouse. —J. B., Messrs. Nutting & Sons, 106, Southwark Street, London, S.E.

SHOPMAN (ASSISTANT). —Has had experience in Seed, Plant, and Flower Trades, &c.; willing to help in nursery if required. —WHITE, 4, Viney and Street, Garston, near Liverpool.

TO FLORISTS. —A young man (age 23), desires a situation as ARTISTIC FLORIST. Good Wreath and Bouquet hand. Excellent references. —"SNOW-DROP," 34, Westbourne Road, Cloughton, Birkenhead.

TO FLORISTS. —A young Lady, thoroughly experienced, seeks re-engagement; first class at Poses, Bouquets, Wreaths, Button-holes, Sprays, &c. Highest references. Five years in one situation. —ROBERTS, Holyrood House, French C., Southampton.

FLORISTS. —A young Lady requires re-engagement. London or Suburbs. Ten years' experience. First-class references. —FLORIST, 14, Clarendon Road, West Green, Tottenham, N.

CORRESPONDING CLERK. —JOHN LAING & SONS, will be pleased to recommend H. J. Pettit, to any good House in the Trade, requiring efficient service in the capacity, or that of BOOK-KEEPER, combined with an excellent knowledge of Plants and the general requirements of the Trade. —The Nurseries, Forest Hill, S.E.

HOLLOWAY'S OINTMENT AND PILLS. —Dangerous Chest Complaints.—The enumeration of the diseases is scarcely necessary, as, unfortunately, most Englishmen know them by their cods. Coughs, common colds, influenza, bronchitis, asthma, pleurisy, inflammation of the lungs, and even consumption in its early stages, are best treated by rubbing Holloway's Ointment upon the chest and along the back, between the shoulders. It penetrates internally, checks the cold shiverings, relieves the overorged lung, gradually removes the oppression from the chest, and restores the obstructed respiration, hitherto so distressingly disagreeable and highly dangerous. In treating this class of diseases, Holloway's Pills should always be taken while using his Ointment; they purify the blood, promote perspiration, and allay dangerous irritations.

AWARDED TWENTY PRIZE MEDALS

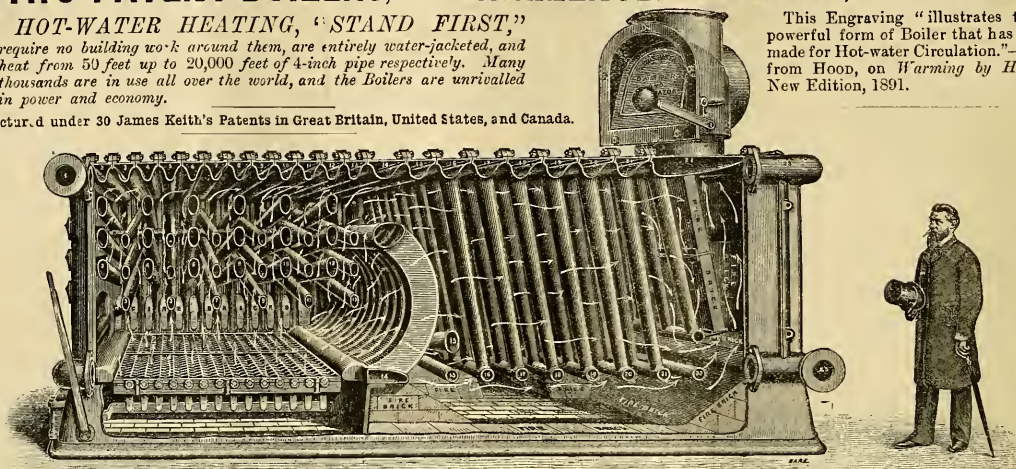
AT INTERNATIONAL EXHIBITIONS AT HOME AND ABROAD.

KEITH'S PATENT BOILERS, THE "CHALLENGE," "VIADUCT," "PYTHON," &c.,

FOR HOT-WATER HEATING, "STAND FIRST,"

require no building work around them, are entirely water-jacketed, and heat from 50 feet up to 20,000 feet of 4-inch pipe respectively. Many thousands are in use all over the world, and the Boilers are unrivalled in power and economy.

Manufactured under 30 James Keith's Patents in Great Britain, United States, and Canada.



This Engraving "illustrates the most powerful form of Boiler that has yet been made for Hot-water Circulation."—Extract from *Hood, on Warming by Hot-water*, New Edition, 1891.

KEITH'S "PYTHON" BOILER, as illustrated, has 1,000 square feet of effective heating-surface, with 17½ square feet of fire-grate area, heats about 20,000 feet of 4-inch pipe, and is the Most Powerful and Complete Sectional "Special" Hot-water Heating Boiler in the World.

JAMES KEITH (C.E., Assoc. M.Inst.C.E.), Gas, Hydraulic, Heating, Ventilating, and Consulting Engineer. Established 1823. Contractor to Her Majesty's Government. 57, HOLBORN VIADUCT, LONDON, E.C., ALSO AT EDINBURGH AND ARBROATH.

WOOD & SON

ARE CELEBRATED FOR THEIR

ORCHID PEAT (ALL BROWN, BRACKEN FIBRE),

HARD-WOOD and STOVE PLANTS exceptionally Good this Season
ALL SOUND TURVES.

LOAM (Surrey), Yellow Fibrous. Samples, with prices, per return, Carriage Paid to any Station.



W. W. & S. ORCHID BASKETS,

OUR OWN MANUFACTURE. ALL SIZES.

SPECIAL OFFER FOR BONES,

£7 7s. 6d. per Ton on Rail, for Prompt Delivery.

TRY OUR PRIZE MANURES.

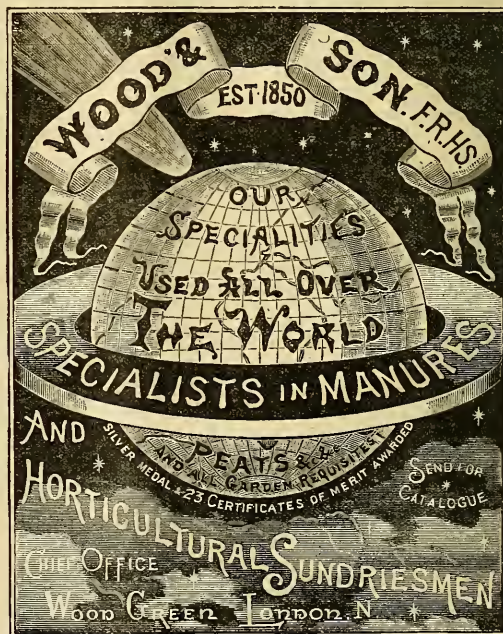
"LE FRUITIER," the Celebrated VINE MANURE.

"The Perfection of Plant Food."

Tins, 1s. 3d.; 7 lb., 2s. 6d.; 1 cwt., 19s.

MATS, RAFFIA, TOBACCO-PAPER, CANES, &c.

BEFORE YOU BUY, inspect our NEW CATALOGUE.



SILVER MEDAL and 23 CERTIFICATES of MERIT awarded to—

W. WOOD & SON, F.R.H.S. (ESTABLISHED 1850). Address **CHIEF OFFICE, WOOD GREEN, LONDON.** Orders—

Editorial communications should be addressed to the "Editor," Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, February 6, 1892. Agent for Manchester—JOHN HEYWOOD.

The GARDENERS' CHRONICLE

ESTABLISHED 1841.

No. 268.

No. 268.—VOL. XI. {THIRD SERIES.}

SATURDAY, FEBRUARY 13, 1892.

{Regt. as a Newspaper. {PRICE 3d.
Post-free, 34d.

CONTENTS.

Amateurs' gardens	212	Odontoglossums, a group	210
Amateurs' notes	211	of	210
Odontoglossum Alex-	211	Plant portraits	207
hewer, culture of	211	Potato, oldest existing	210
Bignonia venusta	212	variety in Ireland	210
Apple grafts	211	Societies	213
Apples, disappearance of	211	Brixton Stream and	211
English	212	Clapham Horticultu-	210
Apples, home grown	211	ral	210
Begonia venusta	212	Devon and Exeter Gar-	211
Brittle timber	211	deners' Association	211
Charing Cross Embank-	210	Linnaea	210
ment Garden, the	210	National Dahlia	210
Clematis in pots, the	205	National Rose	211
Cycasches glaudiliferum	204	Royal Horticultural	208, 213
Cultural notes	205	Strawberry plants, re-	212
Chorozema conditum	205	moving	212
splendens	205	Sweet Peas, growing	204
Freesia	205	Thorough culture of ve-	204
Eucalyptus globulus in	212	getables	203
flower	212	Thuis gardenia	203
Eucalyptus oil	204	Trade notice	216
Fuchsia, seedling	202	Hale Farm Nurseries	215
Gardeners' Orphan Fund	208, 214	Trees and shrubs	212
Horticultural exhibition	214	Chimonanthus fragrans	213
at Earl's Court, inter-	210	grandiflorus	213
national	210	Variorum	216
Jerusalem Artichoke, the	211	Week's Work, The	204
Mormones Koffeanaum	203	Forestry	205
New or noteworthy plant	203	Flower Garden	207
Cypripedium Leda	204	Kitchens under glass	206
Osituary	215	Hardy Fruit Garden	207
Caird, Sir James	215	Nichols Garden	207
Rawlings, Mrs.	215	Orchid Houses	205
Roberts, J.	215	Plants under glass	206
Taplin, James	215	Weather	216
Thomson, R. E.	215	Whittem, The	201

ILLUSTRATIONS.

Chimonanthus fragrans	213
Mormones Koffeanaum	203
Odontoglossums, a group of, at Westmount, Glasgow	209

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHERS, 41, Wellington Street, Strand, W.C.

"Paxton's Calendar" New Edition, "The Cottagers' Calendar of Garden Operations," Price 3d., post-free, 34d. 41, Wellington Street, Strand, London, W.C.

Notice.

MR. FRED. HENKEL, of Darmstadt, who until recently REPRESENTED US as TRAVELLER, has NOW LEFT OUR EMPLOY, and no longer has any connection with our firm.

PITCHER & MANDA, The United States Nurseries, Hextable, Swanley, Kent.

Notice.

H. B. ILLMAN, formerly in my employ, has NO CONNECTION whatever with my Business. EDMUND O. WILLIAMS, Seedsman and Florist, 11, Fore Street, Hertford.

GARDENERS' ORPHAN FUND, 1892. Mrs. NORGATE respectfully THANKS the SUBSCRIBERS to above Fund, who have so kindly given their Votes to her Son Edmund Norgate.—Edwards, Feb. 10th, 1892.

DAMSONS.—Strong Standards for Hedgerow Planting; fine stuff, a little rough. Special cheap offer 25 per 100.

J. R. PEARSON & SONS, Chilwell Nurseries, Notts.

LAXTON'S SEEDS AND STRAWBERRIES. —Best novelties and best standard sorts. 100 Certificates. Send for Descriptive Price Lists.

T. LAXTON, Seed Grower, Bedford.

CHRYSAETHUMS.—CARTERS' ILLUSTRATED CATALOGUE of the FINEST COLLECTION in the COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—The Queen's Seedsmen, 225 and 235, High Holborn, London, W.C.

Amayyllis! Amayyllis!!

B. S. WILLIAMS and SON are now offering splendid Bolls of this popular plant, at very low prices, previous to re-potting, in consequence of want of room. Named varieties from 42s. per dozen. Seedlings .. 30s. per dozen.

Victoria and Paradise Nurseries, Upper Holloway, London, N.

DOUBLE PINK IVY GERANIUM.—Madame Crousse—fine strong Cuttings, 5s. per 100, 40s. per 1000. Carriage Paid for Cash with Order.

W. H. DIVERS, Ketton Hall Gardens, Stamford.

Sharpe's Victor Potatoes. W. W. JOHNSON & SON, SEED GROWERS and MERCHANTS, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

RASPBERRY CANES.—Norwich Wonder, Carter's Prolific, also Fastolf, strong and well rooted. ALBERT BATH, Vine Court, Sevenoaks, Kent.

Hardy Fruits for the Midlands. PROFITABLE FRUIT GROWING: What to Plant, and How to Plant. New Edition up to date, now ready, price 6d.—A. H. PEARSON, Chilwell, Notts.

CHEAP TO CLEAR.—Strong rooted layers of old Crimson CLOVE, CALADIUM ARGYRITES, YUCCA ALIFOLIA, strong in 45's. JOHNSON and Co., The Nurseries, Hampton.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maids Vale, London, W.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SEED on COMMISSION, TOMATOES, GRAPES, &c. Good references.

LOVEL'S YORKSHIRE STRAWBERRIES.—We offer for Cash, good sorts in nice plants, carriage paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample Dozen, 6d. Descriptive LIST free.

W. LOVEL and SON, Strawberry Growers, Driffield.

10,000 EUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 6s. to 15s. per dozen. Let by the 1000. Cash with Order.

J. J. CLARK, Goldstone, West Brighton.

CUT FLOWERS.—ARTHUR L. BULLEN, Wholesale Flower Salesman and Grower, 33, Exeter St., Covent Garden, 271 and 272, Flower Market, Covent Garden, W.C., and Highfield Nursery, Bromley Common, Kent.

CONSIGNMENTS OF CHOICE FLOWERS SOLICITED.

LATANIA BORBONICA, 4 ft. to 4 ft. 6 in., with Pot, averaging 10 fine leaves, 15s. each—a few hundreds for disposal.—W. OWEN, 108, Stamford Hill, N.

RETINOSPORA PLUMOSA.—Several thousand 15 to 4 ft. for disposal, at special low price to clear the ground.—JOHN STANDISH and Co., Ascot.

WANTED, a good quantity of Potts' Seedling, Broad-leaved, Lord Suffield, and Warner's King Bush APPLE TREES, 2 or 3 years old. Must be Good Stuff.—W. M. BRACEY, Jun., Martham, near Great Yarmouth.

WANTED, SEED DRAWERS and FIXTURES.—Good Second-hand lot.—Give full particulars and lowest price to ARMITAGE BROTHERS, Seed Merchants, Nottingham.

WANTED, SCARLET GERANIUMS, VESUVIUS, and good TRICOLOR, autumn struck from stores, a few hundred. Also a few large ASPIDISTRAS and EUCHARIS BULBS for cash.

R. MARIES, Florist, Lytham, Lancashire.

THE BEST POTATOS FOR THE TABLE.

SUTTON'S COLLECTION OF TWELVE of the FINEST SORTS of SEED POTATOS. 7 lb. of each. 21s., carriage free.

SUTTON'S SEED POTATOS GENUINE ONLY DIRECT FROM SUTTON and SONS, THE QUEEN'S SEEDSMEN, READING.

LAURELS.—CAUCASICUM, LATIFOLIA, ROTUNDFOLIA, and COMMON, fine bushy plants, well-rooted, 2 to 6 feet high.

FORTUGAL LAURELS, Standards, fine heads. CATALOGUE on application.

H. LANE and SON, Nurseries, Berkhamsted, Herts.

CHRYSAETHUMS.—Our Illustrated CATALOGUE will be sent free on application. 15 First Prices. (10 this year.)

5 Gold Medals for Chrysaethums.

REID and BURNEMANN, Sydenham, London, S.E.

BEGONIAS.—Davis's New, Rare, & Beautiful. The Best BEGONIA CATALOGUE published. Enumerates a magnificent and unsurpassed Collection, with descriptions, illustrations, and much valuable information on this now popular flower; post-free. The first grower to issue a Begonia Catalogue was B. R. DAVIS, Begonia Grower, Yeovil Nurseries, Yeovil, Somerset.

STANDARD ROSES.—All leading kinds, good stuff, 23s. to 23 10s. per 100, to clear at once.

JOHN NEWMAN, Stratford, Sandy, Beds.

LAPAGERIA ALBA.—Healthy, well-rooted Plants, in pots, single shoots, 5 to 6 feet long, 7s. 6d. each; stronger plants, 10s. 6d. each.

THOS. CRIPPS and SON, Tunbridge Wells Nurseries, Kent.

STANDISH'S GARDENIAS.—Well-grown, clean and forward in Flower-bud, 21s., 30s., and 42s. per dozen. Royal Nurseries, Ascot.

LILIES OF THE VALLEY.—A quantity of roots, 3 years old, for Sale at per bushel.

MOORE, Sion Hill, Isleworth.

FRUITING GRAPE VINES.—Nine Splendid 8 feet long, four years old; have not fruited, 5s. each. Six Black Hamburgh, three Gros Colmar. Lifted for want of room.—RICHFORD, "Rosenath," Broadstairs.

R. GILBERT, High Park, Stamford, is now offering the best of all RHUBARBS, "True Champagne," 4s. per dozen; also, King of the BRUSSELS SPRIGS, "Universal Savoy," "Late Victoria BROCCOLI," and "CHOU DE BURGHELEY," at 1s. per packet.

KELWAY'S SEED MANUAL for 1892.

"As complete as can be desired . . . for the wide, wide world."—The Queen.

1s., post-free (deducted from first order) to those unknown to us. KELWAY and SON, Langport.

Trade Offer of Large Palms.

W. ICETON has a Large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliate Plants. Lowest Prices quoted on application.

W. ICETON, Putney, S.W.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Bollers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney.

WM. THOMSON and SONS, Clovenfords, Galashiels, N.E.

FRIDAY NEXT.

GREAT SALE OF ORCHIDS.

By order of Messrs. CHARLESWORTH, SHUTTLEWORTH & CO., of Heaton, Bradford, and 213, Park Road, Clapham, S.W.

A marvellous consignment of the gorgeous, free-flowering,

CATTLEYA LAWRENCEANA,

Just to hand in excellent condition. The plants are well-leaved, perfectly dormant, and very distinct. Also a splendid lot of

CYPRIPEDIUM LINDLEYANUM.**2000 DONTOGLOSSUM ALEXANDRÆ,**

THE BEST PACHO STRAIN.

Just received by S.S. *Para*, in grand condition.

CYPRIPEDIUM SCHOMBURGKIANUM (Rehb. filis),

C. KLOTSCHIANUM (Schomburgk),

UTRICULARIA HUMBOLDTII, and other ORCHIDS.

MESSRS. PROTHEROE & MORRIS are instructed to SELL the above valuable consignment of ORCHIDS by AUCTION, at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY NEXT, February 19, at 12.30 o'clock.

On view morning of Sale. CATALOGUES are now ready, and will be forwarded on application.

THE STAND HALL COLLECTION OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

HIGHLY IMPORTANT SALE

of the whole of this Renowned Collection,

Including many plants mismatch in point of rarity, the whole being unsurpassed for culture and condition.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of the late Thomas Statter, Esq., to SELL by AUCTION, early in May, on the Premises, Stand Hall, Whitefield, near Manchester, the whole of this

CELEBRATED COLLECTION OF ESTABLISHED ORCHIDS. A list of the principal plants appeared in the *Gardeners' Chronicle*, February 8, 1892. The Catalogues will be prepared at a due course, and the Auctioneers will be pleased to receive early application.

Rochampton.

Ten minutes walk from Barnes Station.

IMPORTANT CLEARANCE SALE of the remaining portion of the noted collection of STOVE and GREENHOUSE PLANTS formed by the late D. B. Chapman, Esq.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Downshire House, Rochampton Lane, S.W., on THURSDAY, February 24, at 12 o'clock, without reserve, the whole of the valuable STOVE and GREENHOUSE PLANTS, fine coloured Crotons, Dracenas, splendid specimen Eucharis, handsome Palms, including a few specimen Kentias, Camerops and Lahanias, Established Orchids, Lapagerias, Two Green's Lawn Mowers, Garden Roller, and other garden articles.

May be viewed day prior to sale. Catalogues had on the premises; of the head gardener, Mr. RAWLINGS; and of the Auctioneers and Valuers, 67 & 68, Cheapside, London, E.C.

Richmond, Surrey.

IMPORTANT CLEARANCE SALE of well-grown NURSERY STOCK, by order of Messrs. G. & W. Steel, in consequence of the death of the senior Partner, and the intention of the Vendors to relinquish the Business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Gasfield and Common Nurseries, Richmond, Surrey, about 10 minutes' walk from the Richmond Railway Station, on TUESDAY and WEDNESDAY, February 23 and 24, at 12 o'clock precisely, without the slightest reserve, the SECOND PORTION of the VALUABLE NURSERY STOCK, including 5000 Aucuba japonica, 2 to 4 feet; 1000 Cupressus Lawsoniana, 20,000 Green Hollies, 2 to 6 feet; 2500 Variegated Hollies, 2 to 7 feet, comprising fine Standard Golden Hollies, pyramidal and Bush Golden and Silver Hollies, in various sizes; 2500 Green and Variegated Box, 2000 English Yews, 1000 Standard Rhododendrons, 3000 Yew, 1000 Standard and 2000 Standard Rhododendrons, 3000 large Bush Laurels, of sorts; Fruit and Ornamental Trees, each other stock.

May be viewed any day prior to the Sale. Catalogues had on the Premises; at the Kew Road Nurseries, Richmond; and of the Auctioneers and Valuers, 67 & 68, Cheapside, London, E.C.

N.B.—THE LEASE OF THE HOME NURSERY, and the OLD-ESTABLISHED BUSINESS is for Sale by Private Treaty. Particulars of the Auctioneers.

Paddock Wood, Kent.

At the very low upset price of £1700. £65 per acre. FREE-HOLD FRUIT AND MARKET GARDEN, adapted for

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at the Mart, Thomas Yard, London, E.C., on WEDNESDAY, February 24, at 2 o'clock, the valuable and productive FREEHOLD MARKET GARDEN and FRUIT GROUND of 26 acres, shuting on the South Eastern Railway, close to Paddock Wood Station, with 2 Cottages, Stabling, and Buildings, at present let at £100 a year, but possession could be arranged.

May be viewed. Particulars had on the Premises; at the Mart of Messrs. ROBERT WELCHMAN, Solicitor, 1, Guildhall Chambers, London, E.C.; and of the Auctioneers and Surveyors, 67 & 68, Cheapside, London, E.C.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 12, Ball Ring, Birmingham, of BULBS, PLANTS, NURSERY STOCK, &c., every WEDNESDAY and FRIDAY, at 4.30 p.m. Sales of choice Cut Flowers. Fresh Entries invited. Account Sales and cheques daily. Empty and labels found.

Wednesday and Saturday Next.

1000 Choice-named Standard, Half-Standard, Dwarf and Climbing ROSES, including many of the best-known sorts, from an English grower, 1000 Fruit Trees, 200 lots of Caratuns, Pink, Picotees, Phloxes, Dahlias, Pyracanthas, Iris, and other border Plants; Importations of Liliums from Japan, Gladioli, Home-ground Liliums, Spirea, Palm seeds, Tuberoses, Lilley of the Valley, Crocus and clumps, Dutch Bulbs, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, on WEDNESDAY and SATURDAY NEXT, February 17 and 20, at half-past 12 o'clock precisely each day. On view morning of Sale, and Catalogues had.

Matlock Bank Nurseries.

MESSRS. ELSE AND SON are instructed to SELL by AUCTION (Without Reserve), on TUESDAY, March 1, and following day (if necessary), on the above grounds, an assortment of NURSERY STOCK, including upwards of 100,000 Transplanted Rhododendrons, in sizes up to 12 feet. Also Special Lots of Cupressus, Retinosporas, &c., in sorts; Irish and Golden Yews, Privets, &c., of which Catalogue of particulars may be had free on application to Messrs. ELSE AND SON, Auctioneers, &c., Matlock, Derbyshire.

WANTED, TO RENT, A SMALL NURSERY, in a provincial town; chiefly glass; with shop not objected to. Must be genuine.—No. 1, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED TO PURCHASE, A genuine NURSERY and FLORIST BUSINESS. Capital £200 to £1000, or PARTNERSHIP to same amount.

Reply to H. F. 132, High Street, Poole.

Rare opportunity for Florists and Nurserymen. RE WILLIAM BARRACK, A BANKRUPT.

TO BE SOLD BY TENDER.—All those seven modern GREENHOUSES, with Bolders, Fittings, and Piping complete, along with the full Stock of Palms, Ferns, and Flowering Plants, in great variety, and now in full bloom, as well as general NURSERY STOCK, at Castle Gardens, Kendal, Westmoreland. The garden ground (which can be taken at a reasonable rent) comprises about 2.25 acres of good land, and in addition to the Greenhouses are Potting Sheds, Cart sheds, and every convenience for carrying on the business. The whole must be disposed of without delay, and possession must be given at once.

Do not miss this opportunity, but apply at once to Mr. WM. HEATON, 45, Finkle Street, Kendal, the trustee under the estate of W. Barrack.

45, Finkle Street, Kendal, February 9, 1892.

TO BE SOLD A Genuine FLORIST BUSINESS, with a good General Trade, on moderate terms, as a Going Concern in a popular and Rapidly Growing Neighbourhood, near Richmond, S.W. The Nursery consists of river over 3 1/2 acres of ground, with 4 New Glass

Erectories and a range of pits in splendid condition, and well stocked with things suitable for carrying on the Trade. There is an 8 feet wall round the ground, and a roomy old fashioned Dwelling House with shop in front. To an energetic man the above offers an opportunity seldom met with. A death being the sole cause of selling.

Apply on Premises, Mrs. MARTIN, Northumberland Nursery, Heath Road, Twickenham, S.W.

SEED AND NURSERY BUSINESS FOR DISPOSAL, AT ONCE.—Established forty years. The Seed Shop, Office, Warehouse, and Range are spacious and convenient, situate in a leading thoroughfare of the City of Truro, adjacent to the principal public buildings. The Nursery Ground is fertile, fairly sheltered, well watered, in good heart and condition, and on an excellent site, with a five-acre nut's walk of the railway station; a Cottage, Glass Houses, Packing Sheds, Frames, &c., on the same; a good demand for Fruit Trees, Roses, Shrubs, Decorative Plants, Cut Flowers, &c. The stock at present is low, to be taken at a valuation. Market Stall in the best position. All the premises mentioned are within an hour's distance by rail of the seven principal market towns in the County, thus offering a favourable opportunity to a man or more, of experience and energy, with moderate capital to realise advantageously.

Apply to ROBERT DOBELL, Jun., Solicitor, Truro, Truro, February 9, 1892.

MIDLAND COUNTIES.—TO BE SOLD (Folio 7561), in an important town, an old-established General NURSERY BUSINESS. Long Lease. Low rental. Capital required about £2500.

Apply to PROTHEROE AND MORRIS, Auction and Estate Offices, 67 and 68, Cheapside, London, E.C.

KENT.—In the best District.—TO BE SOLD, a compact FREEHOLD NURSERY, about 4 Acres of Ground. Several modern Greenhouses, specially adapted for Growing Fruit and Cut Flowers. Splendid opportunity. Full particulars of PROTHEROE AND MORRIS, Estate Offices, 67 and 68, Cheapside, E.C.

To Gardeners and Others.

A CAPITAL NURSERY, 2 Greenhouses and Show House. Good JOHNNING BUSINESS. Price for Goodwill, Stock, and Greenhouses, £120.

Apply to J. S. S. New Road, Crouch End, N.

NURSERY, Small, TO LET.—Eight Well-heated Houses, &c., owner retiring, in Upper Holloway, in Centre of a good Residential District, where an energetic man could do an increasing trade. Good opening for Sundries. No opposition. A most favourable opportunity for establishing a Branch Business, & a Ready Money Trade done in the season. Rent, £4 1/2 per annum, on agreement; or Lease for the unexpired term of 15 years, with Houses and Stock, at a Valuation.

Apply, THOMAS FASK, 10, Cullum Street, London, E.C. 1

To Market and Cut Flower Growers. (Folio 7569.) LONDON DISTRICT.—TO BE LET, either

as a whole or in two portions, a Large MARKET NURSERY, comprising about 5 acres, four being covered with glass. A Lease for 21 years will be granted. Only small Stock planted out to be taken, remainder optional.

Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

FOR ORCHIDS, and GARDENERS TO Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Epsom, so faithfully illustrated in this journal of November 21, executed by

PULHAM AND SON, 50, Finsbury Square, London, E.C., and Broxbourne, Herts. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

150,000.—Special Offer of Kentias. WICETON has a large quantity of the

above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well-established, at £20 per 1000.

W. ICETON, Putney, S.W.

CHRYSAETHNUMS, best sorts.—Plants 2s. 6d. per dozen, 16s. per 100; Cuttings 1s. 6d. per dozen, 10s. per 100. For price of new sorts, see Catalogue, two stamps, of W. FERRINGTON, Chrysaethnum Grower, Swanscombe, Kent.

CHRYSAETHNUMS.—Proved NOVELTIES in EARLY, JAPANESE, INCURVED, and other Select Varieties. New LISTS free. Gave great satisfaction last year.

A. J. A. BRUCE, The Nurseries, Chorlton-con-Hardy, Manchester.

TARRAGON, RHUBARB, SEAKALE, for Forcing. Standard MORELLO CHERRIES, Car, Early Prolific, Victoria PLUMS. Lancashire Lad, Industry, Whiteheart GOOSEBERRIES. Standard MEDLARS. FIGS in pots. Prices low.

WILL TAXLER, Osborn Nurseries, Hampton, Middlesex.

FOREST TREES FOR SALE LARCH, 12 to 2 feet, 36s. 6d. per 1000; 2 to 3 feet, 20s. THORN, 2 to 3 feet, 9s. 6d. per 1000, well rooted.

ASH, 4 to 5 feet, 20s. per 1000. BEECH, 12 to 2 feet, 14s. per 1000. OAKS, 2 to 3 feet, 10s. per 1000.

SYCAMORE, 8 to 10 feet, 35s. per 100. LABURNUMS, 6 to 7 feet, 20s. per 100. PINUS LARICIN, 2 to 3 feet, 10s. per 100, thrice transplanted, and growing singly.

Apply to THOS. HUNTER, Nurseryman, Baron's Castle.

EARLY OFFENHAM CABBAGE PLANTS
for SALE. True Stock. Apply to—
J. H. BROWN, Swinehead, Boston.

THE usual SURPLUS FLOWER ROOTS
(Alpine and Herbaceous), from these Gardens now ready.
Hampers of 50 strong roots, 5s. 6d. each. Interesting variety.
WOOD'S HARDY PLANT CLUB, Kirkstall, Leeds.

THE OLD BROWN QUARRY EARLY
POTATO. The Oldest Existing Sort in Ireland.

I believe this to have been in existence here for 150 years; certainly, when I was a child, prior to the famine period. There was no other root grown for harvest purposes when men worked with it for years, but to offer it for redistribution—it never having made its way to England—from a stock preserved for years on peat land, resting on limestone, in a remote part of county Cork. There must be something in the soil that preserved it for years. It is a fine-club variety, of great substance. 7-lb. bag and postage for 2s. 6d.

WM. BAYLOR HARTLAND, F.R.H.S., Old Established Seed Warehouse, Cork, Ireland.

LARGE QUANTITIES of strong THORNS,
very cheap; 2-year, 2s. 6d. per 100; 3 and 4-year,
250 Stout LIMES, well-grown.
POPLARS, 3 to 4 feet, and 4 to 5 feet.
LAURELS, very cheap.

Ground must be cleared for Building.
WILLIAM TRESEDER, Nurseryman, Cardiff.

FERNS! FERNS!—Trade.—Greenhouse and
Store, 25 saleable sorts, 12s. per 100; out of pots, 10s.
Large Adiantum punctatum, Aralias, Solanums, Cyperus, and
Prinos, all in 48s. 6d. per doz. Palms and Ficus, 1s. each.
Large Ferns, 10 best sorts, 5s. 6d. per doz. in 48s. Cierarias,
Spiraeas, and Cyclamen, full bloom, 9s. per dozen, in 48s.
Adiantum punctatum and P. tremula, extra size, in 24-inch
pots, 16s. per 100. Packed free, Cash with Order.

J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

SPECIAL OFFER OF FOREST AND
ORNAMENTAL TREES.

AUSTRIAN PINE, 12 to 18 inches, 25s. per 1000; 1½ to 2 feet,
40s. per 1000.

LARCH, 1 yr., 3-yr., transplanted, 15s. per 1000.

PINUS CEMARA, thirca transplanted, 6 to 9 in., 10s. per 100.

SCOTCH FIR, 1-yr. seedlings, very fine, 3s. per 1000.

1-yr., 1-yr. transplanted, 8s. per 1000.

2-yr., 3-yr. transplanted, 1½ to 2 feet, 25s. per 1000.

SILVER FIE, extra fine, 8 to 9 in., transplanted, 20s. per 1000.

9 to 15 in., transplanted, extra fine, 30s. per 1000.

12 to 18 in., transplanted, extra fine, 40s. per 1000.

ASH, Common, 1½ to 2 feet, 17s. 6d.; 2 to 3 feet, 20s. per 1000.

Mountain, 1½ to 2 feet, 22s. 6d. per 1000.

BEECH, 1½ to 2 feet, 20s.; 2 to 3 feet, 25s.; 2½ to 3½ feet,
30s. per 1000.

ELMS, English, 6 to 8 feet, 20s. per 100.

Scotch, 6 to 8 feet, 20s. per 100.

HORNBEAM, 2 to 3 feet, 25s. per 1000.

OAK, English, 2 to 3 feet, 20s. per 1000.

POPLAR, Black Italian, 8 to 10 feet, 30s. per 100.

PRIVET, Oval-leaved, 1½ to 2 feet, 35s. per 1000.

THORNS, 1½ to 2 feet, 20s.; 2 to 3 feet, 25s. per 1000.

WINE or GORSE, 1-yr., very strong, 5s. per 1000.

CUPRESSUS LAWSONIANA, 2 to 3 feet, 50s.; 3 to 5 feet,
75s.; 5 to 7 feet, 100s. per 100.

THUYA LOBBII, 3 to 5 feet, very bushy, 12s. per dozen.

OCCIDENTALIS, 5 to 4 feet, 8s. per dozen.

EUONYMUS EUROPEA, 1½ to 2 feet, 30s. per 1000.

SPIRÆAS, VIBURNUMS, &c., strong plants, 25s. per 100.

LAURELS, Common Bay, 1½ to 2 feet, 20s.; 2 to 3 feet, 30s. per 100.

ROFUNDIFOLIA and LATIFOLIA, 2 to 3 feet, 75s. per 100.

PORTUGAL, 3 to 4 feet, 100s. per 100.

RHODODENDRON PONTICUM, very bushy, 12 to 18 inches,
35s.; 1½ to 2 feet, 40s.; 2 to 3 feet, 40s. per 1000.

APPLES, 1-year of sorts, 40s. per 100; Dwarf-trained, 21s. per dozen.

PEARS and PLUMS, Strong Standards, 12s. per dozen.

CABBAGE PLANTS, Early and Late, 5s. per 1000.

INRIE and COMPANY, The Nurseries, Ayr, N.B.

To the Trade Only.

LARGE STOCK, at low prices, of—

ANEMONE PULSATILLA.

DICENTENES FRAXINELLA.

GILLENIA (SPIRÆA) TRIFOLIATA.

IRIS KEMPFFERI (the best varieties).

PEONIA SINENSIS.

SPIRÆA ARUNCUS.

ASTILOIDES.

PALMATA ALBA.

TILLIUM GRANDIFOLIUM.

THE TOTTERHAM NURSERIES, LIMITED, DeJemsvaart,
near Zwolle, Netherlands.

Managing Directors: A. M. C. JONGKIND CONINCK,
A. M. C. VAN DER ELST.

FORBES' CATALOGUE FOR 1892,

In the largest, best, and most comprehensive ever issued on
FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best
Anthrums, Begonias, Carnations, Dahlias, Delphiniums,
Fuchsias, Peonies, Pansies, Violas, Pelargoniums, Pentstemons,
Petunias, Phloxes, Pinks, Potentillas, Primulas, Pyram-
thrus, Verbenas, Herbaceous Plants, &c.; also of my true
and reliable strains.

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now justly celebrated
all the world over. In 5 distinct sorts, crimson purple,
scarlet, white, and Willow-leaved white, each sort, 1s.
2d. and 5s. per packet.

It is an indispensable Reference-Book on all sections of
Florists' Flowers, and should be carefully perused by all buyers
of flowers.

Free on application.

JOHN FORES, Nurseryman, Hawick, Scotland.

Seed Potatoes
H. AND F. SHARPE invite the attention of
the Seed Trade to their fine selected stocks of SEED
POTATOS, comprising all the varieties worthy of cultivation.
They have been grown expressly for Seed, and the samples
will be found very fine and well dressed. The prices will
compare favourably with those of other growers.
Seed Growing Establishment, Wisbech.

For Exhibition!
BROAD BEAN, BIDDLES' MONSTER
LONGPOD.—Extra long, fine quality. Per quart,
1s. 6d.

CARROT, BIDDLES' SCARLET PRIZETAKER, Interme-
diate, the finest exhibition Carrot grown. Per oz. 1s.
ONION, BIDDLES' GIANT SPRING.—Too well known as
a prize-winner to need further recommendation. Per
oz. 1s.

BIDDLES AND CO., THE PENNY PACKET SEED CO.,
Loughborough, Lei. estershire.

BEGONIAS A SPECIALTY.—Awarded

Four Gold Medals, and Gold Cup, and all First Prizes,
Seed saved from Prize plants. Our Begonia Seed and Bulbs
eclipse all previous years. Choicest mixed, single or double
varieties, 1s. 2d. 6d., and 5s. per packet. Collections (Seed)—
single, 12 named varieties, separate, 5s. 6d.; 6 ditto, 3s.
Tubers, named singles, from 12s. to 42s. per dozen; unnamed
seedlings, 12s. to 21s. per dozen; bedding, choice, 4s. 6s., 8s.,
and 9s. per dozen; choicest named doubles, from 42s. per doz. up;
unnamed, choicest, 18s. to 30s. per dozen; choicest mixed, for
bedding, 8s. and 12s. per dozen. Catalogues gratis.

JOHN LAING AND SONS, Begonia Growers, &c., Forest
Hill, London.

ASPARAGUS, of fine quality—for forcing
and planting; 2-yr. old, 2s. 3d. per 100; 3-yr. old, good
roots, 3s. per 100; ditto, selected, 4s. per 100; 6d. per 100 less
for quantities of 1000 and upwards. For forcing, 4-yr. old,
5s. per 100; 5-yr. old, splendid roots, 6s. per 100; ditto
selected, 12s. 6d. per 100; 6-yr. old, extra fine, 15s. per 100.
Cash with order. My Asparagus always makes top price at
Covent Garden.

Read the following unsolicited testimonial:—"Please send
me another 200 of 3-yr. old Asparagus Roots. I may say that
the last 200 were the best lot of forcing roots I ever bought, and
my employer says the quality is excellent.—C. H. FERKINS,
The Gardens, Milton Abbey, Bristol."

J. J. CLARK, Market Gardener, Goldstone, Brighton.

L'HORTICULTURE INTERNATIONALE

(Orchid Emporium), Leopold Park, Brussels.

THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN,
cordially invite Amateurs and Nurserymen to visit their
Establishment. They will find at L'Horticulture Internationals
the Finest, Healthiest, and Largest Stock of New, Rare, or
Popular Orchids in Cultivation. Grand Importations every
week. LISTS and CATALOGUES on application.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(BIDDLES & CO., Proprietors),

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send
for a copy of our complete Seed Catalogue and Guide, which
will be sent gratis and post free on application.

300 Varieties catalogued, 500 Illustrations.

COVERT FOR GAME.

LAURELS, Common, 1½ to 2 feet, bushy, 70s. per 1000.

2 to 3 feet, bushy, 100s. per 1000.

PRIVET, Evergreen, 2 to 3 feet, bushy, 35s. per 1000.

Extra strong, 4 to 5 feet, bushy, 50s. per 1000.

BERBERIS AQUIFOLIA, 1½ to 2 feet, bushy, 80s. per 1000.

BEECH, extra strong, 3 to 4 feet, 40s. per 1000.

HOLLIES, very bushy, 1½ to 2 feet, 30s. per 1000.

2 to 3 feet, 50s. per 1000.

BLACK and WHITE THORNS, LARCH and SCOTCH FIRS,
and other TREES, equally cheap.

CATALOGUES, and Samples, free on application.

ON APPLICATION.

E. TUCKER, Nurseries, Faringdon, Berks.

ROSES.

STANDARDS, from 21s. per dozen.

DWARFS, from 6s. per dozen.

CATALOGUES, post-free.

FRANK CANT, BRAISWICK NURSERY,

COLCHESTER.

BARR'S SEEDS, BULBS, & PLANTS.

VEGETABLE SEEDS.—The best sorts only. Much valuable
information. CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Over 1000 species and varieties, all
decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus
candicans, Tigridias, &c., for Spring Planting. LISTS
ON APPLICATION.

PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double
and Single Peonies, Iris, Oriental Hellebores, Carna-
tions, &c. LISTS FREE ON APPLICATION.

BARR & SON, 12, King St., Covent Garden, London.

ANTHONY WATERER invites an
inspection from intending Planters to the following
well-grown TREES, having stout, clean stems, and
handsomely-furnished, well-balanced heads, and from
frequently transplanting are splendidly rooted, the girth
of the stem is taken at 4 feet from the ground.

ACACIA BRESSONIANA, 10 to 14 feet, girth 3 to 4 inches.

ACER DASYCARPUM, 14 to 20 feet, girth 4 to 8 inches.

" WIERII LACINATUM, 10 to 14 feet, girth 3 to 5 inches.

" NERUNDO VARIEGATA, Standards, 8 to 10 feet.

" REITENRACHII, 12 to 14 feet, girth 4 to 5 inches.

" SCHWEDLERII, 12 to 18 feet, girth 4 to 8 inches.

" WORLEYII, 12 to 14 feet, girth 3 to 5 inches.

ASH, Mountain, 12 to 14 feet, girth 4 to 5 inches.

BEECH, Purple, Pyramids, and Standards, 10 to 20 feet, girth
4 to 9 inches.

BIRCH, Silver, 12 to 14 feet, girth 3 to 5 inches.

OKRASUS SEKOTINA (American Bird Cherry), 12 to 16 feet,
girth 7 to 10 inches.

CHESTNUTS, Horse, 14 to 20 feet, girth 6 to 11 inches.

" Double White, 14 to 16 feet, girth 6 to 8 inches.

" Scarlet, 12 to 18 feet, girth 3 to 10 inches.

" Spanish, 12 to 14 feet, girth 4 to 5 inches.

ELMS, English, 10 to 12 feet, girth 3 to 5 inches.

" Quercy, 16 to 18 feet, girth 7 to 9 inches.

LIMES, 12, 16, and 20 feet, girth 3 to 10 inches.

" EUCHLORA or DASYSTYLA, 12 to 14 feet, girth 4 to 6
inches.

" Silver-leaved (Tilia argentea), 12 to 14 feet, girth 5 to 6
inches.

LIQUIDAMBAR, 6 to 10 feet.

MAPLE, Norway, 12 to 16 feet.

OAK, English, 12 to 14 feet, girth 4 to 5 inches.

" Scarlet American, 12 to 14 feet, girth 4 to 5 inches.

PLANES (English-grown), 12 to 16 feet, girth 4 to 6 inches.

POPLAR CANADENSIS NOVA (the true variety), 12 to
16 feet, girth 6 to 7 inches.

SYCAMORE, Common, 12 to 14 feet, girth 4 to 7 inches.

" Purple, 14 to 16 feet, girth 6 to 7 inches.

THORNS, Double Pink, 8 to 10 feet.

" Scarlet, 8 to 10 feet.

" White, 8 to 10 feet.

TULIP TREES, 8 to 10 feet.

WALNUT, Common, 10 to 12 feet.

WEeping TREES.

BEECH, Weeping, Pyramids, and Standards, 8 to 12 feet.

" Weeping, Purple, Pyramids and Standards, 7 to 12 feet.

BIRCH, Young's Weeping, Pyramids and Standards, 8 to
14 feet.

" Cut-leaved Weeping, Pyramids and Standards, 10 to
12 feet.

ELMS, Weeping, Pyramids and Standards, 7 to 14 feet.

LARCH, Weeping, Pyramids, 8 to 10 feet.

POPLAR, Weeping, Pyramids and Standards, 10 to 12 feet.

" Knap Hill Nursery, Woking, Surrey.

CHARLES NOBLE

HAS FINELY BUDDED

RHODODENDRONS, named kinds.

ANDROMEDA FLORIBUNDA.

AZALEA, finest girth kinds.

Ditto, Seedling.

Ditto OCCIDENTALIS.

RHODORA CANADENSIS.

DWARF ROSES, H. P., B., and TEAS.

THUIOPSIS BOREALIS.

THUYA LOBBII

Ditto, AMERICANA

CUPRESSUS LAWSONIANA

HYPERICUM CALCARATUM

PORTUGAL LAURELS, 2 to 3 feet.

HARDY BEATHS.

CLEMATIS, 3 and 4 years old.

The General Assortment of NURSERY STOCK will be
found superior in every way.

BAGSHOT, February, 1892.

SHARPE'S

TRADE CATALOGUE

OF

GARDEN and FARM SEEDS

for 1892.

Post-free on application to

CHARLES SHARPE & CO.,

Seed Farmers and Merchants, SLEAFORD.

AMERICAN SPECIALTIES.

CHRYSANTHEMUM SEED,

Carefully hand-hybridised, and saved from all the newest
and best varieties known, at our

SHORTHILL NURSERIES (U.S.A.).

Price, 3s. 6d. per Packet; 5 Packets for 15s.

21s offered in three Special Prizes at the Royal Aquarium
Show for the three best new varieties raised from this Seed.

For particulars, write for our

NEW DESCRIPTIVE CATALOGUE,

Now ready, Post-free on application to—

PITCHER & MANDA,

THE UNITED STATES NURSERIES,

HEXTABLE, SWANLEY, KENT.

CHEAL'S new **TOM THUMB DAHLIAS**.
Choice mixed Seed of above can now be supplied at
2s. 6d. per packet.
CHEAL'S CACTUS DAHLIAS, carefully
selected Seed, 1s. 6d. and 2s. 6d. per packet.
CHEAL'S SINGLE DAHLIAS, carefully
selected Seed, 1s. 6d. per packet.
NEW CATALOGUE of **DAHLIAS**, containing
many Novelties, will be ready shortly, post free.
J. CHEAL and SONS, The Nurseries, CRAWLEY.

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable
and Easy to Grow.
74 ACRES IN STOCK.
See CATALOGUE for Simple Instructions, and kinds of Tree
to suit all Soils.

ROSES. Hundreds of
Thousands.

BUSHES. Packing and Carriage Free
8s. per dozen, 60s. per 100. for Cash with Order.

ROSES in Pots, from 15s. per dozen.
ORNAMENTAL TREES, 91 ACRES.
4 ACRES of GLASS.

CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS (VEGETABLE, FLOWER,
and FARM.
DESCRIPTIVE LIST, FREE.
RICHARD SMITH & CO., WORCESTER.

Select **VEGETABLE**,
Choice **FLOWER**,
The best qualities at
Moderate Prices.
Delivered Free
by Rail or
Parcels
Post.

SEEDS

The Best
SEED
POTATOS,
Garden Tools,
Sundries, &c., &c.
Illustrated
Descriptive Catalogue, No. 403
POST FREE ON APPLICATION.

Dicksons Seed
Growers, **Chester.**
(Limited)

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standards, Pyramids, and Wall-trained.) Apples, Pears,
Cherries, Peaches, Filberts, and Plums; 20,000 noble tall
standard Victoria Plums and Damsons, six years old. The
Trees are without blemish, twice transplanted, splendidly
rooted, and intended for the tenants and herbage on the
Estate. Guaranteed true to name. The superb Rhodode-
drons, specimen Shrubs, and Hollies, secured but recently
regardless of cost; 2000 Maiden, Standard, and Dwarf Roses;
40,000 Black and Red Currants, four years old; and forty kinds
of Gooseberries. 6000 Raspberries. Price, half their value.
See Catalogue, Removing.—**LAND STEWARD, Hon. GER-
TRUDE JONES, Churchfield, Cradley, near Malvern.**

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE and SELECT STOCK is NOW
OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of
Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,
THE NURSERIES,
SAWBRIDGEWORTH, HERTS.

CLEARANCE SALE of PALMS,
DRACENAS, &c.

Strong Small Palms, averaging 10 to 12 inches high, of
SEAFORTHIA ELEGANS, LATANIA BORBONICA, ARECA
SAPIDA, COORPHA AUSTRALIS, KENTIA BELMORIANA,
K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of
each, 14 plants in all, 5s.; 1 of each, 7 in all, 3s. Package
Free, and Carriage Paid for Cash with Order.

Price per 100 or 1000 on application.

* **LATANIA BORBONICA**, 4 feet high, with pot averaging
10 fine leaves, 15s. each.

* **CHAMEROPS EXCELSA**, 5 feet high, with pot averaging
12 fine leaves, 30s. each.

* Ditto ditto 4 feet high, with pot averaging
12 fine leaves, 21s. each.

* **DRACENA CANIFOLIA**, 5 to 6 feet high, 5s. each.

* Ditto ditto 4 feet high, 15s. each.

* **PHENIX TENUIS**, 3 feet high, 5s. each.

* Ditto ditto 2 feet high, 18s. per dozen.

* **DRACENA INDIVISA**, 2 feet 6 inches high, 5s. each.

* Ditto RUBRA, 2 feet high, 18s. per dozen.

* Ditto CONGESTA, 2 feet high, 18s. per dozen.

* **SEAFORTHIA ELEGANS**, in 60's, fit for 45's, strong, 6s. doz.

Price per 100 on application.

Those marked * are Packed Free, but NOT Carriage Paid.

W. OWEN, 106, Stamford Hill, N.

POPULAR CELERIES.

HARRISON'S EARLY ROSE, easily
blanches, fine for exhibition ... Each
HARRISON'S LEICESTER RED, ... 1s.
solid, the best late, very hardy ... per packet.
PENGELLY WHITE, a quick ... by post.
grower ... for stamps.

Nothing is more disappointing than a soft, stringy Celery.
The above will not disappoint you.

ILLUSTRATED LIST of LEICESTER SEEDS, free.

HARRISON & SONS, Seed Growers, LEICESTER.

FERNS A SPECIALITY
The finest & most interesting Collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy Exotic & British
EVERY ONE interested in FERNS SHOULD
SEND FOR OUR partially descriptive
CATALOGUE FREE ON APPLICATION.
also our ILLUSTRATED CATALOGUE No. 21.
Price 1/6 post free.
W. & J. BIRKENHEAD
FERN NURSERY, SALE, MANCHESTER.

SEEDS
ESTABLISHED 1793.
THE BEST
AND
THE CHEAPEST.
SEND FOR FREE TO
CATALOGUE. ALL
JOHN K. KING, Royal Seed
Grower,
COGGESHALL, ESSEX.
SEEDS



By Royal Appointment
Nurserymen & Seedsmen
to H.M. the Queen, and
His Royal Highness the
Prince of Wales.

*Nurseries &
Seed Farms*
400 Acres.

PURE & RELIABLE
GARDEN SEEDS
CARRIAGE PAID. CATALOGUES FREE.
LITTLE & BALLANTYNE
CARLISLE.

SEEDS! SEEDS!! SEEDS!!!

VEGETABLE and FLOWER SEEDS saved
from CHOICE SELECTED STOCKS. Everyone with a
garden and every market gardener should send for a Catalogue
before purchasing elsewhere. Special Low Quotations to large
buyers.

B. L. COLEMAN, Seed Merchant and
Grower, SANDWICH, KENT.

WM. PAUL and SON respectfully invite
inspection of the following **TREES and SHRUBS**,
now on Sale. Prices (on application) very reasonable, and
quality unexceptionable as to roots, tops, and stems:—

BEECH, purple, best variety ... 12 to 15 feet.
" common ... 12 to 15 feet.
BIRCH, Silver and others ... 12 to 14 feet.
ELMS, four sorts ... 12 to 18 feet.
LAURUS ... 8 to 10 feet.
LIMES ... 8 to 12 feet.
MOUNTAIN ASH ... 12 to 16 feet.
NORWAY MAPLES ... 12 to 18 feet.
PLAINS ... 12 to 18 feet.
POPLARS, six sorts ... 12 to 18 feet.
SYCAMORE ... 12 to 18 feet.
THORN, Paul's Double Scarlet ... 12 to 14 feet.
(The finest Tree in the Trade.)

FLOWERING SHRUBS, various ... 4 to 5 feet.

ARBOR-VITÆ, American ... 6 feet.
ACUBAS ... 3 to 4 1/2 feet.
BOX, of sorts ... 3 to 5 feet.
CEDRUS ATLANTICA ... 5 to 10 feet.
DEODARA ... 8 to 12 feet.
CUPRESSUS LAWSONIANA ... 8 to 7 feet.
HOLLY, Variegated ... 6 to 12 feet.
" Green, named sorts ... 8 to 12 feet.
FIR, Scotch ... 6 to 9 feet.
" Austrian ... 3 to 8 feet.
LATRELS ... 3 to 7 feet.
OSMANTHUS ... 2 to 4 feet.
PICEA PINSAPO ... 6 to 8 feet.
RHODODENDRON PONTICUM, off
" Joem ... 2 to 4 feet.
" Hybrid ... 2 to 4 feet.
" Named sorts ... 2 to 4 feet.
YEW, Common, and others ... 3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and
Pyramids.

APPLES and PEARS, Horizontal-trained.

CHERRIES and PLUMS, Fan-trained.

ASPARAGUS for Forcing.

PAULS' NURSERIES, WALTHAM CROSS.
South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station,
Great Eastern Railway.

ESTABLISHED
OVER 1 CENTURY.
ALL KINDS OF
NURSERY STOCK.
SEEDS and BULBS
(GROWN and IMPORTED).
J. BACKHOUSE & SON,
ALPINE and HERBACEOUS PLANTS.
YORK.
CHOICE INDOOR PLANTS.
PALMS, ORCHIDS, FERNS, &c.
IN GREAT VARIETY.
PARK, ROADWORK, & ESTATE
PLANTING.
OVER 100 ACRES
OF NURSERY.

SEASON 1892.
WM. CLIBRAN & SON
Beg to inform their patrons that their
NEW CATALOGUE OF

**SELECT
VEGETABLE
SEEDS**

**CHOICE
FLOWER
SEEDS**

is NOW READY, and will be sent post-free on application.

It contains Descriptions of all the STANDARD VARIETIES of

VEGETABLE and FLOWER SEEDS, with a

careful selection of the most promising NOVELTIES.

BUYERS of GENUINE, RELIABLE SEEDS should

send for a copy before placing their Orders.

INSECTICIDES, IMPLEMENTS, TOOLS,

and Miscellaneous Requisites of every description, for

the GARDEN or FARM, supplied.

10 & 12, MARKET ST., OLDFIELD NURSERIES,

MANCHESTER, ALTRINCHAM.

And Principally Nurseries, Dagenham, Llandudno.

Vegetable and Agricultural Seeds.

H. AND F. SHARPE'S SPECIAL PRICED
LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

GOOD HARDY PERENNIALS.—A large quantity of strong flowering clumps of Sunflowers in variety. *Tritoma Uvaria*, *Pyrethrum aliginosum*, *Marguerites*, and many other good things, 4s. per doz.; extra large, 6s. and 8s. per doz. Per 100 on application.
R. MARIES, Florist, Lytham, Lancashire.

BARR'S SURPLUS CLEARANCE SALE OF DAFFODILS

Prices greatly reduced. Bulbs in prime condition for Potting, Bedding, and Naturalisation. Detailed Priced LIST on application.

Per 1000, 15s., 25s., 42s., 63s., 84s., and 105s.

BARR'S CLEARANCE SALE OF
HYACINTHS, TULIPS, POLYANTHUS-NARCISSUS, CROCUS, SNOWDROPS,
CHIONODOXA, SCILLAS, SNOWFLAKES, and other Spring-flowering Bulbs,
ALL in PRIME CONDITION. PRICES GREATLY REDUCED. LIST on APPLICATION.

Important Descriptive LISTS now ready, free on application:—

CONFERENCE MICHAELMAS DAISIES, and **PERENNIAL SUNFLOWERS.**
GLADIOLUS, CARNATIONS, PICOTEEES, PINKS, HELLEBORES, and **LILIES.**
SINGLE PÆONIES, DOUBLE PÆONIES, HELLEBORES, and **IRIS.**

BARR & SON, 12, King St., Covent Garden, London.

ROSES.—Old English Cabbage, Moss, and Provence in large quantities. Must be cleared, at nominal prices.—J. MASON, East Greenwich, S.E.

ORCHIDS.

LÆLIA GRANDIS TENEBROSA (true).—A new importation, just received, in fine condition, with leaves dormant. Please write for PRICE LIST of these and other BRAZILIAN ORCHIDS.

A. H. GRIMS DITCH, Orchid Importer,
5, CLAYTON SQUARE, LIVERPOOL.
Depot and Residence, 17, Dryden Road, Edge Lane, Liverpool.
Sole Agent for CARLOS TRAVASSOS, Rio de Janeiro.

ORCHIDS A SPECIALTY.

Many new, choice, and rare species and varieties always in stock.

HARDY HERBACEOUS PLANTS.

One of the finest collections of these plants known.

CHRYSANTHEMUMS.

A grand collection, approved novelties, write for our new Descriptive

CATALOGUES, NOW READY,
and Post-free on application to

PITCHER & MANDA,
The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, Etc.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London." Telephone, No. 4763.

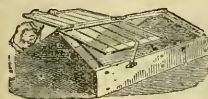
KEEP YOUR PIPES WARM.

FOSSIL MEAL PIPE LAGGING is the only effective means for preventing Loss of Heat, and Pipes Freezing. **CHEAPEST PACKING** existing. For Sample and Particulars, write to

MORITZ H. SCHÖNSTADT, 59, FARRINGTON ROAD, LONDON. E.C.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

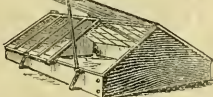
WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.
GARDEN FRAMES in great VARIETY.



No. 60.
PORTABLE PLANT PRESERVER.

CASH PRICES.
CARRIAGE PAID.
6 ft. by 3 ft. ... £2 0 0 | 6 ft. by 4 ft. ... £2 5 0
12 ft. by 3 ft. ... 3 2 0 | 12 ft. by 4 ft. ... 3 15 0

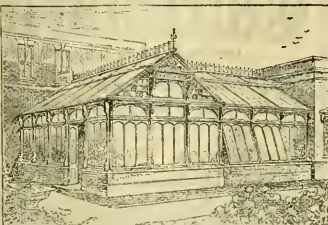
No. 73.
NEW SPAN-ROOF GARDEN FRAME.



CASH PRICES.
CARRIAGE PAID.
4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 14 0
8 ft. by 6 ft. ... 4 4 0 | 16 ft. by 6 ft. ... 7 4 0
All Frames made of Select Red Deal, painted three times, and Lights glazed with 21-oz. sheet glass.
Carriage paid on all Orders of 40s. value.

BOILERS

Of all makes and sizes supplied at the cheapest rates.
VALVES, PIPES, and FITTINGS always in Stock.



Estimates on Application.

No. 74.
THREE-QUARTER SPAN GARDEN FRAME.



CASH PRICES.
CARRIAGE PAID.
4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 17 0
8 ft. by 6 ft. ... 4 5 6 | 16 ft. by 6 ft. ... 7 8 6



No. 75.
MELON AND CUCUMBER FRAME.

CASH PRICES.
CARRIAGE PAID.
4 ft. by 6 ft. ... £2 0 0 | 12 ft. by 6 ft. ... £4 3 0
8 ft. by 6 ft. ... 3 0 0 | 16 ft. by 6 ft. ... 5 6 0
CUCUMBER-FRAME LIGHTS.
6 feet by 4 feet, painted and glazed ... 14s. 0d. each.
8 feet by 4 feet, unpainted and glazed ... 5s. 8d. ..
Catalogue of all our Manufactures, post-free on application.

FRUIT TREES AND ROSES!

VAST QUANTITIES TO OFFER,
of the usual excellent quality.

HUGH LOW & CO.,
Bush Hill Park Nursery, ENFIELD.

WHEELER'S CAMBRIAN FAVOURITE MELON.

A grand New Melon, which we believe will prove to be one of the finest standard varieties in cultivation.

Per packet, 2s. 6d.; small pkt., 1s. 6d., post-free.

Mr. J. Muir, in writing, of it, says:—"It is extremely handsome, and the flavour is all that could be desired; indeed, it combines more good points than I ever found in any other Melon."

Wheeler's List of Specialties and Novelties will be forwarded, gratis and post-free, on application.

WHEELER & SON,
Seed Growers, GLOUCESTER.



**SHARPE'S
VICTOR POTATO.**

"Earliest of all Earlies."

TO OBTAIN THE

True Yellow-fleshed Variety,
Apply to

CHARLES SHARPE & CO., SLEAFORD.

PLANTING SEASON.

HARDILY-GROWN

FOREST, FRUIT,

& ALL OTHER

**TREES & PLANTS,
EVERGREENS, ROSES, &c.**

NURSERIES 400 ACRES:

VERY EXTENSIVE STOCK. Inspection invited.
Priced Catalogues Gratis & Post Free.

**DICKSONS NURSERIES
(LIMITED) CHESTER.**

THE NEW EARLY DESSERT APPLE, COOLING'S BEAUTY OF BATH,

Is the handsomest and best-flavoured First Early APPLE yet introduced, and should be in every collection.

MAIDENS, 2s. each.

PYRAMIDS, 3s. 6d. and 5s. each.

FAN-TRAINED, 5s. and 7s. 6d. each.

STANDARDS, 3s. 6d. each.

Trade price on application.

Descriptive FRUIT TREE and ROSE CATALOGUE, Post-free on application.

GEO. COOLING & SONS,
THE NURSERIES, BATH.

WEBB'S

NEW

PEA FOR 1892

"TALISMAN."

5s. per pint, post-free.

A magnificent blue wrinkled main crop Pea, which has been raised on our own Farms, from a cross between the varieties—Culterwell's Giant Marrow and Omega. It grows about 5 feet in height, has stout stems, and large, light-green foliage; the pods are long, straight, very handsome in appearance, and contain about nine extra large, and fine-flavoured Peas. Besides being of first-class table quality, this Pea is of the utmost value for exhibition purposes.

WEBB'S SPRING CATALOGUE
Post Free, 1s.

The Queen's Seedsmen,
WORDSLEY, STOURBRIDGE.

Williams'

WORLD-RENOWNED

GOLD MEDAL STRAINS

OF

Primula

Per Packet, 1/6, 2/6, 3/6, & 5/-.

Cyclamen

Per Packet, 1/6, 2/6, 3/6, & 5/-.

Calceolaria

Per Packet, 1/6, 2/6, 3/6, & 5/-.

FLOWER SEEDS POST FREE.

Every Packet of above bears our Registered Trade Mark, without which none are genuine.

ILLUSTRATED SEED CATALOGUE,
comprising everything necessary and requisite for the
Garden, Gratis and Post-free on application

B.S. Williams & Son,
UPPER HOLLOWAY,
LONDON. N.

VEITCH'S

COLLECTIONS OF

SUPERB ASTERS.

VICTORIA ASTER.

The most showy and massive of all the Asters. Grand for Exhibition.

Collection of 12 distinct colours, separate, 3s.

DWARF

CHRYSANTHEMUM-FLOWERED.

Splendid free-flowering variety. Individual flowers often 4 inches in diameter.

Collection of 12 distinct colours, separate, 2s. 6d.

TRUFFAUT'S

IMPROVED PÆONY PERFECTION

A noble incurved variety, of great size and symmetry.

Collection of 12 distinct colours, separate, 2s. 6d.

NE PLUS ULTRA (New).

A splendid new variety of vigorous growth, with large imbricated and perfectly double flowers.

Collection of six distinct colours, separate, 2s. 6d.

REID'S QUILLED IMPROVED.

The finest and most perfect form of Quilled Aster.

Collection of 16 distinct colours, separate, 2s. 6d.

For full description of the above, see SEED CATALOGUE for 1892, forwarded gratis and post free on application.

JAMES VEITCH & SONS

ROYAL EXOTIC NURSERY,
CHELSEA, S.W.

"AMERICAN SPECIALTIES."

We have this year without doubt the finest Novelties in

CHRYSANTHEMUMS

Ever yet seen, and for which we received last year more

MEDALS, PRIZES, &c., than any other firm.

OUR NEW DESCRIPTIVE

CATALOGUE Now Ready.

Post-free on Application to—

Pitcher & Manda, THE UNITED STATES NURSERIES,
HEXTABLE, SWANLEY, KENT.

THE CHAMPION EXHIBITION PEAS. CARTERS'

STRATAGEM,
TELEPHONE,
AND
ANTICIPATION.



THE FIRST PRIZE RECORDS,
and the SUPERIOR TABLE
QUALITIES of these GRAND
PEAS, still remain UNEATEN.

Price, in Sealed Packets, each
per pint, 2/-, post-free, 2/3.

ROYAL SEEDSMEN BY SEALED WARRANT,

237 HIGH HOLBORN, LONDON
238

FIRST-CLASS NURSERY STOCK.

JAMES BACKHOUSE AND SON offer the following stout, well-rooted, transplanted—

Trees and Shrubs.		Per doz. ; per 1000.	
		s. d.	s. d.
ALDER, Common, 6 to 7 feet	...	4 0	20 0
" Hoary-leaved, 6 to 8 feet	...	5 0	—
ASH, Common, 5 to 6 feet	...	1 6	70 0
HAZEL, 2 to 3 feet	...	—	35 0
OAK, English, 3 to 4 feet	...	—	60 0
" " 4 to 5 feet	...	—	105 0
" " 5 to 6 feet	...	—	150 0
PINUS Austraica, 12 to 18 inches	...	—	52 6
" " 14 to 2 feet	...	2 6	12 6
" " Laricio, 2 to 3 ft. (ex. trans.)	...	—	90 0
POPLAR, Black Italian, 5 to 7 feet	...	2 6	—
" " Giant Canadian, 4 to 5 feet	...	2 0	—
SYCAMORE, Variegated, 4 to 5 feet	...	12 0	80 0
" " 7 to 8 feet	...	24 0	150 0

Evergreen Trees and Shrubs.		Per doz. ; per 1000.	
		s. d.	s. d.
ARBOR-VITE, American, for Hedges, 3 to 4 ft.	...	8 0	50 0
" " " 4 to 5 ft.	...	10 6	70 0
" " " 5 to 6 ft.	...	15 0	105 0
BERBERIS Aquifolium, 9 to 13 in., 63s. 1000.	...	1 6	8 0
" " " 12 to 15 in., 105s. 1000.	...	2 6	12 6
BOX, Compacta, a beautiful form of Tree Box, compact in habit, and bright in colour, 12 to 18 inches	...	4 0	20 0
" " " 1 1/2 to 2 feet	...	5 0	30 0
" " Handsomest Broad-leaved, 12 to 15 inches	...	3 0	18 0
" " " 1 1/2 to 2 feet	...	5 0	27 6
CEDRUS Atlantica, 2 to 2 1/2 feet	...	15 0	105 0
" " " 2 1/2 to 3 feet	...	20 0	150 0
" " " 3 to 4 feet	...	—	—
" " " 4 to 5 feet	...	60 0	—
CUPRESSUS Lawsoniana, well-grown plants, 2 to 3 feet	...	9 0	85 0
" " " 3 to 4 feet	...	—	100 0
" " " 4 to 5 feet	...	24 0	160 0
" " " argentea, 3 to 3 1/2 feet	...	24 0	160 0
" " " 3 1/2 to 4 feet	...	30 0	200 0
" " " erecta viridis, 3 to 3 1/2 feet	...	30 0	200 0
" " " 3 1/2 to 4 feet	...	42 0	—
RHODODENDRON Ponticum, extra bushy plants, 12 to 18 inch.	...	6 0	35 0
" " " 1 1/2 to 2 feet	...	9 0	45 0
" " " 2 to 2 1/2 feet	...	15 0	90 0
SWEET BAYS, in pots, 1 1/2 to 2 feet	...	12 0	80 0
" " " 2 to 2 1/2 feet	...	18 0	120 0
YEW, Common, 2 to 2 1/2 feet	...	8 0	50 0
" " " 2 1/2 to 3 feet	...	12 0	75 0
" " Irish, 3 to 4 feet	...	30 0	200 0
" " " 4 to 5 feet	...	42 0	250 0

Roses.		Per doz. ; per 1000.	
		s. d.	s. d.
STANDARDS, fine named sorts, our selection 16 0	...	140 0	—
HALF STANDARDS, ditto, ditto 14 0	...	120 0	—
DWARFS, fine plants on Manetti, ditto 8 0	...	80 0	—
" " on our roots, ditto 10 0	...	75 0	—

The above are all strong plants. Purchasers can send names of sorts desired, which will be adhered to as far as possible. Descriptive CATALOGUE on application.

Peaches and Nectarines.		Per doz. ; per 1000.	
		s. d.	s. d.
STANDARDS, or RIDER-TRAINED, 7s. 6d. to 10s. 6d. each ; extra strong trees, 12s. 6d. to 15s. each.	...	—	—
DWARF-TRAINED, 5s. to 7s. 6d. each.	...	—	—

Apples and Pears.		Per doz. ; per 1000.	
		s. d.	s. d.
EXTRA STRONG DWARF-TRAINED, 5s. 6d. to 7s. 6d. each.	...	—	—

Special Prices to large purchasers, or the Trade, on application, stating quantities required.

JAS. BACKHOUSE & SON, YORK.

GEORGE JACKMAN & SON,
WORKING NURSERY, SURREY,

INVITE INSPECTION OF THE FOLLOWING WELL-GROWN STUFF:—

FRUIT TREES.—A fine stock of Apples, Pears, Plums, and Damsons, in Standards, Pyramids, and Dwarf-trained trees; also Dwarf-trained Apricots, Peaches, and Nectarines.

ROSES.—A large Collection of Dwarf and Standard Hybrid Perpetual and Tea Roses, in all the leading varieties; also Tea Roses, in pots, for forcing.

RHODODENDRONS.—Choice named varieties set with flower-buds; also Hybrid Seedlings and Ponticums.

CONIFERS.—Fine stuff, in various Sorts, for Lawns and Shrubbery planting.

SHRUBS.—Ornamental and Flowering, adapted for Belts, Shrubberies, Screens, &c.

CLIMBERS.—Including their celebrated Clematis, suitable for Walls, Trellis-work, Rockwork, &c.

ORNAMENTAL TREES.—For Parks, Avenues, Streets, and Private Gardens.

FOREST TREES.—In large quantities, for Coverts, Woods, &c.

CATALOGUES FREE ON APPLICATION.

LANDSCAPE GARDENING.—A leading Feature. Plans designed, and Advice given as to Laying-out, Planting, or Renovating Parks, Cemeteries, Recreation Grounds, and Private Gardens.

March 4th next.

New Orchids.

Extraordinary New Lady's Slipper,

CYPRIPEDIUM VICTORIA REGINA
(SANDER).

NEW SPECIES.

The Most Extraordinary Cypripedium ever imported.

CYPRIPEDIUM CHAMBERLAINIANUM
(SANDER).

Magnificent New Species of Great Value.

MESSRS. PROTHEROE & MORRIS

Have received Instructions from Mr. F. SANDER to SELL, at their Great Rooms, 67 and 68, CHEAPSIDE, LONDON, E.C., a Grand Lot of the above New CYPRIPEDIUMS, on—

FRIDAY, MARCH 4.

Our researches in New Guinea and Borneo have led to the discovery of Two New Species of LADY'S SLIPPER ORCHIDS, in every way most remarkable and distinct from everything in either Eastern or Western Cypripedes.

CYPRIPEDIUM CHAMBERLAINIANUM
(SANDER).

Is from the MERAPI MOUNTAINS, and of great beauty and distinctness. The flowers, which are produced in great profusion, are of large size, and unlike anything ever seen. According to Collector's description, the flowers are violet-purple and white, produced all along the spike; and although our man had a nice lot when he started, but few were alive, and they were in weak condition when he arrived at port; but he thoroughly established them there, and a captain took great care of them on the journey home. The leaves are 2 feet long and 2 inches wide, and all mottled.

CYPRIPEDIUM VICTORIA REGINA
(SANDER).

Is the most remarkable Cypripedium we have ever seen. We are proud of the introduction into Europe of Cypripedium Sanderae, Rothschildianum, Sanderaianum, &c.; but such an one as this we have never seen; the compact zigzag inflorescence is 2 feet high, and shows upwards of thirty flower-seats, each flower springing from a conspicuous bract; and the remarkable feature is that the flower-seats are not more than 1/4-inch from each other. The upper part of the flower is most lovely; it is white and green, tinged and lined with blackish-purple, very broad and short, the lower sepal light green and dark purple; the petals are spreading, undulate, twisted, and are white, green, and purple, in lines and dots. The whole flower is hairy; the very broad pouch is in shape like C. cardinale, and light purplish-violet, much inflated, spotted with dark purple, with a golden-yellow and pea-green rim; base of the pouch white and green, as also the infolded lobes, inside; the pouch is dotted with purple; staminode black and green, sometimes with a green line through the middle.

The flowers are 4 inches across each way.

Abundant dried material will be shown, to prove the above extraordinary facts.

THE
Gardeners' Chronicle.

SATURDAY, FEBRUARY 13, 1892.

THE WHITTERTN.

ABOUT a dozen years ago Mr. Richard Green, a famous breeder of Hereford cattle, like many other squires and magistrates of Herefordshire, built for himself a house named The Whittern, and situated in the parish of Lyonshall near Kingston. The site is high and delightful, and one looks across the lawn and down the slopes of the hill, on which the house stands, into some deep-lying pastures below and up the slopes beyond, away to Lady Lift, a hill in the distance, feeling that such a landscape leaves little to desire. The pretty green hollow with its steep sides might be a park so far as appearance goes, but it is better than a deer park, since it sustains Mr. Green's beautiful herd of white and red Herefords, and is, in fact, his home farm. One may ask how is it that the pastures of a farm bear such noble park-like timber, and how is it that within the limits of the lawn and shrubbery there are numerous exotic shrubs and specimen trees much older than the house? The answer is, that an old country house stood near the present one, and the owner, though his house was small, was a patron of arboriculture. A Larch tree in front of the present handsome mansion was one of his favourites. It is a very remarkable tree, with pendulous branches spreading over a diameter of 60 feet, and having a great trunk which, at 4 feet from the ground, becomes suddenly smaller, so that the upper part appears to be of later date than the lower. Near the old entrance to the former house, at the rear, are two Sycamores, 80 feet in height, and in front of where the older house stood are three Cedars of Lebanon, which must have stood there scores of years, winning by their grand proportions the admiration from a former generation.

At this corner of the present lawn, near the spot where the roof-tree of the former family, the MoMurdos, stood for several generations, there is a fine clump of Conifers planted by them, such as the Douglas Spruce, Cryptomeria japonica, and Wellingtonia; and between the trees and house were interposed—much too near for modern notions—the stables, and some kennels, where an old gentleman fond of his gun, kept pointers and other dogs. All are gone, and as old Mr. MoMurdo may have said, "sic transit" on the departure of his predecessors, so we may say "sic transit" of him and his dogs and kennels. A thriving Tulip-tree stands on the very site of his kitchen, on what is now the smooth lawn of The Whittern. Greatly to the advantage of the new structure, its material consists of native sandstone, quarried on the spot, and of sober, grey colour. An artist of note has left his mark on a large stone forming part of the front wall of the house, and as long as the wall stands, the hunting-scene carved upon it will be admired, as

it is by all who see it now. The west wing of the house is sheltered by a handsome conservatory, whose chief ornament is a fine specimen of that handsome creeper, *Cobæa scandens*, which can never become "common," though it may be abundant.

Turkey Oaks are among the old trees around the house, and scattered over the park-like pastures at various levels, but always on good land, are fine specimens of English Elms, Scotch Firs, and big Beeches. The newly-planted shrubs flanking the house and its terrace have thriven amazingly in ten years, the soil being rich, and well suited either for pastures bearing the great beoves of the country, or for timber trees and shrubs; and, pleasing as some poor soils may be, rich land has great advantages. Among the Conifers are *Abies nobilis*, *A. pinsapo*, and *A. Nordmanniana*, lending to the site, not exactly novelty, but rich variety and refinement.

A wealth of shrubs arrests attention on the wide lawn between the house and kitchen-garden, *Gaultheria procumbens* and other Americans are conspicuous in some of the clumps and borders, others are filled with *Rhododendrons*, many with English Heather, and some with flowers. *Hyanthus candicans* grows under the terrace-wall which it tops, attracting all eyes. Its bulbs have not been removed for six years. *Andromeda floribunda*, in some of the borders, was manifestly about to fulfil the promise of its name, showing abundant signs of flowering at the time of my visit, September 23. The *Rhododendrons* were looking well, and several sorts of *Meziesia* and the American *Pernettya*, with red bark, looked luxuriant.

The wall bounding the pleasure garden in this direction is well covered with creepers. The Virginia Creeper had already assumed the deep crimson tint of autumn; the *Ampelopsis Veitchii* would be a month later. The border in front of the wall was required to be gay, being within the precincts of high civilisation, and it was made so with *Tritoma Uvaria*, *Helleborus atropurpureus*, Japanese *Anemones*, perennial *Phloxes*, Sweet Briar, *Gaillardias*, *Rudbeckia Newmanii*, *Funkias*, *Michaelmas Daisies*, rock *Cistus*—in flower all through the summer and still in flower, *Lilium auratum*, and other things. It is a border which Mr. Weaving may well be proud of.

Small space remains for the kitchen garden. The site here is high, and the soil strong, and experience does not seem to sanction the cordon system for fruit trees, in this locality. If the trees were lifted every third or fourth year, the result might be more satisfactory. We are here in a district where the Apple grows to the size of a timber tree, and the subsoil is not injurious. Mr. Weaving has tried the methods of pruning Apples and Pears, by leaving them very much to Nature, with slight pruning only, and pruning and disbudding freely, and he has found the former plan more conducive to the bearing of fruit. The site of the garden is 450 feet above the sea, and as Sutton's Perfection Tomato partially ripened out of doors this year, the soil cannot be cold. Hale's Early Peach ripened on a west wall this year before Moor Park Apricot. Sutton's Abundance Potato is yielding this year at the rate of fourteen tons per acre on this rich land, and some of the Potatoes weighed 17 ozs. each. The Winter Nels Pear, growing on an unrestricted pyramid, has cracked badly during the past two seasons, which Mr. Weaving attributes to the damp weather; so it seems there is a drawback even to The Whittier. The Pears must be imported. H. E.

NEW OR NOTEWORTHY PLANT.

CYPRIPEDIUM LEDA, n. hybr.

JOHN C. BOWRING, Esq., Forest Farm, Windsor Forest, has raised a hybrid *Cypripedium*, which has recently flowered in his collection. It is said to be a seedling from *C. X Harrisianum*, the pollen probably being derived from *C. venustum*, as the characters of that species are well represented, both in the upper sepal and the veining of the lip. The upper sepal is broadly ovate, pale green, with a white margin, bright-green nerves, and some dark brown at the base, and on the lower part of the midrib. The petals are rather short and broad, and much like *C. villosum* in colour, with a few dark brown spots at the base. The lip is short and stout, light purple-brown round the mouth, and paler behind; the nerves darker green, and the side-lobes with numerous minute light-brown spots. The staminode is pale green, closely reticulated with dark green on either side of a central fleshy keel. The leaf is pale glaucous green, with transverse dark green reticulated markings. It is fairly intermediate, except that the purple stripes on the upper sepal of the mother plant are almost entirely obliterated.

ORCHID NOTES AND GLEANINGS.

CATTLEYA TRIANÆ COBBII.

THIS variety has by far the handsomest and most perfectly formed blossoms of any of the *C. Trianæ*s of the *Backhousiana*, or feathered-petalled section; the plant has been for some years in the collection of Walter Cobb, Esq., Silverdale Lodge, Sydenham, and it has always been pronounced distinct by competent judges, among whom the late Mr. Frank Casey suggested the advisability of fixing by name a means for its identification. Two fine flowers which have just reached me, finally prove it to be constant. In form these are the same as some other of the best varieties of *C. Trianæ*. The pale rosy-illac sepals are broad and flat, and the nearly oval petals arrange well with the broad and not too long lip. But the striking and superlatively attractive features are the inch-long brilliant mauve-crimson markings on the tips of the petals, which markings are not run or smeared, and heavy, though they scarcely show on the reverse of the petal. In respect to the colouring on the tip of the petals, the present variety differs from *C. T. Backhousiana*, which is splashed with colour towards the middle of its petals, and also from *C. T. Ernestii* with its prettily mottled tip to the petal. The labellum of *C. T. Cobbii* is of an intensely glowing crimson-purple in front, with clear chrome-yellow extending to the base of the pure white column. But with regard to the fine *C. T. Backhousiana*, unfortunately anything with a little splash in the petal is now sold for it. James O'Brien.

SEEDLING FUCHSIAS.

I AM pleased to see that the veteran George Fry is to read a paper on "Fuchsias" at one of the meetings of the Royal Horticultural Society during the summer. No one is so well adapted to deal with the subject, more especially as in many experiments Mr. Fry has made with Fuchsias during the past few years, he has endeavoured to cover new ground by proceeding upon original lines. Therefore, we shall all be pleased to hear, when the time comes, what the veteran has to say upon the subject.

I think the raising of seedling Fuchsias has become almost a past art in floriculture. I can quite understand anyone saying, what is the use of attempting to raise seedlings while there are so many fine varieties in cultivation. But the possibilities of production are illimitable, and I would suggest that if some of the more novel of the decorative varieties were taken in hand and crossed, breaks might be obtained of a singularly attractive and valuable character. Apart from this, the raising of seedlings of any popular flower is one of the most agreeable and pleasant occupations relating to the culture of flowers, and as so few are engaged

in obtaining seedlings of Fuchsias, there is ample room for enthusiasts to undertake the work.

But then it is not worth while going to work unless on the really good seed. One cannot depend upon what is obtained at seed-shops, because a good deal of it is not taken from just such varieties as the operator would desire to work with, and so it would be best to request some one who is noted for growing a good collection to save seed from a few of the very best varieties, especially those possessing some individuality of character. Better still, to select three or four striking varieties and carefully cross-fertilise them, making a note of the crosses, and so far as possible in impregnating the flowers, seeking to secure definite results.

But how to proceed with the work of fertilisation is a matter of the first importance. Having selected the varieties intended for the purpose, the operator should carefully watch the flowers as they expand, cutting away all imperfect ones, and retaining only such as are true to character and of fine quality. The flower to be impregnated must have all the anthers cut away from it, then by means of a fine camel's-hair brush the pollen, at the right moment, is taken from the flower to be crossed on to it, and carefully laid upon the stigma, making a careful note of the cross; then a piece of fine netting should enclose the flower to prevent insects from undoing the work of the cross-fertiliser. The seed will ripen quite as well if the plant is placed out of doors, but I have known birds to steal the seed pod, which is, of course, a great disappointment. The seed pods need to be carefully watched as they approach ripening; indeed, they are apt to drop before fully ripe, and become lost. One old raiser of seedling Fuchsias used to make a practice of rubbing the newly-ripened pods between his hands, then to pick out the seeds from the pulp by the aid of a fine-pointed penknife, and spread them out on a sheet of white paper to dry, placing them upon a shelf in the sun, and cover them with a sheet of glass to prevent them being blown away. After becoming dry, the seeds, mixed with a little fine silver sand, were placed in a small wooden box, and kept until the time of sowing came round. But pods are sometimes disappointing, and though large, plump, and full of promise, when cut open are destitute of seeds, while much smaller ones, on the same plant, will produce forty. There is no difficulty in procuring Fuchsia seeds, as seed pods are freely formed, and they are generally fertile, but it is better to sow twenty seeds obtained from carefully impregnated flowers than three hundred taken indiscriminately from a collection with but poor results flowering from the experiment.

And now comes the question, When to sow? It may be said seed can be sown at any time of the year, but it is best to sow in January or February, as the plants can then be had in flower the following summer. Take some 32-sized pots, have plenty of drainage, place over the drainage a little moss or cocoa-nut fibre refuse, then fill nearly to the top with a fine light rich soil. Sow the seeds thinly upon the surface, and cover with a quarter of an inch of finely-sifted leaf mould and silver sand; giving them a gentle syringing, and then plunge the pots to their rims in a gentle hot bed. But if an ordinary propagating bed be not available, the seeds should be sown a few weeks later if they are to be raised in a dung frame, but care is necessary in covering at night, giving air, &c., for if the heat be too rank, the seeds will quickly germinate, and damp off quite as fast. For three weeks or a month after sowing, the surface of the seed pots should be kept merely moist; and great care is needed that the tiny plants are not eaten by insects. As soon as the seedlings have formed a pair of leaves above the seed leaves, the strongest can be pricked out into 60-sized pots. I am informed by old raisers that at this stage of growth the seedlings feel the removal much less than at any other time. As they grow into size, they will need to be shifted as required, and eventually bloom in 48 or 32-sized pots, according to their size. A stake should be placed to each plant, so that it

may display its habit of growth to the best advantage.

As Fuchsias are now employed mainly for decorative and bedding purposes, it is indispensable they be of a good, free, and compact habit of growth, and thoroughly floriferous, as well as continuous in bloom. I think Mr. James Lye, of Clyffe Hall, deserves great praise for raising seedlings showing such a remarkable freedom of bloom as his new varieties do. They have superb quality, with all that can be desired in reference to habit of growth, and it is these characteristics which cause them to be in such large demand for exhibition purposes. *R. D.*

EUCALYPTUS OIL.

The old saying, that "It is an ill wind that blows nobody good," is being realised by the dealers in Eucalyptus oil, which is strongly advocated as an

future it will remain a regular domestic remedy, as it has become in Australia the home of the plants, which yield it; and it is further an interesting fact, that as the reputation of Eucalyptus oil has grown in public estimation, other sources of supply than Australia have been discovered, and even in Australia the distilling industry is no longer confined to Victoria, all the colonies now sending supplies to this country. Considerable quantities of the oil are distilled in the South of France, and as many as 20,000 lb. of the oil of Eucalyptus globulus are now exported yearly from California.

The growth of the Eucalyptus in California is another example of how rapidly new industries are developed in the far west. The first plantation of any extent was made in 1869, when 55 acres of hill land at the back of the town of Haywards was planted with *E. globulus* seedlings, to supply the want of timber, and to improve the climatic conditions of the locality. As it proved a satisfactory

They had noticed the pleasant odour which came from the boilers, but they were unaware that the leaves contained a volatile body until they were told what a valuable oil they were wasting. Means were at once taken to collect it, and that with the boiler fluid was the beginning of a very respectable industry, which was ultimately taken over by the company. The factory is situated at the San Lorenzo Station, on the Southern Pacific Railway. The trees in the forests and plantations are cut down, and the leaves gathered by men called strippers. From 10 to 12 tons of leaves are operated upon daily, these yielding 1,500 gallons of boiler fluid, and 70 lb. of essential oil. The oil is thus a big product, and during the past two years it has become so important a part of the industry, that the company have appointed a skilful chemist, under whose instructions the purity of the distillate has become greatly improved." *John R. Jackson, Kew.*

MORMODES ROLFEANUM.

We are indebted to M. Lucien Linden for a specimen of this remarkable Orchid, a coloured figure and full description of which appeared in the *Lindénia*, August, 1891, t. 289. The shape of the flower is sufficiently indicated in our woodcut. The sepals and petals in the specimen sent were of a dark nankeen-buff colour, and traversed by numerous conspicuous liver-coloured nerves; the fleshy, curved lip was also liver-coloured. The species was dedicated by M. Linden to Mr. Rolfe, to whom, since the death of Professor Reichenbach, we too have been specially indebted for descriptions of new Orchids.

THOROUGH CULTURE FOR VEGETABLES.

Admitting the extent and adequacy of cultural and calendrical suggestions and advice, so plentifully disseminated throughout the country, in technical serials, papers and otherwise, I think the fact remains that the great advantage attaching to thorough cultivation has not taken hold of the minds of the mass of allotment holders, cottage gardeners, &c., to say nothing of those who possess villa gardens and other lands.

Even though results in this country are, as a rule, twice as profitable as on the Continent, not even excepting the much-vaunted *petite culture* in France, we are bound to confess, Scotland with its inferior climate is as far in advance of England as the latter is in advance of Continental countries. The average productions, per acre, are about as follows:—France £4, England £8, Scotland £15, and it may be added, Ireland, with its greater rainfall, £4 to £5. Against this, instances have occurred in Essex, where exceptional returns, amounting to above £35 per acre, have been affirmed.

Too frequently the very first essentials to thorough culture are overlooked, or dispensed with. This is particularly so in the case of small holdings, throughout the country. It is also noticeable in gardens of greater pretensions: I do not include in this category, gardens where efficient gardeners are employed, though my remarks may prove useful to young men amongst such as are struggling on successfully, not having had the advantages which proper training invariably gives.

Apart from the science of soil amelioration, based on abstruse rules of chemistry and similar standpoints, we act on the principle of utilising obvious mechanical and fertilising natural agencies, at the command of all. I advocate the efficient manipulation or tillage of all grounds intended to grow fine vegetable roots, to a minimum depth of 3 feet, where subsoils so admit, as an all-important primary essential.

It may be said, "This is a necessary and well-known fact wherever good crops are anticipated." My answer is,—If that is so, it is confirmatory of my subsequent proposition, which is this: Each and every piece of ground where vegetable crops are



FIG. 30.—MORMODES ROLFEANUM.

influenza preventive [without however any adequate evidence of its being more than a palliative. Ed.] From our contemporary, the *Chemist and Druggist*, we learn, that owing to the very great demand for the oil, a parcel of a fine brand, which only two or three days previously had been sold for 2s. 6d. per lb., sprung up suddenly to 4s. 4d., since which time quotations have advanced by 6d. per day, or even more, till on January 20 it reached 7s. 6d., and on the following day 8s. was paid for the oil of *E. globulus*, and it was stated that 50 lb. of the same oil had been sold during the day at 12s. 6d. per lb. At that date, nearly all holders who had any merchantable oils to sell had been cleared out, but a vessel was said to be due having a considerable quantity on board, though most of this was already sold before it had actually arrived. Since this was written, the *Ormuz* has arrived with about 2000 lb. on board, and further supplies are expected.

Our contemporary before referred to, speaking of the filip which the influenza scare has given to Eucalyptus oil, says, it is highly probable that in the

investment, yielding a profit of 17-50 dols. per acre per annum, which was increased as experience was gained, the example thus set was quickly followed by others. One large forest was planted seven miles south of Los Angeles, and now the Eucalyptus is found over a tract of 400 miles along the Californian coast, cultivated in fields varying up to 100 acres. The trees, which are chiefly *E. globulus*, grow rapidly, and form a splendid shelter; the other species grown is *E. rostrata*, but this is cultivated chiefly for its timber.

At first no attention was given to the distillation of the oil, and its adoption as a commercial article is thus described:—"In 1883, a Mr. George Downie discovered by accident that a decoction of Eucalyptus leaves removed the scale from boilers. He set about putting a preparation on the market, and succeeded in this. Meanwhile he found that in superintending the manufacture of the boiler fluid, he had lost an asthmatic affection from which he had suffered for years. A friend with whom he was associated in the work was also cured of bronchitis.

to be grown, and which is devoted to such culture, should be trenched, and in conjunction, manured deep down, as liberally as can be done, as a first and primary operation. I affirm that such efficient preparation produces immediate results in the quality and value of the first crops, effecting the improvement referred to, whereby all subsequent crops profit incalculably.

The first essential in preparing earths for root-growth abounding in root-foed, is pulverisation; breaking up solidified deposits of the past ages, thereby admitting air, with its all-powerful disintegrating influences. When once broken up, it changes greatly, continuing such amelioration in favour of food-searching roots all but indefinitely. The change is not one of food-supply alone, however; its mechanical capacity becomes more elastic, whereby moisture and warmth are more freely, and therefore more equally, diffused. Furthermore, such sites, once trenched, always work more freely afterwards, and can be dug more deeply at each subsequent digging or forking, and with less labour, which is no mean consideration.

Contrast long-tined forks or spades inserted into such soils as these, and how freely they work, with those driven down on to hard, previously untamed depths. And imagine roots previously nurtured in good ground, delving down into crude hard, comparatively foodless airless depths, and it is not difficult to decide. Shallow-tilled grounds are much harder to work at all times and seasons, and good crops an impossibility, as compared with what is the case where a more rational culture is practised.

Thorough culture, however, demands further consideration than has yet been given. Beyond working the ground up deeply once, if no more, the value of duplicate forkings in winter is greatly underestimated. The ryots in India put us to shame in this respect. Deficient as are their ploughs and tools, they turn the ground over again and again in season, rarely letting it rest. The usual British plan is to dig it once in a year, and seldom more. This is a system of turning over, not manipulating or stirring, to form those free soft moulds prize Potato-growers value so highly.

Finally, while the result of good culture is a yield of double or treble ordinary crops, with greatly enhanced quality, what about labour or outlay! This, as already shown, would be more than compensated for by ease in working during all the subsequent years. Moreover, owners who cannot turn over the whole of their ground one year, should do a portion each year, until all is in thorough workable, capable order. *William Earley.*

GROWING SWEET PEAS.

THE wonderfully improved varieties introduced lately, in which many lovely shades of colour are found, have given to the Sweet Pea a prominence amongst our garden flowers it had not previously enjoyed. Those, who like myself, have seen Mr. Eckford's fine varieties displayed by him at the Birmingham and Shrewsbury Shows, and elsewhere, can testify to their beauty and to their appreciation by the visitors. As cut flowers they richly deserve attention, and they last so long in a cut state. For dinner-table decoration they are lovely objects, and a bouquet of Sweet Peas is an object the eye can rest upon with pleasure. The American florists have found out the value of the Sweet Pea as a commercial flower, and its adaptability to various kinds of decorative work, and the flower is becoming popular in the States.

The cultivation of the Sweet Pea is the point I wish to draw attention to. It is the general rule to sow in rows very thickly together, but no greater mistake can be made. I went on from the great Shrewsbury show in August last to Wem to see the new varieties of Sweet Peas, and I found myself amongst 2½ acres of them in long rows of a sort, all growing free from each other, and in rows about 6 feet apart. Some plants from 24 inches to 3 feet apart,

from 2 to 2½ feet through, branching and bushy from the bottom, and from 5 to 6 feet high, and each plant a "thing of beauty." By giving the plants ample room, the flowers are much finer, and in Eckford's new varieties, it is not only in the very lovely new shades of colour that we see so much improvement, but it is especially apparent in the size, form, and substance of the flower, and the increased number of blooms on each stem. I mention the bush form of Sweet Pea I saw at Wem to indicate what the Sweet Pea can do as a plant under favourable conditions; and as to general culture, I cannot do better than quote the cultural instructions found in Mr. Eckford's catalogue:—

"In preparing the ground, if not already tolerably rich, a liberal dressing of thoroughly decomposed stable manure should be dug in some time before the ground is wanted, leaving it rough and allowed to consolidate before sowing. When preparing for sowing, all that is necessary is to break the ground thoroughly with a hoe, and draw a drill about 3 inches deep, and sow the seed thinly, and cover with 2 inches of soil, leaving the drill hollow, and gently tread the ground if dry. When the young plants begin to appear, tread the row on either side, making the soil firm for a distance of 18 inches on either side. Sow early in February, and for succession in March, April, and May."

As soon as the plants are well above the ground, they should at once be staked, and this is an important operation, as nice new twiggy sticks, if possible, should be secured, preferring light undressed sticks, as the Sweet Pea delights in clinging to, and hanging from, the points of the twigs; and a mulching of some light material should be given if the weather is hot and dry. Any well-decomposed leaf-mould, spent Hops, or horse-droppings well broken will answer the purpose, or all may be mixed together, and this to the Sweet Pea is infinitely more important than watering. The stakes should be very firm in the ground. It is wonderful what is being accomplished in colours, for in the new variety *Primrose*, we have a very near approach to a decided yellow; in *Mrs. Eckford*, a delicate tint of pale primrose; in *Dorothy Tennant*, a rosy-mauve colour; and in other varieties, very bright crimson-scarlet, rose-claret and pale blue, pale mauve, bright purple-blue, orange-pink, very great improvements in whites, dark maroon-purple, and a host of intermediate shades of colour.

Even the old varieties of white, scarlet, purple, Painted Lady, and striped, are sown much too thickly, and staked far too closely together. When Messrs. Carter & Co. gave us *Scarlet Invincible*, we had a great advance, and this firm, as well as Mr. Eckford, has since devoted much attention to crossing, and with great results. Others are engaged in the same work, and the Sweet Pea will shortly be regarded as a popular flower, and deservedly so, for its long stems and fragrance alone are two great points in its favour. *W. D.*

CYCNOCHES GLANDULIFERUM.*

FURTHER material has just come to hand respecting the singularly sportive genus, *Cynoches*. Dr. Lindley's *Herbarium* contains a rude tracing of what appears to be a life-size drawing of a Mexican plant, labelled "*Cynoches glanduliferum*, Rich. and Gal.," which does not appear to have been anywhere described. It represents a species much like *C. Egertonianum*, Batem., but with the sepals and petals distinctly spotted, as in *C. peruvianum*, Rolfe. Nothing further seems to be known about it. A plant, however, which has just flowered with Mr. W. Bull, F.L.S., of Chelsea, and which has been sent to Kew for determination, with the information that it was imported from Mexico, appears to be specifically identical with the one just named. The sepals and petals are light green, spotted with brown, and the lip white, except the two basal teeth, which are light green. It also flowered with Mr. Bull in

August, 1889, and what is evidently the same species with Mr. J. Charlesworth, Heaton, Bradford, in August, 1888. Both were sent to Kew, but the habitat not being stated, they were not then identified with the tracing in question. Nothing is yet known of the female flowers, but these may appear hereafter, and in any case the re-appearance of the other sex is very interesting.

The re-examination of this and allied species has led to some rather startling results, not altogether unexpected, perhaps, for I have long felt there was something mysterious about the history of *C. ventricosum* and *C. Egertonianum*, though I have been unable to explain it satisfactorily. I am now convinced, however, that a similar confusion has been made to the one I recently pointed out in the genus *Catasetum*. The case of *Cynoches ventricosum* sporting into *C. Egertonianum* has been so often quoted, and has become so familiar, that we need only refer to it in brief. Among Mr. Skinner's earliest Guatemalan collections, was a curious plant with long pendulous racemes of small flowers, which it was thought desirable to introduce into cultivation. Some plants were sent by Mr. Skinner, which on flowering "proved to be merely the old *C. ventricosum*." Some mistake being suspected, a fresh supply of plants was sent, but which "were scarcely settled in the stove before flowers of *C. ventricosum* were again produced." Mr. Skinner being then about to return home, kept one of the plants under his special protection during the voyage. This plant flowered at sea, and the flowers, which were the genuine *C. Egertonianum*, were exhibited on their arrival, thus seeming to preclude the possibility of further confusion or disappointment. The plant was placed in the stove at Kynpersley, but when the season of flowering came round, it only brought with it a recurrence of the former scene of astonishment and vexation, for the flowers "were not distinguishable from the old *C. ventricosum*." These "were still hanging to the stem," when the inexplicable plant produced a raceme of the genuine *C. Egertonianum*.

This story is so pretty that it seems a pity to spoil it, and the facts are so clearly set forth that at the first glance it seems impossible to explain them away. Indeed, it is only after a mature consideration of all the facts now known, and by aid of the experience gained in dealing with the allied genus *Catasetum*, that I feel able to deal with the remarkable phenomenon exhibited at t. 40 of Bateman's splendid work, *The Orchids of Mexico and Guatemala*, a plate which has always possessed for me a peculiar fascination ever since I first set eyes on it. That plate, undoubtedly, shows two racemes, one of *C. ventricosum*, the other of *C. Egertonianum*, growing from the same pseudobulb, and most people will be inclined to think, as I long did, that nothing can explain away the fact, especially as Lindley carried the question a step further by figuring *C. Egertonianum* with a flower supposed to be *C. ventricosum* actually growing intermixed on the same raceme (*Botanical Register*, 1843; *Misc.*, pp. 75, 77). The following facts, however, must be taken into consideration.

There are five other species, of which both sexes are now known, namely, *C. Loddigesii*, *C. chlorochilon*, *C. Warscewiczii*, *C. pentadactylon*, and *C. Rossianum*, in every one of which the column is short and stout, with two fleshy more or less triangular wings, but without the anther. The males, on the contrary, have a long and slender column, without wings, but with a perfect anther. In the first two of these species, the lip is almost identical in the two sexes, but in the other three, the lip of the male flower is totally different, being far smaller, and broken up into radiating teeth. An examination of t. 5 of Bateman's work, which represents the original *C. ventricosum*, will convince any one that the flowers shown are males, and that the lip is analogous with that organ in *C. Loddigesii*, and *C. chlorochilon*. The fruit shown is, of course, from a flower of the other sex of the previous year. The green flowers shown on t. 40 of the same work are certainly identical in every respect, although

* *Cynoches glanduliferum*, Rich. and Gal., ex Hemsl., in *Gard. Chron.*, 1879, pt. 2, p. 268, name only.

from our experience with other species, they should have been females. On turning, however, to Lindley's figure, showing the two kinds on the same raceme, we see that one flower is a female, the other four being *C. Egertonianum*. (This figure was reproduced in these columns in 1843, p. 775.) One or two of the flowers are somewhat in a transition state, and I suspect the female is not absolutely normal. Unfortunately, Lindley has not preserved them. We now turn to *Paxton's Flower Garden*, where, in a note under t. 75, Lindley writes of *C. ventricosum*:—"Sports to *C. Egertonianum*, and even towards the cucullate form of *C. Loddigesii*, as was ascertained by Sir P. Egerton, in 1849." The latter part of the note is more fully explained in his *Herbarium*. On the sheet of *C. ventricosum* are two flowers, both from "Sir P. Egerton," one received "August 30, 1849," the other "October, 1849." They are both females, evidently of *C. ventricosum*, of which there is also a fine male raceme on the sheet, and, I venture to state, much larger and appreciably different from the single female figured by Lindley on the raceme of *C. Egertonianum*.

We may now return to Bateman's figure of *C. ventricosum* and *C. Egertonianum* on the same plant. These, as we have already seen, are both males, and each has been observed to produce flowers of the other sex. Now it would be, indeed, remarkable if any species were found to produce four different kinds of flowers, two males and two females, and with our present knowledge of the genus, we may safely dismiss the idea as impossible; and with it must go the combination shown on Bateman's beautiful plate. But how can we explain its origin? From Bateman's own words, it is clear that the two were not borne simultaneously. The plant is *C. Egertonianum*, and was drawn when in flower. But there were two other flowers "still hanging to the stem," no doubt much too withered to be drawn, and as these had attracted so much attention, and "were not distinguishable from the old *C. ventricosum*"—to cite Mr. Bateman once more—the artist, instead of restoring the withered flowers, borrowed them from some drawing of *C. ventricosum*. But in doing this, he was making the male of one species do duty for the female of another, simply because the two were so much alike that they had been confounded together. Why they should have so been confounded need not be discussed here; the bare fact is sufficient. We need not quarrel with Nature for having made them so much alike, though it has been sufficiently perplexing for poor botanists. Unfortunately, there is no dried female flower of *C. Egertonianum* at Kew, but there is an excellent drawing, by "Hy. Etheridge," sent by "Mariano Montealegre Tijó, Costa Rica," in December, 1880, representing a plant with an erect raceme of two olive-green female flowers on one side of the pseudobulb, and a long pendulous raceme of twenty-two dull purple males on the other, which is so similar to *C. Egertonianum*, that I am inclined to think it belongs to the same species. If not identical, it represents a very closely-allied species, but dried specimens are not yet forthcoming to decide the point.

Not only are *C. ventricosum* and *C. Egertonianum* distinct, but they belong to different sections of the genus, the former to *Eucynoches*, the latter to *Heteranthæ*. Bateman wrote:—"The species (if as such it may be regarded), was named in honour of Sir Philip Egerton, before any of its eccentricities had been discovered, otherwise the compliment might have been deemed a dubious one." It is satisfactory half a century afterwards to be able to establish its claim to specific rank on so firm a footing.

C. Egertonianum var. *viride*, Lindl., *Bot. Reg.*, xxxii. (1846), t. 46, said to have been introduced from Oaxaca by Messrs. Loddiges, has pale green flowers, and appears to me to be closely allied to *C. Warszewiczii*, Rehb. f., as figured in the *Floral Magazine*, if not specifically identical.

There are two or three other Central American forms whose position remains doubtful, and I fear

will remain so until a better series of specimens, dried or otherwise, comes to hand. Indeed, the whole genus would amply repay a little closer attention. Distinct progress has been made within the last three years, but very much still remains to be done. In conclusion, we may call attention to three distinct and beautiful species which seem to have quite been lost to cultivation. These are *C. Loddigesii*, *C. aureum*, and *C. maculatum*. All are well worth re-introducing. *R. A. Rolfe*.

THE CLEMATIS IN POTS.

WHEN properly managed, few things are more showy than Clematises in pots, and as they are so readily grown to perfection, it is very strange we so seldom see them under pot treatment. They are among the most certain flowering plants we have, and can be had in bloom very early in the season with little trouble, provided one chooses the right sections for this work, and secures well-matured growths.

Plants may be purchased at all times, as they are generally kept in pots, and the present would be a good time to make a start. One of the main points in cultivating these flowers is to know to which class or section any particular variety belongs. For instance, one would not expect those of the Jackman type to be so amenable to early forcing as the varieties of the Patens and Florida sections. These last contain many splendid varieties, and are by far the best for early work. They should be grown on strongly during the coming spring and summer, having their shoots well exposed to the light. This is best secured by growing them up a wire or string, over the roof of the house. In this position they get thoroughly matured, and as the flowers of these sections are practically stored up in the growths during their ripening, it will readily be seen how very important it is that they should have plenty of light. After the growths are ripe, they may be removed from the wires or strings, and tied round some sticks set into the pots, or over any balloon-shaped wire support according to fancy. When the plants have rested for some few weeks, they may have the top soil removed, and be mulched with a rich compost. The Clematis is a gross feeder, and well repays generous treatment. The plants may now be stood in a moist heat of 55° to 65°, and will very soon show signs of activity. Keep them moist at the roots, and frequently syringed, when you will soon have growths carrying a flower from almost every one of the matured eyes on the summer-made wood.

When finished flowering, remove the growth that has borne the blooms, and grow on the sucker-like shoots that will be springing from the bottom by this time. These must be ripened in an efficient manner, like the previous growths were, and will require exactly the same treatment. These sections of Clematis want very much the same style of treatment as climbing tea-scented Roses, and are then exceedingly pretty flowers for a conservatory or greenhouse. They may be grown in a cool house, too, with ease. The only thing is to let them come on naturally during early spring; and when the flowers are secured, you may stand them in some sheltered situation out-of-doors for the rest of the summer. But they must not suffer from drought in any way, at least, not until their growths are completed, and the plants are at rest. Remove to the cool house before any very sharp frosts come, and then treat them in the same steady manner as before.

The Florida class are all double, and many of them are very sweetly scented. Countess of Lovelace, Duchess of Edinburgh, and Bille of Woking are three grand varieties in this class.

Fair Rosamond, The Queen, Albert Victor, Miss Bateman, and Lord Lonsborough are good examples of the Patens class.

The Jackman section flowers from the growths made during the same season. These attain their full length, and then break into blossom from under almost every leaf towards the end of the shoots. It

is best to train the growth of these to their position as they grow. As soon as they have flowered, the plants may be shifted to a pit or frame until early the next year, when they should be overhauled and mulched heavily. They will soon commence growing again when introduced to heat; the wood that has flowered generally dies down, and should be cut away before starting the plants again. A few of the best varieties in this class are Star of India, Alexandra, Jackman, Jackmanii superba, and Rubro-violacea.

Those of the Lanuginosa class require growing much the same as the Patens and Florida classes; but as these bloom in succession on the short lateral growths, they should not be cut away so hard as the Patens or Florida varieties. Many of our finest varieties are included in this class, Gem, Blue Gem, Henryii, Alba Magna, Beauty of Surrey, and Otto Frobel are all good kinds.

Clematises do not require much heat to force them. The Patens or Florida sections, if they have matured growths, may be introduced to heat in October, and will make showy specimens for Christmas, and a little later. These classes when properly treated, and brought on in batches, will supply flowers all through the winter and early spring, at the cost of very little trouble.

As Clematises require a large amount of water, they must have good drainage; then, while in full growth, it is hard to give them too much water, and they benefit very much from liquid manure. I grow mine in 10 and 12-inch pots, and shake them out and repot every third season. As they make a lot of roots, and it is difficult to remove any but the surface soil, I find it better to pick out the soil with a stick, and even to cut away a portion of their roots. Too much care cannot be given to securing an efficient drainage, and they like a rich loamy compost, with a little coarse sand. *A. P.*

CULTURAL NOTES.

CHOROZEMA CORDATUM var. SPLENDENS.

My object in drawing attention to this hard-wooded greenhouse shrub, is to point out its adaptability for furnishing a supply of cut flowers from the middle of January on through February. Its usual season for flowering under greenhouse treatment is April, but if grown in a little extra warmth, it can be had in bloom at the time mentioned, a period when most families are entertaining guests, and consequently a heavy demand for cut flowers exist. Here we have two large specimens planted in a narrow border, and trained up the back wall of a house that we utilise for flowering zonal Pelargoniums and double Primulas during late autumn and winter months. The temperature during those months ranges from 48° to 55°, according to the weather outside. During the growing season, the shoots are allowed to ramble at will, no attempt being made to tie them in, and by the end of summer they are from 2 to 3½ feet in length. Long sprays of their bright flowers are thrown out from the axil of almost every leaf, making a beautiful picture. We cut the shoots as long as possible, and arrange them in large vases by themselves; if Arums are arranged with their own foliage in other vases close at hand, the effect is very pretty. When flowering is over, the plants are pruned and retied, kept a little on the dry side at the root until growth recommences, and syringed daily. When growth is fairly active, the plants require abundance of water, stimulants being afforded once a week. Compost suitable for them consist of peat and loam in equal parts, with charcoal and sand added to keep it porous. *J. Tunnington, Ripley Castle Gardens, Yorks.*

FREESIAS.

The delicious perfume of the Freesia has made it a popular flower. In addition to its fragrance, it is useful for conservatory decoration, and producing bloom for cutting. The best time to pot the first batch of bulbs is early in August, and some may be potted at a later period to keep up a succession. The

earliest lot, if potted in August, would flower the following January. They like a compost of good turfy loam and leaf-soil, with enough sharp sand to keep the whole porous. For general purposes it is best to put five good bulbs in 48-pots. After potting, water and allow the pots to stand for a hour or two to drain before placing under ashes. They should be examined occasionally, and as soon as the bulbs are beginning to push, remove the pots to a light airy position, such as a shelf near the glass, with a temperature of 50° by night, rising to 60° by day, or even 70° with sun-heat. They can also be grown very well with cool treatment. As soon as the flower-buds appear, a little weak manure-water will be very beneficial to them, but care should be taken not to give plants too much water at any time, neither should they be allowed to get dry, as both extremes are very injurious. After flowering, care should be taken to dry the bulbs off gradually, and allow them to be well exposed to the sun and air, for on this will depend next year's success. A little weak manure-water after they have done flowering will assist the bulbs a great deal. It is at this period of their growth that extra attention should be given, to see that they do not get too dry as long as the foliage remains fresh. When the bulbs do not start into growth satisfactorily, it is generally because they have been dried off too rapidly. When the foliage is dead, the pots can be stored in a cool place; or, if preferred, the bulbs can be shaken out and placed in sand, where it is not too dry, till the following August. The plants here are just now coming into bloom, and some are really grand specimens. Some of the flower spikes measure 2 feet 6 inches in length, with four and five smaller ones branching out of the stem. Given the above treatment, the bulbs will increase very rapidly. *T. Neale, Barham Court Gardens.*

THE WEEK'S WORK.

FORESTRY.

By J. B. WEBSTER.

YOUNG WOODS AND SNOW.—Young shelter plantations require to have the fences of stone or turf cleared on the outer side of drifted snow, by doing which deer and sheep cannot enter the plantation, as they would do if the snow remained till it could bear their weight, and browse on the leaders and twigs of the young trees, doing irreparable injury to them. As soon as snow begins to melt on hills and high ground, there is sure to be a great rush of water to the low ground, consequently, all conduits, ditches, and drains should be scoured out to give it free vent, and thus avoid probable flooding of forest-land. In hill districts, especially in the North, when the snow has become firm, advantage should be taken to remove heavy timber from out-of-the-way places where roads do not exist, the logs being dragged along the surface with little trouble, as compared with their removal on the bare ground. The fact is, that were this not put in practice in many highland forests, the timber would in many cases not pay for its removal. When timber has been removed, it should be cut up for use [sometimes before, Ed.], and allowed to season before using for estate purposes. During stormy weather, when much labour is at a standstill on farms, &c., the making of sheep-hurdles should be prosecuted, so that these may be ready when wanted. The cross-cutting, splitting-up, and preparation of firewood, should also receive attention, which will give profitable employment to some of the hands. During frosty weather, heavy materials of all kinds may be carted, so as to have them ready when wanted in the spring. Stones should be selected and broken for road-metal, and in most cases it will prove to be an advantage to form heaps at intervals along the lines or roads on which repairs are likely to be made. Gravel should likewise be dug and prepared at the pits, and in some cases carted where it will be required in the spring. Old dilapidated fences of all kinds should either be repaired or removed altogether, and the ground trenched and turned to account, to improve the appearance of the spot. At each and all of these, profitable employment may be found for man and beast when planting and other kinds of work cannot be engaged in.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Castle Howard, York.*

STRAWBERRIES.—Clear all Strawberry plants in pots of dead leaves, top-dress any that require it, and water those that are dry before taking them into the forcing-house; and when a hot-bed is at command plunge them to the rims of the pots. In the absence of a structure specially devoted to forcing Strawberries, the plants may be put in any vinery or Peach-house when forcing is being carried on. A situation near the glass, and not far from the ventilators, is what should be aimed at, to ensure stout flower stalks and good fruit. In such positions, too, they are likely to get the full force of the syringes applied to them twice daily, morning and afternoon, with water of the same temperature as that in the house. Sufficient water to keep the soil in the pots just moist will be all the plants require until coming into blossom. Plants about to bloom should have every provision made for them getting the direct rays of the sun, and an airy position, for the next fortnight at least. A number of the weaker buds may be picked before they open, by way of concentrating the plant's vigour into those left. Some growers maintain a dry atmosphere around Strawberry plants during the flowering period, and assist fertilisation by distributing the pollen with a fine hair-brush; but if any red spider is lurking about, this is the time it has the chance of taking possession, and damaging the foliage, so that fine fruits cannot be expected afterwards. A better plan is to give them dewings with the syringe in the afternoons of bright days when in bloom. Thin the fruits, which will set freely under this treatment, to from seven to seventeen to a plant, according to its strength, and feed liberally with phosphatic and nitrogenous manures. For support to the fruit, nothing is simpler or handier than old worn birch-brooms. A succession of ripe Strawberries may be kept up by taking a batch of plants in to force once a week.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Gardens, Swansea.*

CLEODENDRON THOMPSONI.—Plants of this which have been kept dry at the roots during the winter should now be examined, and sufficient tepid water given them to thoroughly soak the ball; also ascertain if the drainage is in good condition. Any plants that require it should be repotted before they have started into growth; rich fibrous loam, a little decayed manure, and sharp sand should be used. Pot firmly to induce a short pointed growth. Apply water cautiously until the roots have permeated the fresh compost. Keep the night temperature from 60° to 65°, with a rise of 5° or 10° by day. To encourage the plants to break freely, syringe with tepid water. When the plants are required to flower in succession, they may be started at intervals of five or six weeks, according to the requirements. If taken to an intermediate-house when the flowers are commencing to expand, the plants will continue to produce bloom for a much longer period than if kept in a higher temperature. Those planted out in beds should also be examined, and the soil thoroughly soaked with tepid water, afterwards finishing-off with a surface-dressing of loam, decayed manure, and sharp sand. Should the plants be overcrowded, the present is a suitable time for thinning out the old wood.

AMARYLLIS (HIPPEASTRUM).—The earlier portion of the stock of these bulbs should now be started, and the others brought on at intervals of three to four weeks, so as to have a rich succession of flowers extending over a long period. A good compost for Amaryllis consists of two parts rich fibrous loam, one of decayed cow manure, one of peat or leaf soil, and sharp sand in sufficient quantity to keep the whole porous. The pots to be used will depend greatly on the size of the bulbs, but generally a 6 or 7-inch pot will be found large enough for an ordinary-sized flowering bulb. The pots should be thoroughly clean and well-croaked, and over the crocks may be placed some of the roughest of the compost. Before potting the bulbs, it is advisable to clear away the decayed bases of the leaves of last year; and if mealy bug or spider be suspected, the necks of the bulbs may be washed with some weak kind of insecticide. About one-third of the bulb should be above the surface of the soil, and a small quantity of sharp sand should be placed under each bulb, to encourage the emission of roots, and to act as a pre-

servative against injury by damp soil at the base. After potting, which should be done firmly, place the pots in an intermediate temperature, on a warm bed of Oak leaves, over which 6 inches of Cocoanut fibre are placed, plunging the pots to the rims. The heat of the bed may range from 70° to 80°. Syringe the bulbs lightly on bright days, and afford no water before the roots have taken possession of the soil in the pots.

CROWEAS.—To have these plants in flower during the autumn, last year shoots should be cut back to within some 4 inches of where they were cut in last year. Although greenhouse plants, I have always seen them thrive best in an intermediate-house, and in which they should be placed after being cut back, standing them in as light a position as possible, and well up to the glass, so as to encourage the young shoots to grow sturdy. Water should be withheld for several days previous to cutting back; and until the plants have started well into new growth, they should be kept drier at the roots than before the cutting down. Should any plants require repotting, this may be done when the young shoots have made some 2 or 3 inches of growth, using for the purpose for moderate-sized plants 7-inch pots, and for specimen plants 10 or 11-inch pots. The potting soil may consist of good fibrous peat, with sufficient sand in it to keep the soil open.

NEW HOLLAND PLANTS.—*Boronia*, *Gompholobium*, *Pimelea*, *Leschenaultia*, *Darwinia*, and others of that class of plants, should be examined frequently, as if kept in too low a temperature during the winter, they are liable to the attacks of mildew, which, if not noticed in time, will cause the majority of the leaves to fall off, causing much injury to the plants, and sometimes their destruction. Whenever the plants lose their leaves in quantity, it seriously affects the amount of bloom, and weakens the succeeding year's growth. Should there be the least signs of mildew on a plant, lay it on its side, and apply flowers-of-sulphur over every part, especially the under-side of the leaves. This dressing should be allowed to remain on the plant for two entire days, afterward syringing it off with clear water, and keeping them still on their sides till the leaves are dry, so as to prevent the sulphur penetrating the soil and killing the plant. If any of the flowers-of-sulphur should lodge on the surface of the soil, it must be scraped off. In affording air to these plants in winter and early spring, care should be taken to avoid draughts of cold air; and, if possible, the ventilators of the house should be placed on opposite sides, and only those facing the direction from which the wind is not coming, opened.

THE ORCHID HOUSES.

By H. A. BURNBURY, *Orchid Grower, Highbury, Birmingham.*

THE COOL-HOUSE.—*Epidendrum vitellinum majus* is an old favourite, although it is somewhat difficult to manage. The plant adapts itself to no other house so readily as the cool-house, where a light position suits it best, if the plant be potted in good materials and well-drained pans, and liberally supplied with moisture during its season of growth. The same remarks apply to *Odontoglossum Rossi majus*, which is an Orchid that enjoys the coolest house, and where *O. Alexandræ* would perish. This treatment of *O. R. majus* has been proved to suit the plant by many growers, both before and during the last severe winter. I am not quite certain, at this distance of time, but I think I noticed *Epidendrum vitellinum majus* and *O. Rossi majus*, when newly imported, sometimes growing together in the same mass. *Odontoglossum Cervantesii* is another Orchid that likes cool treatment, and it is a useful species, the more recent importations of which have produced some magnificent varieties with colours that vary from the purest white to deep rose-colour, all being more or less barred and spotted. *O. Cervantesii* and *O. Rossi majus* should be grown in pans or baskets close up to the roof-glass. *Ada suraticana* is another lovely and much-valued Orchid, and is, unlike the above, very accommodating, thriving equally well in the cool or in the intermediate-houses, which fact may be utilised to prolong its flowering-season; for example, those growing here in an intermediate-house, are now in bloom, whilst those in the cool-house will flower later. It is a plant that should be grown in numbers, its showy, rich, orange-coloured flowers lasting a very long time in great perfection. The cultivation of the plant is easy, and it admits of

rapid increase. It is not, however, safe to let the warmth of the house in which it stands fall below 45°, when it or other Adas are growing, or the foliage will soon get badly spotted.

THE CATTLEYA-HOUSE.—Plants of Cattleya Trianae should now be making a great show, and I have remarked with some surprise, when I take the character of our last summer into consideration, that all those which have hitherto flowered are decidedly better in quality than the same plants were last year. I have also observed the same improvement in Cattleya Percivaliana, and in some Dendrobiums. Vanda suavis, V. concolor, and their varieties, grow best in this division, and strong plants of these will now be exhibiting their flower-spikes, and consequently may be afforded more moisture at the root. Aërides crispum and its varieties, Lindleyanum and Warneri, and A. Fieldingi (the Fox-brush Orchid), are likewise best grown here, because they get the most light and ventilation.

TEMPERATURES.—The warmth maintained in all divisions may remain as advised on January 6, with the exception of a rise of a few degrees with the increasing sun heat; and let a sufficient quantity of fresh air be admitted daily, with care, avoiding draughts, which check growth and bring other evils in their train. The plan of opening the doors between the houses, when these are in one range, commends itself to me as a good one for ventilating purposes; and, if it can be so managed, the outside air should enter at the coolest house and pass on to the warmer ones through the opened doors. Whilst advocating the letting in of fresh air on every possible opportunity, much caution should be exercised during the next few months, when bright sunshine and piercing winds often go together, and it is better then to lower the warmth in the hot-water pipes rather than open the ventilators.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, Gardener, Barkham Court, Maidstone.

THE MORELLO CHERRY.—This is amongst stone-fruits, perhaps, the most prolific bearer, and it is one that adapts itself better than any other variety or kind to cold situations, consequently it may be planted with every reasonable expectation of success in places and positions where other stone-fruits would fail. Whether it be trained in a fan-shape, and treated like the Peach tree—that is, by laying in as much of the young wood annually as there is room for, or planting it as a standard, it will be found to grow alike well, and produce prodigious crops of fruit.

THE PRUNING AND TRAINING OF THE MORELLO consist principally in cutting out much of the growth which has carried fruit, and laying in shoots of the previous year. These may be laid-in much thicker than is advisable in the Peach, and still with good results; nevertheless, I do not recommend these summer growths to be laid-in at less than 5 inches apart; for, if they are placed closer, the fruits are small. If summer attention has been neglected, and the knife will have to be freely used at this season; and only the stoutest and best placed shoots left. Old trees which have but a small amount of fruiting-shoots at the lower parts and centre of the trees, may have several of the old branches sawn back to a point where these shoots are most required. There is no fear of harm in doing this, the Morello Cherry generally breaking freely.

STANDARD MORELLOS.—These are getting much more common than formerly, but the tree not being a very strong grower, it should not be planted in orchards where stock is turned out to graze. It makes a drooping tree beautiful in bloom and fruit, and whether it be planted on the lawn or in the fruit quarters, it is always much admired.

GRAFTS.—Scions for grafting of the various kinds of fruit trees should now be taken, tied up in small bundles, correctly labelled, and placed in little trenches 5 inches deep; the earth being trodden firm about them. A cool but not shady place should be found for them, so that they be not excited by the sun's heat to push their buds. The scions must be ripened shoots of last year.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

GENERAL WORK.—With the favourable weather we have had, digging will have been pushed forward, the frosty weather in January having allowed the necessary manure to be wheeled on to

vacant quarters. I pointed out in a previous calendar the desirability of deep cultivation of the soil, and affording a change of manure and the rotation of crops. This will apply to Potatoes and other root crops. By getting all land which is vacant into good order betimes, time will be saved in the spring—a great consideration when so much presses to be done. Plots of Broccoli or Borecole now cut over may be cleared of their stems, which may be burnt, and returned to the soil. This is a better way of dealing with these clearings than to throw them into heaps to decay.

HERB BORDERS.—These should be cleaned, and the needful division of the plants performed, for as the present is likely to prove a forward season, the sooner such is performed the better. Much ground need not, in a general way, be occupied with pot-herbs, as when each kind is properly grown, the produce from the plants is equal to that derived from a much greater space. I like to have my herbs near a walk. Mint and Thyme, which are always in demand by cooks, should be more extensively grown. Spear Mint will be largely required in many families for the next few weeks, and it may be forced in any kind of forcing-house or the stove. Tarragon may be lifted for forcing, the older roots being divided into many pieces and replanted. Now is a good time to plant new beds, for, like other plants, a change of ground is beneficial to it. Basil, of both kinds, should be sown for early use—Sweet Basil is nearly always required. Herb seeds should be sown this month, and in frames, if this method be convenient, planting out the seedlings in April. Towards the end of the present month or next, slips or cuttings of Sage, Rue, and Thyme should be planted in firm ground in a sandy compost, and in rows 18 inches apart.

HORSERADISH.—This root well repays good cultivation, and now is a good time to lift all roots that are in the ground, the sorting them, and getting a new bed ready for planting. The large straight roots should be heeled in rows, on a north border for use, and if in quantity, these will furnish the summer supply. In laying-in cover the crown, as if exposed the root deteriorates in flavour, and in dry weather it becomes soft. The smaller straight roots will make the best sets for planting the new bed; these should have the side-growths cut, and be laid-in till wanted for planting. It is hardly necessary for me to point out the importance of new ground for this root; still, if the old bed must be utilised, it should be deeply trenched, taking care to remove every bit of root, and putting in plenty of rich manure. Planting should take place as soon as the ground is in condition to tread upon; a dibber of wood or iron should be used, and the sets placed 3 inches below the surface. The ground after planting should be levelled with a rake, which will fill up the holes. Rows of Horseradish should be 2 feet apart, and the sets in the row 1 foot. As soon as growth is a few inches high, remove all side-growths, leaving only the strongest one; this will in a great measure assure unbarbed roots.

RHUBARB.—Where much Rhubarb is forced, annual plantings must be made, and that for forcing should be grown in a warm part of the garden, so as to get ripened early in the season; it is also best to have small roots in preference to large ones, so that frequent removal becomes a necessity. Division of the large masses should now take place, planting the divisions in well-manured ground in rows 4 feet by 3 feet, taking care that each root has a good strong bud. After planting, afford the land a mulching of decayed manure or leaf-mould, and in the event of hard frosts, throw some Fern or straw over the crowns. No stalks must be pulled—at least, not in the spring.

JERUSALEM ARTICHOKE.—These roots should now be taken up, and the larger ones selected for use, and covered with soil. I prefer to keep Jerusalem Artichokes covered in the open ground, to keeping them in dry sheds in sand where they soon shrivel, and become almost unfit for the table. The middle-sized tubers may be placed thickly together, and covered with soil until planted. Give the crop fresh land, and prepare it by trenching and manuring. Some heavy materials may be added to land that is light; and half-rotted leaves, sand, and lime-rubbish, burnt earth, or road-scrapings to clayey soils. Plant in rows, 2 feet apart each way, or have the rows 3 feet apart, and the sets at 18 inches in the rows.

POTATOS.—Examine tubers stored in dark places, and bring them to the light; indeed, Potato sets are better at all times for free exposure. If space allows,

place them in a single layer so as to induce a short stumpy growth of shoots; and if shallow boxes can be spared, much time is saved by placing the tubers in them, with the eyes at the top. Any sets that require to be cut before planting should be so treated at once, in order that a strong eye or bud may start from each.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

CANNAS.—These are becoming very popular for bedding, and old plants which were lifted from the beds last autumn and then stored away in boxes of dry sand, should now be brought to the potting-shed and the best crowns selected. These should be put into boxes or pots, using a light rich compost, and placed in a vinery or Peach-house to start them steadily into growth, and by planting-out time they will be well-established, and make a good show at once. Young plants resulting from seed sown to be sown early last month will now require potting into small pots, using a mixture of three-parts light sandy loam and one of sifted leaf mould and horse droppings. Return them to heat, and water to settle the soil. Shift into larger pots as occasion requires to prevent the roots getting pot-bound before planting-time arrives. These seedling plants being comparatively small, should not be intermixed with those raised from seed last year, but might be used as an edging to them.

DAHLIAS.—Dahlia roots should now be taken out of their winter quarters, and placed closely together (with the labels attached) on the floor of a forcing-house, or any other convenient and suitable place, with a little light mould put around and amongst them. As soon as they have made shoots about 2 inches long, these should be taken off with or without a slight piece of tuber attached, and inserted singly in small pots filled with sandy mould, watered, and then plunged in a hotbed. If only a few plants are required, they may be plunged a few inches deep in sawdust, placed in hand-lights somewhere in heat. Shade from sunshine for a few hours daily until the cuttings are rooted, and the young plants be gradually hardened off between then and planting-out time—the end of May or early in June.

LILIUM AURATUM, and many other Lilies usually grown in pots, do equally well planted out in herbaceous and shrubby borders, with full exposure to the sun. They also do well, and show off to great advantage, when planted in recesses in the margins of beds and borders planted with Rhododendrons, and such like plants. But in this latter case, it will be advisable to plant the Lilies in large efficiently-drained pots, filled with a compost consisting of three parts fibry loam, and one of peat, leaf mould and horse droppings, and sharp sand, and buried in the soil. This will prevent the roots of the ordinary occupants of the beds from intermixing with those of the Lilliums. The bulbs should be planted this month in warm districts, and early in March in places less favourably situated as regards soil and climate.

PLANT PORTRAITS.

ACER PALMATUM VAR. *AOKII*, *Gartenflora*, t. 1363. —A form with finely divided leaves, variegated with pink and cream colour.

ANOUOLA UNIFLORA VAR. *TREVERANI*, *Lindena*, January, t. 310; a variety in which the transverse bars at the base of the lip are more developed than usual.

APPLE ANTONOOKA, *Bulletin d'Arboriculture*, &c., January. The most highly-esteemed Apple in Russia. It is a globular Apple, of medium size, deeply depressed at each end, and of a lemon yellow colour, like that of Calville Blanche. Flavour, sub-acid. It is a valuable Apple for cold countries.

CARNATION KETTON ROSE, *Garden*, January 16.

CHRYSANTHEMUM M. GEORGES NEXT, *Revue de l'Horticulture Belge*, February 1. Japanese, florets ruddy bronze, golden yellow on the reverse side.

CYPRIPERIDIUM VEXILLARIUM X, *Lindena*, January, t. 309.

FUCHSIA TRIPHYLLA, *Garden*, January 9.

LELIA GRANDIS VAR. *TENEROSA*, *Orchidophile*, December, 1891.

MORMODES BUCCINATOR VAR. *ACRANTICA*, *Illustration Horticole*, t. 144.

ODONTOTOLOSUM CRISPUM VAR. *XANTHOTES*, *Lindena*, January, t. 312.—A variety in which the sepals and lip are white, with yellow blotches.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, FEB 18 { Linnean Society.
Brighton and Hove.
Chrysanthemum Society.

SATURDAY, FEB 20 Wakefield Paxton Society.

SALES.

MONDAY, FEB 15 { Carnations, Hollyhocks, Peonies,
&c., at Protheroe & Morris' Rooms.

TUESDAY, FEB 16 { Nursery Stock, at Horsell Birch
Nurseries, Woking, by Protheroe & Morris.

WEDNESDAY FEB 17 { Greenhouse Ferns, Roses, Azaleas,
Carnations, Daffodils, &c., at
Protheroe & Morris' Rooms.
Orchids at the Orchid Nurseries,
by order of Messrs. Seeger &
Tropp, by Protheroe & Morris.
1000 Choice Roses, Fruit Trees, &c.,
at Stevens' Rooms.

THURSDAY, FEB 18 { Nursery Stock Sale, at the Nur-
series, Wansstead Flats, by Pro-
theroe & Morris (two days).

FRIDAY, FEB 19 { A Grand Importation of Orchids,
at Protheroe & Morris' Rooms.

SATURDAY, FEB 20 { Border Plants, Liliums, Fruit
trees, &c., at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—39°·2.

The Royal Horticultural Society.

WHAT a difference the annual meeting of the Royal Horticultural Society on Tuesday last presented from some of its predecessors! In the old South Kensington days, horticulture had to take a second place. Horticulture then was very much in the same position that landscape gardening is now in the opinion of some architects. Then followed a dismal period—lively enough, indeed, for those who had to take part in it, but dismal enough for those lookers on who had the higher interests of horticulture at heart.

The fog end of these times was the period of "internal heat," of which Professor FOSTER spoke the other day. These were the times when individual members of Council came straight from the Council-board to us, and doubtless to our contemporaries—not, indeed, to reveal secrets—they were gentlemen—but to retail the latest squabbles, and make complaints about the acerbity of this man, the masterfulness of that, to narrate how So-and-So was ruining the Society, and turning it into a Cremorne, and so on, and so on. We do not wish to be boastful, but we may take some credit for the fact, that editorial discretion at that time prevented many things from being worse than they were. All this is happily a "by-gone." The editorial sanctum is no longer invaded by councillors anxious to ventilate their own special nostrums, or to make complaint against those who were advocates of a different panacea. Ever

since the principle was laid down that horticulture was the sole, or, at least, the essential, business of the Royal Horticultural Society, things have gone better, and the Society has risen in public estimation. It is not the interests of prize-loving exhibitors, not the welfare of traders, not the whims and caprices of mere pleasure-seekers that the Royal Horticultural Society has primarily to do with. These things are all well enough, and unobjectionable if kept within due bounds, but neither of them singly nor a combination of all of them, can be urged as anything but very secondary objects for the Royal Horticultural Society.

At the annual meeting held on Tuesday last, the President, Sir TREVOR LAWRENCE, was jubilant in commenting on the report, as published in our last issue. Right glad are we that he should be. The President took office at the dismal period, he maintained even away during the period of "internal heat." During evil times, as in better ones, he has stuck to the Society with undiminished interest, and with an impartiality that has never been challenged. We rejoice that, at last, it is his good fortune to be able to say that "the affairs of the Society are in a thoroughly satisfactory condition." Of course, there are the usual grumblers and sun-spot students, but they did not make themselves heard on this occasion; and, although they perform a useful office, we may leave them out of consideration at the present moment.

The main facts elicited at the meeting were that the number of new Fellows has greatly increased—no fewer than sixty-seven were elected on Tuesday; the income, too, has increased. The *Journal* has been published with greater regularity, and meets with great approval. How different from the old times, when no one applied for their copies, and the publication was for the most part a sheer waste of money and energy, in spite of the fact that its contents, even then, were not so greatly inferior to what they are now.

The Drill Hall came in for its share of animadversion, but as the scheme for building a new Hall is for the moment in abeyance, and no better site offers, it must be put up with for the present. The thanks offered to the committee and lecturers have been well earned, and the same may be said of the Council, and specially of the indefatigable Honorary Secretary. The Conferences were alluded to as satisfactory, and the Conifer Conference as having "eclipsed all its predecessors." Remembering, as we do, the first Orchid Conference, the Primula Conference, that devoted to Roses, and some others, we think the President's praise very high praise indeed. Unhappily, the weather was simply atrocious, and so the general public had little opportunity of seeing what was done or of appreciating the labour spent in its behalf.

The relation of the Society to such matters of public importance as fruit culture—and the promotion of technical education was alluded to. We can but express our wish that the Society will on all occasions promptly assert itself in all such questions, and render unnecessary the host of special societies, which sap the vitality of the parent Society, and entail such a wasteful expenditure of energy and financial resources. All these should be sections of the Imperial Society, working for and with it, but each endowed with home rule and the liberty to manage its own affairs in its own way as far as consistent with the welfare of the central body. Why, to pursue our subject, should the Society of Arts monopolise the arrangement of affairs connected with the

Chicago Exhibition? Surely the Royal Horticultural Society is the proper body to undertake the supervision of matters relating to horticulture.

The renewed offer of money prizes is a conciliation to the weakness of frail human nature. Such prizes constitute one of the main objects and reasons for existence of the special and of all the local societies, but are of far less consequence in the case of a body whose duty it is to advance horticulture rather than gratify individual ambition, or satisfy less honourable, however legitimate, proclivities.

Ultimately, the adoption of the Report was proposed by the President, seconded by Baron SCHRODER, and carried unanimously. In the discussion which followed, Professor FOSTER reiterated the praises of the *Journal*, alluded to the difficulties of the education question, but thought that the matter, including that of examinations, was one which the Council should take up. Coming from such an authority, this expression of opinion was specially valuable.

Some formal business was then got through, and eventually a vote of thanks to the President and officers was proposed by Dr. HOOG. No words were necessary to explain or enforce the resolution, for never certainly within the last quarter of a century, has better work been done by any Council. No wonder the vote was unanimous.

The Gardeners' Orphan Fund.

It is a matter of great satisfaction to those who, like ourselves, were present at the birth of this institution, and who have watched its career to the present time, to find that it is steadily making its way. Its finances are surely progressing; the number of children who are benefitting by it is increasing in proportion, so that now, after less than five years, no fewer than fifty are on the books. Considering how short is the time since the inauguration of the Fund, these results are very satisfactory. In spite of severe losses, the executive committee has managed to continue its beneficent work in a manner to command the gratitude of the subscribers. The votes of thanks which were passed to the officers and the local secretaries at the annual meeting on Friday last will be taken up warmly by those at a distance. The Chairman of the Committee is Mr. WILLIAM MARSHALL, who is also the Chairman of the Floral Committee, and who is in both capacities emphatically the right man in the right place. The Secretary is Mr. A. F. BARRON, the ever-popular Superintendent of the garden of the Royal Horticultural Society at Chiswick. This connection of the Royal Horticultural Society and of Chiswick with the Gardeners' Orphan Fund, though quite informal and accidental, is also in accordance with the fitness of things. Perhaps it might be possible to inaugurate a Strawberry *fête*, or a Rose *fête*, with the adjunct of music, at Chiswick, as well as at the Crystal Palace, some day in the forthcoming summer, for the benefit of the Fund. But whether this be feasible or not, it is evident that no reasonable means must be left untried to increase the annual income, and to accumulate a sufficient reserve fund to meet possible contingencies. Actuarial calculations would show what proportion the reserve fund should bear to the income, and specially to the liabilities. The extremely low rate of subscription, again, is a matter which must surely soon attract the attention of the governing body. As it is, the working expenses must of necessity bear a very large proportion to the receipts. The secretarial work, for instance, which must be very heavy, would be no heavier were the present subscrip-

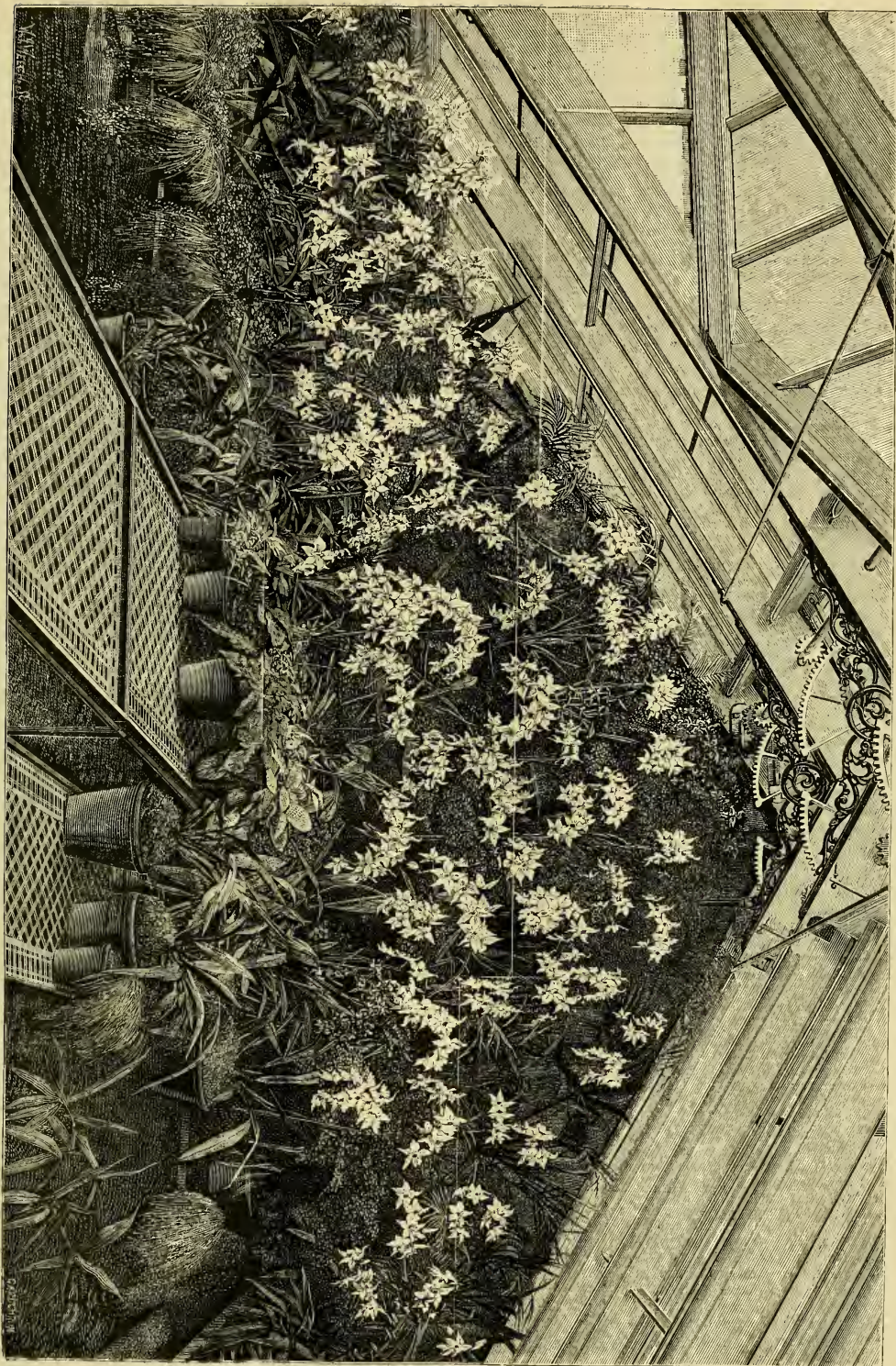


FIG. 31.—A GROUP OF SNOWDROPS, GROWN AT MR. HUGH ST. JOHN'S, WESTMOUNT, GLASGOW.

tion rate doubled. There are many, we are confident, who would not object to raise their subscription from 5s. to 10s., whilst the Fund would still gladly continue to receive the help of those who would prefer to contribute at the lower rate. At the meeting, something was said as to the propriety of increasing the number of gardeners—meaning, presumably, private gardeners—on the executive committee. No doubt, it is an excellent principle, that this class should be specially well represented. When it is remembered that all the local secretaries are *ex officio* members of the committee, and that of these gentlemen (nearly sixty in number) almost all are practical gardeners, it becomes evident that principle and practice are in fair accord.

A GROUP OF ODONTOGLOSSUMS.—Our illustration, Fig. 31, shows a group of *Odontoglossums*, presumably *O. crispum* and its varieties, as seen when at their best in the garden of HUGH STEVENS, Esq., Westmount, Glasgow. There are persons of refined tastes who are proud of possessing a collection of show or fancy *Pelargoniums*, whilst others have a fancy for *Asiaticas*, *Tulips*, *Pansies*, *Dahlias*, or *Carnations*, and each is equally at liberty to prefer his pet subject before all others. In *Odontoglossums* Mr. STEVENS has found his particular fancy, and if we may judge from the excellence of the plants shown in our engraving, he has got a gardener who knows how to treat them.

LINNEAN SOCIETY.—At the meeting held at the Society's room on Thursday, February 4, Professor STEWART, President, in the Chair, a letter was read from General Sir DIGNTON PROBYN, conveying the thanks of the Prince and Princess of WALES for the expression of condolence with their Royal Highnesses in their severe bereavement, which had been forwarded by the President on behalf of the Society. Mr. JOHN RATTRAY was elected, and Mr. W. H. BLAKE was admitted a Fellow of the Society. Mr. F. N. WILLIAMS read a paper on "The Genus *Dianthus*." He pointed out that *Velezia*, *Dianthus*, and *Tunica* form a natural group of genera distinguishable from the *Silene* group by their seeds, which have a facial hilum and straight embryo. *Velezia* may be distinguished from *Dianthus* and *Tunica* by having half the number of stamens. There are, however, three characters to be relied on in distinguishing these two genera:—(1), the presence of an epicalyx of bracts; (2), the number of nerves to the calyx; (3), the junction of the claw with the blade of the petal. This last character was regarded as distinguishing very clearly *Dianthus* from *Tunica*. In *Dianthus* the blade of the petal is abruptly narrowed into the claw, so that the two are distinct; in *Tunica* the transition is gradual. Mr. WILLIAMS was of opinion that the species of *Dianthus* might be arranged in three natural groups (subgenera):—(1), in which the flowers are numerous and clustered, as in *Sweet William*; (2), the largest group in which the flowers are few, and usually solitary on the branches of the stems, as in *Carnation*; and (3), a small group intermediate between *Tunica* and the true *Pinks*, and corresponding with the genus *Kohlruschia* of Kunth. The number of species recognised by Mr. WILLIAMS in this monograph amount in round numbers to 250. At the evening meeting, to be held on Thursday, February 18, at 8 P.M., the following papers will be read:—1, on "Bud Protection in Dicotyledons," by PERCY GROOM, F.L.S.; and 2, "Revision of *Colensoa* New Zealand Hepaticæ," by F. STEPHENS.

ROYAL GARDENS, KEW.—As an appendix to the *Kew Bulletin*, has been published a list of seeds of hardy herbaceous plants, trees and shrubs available for distribution by means of exchange among the regular correspondents of the garden. None are sold. An index to the five volumes of the *Kew Bulletin* has also been issued.

Ghent QUINQUENNIAL EXHIBITION OF 1893.—The programme of this Exhibition will appear in

March, when it will be seen that some important alterations are contemplated, special attention being given to growing plants and Orchids. The Exhibition of 1893 will contain some new features of much interest to the horticultural world.

INTERNATIONAL HORTICULTURAL EXHIBITION AT EARL'S COURT.—On the invitation of Mr. H. E. MILNER, a large number of leading horticulturists were entertained by him at luncheon at the Hotel Windsor on the 9th inst., among those present being Messrs. William Paul, W. Bull, H. Williams, H. M. Pollett, H. Cannell, F. Q. Lane, W. Marshall, H. Turner, A. Turner, J. Smith (Mentmore), G. Wythes, B. R. Cant, John Lee, P. Barr, G. T. Miles, E. O. Greening, J. Hudson, R. Dean, B. Wynne, &c. After luncheon, Mr. MILNER, who presided, made a statement to the effect that the land at Earl's Court is the property of the District Railway Co., that Baron Reuter and Colonel North have an interest in it, and it was their desire that an important exhibition should be held during the coming summer. Something was wanted, and it was proposed that it be illustrative of different features of practical horticulture. The promoters he had named would provide plenty of funds. Possession would be taken of the ground on Thursday next, and operations commenced at once. It was his desire that the scheme should be upon the broadest grounds, and be taken up warmly. Several distinguished foreigners had accepted invitations to be present, and many leading horticulturists had promised their assistance. No liability would attach to those who formed the Committee. An immense amount of work would have to be got through in a short space of time, as the exhibition must be opened on May 7. Mr. Milner made an appeal for the co-operation of all present. A number of questions were asked, and the following resolution, proposed by Mr. William Paul, and seconded by Mr. McKellar, of Sandringham, was carried unanimously:—"That this meeting of representatives of leading nurserymen and gardeners of the United Kingdom desires to express their appreciation of the objects of the International Horticultural Exhibition, and promises to do what they can to secure its success, and also extend a cordial greeting to their continental friends." Several of those present gave in their names as members of the committee, and the proceedings closed with a hearty vote of thanks to Mr. Milner for his hospitality.

BRIXTON, STREATHAM AND CLAPHAM HORTICULTURAL SOCIETY.—At the Annual General Meeting of this Society it was decided to hold the Autumn Show on November 1 and 2, at the New Town Hall, Streatham. A pleasing incident at the meeting was the presentation by exhibitors of the Society of a handsome salad bowl, fork and spoon, to the Hon. Sec., Mr. W. RUFFELL, with a hearty vote of thanks from the members for his services during the past year.

SOUTH AFRICAN FRUITS.—There were further sales of fruit from South Africa at Covent Garden on Wednesday, Feb. 10, the Union Steamship Company's mail steamer *Tartar* having brought home in refrigerators a consignment of Peaches, Tomatoes, Grapes, Cucumbers, and Pine Apples from Cape Colony and Natal.

THE NATIONAL DAHLIA SOCIETY.—The annual meeting of members took place at the Horticultural Club, Hotel Windsor, on the 9th inst., Mr. E. MAWLEY in the chair, there being a good attendance of the leading growers and exhibitors. The annual report set forth that the reduction in the amount of subscription paid by members, while it had operated to bring about an increase in number, had reduced the amount received from this source, though only slightly. The annual exhibition, held at the Crystal Palace on September 4 and 5 last, was an extensive one: more blooms of the show and fancy types of Dahlias were staged than at any time since 1887; while the Cactus, decorative, and single varieties had greatly increased in quantity. The commencement made last year of com-

piling and publishing in the schedule a list of true Cactus varieties, resulted in the addition to the society's exhibition of a beautiful and attractive feature; this list will be revised and added to, for service in the ensuing season. The Society has to deplore the loss of one of their Vice-Presidents in the person of Mr. HENRY GLASSCOCK, late of Bishop's Stortford, who for some years occupied the position of amateur champion of the Dahlia world, and cultivated all the types with great skill and success. The financial statement showed that the sum of £71 3s. 6d. had been received as subscriptions and donations; the sum of £50 from the Crystal Palace Company; and the balance of £31 17s. 7d., brought over from last year, made a total available income of £153 1s. 1d. On the other side, £130 7s. had been paid as prizes; printing, &c., amounted to £15 4s. 8d., and small disbursements left a balance of £22 8s. 10d., with unpaid subscriptions amounting altogether to £7 7s. The report and balance sheet were adopted, and ordered to be printed in the usual way. The annual exhibition of the Society will take place at the Crystal Palace on September 2 and 3. Some revision of the privileges given to subscribers was made; tickets of admission will be given *pro rata* to the amount of subscription paid; and, for the first time, members will receive a copy of the official report of the Dahlia conference held at Chiswick in 1890. It is subscribers only who can compete for prizes at the annual exhibition in September. The Vice-Presidents were re-elected, with the addition of the names of Messrs. S. BARLOW, JOHN DOWNIE, and G. H. ST. PIERRE HARRIS. The members of the old committee were re-elected, with the addition of Messrs. A. RAWLINS, F. GLASSCOCK, T. VAGO, and G. PHIPPEAN. An offer of two Turner memorial prizes of £5 each from the trustees of the fund was accepted, and also a *Gardeners' Magazine* medal from Mr. Geo. GORDON. A vote of thanks to the chairman brought the proceedings to a close.

THE OLDEST EXISTING VARIETY OF POTATO IN IRELAND.—Although the last century, and up to the famine times in the '40s, there were some very fine varieties of Potato in the south of Ireland, purely native raising, but whose raisers names are now unknown. The most famous were Quarries and Mignons, the Quarries being the chief food with the people during early summer and harvest; the Mignons, as a main crop, occupying the same attention then that the famous Scotch Champion does at present. Mr. BAYLOR HARTLAND, who sent some samples of Quarries to us, says, "There was no better variety grown during his time, and he can remember Irish Potatoes fifty-two years ago; and he knows that Quarries were in cultivation for one hundred years previously." In fact, he asserts that "Quarries" and "Mignons" were the staple food of the Irish peasantry that formed the bone and sinew of Wellington's Irish troops. We understand the quantity of seed is limited, and only last year the variety was re-discovered in a remote part of the co. Cork, in the possession of a small farmer whose land consists of dry peat resting on limestone. He further states that it is the oldest known Potato in Ireland at present in cultivation. We should like to hear of the oldest variety in cultivation in England or Scotland. Some of the tubers, which we cooked in the usual manner—i.e., peeled—were very heavy, close-grained, slightly mealy outside, and dry within. The flavour is that of boiled Chestnuts, which was the more readily remarked, as our new varieties are mostly flavourless.

THE CHARING CROSS EMBANKMENT GARDEN.—We observe that a bandstand is in process of erection, from which we infer that the laudable practice of gratifying Her Majesty's poorer subjects with occasional musical performances is to be continued. We trust that the occasion will be seized to do away with, or, at least, re-construct some of the silly and purposeless flower beds, the design of which is about as bad as it could be. It would be a great

improvement, also, if the *Euonymus* bushes, dotted about on the lawns, were removed. At present, they are eyesores, and they destroy the sense of space and repose (we use the words in a landscape gardener's sense), which was apparent, even in such a small area as the embankment garden before the lawn was needlessly cut up with these obstructions. It is too late to protest now, but could not those who are responsible for the pruning of the flowering shrubs, see that the work of pruning is so carried out that some, at least, of the flowering shoots are left for the delectation of the citizens.

APPLE GRAFTS.—We are requested to publish the following note:—"We have at present at Chiswick one of the largest (if not the largest) collections of Apple trees in the world. There are, however, a number of good sorts scattered here and there throughout the country, and but very little known. The Council of the Society invite the owners of such comparatively unknown sorts to send grafts of them with name, locality, age of tree (if known), and any other particulars, to Chiswick, for trial alongside of the standard collection. Grafts should be addressed, Superintendent, Royal Horticultural Society's Gardens, Chiswick.—W. WILKS, Secretary, Royal Horticultural Society."

THE JERUSALEM ARTICHOKE.—We have so often recommended our cultivators to grow this plant under glass for the purpose of procuring seedlings and improved varieties, that we were pleased to find that Messrs. VILMORIN have succeeded in obtaining seed from Corsica, and according to the *Revue Horticole*, have already secured one or two varieties which are improvements upon the ordinary form.

ENGLISH ORCHID COLLECTIONS.—The last number of the *Journal des Orchidées* contains an eulogistic account of the collection of Sir TREVOR LAWRENCE, from the pen of M. LECIEN LINDEN.

DEVON AND EXETER GARDENERS' ASSOCIATION.—On Wednesday, the fortnightly meeting of members of the Devon and Exeter Gardeners' Association was held at the Guildhall, Mr. G. D. CANN, Hon. Secretary of the Exeter Horticultural Society, presided, and there was a good attendance. The subject for discussion was, "How to Grow and Show Vegetables for Exhibition," a paper on that subject having been prepared by the Rev. A. H. CRUWYS, Rector of Cruwys Morchard, near Tiverton. Unfortunately, Mr. Cruwys' medical advisers would not sanction his being out-of-doors in the evening, and Mr. HORE, Hon. Secretary, therefore, at the essayist's request, read the paper. The paper treated of the Potato, the time for planting it, how to grow tubers for exhibition, &c.; then came papers on Beetroot, Turnips, and ending with a list of what may be called exhibition varieties of the above roots.

NATIONAL ROSE SOCIETY.—We are informed by the honorary secretaries of the National Rose Society that the following exhibitions of Roses, in the current year, have been decided on, viz., a show of Tea Roses at the Drill Hall, James Street, Westminster, on Tuesday, June 21; the Metropolitan Show at the Crystal Palace, on Saturday, July 2; and the Provincial Show, at Chester, on Thursday, July 14. The date of the annual dinner of the Society is fixed for Tuesday, June 21, at the Hotel Windsor, Victoria Street, S.W.

STEPHAN L. ENDLICHER.—We read in the *Illustrirte Garten Zeitung* for last month, that this celebrated botanist, who died in 1849, is to have a memorial tombstone, which will probably be erected somewhere in, and at the expense of the municipality of, Vienna, the city of his birth.

BELGIUM.

ORCHIDS AT BRUSSELS.

THERE may be seen, in the houses of M. Peeters, a very fine lot of *Cypripedium* raised by this skilful orchidist. *Cypripedium* × *Senateur Montefiore*, a

cross between *C. marmorophyllum* and *C. Spicerianum*, the new hybrid, is remarkable for its size, form, and the snowy white dorsal sepal, which is very large, spreading, and (after a time) curling up like a sugar-paper; the mid-rib is plainly marked by a purple line; the base is rather bright, clear green. The rest of this handsome flower is green, more or less tinged with bronze, especially over the two petals which spread widely and are fringed at the upper edge. The lip resembles that of *C. marmorophyllum*; the staminode is wavy; the centre green surrounded by a pretty shade of purple; and the edge white. The leaves are short, broad, and green slightly marbled. *Selenipedium leucorrhodum*, white in colour; a fine variety of *S. candidulum*; *Cypripedium nitens superbum*, well bloomed, with many and distinct purple spots; *Laelia anceps alba*, with strong sepals, and petals ivory white in colour, and *Odontoglossum Humeanum*, deserve to be specially signalled out among the Orchids now in bloom in M. Peeters' establishment. *Ch. de B., Liège.*

AMATEURS' NOTES.

THE CULTURE OF ODONTOGLOSSUM (CRISPUM).—There are but few of the *Odontoglossum* plants that possess so much of beauty as does a well-grown plant of *O. crispum* when in flower. Much has been written about its fascinating charms, its habits, its culture; and I think its renown is everywhere known. Experts and novices have repeatedly given us their opinions respecting its merits. The Press has paid considerable attention to it, and has directed the notice of the public to its superlative qualities. Financiers and speculators have reaped golden harvests as the result of good importations, and much good has been done, and much benefit derived from such "labours of love." Any one with means can buy a dozen or two plants of it, and at the same time have the history of its cultivation, gratis, from the salesman, if necessary, but, alas! how often is the result failure!

Perhaps the best method of purchasing *Odontoglossum crispum* is to buy the imported bulbs at one of the London sales. In my experience this has been the most satisfactory, and to any one who knows how to treat the imported masses after he has procured them, I would say by all means buy imported bulbs.

Assuming that we have before us an importation of the pseudobulbs just unpacked from the case—ugly, worthless-looking things they are—and we wish in twelve months' time to transform these "dry bones" into living, beautiful plants, perhaps bearing in some cases two or three spikes of their lovely blossoms; how are we to set about it? First, then, wash the pseudobulbs very carefully in tepid water, so as to thoroughly cleanse them from all parasites, both insect and fungoid, which are almost certain to be there, cut away all dead roots, bulbs, leaves, &c.; in short, make perfectly clean. In the shady cool end of the stove spread a mat on the stage, and on the top of this a layer of broken crocks, washed and perfectly clean; place the cleansed masses of bulbs base downwards on these, and syringe several times a day, being ruled by the intensity of the brightness of the weather. The rays from the sun must be shaded off with fine straw paper, gradually admitting more light as the young growths make their appearance.

When the rootlets appear, and before they attain any size, and the growths are beginning to nicely develop themselves, remove the masses into pots of suitable size, three parts filled with clean crocks and a few lumps of charcoal, place one or two lumps of very fibrous peat on the top of this, as close as expedient to the young rootlets which are forming. Let the bulbs lie rather loosely, but upright, on this, until they have forced their roots into the material, syringing periodically as they develop. After a time press firmly and carefully into the pot other pieces of fibrous peat so as to form a mound around the pseudobulbs, at the same time taking care that the bulbs rest on the summit—as nearly as possible—of

the mound, and plant over with fresh green sphagnum. At this stage they can be moved into a cooler temperature. The sphagnum must always be kept fresh and green; in order to accomplish this, rather plentiful supplies of water must be given. As long as the sphagnum is in good condition, the plant itself is certain to be right; the sphagnum should never be allowed to become dry. After the first leaves are fully developed, they may be moved into their proper quarters in the cool house, and grow on there, giving them plenty of moisture and ventilation. In all probability many of them will flower the first year.

This mode of treatment is about the most successful, and one that never fails. After the plants are established, nothing is required but the necessary ventilation, watering and syringing. In very bright weather they should be lightly sprayed over with the syringe at least four times a day, and the floor of the house should be kept constantly damp. Plenty of water must also be supplied, if the drainage is in good order, and the potting compost is of a porous nature. Too much water can scarcely be applied; at least, such is my conclusion after six years' constant experience with this lovely class of plants. When they grow too large for the pots in which they have been established, they must be carefully moved into a larger size. When any of the pseudobulbs decay, they must be carefully removed with a sharp knife. *C. H. B.*

HOME CORRESPONDENCE.

BRITTLE TIMBER.—In the issue of the *Gardeners Chronicle* for January 30, p. 152, "T. S." wants to know which of the statements is correct, "That the slower the growth, the more brittle; and that the quicker the growth, the stronger the timber." No doubt there are different opinions regarding this question, but my experience is that the quick-grown timber is the best. Let us take the common Ash, for example. For many years I have realised 1s. 6d. per cubic foot for quick-grown strong elastic stuff, fit for handle wood, car shafts, pig shafts, and a variety of other purposes in connection with coach building, where strength, elasticity, and durability are indispensable. On the other hand, slow-grown stuff, of the same kind, only averaged, as a general rule, 1s. per cubic foot, but extra good trees of this class of timber sometimes realised as a top price 1s. 3d. per foot. Slow-grown timber, no doubt, is of a hard, dry, firm texture, but it is wanting in elasticity, as compared with quick-grown trees of the same age. A good deal also depends upon the class of soil where the trees have been grown; hard, dry, rocky ground, composed principally of inorganic matter, produce dry, brittle timber with a short grain, as compared with trees of the same species and age produced upon ground of a softer texture, and well mixed with combustible matter or clay. Tradesmen who use large quantities of timber are generally pretty good judges, and this accounts for the difference in price. *J. B. Webster.*

APPLES, HOME-GROWN.—Speaking of Apples, brings me to A. D.'s article (p. 118). His proposition to submit samples of American and home-grown to the Fruit Committee of the Royal Horticultural Society for the purpose of comparing, determining, and testing their relative domestic values, would be, I venture to say, of little or no value whatever; and this for very obvious and paramount reasons, which will occur to none more readily than the Committee in question. Having lived in the States for several years, with ample opportunities on the spot for purposes of comparison, my own impression is that, barring two or three varieties, our best English Apples are far ahead either for culinary use or dessert. Regarding colour, "A. D." has, I think, overstated the value of this to one-half, as the American view. What percentage of value would "A. D." or even the Americans themselves, attribute to colour in such varieties as Rhode Island Greening, Northern Spy, Gravenstein, and Newtown Pippin? All standard fruits, and readily cleared at remunerative prices in all the American markets. Quality, size, and evenness of sample are the chief points upon which growers rely to command, and hold the market, at top prices. That our home-grown crops are badly stored.

sampled, and marketed, there cannot be much doubt; that there are one-half too many varieties, and some of very inferior quality is patent to all. To reduce these by some means or other ought to be the first task of the Royal Horticultural Society, whose influences for good, in matters horticultural, is happily now rapidly extending. We have many first-class Apples in this country, that will vie with the best of foreign growth, for flavour, size, or colour; and as a guide to intending planters, of small or large areas, a condensed list ought to be compiled of the most superior varieties, only of the two classes into which we usually divide them, i.e., dessert and kitchen, and this list sown broadcast over the land. The more condensed the list the better, and to meet the varying climatic conditions of these islands, which are, after all, more apparent than real, need not, at the outside, exceed twenty varieties, although twelve or sixteen would doubtless be found quite ample. If this were done, and determinedly stuck to, everyone concerned would be gainers thereby, and none more so in the end than our large fruit-tree nurserymen, from whom, at least on first thoughts, we should expect the most persistent obstruction. Our nurserymen, however, are progressive men now-a-days, and a moment's reflection will speedily prove why, and where they would be special gainers. But why continue growing kitchen Apples? Superstition—and in this connection it amounts to this—dies hard. By kitchen or culinary Apples in this country we generally mean those varieties which are deficient in saccharine juices, and being unfit to eat in a raw state, we relegate them to the kitchen to be cooked, and supply the deficiency by added sugar, before eating—a procedure at once uneconomical and far from healthy. By giving our best dessert varieties, in their hundreds of thousands throughout the land, a revulsion of feeling would soon set in against all those varieties the juices of which were found below the adopted standard of quality; and I cannot here too strongly impress upon all those who do not know, or who have never tried, that our best dessert varieties are also by far the best to cook. Amongst the chief reasons—some of which I must candidly admit, deserve the fullest consideration—which can be advanced for the retention of at least the best of our too numerous kitchen Apples, are 1st, their earliness; 2nd, their heavy, and in some varieties sure-cropping qualities; 3rd, their general large size; and lastly, the length of time some may be kept in sound condition. At any rate, I must ask your readers in general, and the Fruit Committee of the Royal Horticultural Society in particular, to bear steadily in mind, that the comparatively few varieties grown by the Americans, and which are unanimously admitted to be the best for their climate, have been so obtained through the most determined and rigorous clipping and condensing of lists, carried out by the leading fruit and farmers' associations throughout the Union for a period of twenty years. The Americans are now quite satisfied with the work accomplished, and with the results, amply evident in the enormous quantities with which they yearly fill our markets, chiefly of varieties the number of which may be counted on the fingers of one hand. Are we, then, to be aboving taking a leaf from their book? I sincerely hope not! If knowledge is power, then, by the shades of all the good Apple trees, let us apply it. Let us lay the axe to the root of all those be-lichened, be-garled, worthless and unprofitable Apple trees which cumber the ground, and rob their better brethren in too many dilapidated man-of-gotten orchards in this country; let us ruthlessly tear them from the ground, top and branch, root and bole; let us consign them to a smouldering fire, whose ashes—the best legacy they have left us—will help compensate our labour, and begin afresh, for never in the history of our country was the need greater, or the time more opportune. *Pomum.*

BIGNONIA VENUSTA.—My experience of this club is that it is an exceedingly showy plant when in bloom; but in the cut state it is useless, the blooms lasting but a very short time. We used to grow it here in a house mainly devoted to Gardenias, and which was not kept at a high temperature. The Bignonia grew remarkably well and flowered profusely every January; but owing to its uselessness in a cut state, the plant was cut out to make room for something else more useful. *L. M.* [What a pity! En]

AMATEURS' GARDENS.—I was pleased to read the good advice you gave to the amateur (p. 144) as to the management of the indoor department of his

garden. My experience of the amateur has been somewhat a large one, and I may, without fear of contradiction, say that I know of no people who have a greater love for their gardens than amateurs, and if for that reason only they deserve any assistance that can be afforded them in the columns of this journal. The amateur spends much time and money in his or her garden, and no one can better appreciate advice on any point connected with his favourite pursuit than they. Take, for instance, a course of technical lectures on horticulture: it will be found that the amateur is a most regular attendant, and proves his interest in what is going on by asking twice the number of questions that anyone else will, his thirst for knowledge seeming insatiable. A good many persons are inclined to scoff at the amateur if he be classed as a gardener, but such persons are not wise in doing so. I know no other persons who, as a class, read the various horticultural papers more attentively, and this fact I have learned by conversation with them at various times, when they have surprised me by the keen interest in gardening that they display. For these reasons I am pleased, Mr. Editor, to see you give the amateur a turn. *A Head Gardener.* [Only considerations of space prevent us doing more. En.]

THUJA GIGANTEA.—The note by Mr. Leach, at p. 147, comes as a confirmation of my opinion of it as a timber producer. Here, in our strong soil, it grows fast, 18 inches to 2 feet annually when once established, and with stems as straight as the proverbial gun-barrel, although the tree shows a great tendency in a young state to produce several leaders, one of which, however, takes the lead. With the object of testing it thoroughly, we planted, a year ago, 2000 in a field which is fully exposed to the north-east, the soil of a stiff nature, inclining to clay, and in spite of the unfavourable spring of 1891 for newly-planted small trees, these trees on the whole look at the present time most promising. *South Hants.*

REMOVING STRAWBERRY PLANTS.—In answer to your enquiry in last week's issue about the Strawberry, I may say they can be removed. Mr. A. Bath of Vine-court Farm, Sevenoaks, Kent, left his farm at Halstead, Kent, a few years ago, where he had 40 acres of Strawberry Canes. Mr. Mildmay, the landlord, would not pay him, so he got a mowing-machine, and mowed them all off; and then he got the steam-plough into the field, and was going to plough them all up, but his landlord then decided to give him £400 for the plantation, so he did not do it. I know Mr. Bath; also the ground. Mr. Bath will be glad to answer enquiries. *F.*

EUCALYPTUS GLOBULUS FLOWERING.—In answer to your correspondent, "C. H. H." I may say that although the severe winter of 1890–91 destroyed all our plants growing outside, it has bloomed abundantly in the shrubberies here on plants 12 to 15 feet high—hundreds of flowers on a plant. We had no frost here for eight or ten years, previous to the winter I speak of, severe enough to destroy them, so that the plants were from six to ten years old. The flower buds were formed the year before, as described by your correspondent, but do not open till June on plants outside. The perfume is very strong. *Susfield, Bournemouth.*

THE ALLEGED DISAPPEARANCE OF ENGLISH APPLES.—The mania to dispose of their produce before foreign supplies reach our market, which possesses growers and holders of Apples, will to a great extent account for the comparative absence of native Apples in the markets at the present time. A large fruit grower and dealer told me that if he did not get rid of his Apples before foreign supplies come in, the prices are usually so low, that what with transit, costs, and commission, it was barely worth sending them to the market; and again to keep Apples on a large scale and in good condition, means labour and money, together with a certain loss in decayed fruit. Wellington as an Apple is one of the best late varieties of Apple, which usually sells fairly well; but it does not succeed in some kinds of soil, and in some seasons they do not keep so sound as in others. With regard to selecting the best fruits, and making two or three different samples, I was told this had been tried, but the trade more money obtained for these sorted samples did not balance the loss on the smaller ones, the latter finding scarcely any sale. He now intends opening a shop on his own account, but with what success remains to be proved. One other point connected

with fruit-growing—I opine planters will shortly over-plant the earlier varieties, for go where you will, the cry is, "Plant early Apples," which has been and is being done on a large scale; but we should not lose sight of Blenheim Pippin. *H. Markham, Maidstone.*

EARLY PEAS.—Considering the trouble autumn-sown Peas give in most gardens, they are hardly worth bothering about, for if put into the ground at the period referred to, they have to stand the attacks of mice, birds and slugs, and by one or other, or the whole combined, rows become so decimated or the plants so crippled that the yield from them is very poor and inferior. This being so, instead of putting seed into the ground in November, we wait and sow in boxes filled with sifted leaf-soil, and by patting a lath or strip of deal every 2 inches or so apart, the Peas may be taken out of the boxes in long lengths, as they hold tightly together, and easily transferred to the rows. The way we prepare the drills is just to strain a line, and chop down at the side of it, so as to get the necessary depth for the roots, which cannot well be done with a hoe, and the Peas are then laid in, and the earth drawn to them, leaving their tips just clear of the soil. To ward off sparrows, I have never found anything equal to black cotton, in three lines, strained one over the middle, and the others along each side, and at a height of 3 inches or so from the ground, and with that arrangement it must be a very knowing or bold sparrow that will venture to interfere with the Peas. The sort I prefer as a dwarf is Chelsea Gem, and of the taller kinds I always grow Veitch's Extra Early, Kentish Lovick, and William I, the last-mentioned succeeding the others. In January, if the weather is favourable, we sow the same kinds outdoors, or as soon as the land is fit for the seed. The Marrow kinds, if put in early, will rot, and in wet ground it is a good plan to cover with fine coal-ashes or very dry soil. *J. S.*

EDUCATION OF GARDENERS.—What will be the result of all the correspondence that is now going on in the *Gardeners' Chronicle* on this subject? Many and diversified have been the suggestions offered from time to time for the further education of our gardeners. For my part, I think the suggestion given by James Wilson, jun., p. 117, the most sensible and the most practicable. An intelligent man, working day after day amidst flowers and fruits, all in themselves educational, is ever noticing something to improve upon, or something that should be avoided. He is also assisted by literature, which is to be obtained so reasonably now, containing good sound information, the records of practical results. Lecturers and theorists are often delusive; the lectures are mostly far-fetched, are not retained in the mind, and generally the lecturer does not possess sufficient ability. There is nothing like the nursery for the fundamental training of young men, but the latter should not confine themselves to one place. Three shifts in a period of six years would be most beneficial, and until a man reaches the mature age of thirty, he should endeavour to master the various systems practised in northern and southern gardens. At thirty years of age he would be ready to take the helm, fortified with a practical knowledge that "Professors" might envy. The most important and vital matter to consider just now is, by what means can be brought practically into working a fair and equitable position for gardeners of ability receiving their pecuniary award? The palm is not gained without the labour; let him who has won it bear the palm. There are men filling positions who are not virtually fit to hold them; the mystery is, how do they manage to retain such positions? Will some one of influence take up the cause? Will some of the lecturers throw in their mighty flow of eloquence, and claim that the gardener proper shall take his position; must be brought out of the degrading obscurity where he has so long been hidden, and with conscious importance of his equality with his fellow men, uphold with pride an occupation that speaks of thought else but peace and contentment? I would suggest a unity of certificated gardeners; it appears to me the only way out of the lethargy. A power vested in a society granting certificates to men on recommendation from substantial and representative nurserymen. I would further suggest a gradation of certificates issued in degrees, 1st, head gardener; 2nd, foreman, nursery or otherwise; 3rd, first-class journeyman; also a special certificate for marked excellence. Situations to be taken through or notified to the Society. I believe this could be made thoroughly practicable, and give every man his due. *Semper Paratus.*

TREES AND SHRUBS.

CHIMONANTHUS FRAGRANS GRANDIFLORUS.

WHAT a glorious winter-flowering shrub, yet how few are in possession of it. It is one of the few subjects that produce their welcome flowers during the dreary months of winter without the assistance of artificial heat. Although so much has been said in its favour from time to time in the pages of the *Gardeners' Chronicle* and elsewhere, it is still very rare that one meets with it even in the best gardens,

fourishes best is against a warm wall, which shelters it from the north and east winds, and in such a position, the pale yellow cup-shaped flowers streaked with a brownish-red on the inside, are seen to the greatest advantage. It may also be planted in the shrubbery border, but there its flowers get sometimes cut by frost, hence the good derived from a wall. When planted in fairly rich loam, and carefully pruned after it has blossomed, the plant can be made to bloom from December to February, but owing to the mildness of the early part of the present winter, it commenced to open its flowers on November 17. *H.*



FIG. 32.—CHIMONANTHUS FRAGRANS: FLOWERS FRAGRANT, PALE YELLOW, STREAKED WITH PURPLE.

a fact to be deplored, as it merits the widest cultivation. The type is planted rather extensively. Although the flowers of this fine shrub do not possess brilliant colouring, they are nevertheless distinct, and if there is a deficiency in one respect, it is fully made up for by the quantity of bloom produced and the very sweet fragrance they emit, and that, too, when almost everything else is dormant. The flowers are useful for table decoration; they last a considerable time after being severed from the plant, and a few only are necessary to perfume a good-sized room. Under garden cultivation, it makes a bush of 6 feet in height, and if planted against a wall, it will reach 7 to 8 feet. Planted singly, or three or four in a group on the lawn, it forms a mass of great beauty; but the position in which it

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Laing, B. Wynne, H. Herbet, C. T. Drury, C. H. Breeze, R. Dean, C. Jeffries, W. C. Leach, P. B. Lowe, G. Phippen, W. H. Williams, C. E. Pearson, H. H. D'Ombra, C. J. Salter, H. Cannell, C. Noble, J. Frazer, G. Paul, T. W. Girdlestone, E. Mawley, H. B. May, H. Turner, R. Owen, and F. Ross.

Cyclamens were the principal features that came before this Committee, some representative groups being staged by various trade growers. Those shown by Mr. T. Walker, Hounslow, were remarkably well flowered, as also were the plants staged by the St. George's Nursery Co., Hanwell; and Mr. J. May, Gordon Nursery, St. Margaret's. In the group staged by the last-named exhibitor, a variety named *Queen of the Whites* was particularly good.

Messrs. Hugh Low & Co., Enfield, sent a collection of hard-wooded plants in flower, among which *Correas*, *Pimeleas*, *Boronias*, and *Ericas* of kinds were noticeable.

From Messrs. J. Laing & Sons, Forest Hill, S.E., came a group of stove plants and Orchids, and the same firm also exhibited a few plants of *Dracena* Alex. Laing, apparently a very pretty variety, with rather narrow leaves of a bronzy colour, edged with red.

Several interesting things from the Royal Gardens, Kew, were staged, and included a bunch of fruit of *Caryota Cummingii*, a Palm, and blooms of *Hæmanthus magnifica*, *Aloe supralavis*, which somewhat resembled a *Kniphofia*, *Greyia Sutherlandia*, and a fine flower of *Brownea Crawfordii*, a hybrid between *B. grandiceps* and *B. macrophyllus*.

Mr. G. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, staged a basket of *Amaryllis* and *Narcissi*; and Mr. R. Owen, Castle Hill Nursery, Maidenhead, sent a few blooms of late-flowering *Chrysanthemums*. A bunch of *Marie Louise* Violets came from Mr. Miller, gr. to Lord Foley, Ruxley Lodge, Esher; and some *Bertolonias* were exhibited by Mr. C. T. Bause, Norwood. Of the latter, *B. argyrea* and *B. Comte de Kerchove* were the best.

Messrs. Cannell & Sons, Swanley, showed a small collection of *Primulas*; while from Messrs. F. Ross & Co., Bletchingly, came blooms of *Oxera pulchella*, a useful winter-flowering subject.

Mr. J. Friend, gr. to the Hon. P. C. Glynn, Rooknest, Godstone, Surrey, exhibited four boxes of *Camellia* blooms, several masses of *Acacia dealbata*, and *Cliveas* Mrs. Glyn and the Hon. P. C. Glynn, both of which appeared to be capital varieties.

Some sprays of *Lilac* were sent by Messrs. G. Paul & Sons, Cheshunt, the best being *President Grévy*, a white-flowering variety, and useful for forcing. And, among other things, Messrs. B. S. Williams, Upper Holloway, showed a plant of *Elmis melanococca*.

Flowering branches of *Amygdalus Davidiana* and *A. Davidiana alba*, staged by Messrs. J. Veitch & Sons, Chelsea, attracted some attention. The shoots, although cut from trees growing in the open air, were covered with bloom; as also were sprays of *Lonicera Standishi*, exhibited by the same firm. Messrs. Veitch also showed plants of *Lachenalia Aureliana*.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; Messrs. James O'Brien, De B. Crawshaw, T. B. Haywood, S. Courtauld, Norman C. Cookson, C. J. Lucas, H. M. Pollett, H. Ballantine, T. W. Bond, J. Douglas, H. Williams, F. Sander, W. White, E. Hill, and J. Jacques.

The weather being mild, numerous Orchids were staged, fifty entries being made for the adjudication of the Committee. Baron Schroder (gr. Mr. H. Ballantine) exhibited *Odontoglossum crispum* nobilior, one of the finest heavily spotted varieties yet seen, the pretty purple-spotted *O. Pescatorei* Schroderianum, which is second only to *O. P. Veitchianum*, also a "Dell" plant, and the violet-coloured and fragrant *O. iplocon*. Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking (grower, Mr. W. White) sent *Lycaste Youngii*, Hort., a citron-yellow species, bearing nearly fifty flowers; *Phalaenopsis Stuartiana punctatissima*, *Dendrobium chrysodiscus* X, the elegant little *D. Felschii*, and the new yellow *Trichocentrum triguetrum*, a species with curiously flattened growths. W. R. Lee, Esq., Beech Lawn, Arden-shaw, Manchester, staged a noble plant of *Dendrobium splendidissimum* *Leeanum* X (*D. nobile* pen-

SOCIETIES.

ROYAL HORTICULTURAL.

FEBRUARY 9.—There was a capital display of bloom in the Drill Hall, James Street, S.W., on the occasion of this meeting, and the attendance was larger than is usual at this time of the year, being swelled by those who had come to attend the general annual meeting. Orchids, of which mention is made elsewhere, were the principal features, but some fine collections of miscellaneous plants and groups of Cyclamens, the latter being very attractive, were staged by various nurserymen. Fruit, too, as reported below, was well represented, some large collections of Apples and Pears being exhibited by a few of the leading growers.

dulum × *D. anreum* philippinense. Some of the stout pseudobulbs were over 3 feet in height, and bore over thirty flowers, some of the sprays having four or five flowers. DREWETT O. DREWETT, Esq., Riding Mill-on-Tyne (gr., Mr. A. J. Keeling), sent his hybrid *Cypripedium Ceres* × (*hirutissimum* × *Spicerianum*), which appeared to be the best of the *hirutissimum* crosses; also *C. Juno* × (*Fairrianum* × *callosum*), which bore some resemblance to a good *C. vexillarium*, but with a large white, crimson-veined upper sepal. Mr. DREWETT also sent a tall spike and leaf of the curious *C. Lindleyanum*.

CHARLES INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), exhibited *Cypripedium Lathamianum* ×, obtained from the reverse cross to the original, but without material difference; *C. la Nymphe* × (*oceanum* × *Dauthieri*); a spike of a fine form of *Phalenopsis Sanderiana*, and cut flowers of ten good varieties of *Cattleya Triana*.

F. WIGAN, Esq., Clare Lawn, East Sheen (grower, Mr. W. H. Young) set up a group of cut Orchids, comprising a dozen fine spikes of *Phalaenopsis Schilleriana*, one of *C. Stuartiana*, *Dendrobium speciosum*, *Cattleya labiata* *Luddeமானiana* and *C. Percivaliana*, all showing evidence of good culture.

MRS. ADAIR, Beechwood Park, Danstables (gr., Mr. J. Freeman), showed a fine plant of the rare *Cattleya Percivaliana* alba, and a spike of a noble light-coloured *C. Triana*.

R. N. DALE, Esq., Bromborough Hall, Cheshire, sent cut examples of a very fine, large-flowered, white *C. Triana*; a four-flowered spray of *Laelia anceps* *Sanderiana*, a grand form of *Phajus Humblotii*, and spikes of the rare *Odontoglossum Rosellii* albens.

MRS. ARBUTHNOT, Bridgen Place, Bexley (gr., Mr. Mitchell), exhibited a well-grown plant of the rare *Vanda concolor*.

NORMAN C. COOKSON, Esq., Wylam-on-Tyne, showed his hybrid *Dendrobium Cassiope* × (*japonicum* × *nobile* *albiflorum*), a dwarf variety with creamy-white flowers, and some resemblance to *D. endocharis* ×. J. F. EBNER, Esq., Horton House, Beckenham (grower, Mr. C. Franklin), submitted *Cypripedium Savageanum* *superbum* ×, *C. Enfieldense* ×, and *C. villosum* *Horton House* variety, which last bore the largest flower we have seen in the species. E. G. WRIGLEY, Esq., Victoria House, Dorkingfield, Cheshire (gr., Mr. C. Harris), sent a curious, small-flowered, thick-bulbed form of *Dendrobium lituiflorum*, and a variety of *D. Wardianum*.

CHARLES WINN, Esq., Selby Hill, Birmingham, submitted, for the opinion of the committee, a hybrid *Dendrobium*, decided to be *D. Apasia* ×. R. T. MEASURES, Esq., Cambridge Lodge, Flodden Road, Camberwell (gr., Mr. H. Simpkins), exhibited *Cypripedium* insigne *Cambridge Lodge* variety, a lovely little thing, something like a miniature *C. violaceopunctatum*, and which attracted much attention; also *Cypripedium* × (*insigne* *Chantinii* × *villosum*), which somewhat resembled *C. Sallierii* ×, and the reverse cross of *C. Lathamianum* ×, also exhibited by Mr. Ingram.

T. STATTER, Esq., Stand Hall, Whitefield, Manchester, sent cut examples of *Oncidium Loxense*, *Odontoglossum ramosissimum*, varieties of *Laelia anceps*, *Sophrontitis grandiflora*, &c. C. J. LUCAS, Esq., Warnham Court, Horeham, sent a few examples of good Orchids, among which was a very large flower of *Lycaste Skinneri* alba.

MESSRS. JAMES VEITCH & SON, Royal Exotic Nursery, King's Road, Chelsea, also exhibited some startling novelties in hybrids. Under the name *Cypripedium Hera* × (*Boxallii* × *Leeanum* ×), they exhibited one of the noblest hybrids yet raised. We find, however, that in the *Gardeners' Chronicle*, January 25, 1890, p. 103, Mr. Rolfe applied the name *C. Hera* × to a very different plant (*villosum* × *Spicerianum* ×). Another fine hybrid of Messrs. Veitch was *Zygopetalum leucociliatum* (*Burkei* × *Mackayii*), an elegant plant, with tall scapes of white-tipped flowers. The same firm also sent *Dendrobium dulce* (*Linawianum* × *aurum* ×), with rose-coloured flowers; and the favourite *Cypripedium Sedeni* *candidulum*.

MESSRS. HUGH LOW & CO., Clapton, had an extensive and well-arranged display, in which the rare *Phalenopsis casta* and *P. Brymeriana* were prominent among the *Phalenopsis*, for which this firm is noted; other striking species, in more or less quantity, being the pretty fragrant *Vanda Amesiana*, fine varieties of *Cattleya Percivaliana*, the white *Calanthe niva*, *Vanda Boxallii* *lutea*, *Saccolabium bellinum*, *Dendrobium fimbriatum* *oculatum*, *D. Wardianum* *Lowii*, and many other *Dendrobis*, a fine lot of *Cypripediums*, &c.

In the large group from Messrs. B. S. Williams & Son, Upper Holloway, the species and varieties of *Cypripedium* predominated, and these were effectively arranged. Among them were a fine lot of *C. Williamsii* ×; *C. Amesianum* ×, *C. polium* ×, *C. Harrisonianum* ×, *C. Leeanum* ×, *C. Fitchianum* ×, *C. Dauthieri* ×, *C. Boxallii*, *C. villosum*, *C. Sallierii* ×, *C. vexillarium* *superbum*, and the rare *C. reticulatum* ×. These were arranged with white varieties of *Laelia anceps*, *Dendrobiums*, and other showy Orchids of the season.

MESSRS. F. SANDER & CO., St. Albans, had a smaller group of rare and well-grown Orchid, the centre being some grand *Oncidium* *splendendum*, and with these were fine varieties of *Lycaste Skinneri*, a plant of the handsome new *Epidendrum Watsonianum*, four varieties of *Odontoglossum asperum*, and a handsome hybrid *Odontoglossum*, six forms of the elegant cool-house *Oncidium Phalaenopsis*, some *Laelia harpophylla*, the very curious *Diss Cooperi*, &c.

MESSRS. SEGER AND TROPP, Lordship Lane, East Dulwich, had a small stand with a fine form of *Masdevallia macrura*, *Cirrhopetalum picturatum*, *Oncidium chetophorum*, *Odontoglossum blandum*, various species of *Masdevallia*, &c.

FROM LORD FOLEY, Ruxley Lodge, Esher, came a group of finely grown *Oncologie cristata*, and F. T. STEED, Esq., Lismore Woodhill, Wimbledon Park (gr., Mr. John Currie), also sent a good specimen of the same species.

MR. JAMES CRISPIN, Fishponds, Bristol, exhibited a curious large form of *Laelia furfuracea* and cut *Saccolabium giganteum*, *Odontoglossum Edwadii*, and other Orchids. F. W. MOORE, Esq., Curator, Royal Botanic Gardens, Glasnevin, Dublin, forwarded the rare terrestrial *Cyporchis Lowii*, with large rose-coloured lip, and *Restrepia striata*. Mr. H. A. TRACY, nurseryman, Amyand Park Road, Twickenham, staged a fine dark form of *Cattleya Triana* as *Tracy's* var.

J. GATHORN WOOD, Esq., Thedden Grange, Alton, Hants (gr., Mr. N. Campany), sent flowers of a very fine form of *Dendrobium nobile*, and Messrs. F. ROSS & CO., Brewer Street, Bletchingley, exhibited a spike of *Cymbidium Hookerianum*.

MESSRS. JOHN LAING & SON, Forest Hill, also had a good sprinkling of popular Orchids in their fine group of miscellaneous plants.

Fruit and Vegetable Committee.

Present: Phillip Crowley, Esq., in the chair; Messrs. J. Lee, R. D. Blackmore, H. Weir, W. Wilks, C. W. Cummins, J. Cheal, G. Bunyard, A. W. Sutton, J. Jabez, T. J. Saltmarsh, A. Dean, W. Bates, G. H. Sage, G. Wythes, J. Hudson, J. A. Laing, H. Balderson, J. Smith, F. Q. Lane, G. Norman, G. T. Miles, and Dr. Hogg.

Apples and Pears were well represented for the time of year, the collection comprising 100 dishes, staged by A. H. Smees, Esq., Carshalton (gr., Mr. G. W. Cummins), being particularly fine. The majority of the samples were of good size and well coloured.

MESSRS. J. CHEAL & SONS, Crawley, also sent a good collection of Apples and Pears, as likewise did Mr. Miller, gr. to Lord Foley, Ruxley Lodge, Esher. Mr. W. CRUMP, Madresfield Court Gardens, Malvern, showed a dish of Apple May Queen; and Mr. Leach, samples of Albury Park Noosuch, a seedling Apple of merit. Several dishes of Apples for naming were staged.

A large basket of Seakale, called Canford Lily White, and said to be a distinct type of the well-known Lily White, was sent by Mr. T. H. Crisp, gr., Canford Manor, Wimborne, but it was not specially recognised by the committee.

Mushrooms were staged by Mr. Miller, Ruxley Lodge; and Mr. C. Leach, Albury Park Gardens.

List of Awards.

ORCHID COMMITTEE.

MEDALS.

Silver Gilt.

To Messrs. Hugh Low & Co., Clapton, for a group of Orchids.

Silver Flora.

To Messrs. B. S. Williams & Son, Upper Holloway, for a group of Orchids.

Silver Bankian.

To Messrs. F. Sander & Co., St. Albans, for a group of Orchids.

First-class Certificates.

To Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, for *Zygopetalum leucociliatum*.

To Messrs. J. Veitch & Sons, for *Cypripedium Hera* ×.

To Baron Schroder, for *Odontoglossum crispum nobiliss* and *O. Pescatorei* *Schroderianum*.

To DREWITT O. DREWITT, Esq., Riding Mill-on-Tyne, for *Cypripedium Juno* ×.

Botanical Certificates.

To Messrs. F. Sander & Co., for *Epidendrum Watsonianum*.

To Sir Trevor Lawrence, for *Dendrobium Fockschii* and *Tricostema triquetrum*.

To DREWITT O. DREWITT, Esq., for *Cypripedium Lindleyanum*.

Awards of Merit.

To W. R. Lee, Esq., Beech Lawn, Andersham, near Manchester, for *Dendrobium splendissimum* *Leeanum*.

To Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, for *Dendrobium Cassiope* ×.

To R. J. Measures, Esq. (gr., H. Simpkins), Cambridge Lodge, Camberwell, for *Cypripedium insigne*, *Cambridge Lodge* var.

To Sir T. Lawrence and Messrs. B. S. Williams, for *Lycaste Youngii*.

To Baron Schroder, for *Odontoglossum isoplocum*.

To DREWITT O. DREWITT, Esq., for *Cypripedium Ceres* ×.

Cultural Commendation.

To Lord Foley, Ruxley Lodge, Esher, for *Oncologie cristata*.

FLORAL COMMITTEE.

MEDALS.

Silver Gilt Bankian.

To Messrs. J. Laing & Sons, Forest Hill, for a miscellaneous group of plants.

Silver Bankian.

To Mr. J. May, Gordon Nurseries, Twickenham, for a group of Cyclamens.

To Mr. T. Walker, Whitton, Hounslow, for a group of Cyclamens.

To the St. George's Nursery Co., Haswell, for a group of Cyclamens.

To Messrs. Hugh Low & Co., for a group of miscellaneous plants.

To Mr. J. Friend, gr. to the Hon. P. C. Glynn, Godstone, Surrey, for *Camellia* blooms, &c.

First-class Certificates.

To Mr. C. F. Banse, Norwood, for *Bertolonia Argyroaurea* and *Cornu de Kerchove*.

To Messrs. B. S. Williams, for *Elmis melanococca*.

Awards of Merit.

To Mr. J. Friend, for *Clivias* Mrs. P. C. Glynn and Hon. P. C. Glynn.

To Messrs. J. Laing & Sons, for *Iris hibernica*.

To Messrs. G. Paul & Son, Chesham, for *Lilac* President Grévy.

FRUIT AND VEGETABLE COMMITTEE.

MEDALS.

Silver Gilt.

To A. H. Smees, Esq. (gr., Mr. Cummins), Carshalton, for collection of fruit.

Silver.

To Messrs. J. Cheal & Sons, Crawley, for a collection of Apples and Pears.

To Lord Foley, Ruxley Lodge, Esher (gr., Mr. Miller) for collection of fruit.

Awards of Merit.

To Mr. W. CRUMP, Madresfield Court Gardens, Malvern, for Apple May Queen.

Cultural Commendation.

To Mr. W. C. Leach, Albury Park Gardens, for a dish of Mushrooms.

GARDENERS' ORPHAN FUND.

FEBRUARY 5.—At the annual general meeting, held at the Cannon Street Hotel on Friday, the following candidates were elected to receive the benefits of the fund:—Mary Esther Green, Thomas James Francis, Charles Newrey Wesley, Annie Parker, Edward William Butcher, John Ernest Vine, Agnes Jane McIntosh, Edmund Norgate, James Alfred Bolton, Janet Hood Ireland, and Olive Hall.

The following is the Report and statement of accounts from July 1, 1890, to December 31, 1891, which were presented at the meeting:—

The executive committee in presenting their fourth report have again the pleasure of congratulating the subscribers to the *Gardeners' Orphan Fund* on its growing importance to the gardening community, as testified by the generous support it continues to receive from all classes.

The committee deem it necessary for the information of new subscribers to state that eighteen months have elapsed since the last report and statement of accounts was issued, owing to the alterations made in the rules twelve months ago, which provided for the commencement of the financial year being altered from July 1 to January 1, the former date having been found to cause much trouble and confusion in the management. The committee are glad to report that although the accounts (which are herewith submitted) include the working expenses of eighteen months, and the subscriptions practically only for the twelve months, there has been no diminution of revenue, but on the contrary a considerable increase.

The magnificent proposal made by Mr. N. N. Sherwood and Mr. H. J. Veitch at the last general meeting, that if the subscribers would contribute a minimum sum of £250 they would jointly provide any further sum that might be required to allow the committee to place on the Fund the seven children who had that day been unsuccessful, as a memorial to the late chairman, Mr. George Deal, was readily accepted by the committee. The sum of £555 16s. 6d. was speedily raised, enabling the committee to grant the benefits of the Fund to seven orphans. The committee, recognising the great value of the

services rendered by Mr. Deal to the Fund, most gratefully thank all those who so generously helped in promoting such an appropriate tribute to his memory.

The lamented death of Mr. B. S. Williams, a warm supporter of the Fund, called forth a very general desire that his honoured name should also be associated with the Fund in a similar manner, and on receipt of £250 from the B. S. Williams Memorial trustees, two more children, on the nomination of Mr. H. Williams, were elected.

The committee deplore the loss of Mr. William Richards, one of their most zealous and active colleagues, who was never weary of promoting the best interests of the Fund. His name will be long held in grateful remembrance.

The committee greatly regret that they were unable to arrange for a floral fête in Covent Garden Market as in former years, owing to practical difficulties in carrying them out. The loss thus sustained was in a great measure compensated for by a generous subscription raised by the standholders in the market, and by the profits arising from the Rose Fair and Floral Fête held at the Crystal Palace. The desirability of establishing this fête at the Crystal Palace as an annual event is under the consideration of the committee.

The National Card Collection, which was instituted in the summer of last year, resulted in adding the handsome sum of £250 to the resources of the Fund. This collection, it is proposed, shall be continued annually. The fact that of the amount collected last year the greater part came from non-subscribers to the Fund, and mostly in small sums, was considered extremely gratifying.

The committee find it impossible to acknowledge in detail the great obligations they are under to so many kind friends for efficient help rendered in many ways during the past eighteen months, and embrace this opportunity of tendering to them collectively very hearty thanks.

At the present time thirty-nine children are receiving the benefits of the Fund, and the Committee recommend that eleven be elected, thus raising the number of beneficiaries to fifty, who will be supported by the Fund at a cost of £650 a year. Most gratifying as the Committee regard this, as the result of the work of the Fund during the comparatively short time (four and a half years) it has been established, they cannot ignore the fact that they are still unable to meet the claims of many necessitous cases that come before them, and take this opportunity of again urging the claims of the Fund upon gardeners in particular and a generous-hearted public for assistance.

The Committee were fortunate in securing Mr. William Marshall, of Bexley, a gentleman well known in the horticultural world, as Chairman in succession to the late Mr. Deal. Mr. Hugh Low, of Clapton, was elected a member of the Committee, in the room of Mr. George Deal, deceased; and Mr. A. W. G. Weeks, of Chelsea, in the place of Mr. W. Richards, deceased. The members of the Committee who retire by rotation are Messrs. Asbee, Cannell, Cummins, Gordon, Lane, Roupell, Sharman, and Wynne, who, being eligible, all offer themselves for re-election.

Gardeners' Orphan Fund. Cash Statement, July 1, 1890, to December 31, 1891 (Eighteen Months).

	£	s.	d.
To Balance from Last Account ...	...	...	807 8 11
Subscriptions, General ...	£359	10	6
Ditto collected by Local Secs. ...	170	7	6
	...	...	489 18 0
Donations, General ...	332	19	2
Ditto collected by Local Secs. ...	117	4	2
	...	...	450 3 4
The George Deal Memorial ...	555	16	6
The B. S. Williams Memorial ...	250	0	0
General Card Collection ...	294	7	3
Crystal Palace Fête ...	129	3	3
Annual Dinner ...	67	15	6
Advertisements in List of Subscribers ...	31	2	0
Miscellaneous Receipts ...	52	14	4
Dividends on Stock and Interest on Deposit ...	173	17	2
	£3302	6	3

NOTE.—INVESTMENTS, &c.—

2½ per Cent. Consols. ...	£1056	4	7
3 per Cent. Canadian Stock ...	500	0	0
	£1556	4	7
On Deposit with Bankers ...	600	0	0
	£2156	4	7

Expenditure.

	£	s.	d.
By Allowances to Orphans ...	...	...	695 10 0
General Card Collection ...	44	5	2
Crystal Palace Fête ...	99	2	3
Annual Dinner ...	54	1	8
Printing List of Subscribers ...	21	0	0
Secretary's Clerk ...	£78	15	0
Printing and Stationery ...	48	12	4
General Meetings (2) and Election ...	18	12	7
Hire of Rooms for Meeting ...	8	2	0
Postage ...	23	0	0
Bank Charges ...	14	4	0
Sundry Expenses (Petty Cash) ...	14	11	4
	...	...	189 7 7

Purchase of £517 8s. 9d., 2½ per Cent. Stock ...	500	0	0
Purchase of £500, 2½ per Cent. Stock ...	475	0	6
	...	...	975 0 6

On Deposit with Bankers ...	600	0	0
Balance at Bank ...	629	19	1
	£3,302	6	3

Having inspected the securities, and examined the books and vouchers supplied to us, we certify the above account to be correct.

(Signed) JOHN FRASER, Lea Bridge,
WM. SHARP, Chartered Accountant,
69, Gresham Street, E.C.
January 18, 1892.

TRADE NOTICE.

HALE FARM NURSERIES, TOTTENHAM.

WE are informed that this business, until recently carried on by Mr. Thomas Ware, will in future be conducted solely by Mr. Francis Fell, who for many years been connected with the business as Manager. The business will still be known as "Thomas S. Ware."

Obituary.

MR. J. ROBERTS.—On the 23rd January last, at Charleville Forest Gardens, Tullamore, passed away a veteran Irish Grape grower, J. Roberts, gardener to Lady Emily Howard-Bury. He succumbed after an illness of but two days duration, to acute pneumonia, brought on by influenza. He had reached the 62nd year of his age, and the 36th year of his service in the Charleville family, he having been the faithful servant of five members of this house, including three Earls. He was engaged by the 3rd Earl of Charleville, whilst in the Pine-Apple Nursery, Maidland, London. Previous to this he had served Lord Ellesmere, at Worsley Hall; Lord Windsor, at Hewell Grange; and Sir Joseph Radcliffe, Bart., at Rudding Park. Mr. J. Roberts was very successful as a gardener, and he was very intelligent, and had enjoyed the benefit of a good education. It was as a Grape-grower, however, that he made his mark, and at the shows of the Royal Horticultural Society of Ireland, held in Dublin, he always swept off the best prizes. Several times when showing Grapes in England and Scotland, he beat all opponents, as at the International Shows of Manchester and Edinburgh. During his career as an exhibitor, he had gained over 50 medals, including several of the coveted Veitch Memorial Medals. Mr. Roberts was the raiser of an improved variety of Gros Guillaume, and exhibited several very large bunches of this variety; one of which weighed more than 23 lb. Some years ago, Mr. Roberts was taken out to Algiers by the Countess of Charleville, for the purpose of laying out the gardens and grounds attached to the winter residence of the family at that place, and contributed an account of his impressions to these columns. He leaves a widow, five sons, and two daughters. His son-in-law, Mr. R. McKenna, succeeds him as gardener at Charleville Forest.

MRS. RAWLINGS.—Mrs. Rawlings, wife of Mr. George Rawlings, formerly of Bethnal Green and Romford, and mother of Mr. Arthur Rawlings, of

the Dahlia Nurseries, Romford, died at Brgowear, Monmouthshire, on the 2nd inst., at the age of 75. She had been a great sufferer, having been helpless for 14 years through chronic rheumatism.

SIR JAMES CAIRD.—We regret to hear of the decease of Sir James Caird, the eminent agricultural writer; also of Colonel Grant, the associate of Speke in the discovery of the sources of the Nile. Both were in former years correspondents of this journal.

JAMES TAPLIN.—We take the following particulars relating to one of our former contributors, from the *American Florist*. Taplin was a man of mark in the horticultural circles of this country a quarter of a century or more ago, but after his departure to America, but little was heard of him on this side of the Atlantic.

Mr. James Taplin died at his home in Maywood, N.J., on Saturday Jan. 9, after an illness of only 14 days from an attack of influenza, which turned to bronchial pneumonia, and ended in his death as above in the 61st year of his age.

He was born at Overton, at village in Hampshire, England, and as soon as able to earn his own living was duly apprenticed to the business of a gardener. After serving his full time as such, he worked in several of the best gardens in England, first as journeyman, then as foreman, &c., during which time he was steadily adding to his knowledge. Being always a very hard worker, and also a great student, he mastered his business much earlier than many others who start out under equally favourable conditions.

As evidence of this, while quite a young man he was appointed head gardener to Hia Grace the Duke of Devonshire at Chatsworth, England, where he succeeded Sir Joseph Paxton. In 1864 he relinquished his position there to go to America and take charge of the florist business of Mr. George Such of South Amboy, N.J., where he soon displayed his master hand by producing such magnificent specimens of many rare tropical plants as had never been seen in that country, if anywhere, before, and which were often exhibited by him at the old Madison Square Garden, N.Y., at the time the New York Horticultural Society held its grand shows there. In 1879, after Mr. Such had decided to dispose of his immense collection, Mr. Taplin bought a farm at Maywood, having considerable glass already built upon it, to which he removed with his family, and where he resided till his death, and where he had carried on the wholesale growing of flowers and plants, principally for the New York market. Of late he has been turning his attention to hardy flowering shrubs, &c.

RICHARD EDWARD THOMSON.—On Thursday February 4, 1892, at his residence, Kenfield Hall, Petham, near Canterbury, from influenza followed by bronchitis, Richard Edward Thomson, J.P., son of the late Edward Toker, Esq., of The Oaks, Ospringe, Kent, aged 84. Kenfield Hall is noted, amongst other things, for the Pætaum planted by the late Mr. Masters, of Canterbury. Some of the earliest Wellingtonias were there planted by his own hand, and have now reached noble proportions.

VARIORUM.

ECOLCS AND PATRICROFT CHRYSANTHEMUM SOCIETY.—The subscribers of this Society held their annual meeting recently, and Mr. J. ANDREW presided. According to the report of the Hon. Secretary, Mr. HUBER, their fifth show, held in November last, was a great success, over 3000 persons having viewed the exhibits. Although £20 more were offered in prizes last year, there remains a balance in hand of £75 13s. 2d., against £60 10s. 9d. in the previous year. The next show will be held on November 11 and 12.

SHEFFIELD BOTANICAL GARDENS.—The annual meeting of the shareholders of the Botanical Gardens Co. was held at the Cutlers' Hall, Sheffield, on February 5. According to the committee's report, the net income from the gala during the past year was £247 5s. 10d., being £171 2s. 2d. less than that for 1890. This was due to the inclement weather which prevailed on the gala days. It is satisfactory to note, however, that after the payment of outstanding accounts, there will be a balance in favour of the Company of £102 1s. 10d. Mr. WILLIAM BARRON, late of the Botanic Gardens, Cambridge, is the Curator.

LITERARY GARDENING.—A correspondent signing himself "Sultus in Hortu or Hort-u-not?" writes, "Please, sir, if my boy John plant 'a slip of a pen,' what will it come up?" Answer paid—A Jon-quill.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.
	ACCUMULATED.					No. of Rainy Days since Jan. 3, 1892.		
	ACCUMULATED.							
	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.	10ths Inch.			
Above (+) or below (—) the Mean for the week ending February 6.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.	10s.	Percentage of possible Duration of possible Duration since Jan. 3, 1892.	
0 2 -	0	36	11	49	3	7 8	17 12	
1 1 -	0	40	11	6	2	20	26 32 20	
2 0 aver	3	28	7	45	3	16	14 36 19	
3 2 +	9	26	15	56	3	18	1 37 22	
4 2 +	11	25	9	53	3	20	17 28 23	
5 2 +	20	13	9	31	2	18	13 24 22	
6 0 aver	7	26	15	47	3	27	6 31 19	
7 1 +	6	20	14	39	3	25	30 27 18	
8 2 +	21	8	23	46	1	24	31 27 25	
9 1 -	10	26	34	45	3	27	37 22 17	
10 1 +	26	8	35	45	3	23	37 26 21	
* 2 +	28	0	16	9	2	29	9 8 17	

The districts indicated by number to the first column are the following:

Principal Wheat-producing Districts.—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.
Principal Grazing, &c., Districts.—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending February 6, is furnished from the Meteorological Office:—

"The weather during this period varied considerably, in the W. and N. it was generally squally, with showers of rain, sleet, or snow daily, but over the E. and S.E. districts the conditions were quieter, the showers slight and less frequent. A good many intervals of bright sunshine occurred in nearly all parts of the Kingdom—especially in the E. and N.E."

"The temperature continued above the mean (the excess being 1° or 2°) in most parts of England, as well as 'Ireland, S.' and the 'Channel Islands,' and just equalled it in 'England, N.E.' and 'Scotland, W.'; in 'Scotland, N. and E.' and 'Ireland, N.,' however, it was a little below the normal. The highest of the maxima, which were recorded either at the beginning or end of the week, ranged from 35° in 'Ireland, S.,' and 54° in 'England, S.,' to 49° in 'Scotland, N. and W.' and 'England, N.E.' The lowest of the minima were registered either on the 3rd or 4th, when the thermometer fell to 14° in 'Scotland, N.,' 18° in 'Scotland, E.,' to between 23° and 30° in most other districts, and to 38° in the 'Channel Islands.'

"The rainfall exceeded the mean in all the 'Grazing Districts,' as well as in 'Scotland, W.,' but showed a deficit elsewhere.

"The bright sunshine was very deficient in the 'Channel Islands,' but in all other districts it was fairly abundant, and in most instances considerably exceeded the mean. The percentage of the possible amount of duration ranged from 32 to 37 over the eastern part of Great Britain, and from 31 in 'Scotland, W.,' to 17 in 'Scotland, N.,' and to only 8 in the 'Channel Islands.'"

MARKETS.

COVENT GARDEN, February 11.

[We cannot accept any editorial responsibility for the subjoined reports. They are given to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate not only from day to day, but often several times in one day, &c.]

BUSINESS somewhat better this week, with prices firm. Supplies equal to the demand. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Acacia or Mimosa.		Narcissus, paper-	
French, per bunch	1 6-20	white, Fr., p. bun.	0 6-0 9
Arums, per doz.	8 0-8 0	Orchids, 12 blms.	6-12 0
Azalea, p. doz.	sprays 1 0-1 8	Cattleya, 12 blms.	6-12 0
Camellias, white, doz.	3 0-4 0	Odontoglossum	
red, per doz.	1 0-1 8	crispum, 12 blms.	3 0-8 0
Caranths, 12 blms.	2 0-3 0	Pelargoniums, scar-	
Chrysanthemums, 12		let, per 12 bun.	0 9-12 0
blooms	1 0-5 0	— 12 sprays	1 0-1 6
— 12 bunches	5 0-24 0	Poinsettia, 12 blooms	4 0-9 0
Eucharis, per dozen	6 0-7 0	Primula, sing., 12bun.	4 0-6 0
Gardenia, per dozen	1 0-9 8	Roman Hyacinths, 12	
Heliotrope, 12 sprays	6 0-9 0	Spain	0 9-1 0
Lilac white (French)		Roses, Tea, per dozen	1 0-4 0
per bunch	5 0-7 0	— coloured, dozen	2 0-3 0
Lilyum Hartwell, doz.	6 0-10 0	— yellow (Mar-	
Lily of the Valley, per		chals), per doz.	8 0-12 0
doz. sprays	0 9-1 8	red, per dozen	1 6-2 0
Malvo Hair Fern		Tuberose, 12 blms.	1 0-1 6
12 bunches	4 0-9 0	Tulips, p. doz. blms.	1 0-2 0
Marguerites, per doz.		Violet, Parme, per	
bunches	3 0-4 0	bunch	4 6-8 0
Mignonne, per doz.		— Car, per bunch	2 0-3 0
bunches	1 6-2 0	— English, 12 bun.	1 6-2 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Ferns, various, doz.	4 0-9 0
Arum, per dozen	12 0-18 0	Ferns, per 100	8 0-15 0
Aspidistra, per doz.	18 0-24 0	Ficus, each	1 6-7 0
Azalea, per doz.	33 0-60 0	Hyacinths, Dutch, doz.	6 0-9 0
Begonias, per doz.	4 0-6 0	Lily of the Valley, pot	2 0-3 0
Chrysanthemums		Marguerites, per doz.	8 0-12 0
per dozen	6 0-9 0	Primula, sing., doz.	4 0-8 0
— large, each	2 0-3 6	Palm, various, each	2 0-21 0
Cyclamens, per doz.	9 0-18 0	— specimen, each	10 8-84 0
Cypripedium, per dozen	4 0-10 0	Pelargoniums, Scar-	
Fuchsia, each	1 0-5 0	let, per doz.	6 0-9 0
Epiphyllum, p. doz.		Poinsettias, per doz.	12 0-18 0
pots, 4	9 0-16 0	Roman Hyacinth, p.	
— 6	12 0-20 0	doz. pots	9 0-12 0
— 12	13 0-18 0	Solanums, per dozen	9 0-12 0
Erica gracilis	doz. 8 0-12 0	Tulips, per doz. pots	8 0-9 0

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Apples, Canadian and		Kent Cobs, 100 lb.	4 0-0 4
Nova Scotia, per		Lemons, per case	15 0-30 0
barrel	10 0-25 0	Pine-apples, St. Mi-	
Apples, 3-sieve	1 0-4 0	chel, each	2 0-6 0
Grapes	1 9-3 6		

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.		s. d. s. d.	
Artichokes, Globe,		Lettuces, per doz.	1 6-2 0
each	0 4-0 6	Mushrooms, punnet	2 0-0 0
Beans, French, lb.	1 6-2 0	Mustard and Cress,	
Best, red, per dozen	2 0-3 0	punnet	0 4-0 0
— 12 bunches	0 4-0 6	Parley, per bunch	0 0-1 0
Cauliflowers, each	0 3-0 6	Seakale, p. basket	2 0-3 0
Celery, per bundle	1 0-3 0	Shallots, lb.	0 6-0 0
Cucumbers, each	0 6-0 8	Spinach, per bush	3 6-0 0
Fumic, per doz.	2 0-3 6	Tomates, per lb.	0 6-1 0
Herbs, per bunch	0 9-1 0	Turkey, per bunch	4 0-6 0

POTATOS.

With decreasing stocks, prices have rallied a little for best, although sufficient stocks of low-prices are still on the market. Prices have ruled, Best, 95s. to 100s., Medium, 70s. to 85s., and Blackland, 50s. to 65s. per *T. B. Thomas.*

POTATOS.

BONOMO: Feb. 9. Quotations.—Hebrons and Elephants, 70s. to 90s.; Imperators, 80s. to 85s.; Bruce Magnums, 60s. to 80s.; Dumbars, 90s. to 105s. per ton.

SPIRALIS: Feb. 9. Quotations.—Magnums, 50s. to 70s.; Regents, 50s. to 80s.; Imperators, 55s. to 75s.; Main Crop, 80s. to 85s.; Snowdrops, 50s. to 70s.; Bruce Magnums, 55s. to 70s. per ton.

FARRINGTON: Feb. 11. Quotations.—Bruce Magnums, 75s. to 110s.; Imperators, 70s. to 90s.; Magnum Bonums, 60s. to 110s.; Sutton's Abundance, 85s. to 110s. per ton.

SEASIDE: Feb. 10. Quotations.—Magnums, 55s. to 80s.; Bruce d. 85s. to 85s.; Imperators, 85s. to 80s.; Scotch Magnums, 70s. to 90s.; Main Crop, 80s. to 110s. per ton.

NOTICES TO CORRESPONDENTS.

AMARYLLIS: *G. Cooper.* A variety excellent in every way, and especially in colouring, in which it resembles Empress of India, and in the number of blooms on a scape. The bulb has exceptional vigour.

BOOK ON TABLE DECORATIONS: *J. C. G. Floral Decorations for the Dwelling House*, by Annis Hassard, would meet your requirements. Its publishers are Macmillan & Co., London.

CARNATION: *E. H. A.* Your Carnations are probably attacked by some species of fungus, or they have eel-worms at the roots. Kindly send examples, so that we may be better able to assist you.

CARNATIONS IN NOVEMBER. You can obtain from the nurserymen, in March, nicely-rooted cuttings of Tree Carnations. These may be grown on till April in a cold frame, transferring them in that month to a sunny spot out-of-doors. Repot them when the roots have filled the soil, and do not let them get pot-bound. If you have a hot-bed, you can strike cuttings of C. Miss Jolliffe at this season.

CATTLEYA DISEASE: *W. L.* This disease has affected Cattleyas and Lælias in various parts of the country lately, and it is supposed to be contagious, but nothing definite has, as yet been made out about it. The matter will be re-investigated.

CATTLEYA LABIATA ATUNNALIS: *X.* It is now known that the plant comes from Pernambuco. The fact was stated in the *Orchidophile*, October, 1891, p. 311.

CINERARIA LEAF: *A Constant Reader.* The leaf sent is channelled by the leaf-miner *Tephritis oenopionis*. It attacks Celery, Chrysanthemums, and other cultivated plants, besides British ones. Badly-infested leaves should be cut off and burned, and the miner squeezed and killed if it has just begun operations. Soot-water or quassia-water may be used over the leaves from May to December to render them distasteful. Soils for pot plants should not be used in a fresh state, as these are apt to contain the pupæ, but let them be thrown in heaps for two years before using them, and when using the soil examine it for the little brown pupæ cases.

CLIANthus DAMPIERI: *Constant Reader.* Like all the Clanthi, this species requires perfect drainage, and to be kept rather dry at most times, except whilst making growth, and even then water should be supplied in not too great abundance. The best kind of compost for it is loam 3, finely broken brick or burnt clay, soil, and sand with broken charcoal 2. The pot should be large enough for the seedling to grow and flower, without repotting during the two or three years it can be kept alive, and it should be placed—whether planted out against a wall in the conservatory, or in a pot—in a sunny spot. The foliage must be kept clear of red spider, which is very partial to it; and the bark of the white Scale, although this last insect is not so likely to attack it, during its short life as C. unguis or C. magnificus. Your plant may be suffering from too much moisture at the roots, or an improper kind of soil, or want of sunshine, we cannot say what, as no particulars were furnished.

CORRECTION: The title of the Supplementary Illustration in our last issue was inadvertently stated by us to be *Hedychium coronarium*, when it should have been *H. Gardnerianum*.

FUNGUS SPAWN: *A. D.* It is not possible in its present condition to say what the mature state is likely to be. In any case, it is likely to be a deadly enemy, and should be dealt with accordingly.

LAURELS: *A. W.* You may increase your stock by layering the shoots that grow near the ground—two-year-old wood rooting in about one year, and older wood in from one to two years. Scrape out a small hollow, bend the shoot into it after giving it a twist with the hand at the point of contact with the earth, or cut a notch in the shoot, and make it secure in the ground with stout wooden hooks; fill in the mould and tread it firm. Take cuttings of young wood with a heel in September, and insert them in well-drained and properly prepared sandy compost, consisting of loam and potting-bank refuse—not much leaf-mould, and no manure—under hand-glasses placed under the shelter of a wall facing east or north. Another way, take cuttings, or better, slips of two-year old growth, cutting back the soft, current season's

growth to half its length, and place these at a distance of 3 or 4 inches apart in trenches cut out deep enough to take the cuttings almost up to the beginning of the young growth; scatter some sand or sandy compost at the bottom of the trenches, just burying up the base of the cuttings; return the rest of the soil to the trenches, making it firm; and before frosts arrive, cover the soil with 1 inch of half rotted leaf mould, or cocoa-fibre. Some pea-sticks or broken put over the bed during hard weather is an advantage.

MAIDENHAIR FERN: *J. T. L.* We know that letting the fronds lay immersed in cold water—not icy cold—for an hour, prolongs their freshness; but, we greatly doubt the efficacy of boiling water. Why not try it for yourself—only as a precaution, do not put an armful of fronds into the tub.

NAMES OF FRUITS: *C. Pocock*, 1, Old Russet; 2, Bees Pool.—*Hartwell*, 1, Wyken, or Warwickshire; 2, not recognised.—*D. T. F.* Apple Striped Beeing.—*Tuffy*, Doyenné d'Aleçon.

NAMES OF PLANTS: *A. Y. Z.* Plant sent early last week, and whose sender's name is lost, is *Tillandsia striata*.

PEACH TREES: *Amateur*. You must remove the shoots by degrees, say, first taking off all those shoots which spring from the rear, or under-sides, of the branches. Next, in about a week, those growing out at right angles to the wall may be pinched off; and finally, in another week afterwards, a selection must be made of shoots to be left to grow, removing the remainder. Those to be left are such as are wanted to fill up blank spaces, those springing from the upper sides at the base of this year's fruiting-shoots, and the leaders of all shoots, young and old. When these shoots once obtain the lead, very little disbudbing will be required afterwards, but now and then a strong shoot that is getting too much sap to itself must be bent sharply downwards, and fastened there for a time, or cut back to its lowest side-shoot.

RECENTLY-TRANSPLANTED YEW HEDGE: *E.* It will be prudent to wait until the bushes break, before doing anything further than just cutting back the browned or damaged tips. See that the plants get well watered during March, April, and May, and that the soil has a slight mulch to check evaporation.

ROSE W. ALLEN RICHARDSON: *Amateur*. As it has ceased to flower, cut it in hard—into the old wood. Do not give it much water till it breaks, then remove some of the top soil, which replace with new rich loam, trodden well, then afford the whole a thorough watering, and when the weather gets warm, mulch the soil.

SOILS AND CAPILLARITY NOTICE.—Consult any ordinary text-book on agriculture.

THE FIRST COLTSFOOT: *X.* The first flowers were noticed near London on the 10th inst. The first Snowdrops were observed on January 22 in a garden north-west of London, nearly three weeks later than last year in the same situation.

THE NEWSPAPER STATEMENTS ABOUT FRUIT FROM TASMANIA, the CAPE, and NEW ZEALAND: *J. D.* Yes, it is quite correct that fruit has been arriving in this country from these and other distant parts. Tasmanian Apples came over first, we think, in 1888.

VIOLETS: *J. B.* Obtain rooted runners in April, and plant them 1 foot apart in good land, enriched with leaf-mould and road-scraps, and not in too sunny a position, but still, not under trees. The Czar and Marie Louise are good kinds.

WHITE ARUM: *J. B.* It does not matter how you grow them, so long as the roots are not crowded or starved. One or three in a pot, feeding them well with weak manure-water, or top-dressings of rotted manure and plenty of water whilst growing, and a rest of a month or more before starting them.

COMMUNICATIONS RECEIVED.—*J. R. J. S.*—*T. C.*—*H. R. E.*—*R. D.*—*W. E. G.*—*H. M.*—*J. S.*—*E. C.*—*Vagabond*—*J. R.*—*W. H. B.*—*Science and Practice*—*S. T. W.*—*C. G. Van T.*—*W. Codner*—*A. D.*—*R. B.*—*T. H.*—*E. M.*—*G. W.*—*W. A. C.*—*J. D.*—*P. C.*—*K. R.*—*A. R.*—*J. B. W.*—*E. J.*—*J. J. W.*—*J. O'B.*—*H. W.*—*H. D.*—*F. S.*—*Professor Hansen*, Copenhagen.—*Sir J. P.*—*W. Dr. Bonavia*—*N. E. Br.*—*W. T. D.*—*G. E. J.*—*W. & Sons*—*Messrs. Sutton*—*F. W. B.*—*A. R. E.*—*W. E. T.*—*D. M.*—*W. T. E.*—*B. F. W. B.*—*P. J. T. N.*—*C. B.*—*W. E. Liddiate* (next week).—*E. T.*—*W. R.*—*Constant Reader*—*H. E.*—*Salopian*—*G. D. S.*—*E.*—*Wild Rose*—*J. G.*—*H.*—*Pteris*.

W. WOOD & SON'S NEW YEAR'S "SPECIALITIES."

The Cheapest House in the Trade for
ORCHID BASKETS

Our Own Manufacture, of all Descriptions and Sizes.
Send for New Illustrated CATALOGUE, giving prices.

PEAT, THE FINEST ORCHID,
THE COUNTRY PRODUCES.
For HARD-WOOD AND STOVE PLANTS,
OUR PEAT IS UNQUALLED.

Special Prices Carriage Paid to any Station in the
United Kingdom.

RHODODENDRON PEAT,
15s. per Ton F.O.R. Hants.

FRESH GREEN SPHAGNUM.
Short, thick, full-headed Moss; just the sort for Orchids.
2s. 6d. per Bushel.

SPECIAL OFFER,
TO CLEAR GROUND,
Broken Fibrous Peat, in truck loads, 6s. 6d. per yard;
Decayed Leaf Soil 3s. 6d. per sack. In trucks on
Rail near London.

W. W. & S.
PRIZE MANURES.
USED ALL OVER THE WORLD. NO EXHIBITOR
SHOULD BE WITHOUT.

WOOD WOOL, Superfine, Pure White,
15s. per cwt.
SUPERIOR WADDING IN COLOURS.

A Ship Just Arrived, of
SHELL SHINGLE.
LOAM, RICH SURREY,
VERY FIBROUS.

COCOA-NUT FIBRE.

G. E. R., 18s. per Truck of 2 Tons.
G. N. E., G. W. R., L. & N. W. R., and M. R., 1s. 6d. per ton extra.
L. B. & S. C. R., S. E. R., L. C. & D. R., 3s. per ton extra.

TOBACCO PAPER, RAG, & JUICE
Samples and Price on application.

**W. W. & S. NEW IMPORTED
ARCHANGEL MATS,**
Large Size and Full Weight.

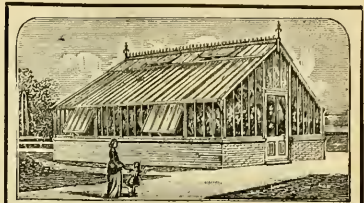
RAFFIA, the very Best Plaited.
W. W. & S. Fertilising Moss.

GUANO. TRY OUR IMPROVED
FISH GUANO.
Unequalled in quality and price, 16s. 6d. per cwt. All our
other PRIZE MANURES at special low trade prices.
BONES, and all other Manures, at Market Prices.
W. W. & S. "COMBINATION," for
Vine Borders, £7 7s. per Ton.

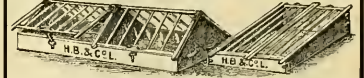
The Largest
Importers of **BAMBOO CANES,** 200,000 in Stock, of all
sizes, in black & white.
SILVER SAND, Coarse Crystal, Medium, and Fine.
Direct from Fins.

SEND FOR WOOD'S SECOND EDITION
ILLUSTRATED CATALOGUE.

W. WOOD & SON, F.R.H.S.
ESTABLISHED 1850. Chief Office—
WOOD GREEN, LONDON, N.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25ft. by 12ft., £50; 30ft. by 15ft., £70. Brick work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid—1-light frame, 4 x 6, 30s. 6d.; 2-light frame, 6 x 8, 58s.; 3-light frame, 12 x 6, 85s. 6d. Span-roof Frames, 12 x 4, £4 15s. 6d.; 9 x 5, £3 10s.; 16 x 6, £5 10s.

HARDY BRUIIN & CO., Street, LEICESTER



JAS. BOYD & SONS,
HORTICULTURAL BUILDERS
and HEATING ENGINEERS,
PAISLEY.



**HORTICULTURAL
STRUCTURES**
of every description,
in either Wood or Iron,
or both combined.



Wooden Chapels,
Shooting Lodges,
Tennis Courts,
Cottages, &c.



Hot-water Apparatus
for warming
Buildings of every
description.
Illustrated Circulars
Post-free.

Complete Catalogue, 3s.

STOCK	SIZES	GLASS
	Inches.	Inches.
14 x 12	20 x 15	
16 x 12	20 x 16	
18 x 12	22 x 16	
20 x 12	24 x 16	
16 x 14	20 x 18	
18 x 14	22 x 18	
20 x 14	24 x 18	

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."
GEORGE FARMILLOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote Chronicle.

CHEAPEST W. PEN DENNIS & SONS BEST
GARDEN
PONKEY POTTERIES, RUABON.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry,
and Clergy, for all kinds of
OUTDOOR WORK, CONSERVATORIES,
Greenhouses, Frames, &c.
1 cwt., and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.;
15, VICTORIA STREET, WESTMINSTER, S.W.1;
and BACHELORS WALK, DUBLIN.—Discount for Cash.

CLAY'S
LONDON
FERTILIZER
TRADE MARK.
TRADE MARK.
THESE WELL-KNOWN
MANURES

ARE USED BY THE
Leading Growers,
Royal Botanic Society,
Royal Horticultural Society,
Royal Parks,
London County Council,
Throughout the United Kingdom,
And in Every Quarter of the Globe.

Sold by SEEDSMEN, FLORISTS, and NURSEYMEN,
in 6d. and 1s. Packets, and SEALED BAGS:—

7 lb. 14 lb. 28 lb. 56 lb. 112 lb.
2s. 6d. 4s. 6d. 7s. 6d. 12s. 6d. 20s.

Or direct from the Growers in 1s. Packets, post free, or Bags
of either size, Carriage Paid (as sample), in the United King-
dom, for Cash with order as above.

The respective Trade Mark is printed on every Packet and
Bag, and also impressed on the Lead Seal attached to the
mouth of each Bag. The only Guarantee of Genuine.

PRICES OF CRUSHED BONES IN VARIOUS SIZES
ON APPLICATION.

CLAY & SON,
Manufacturers and Bone Crushers,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

NATIVE GUANO.—BEST AND CHEAPEST
MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags.
Lots under 10 cwt., 4s. per cwt.; 1 cwt., Simple Bag, sent
Carriage Paid to any Station in England, on receipt of P.O. for 5s.

Extracts from 16th Annual Collection of Reports:—
NATIVE GUANO, FOR POTATOES, VEGETABLES, &c.
H. BINKWORTH, Potato Grower, Reading, used for Potatoes,
Onions, and Carrots, results:—"Very good; never had better
results."—J. BUTLER, Sittingbourne:—"Used for Potatoes,
Celery, and other Market Garden Crops, with very good results;
Potatoes large, clean, and free from disease. Best and Cheapest
Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOES, &c.
J. FELL & Sons, Streatham, used for Fruit Trees and Roses,
results:—"Very satisfactory; we use no other Guano now;
consider yours preferable to Peruvian."—J. FINCH, Orrell
Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers,
and Flowers, with satisfactory results. Most excellent for
Potatoes and many other things. The Cheapest Manure in the
Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge
Street, Blackfriars, London, where Pamphlet of Testimonials,
&c., may be obtained. AGENTS WANTED.

THE PATENT
SILICATE MANURE.

This manure is chemically distinct from all
other Manures, and has been proved to supply
the place of sunshine, and has the power of
hastening the colouring and ripening of Grapes,
Tomatoes, Peaches, &c., beyond any other
Manure.

Field Crawler, Sussex, Sept. 14, 1891.
"The effect of this manure is most noticeable in the develop-
ment, ripening, and colouring of the fruit. In consequence of
the wet and sultry weather, I could not get my Tomatoes
growing in an unheated and rather damp house to ripen; but
within three days of applying your manure, they began to colour,
and I have been gathering splendid fruit almost daily since."
(Signed), B. C. RAVENSCROFT.

Prices in Sacks, at Works, 10s. per cwt.; £2 per
½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

INNES' FERTILISERS.—THE VINE and
PLANT FOOD.—Of all Nurseries and Seedsmen, or direct,
15s. per cwt., carriage paid to all Stations. References and
testimonials of the Sole Makers.—
W. INNES AND CO., Sunny Hill Vineery, Littleover, Derby.

IMPORTANT
TO GARDENERS, AMATEURS,
AND OTHERS, WHO FUMIGATE HOUSES
TO KILL "FLY," OR "THRIP."

You will shortly be ordering your Spring Supply of
Fumigating Material. Why lay in a heavy stock of tobacco
paper, uncertain in quality, often discoloured, and very
unpleasant to use, when you can have a SAFE, RELIABLE
article, and one that is pleasant to use?

THE FIRST
OF ITS
CLASS,
AND STILL
THE ONLY
ONE



PRICES:—

For houses with (1000 cubic ft., No. 3 Roll, 1/- each; 1 Post
a capacity of 12000 " " " " 4 " 1/9 " 1 Free.
The Rolls may be cut for boxes of a smaller capacity, and so
to make up required quantities for larger houses.

LEMON OIL INSECTICIDE.—The safest and most
effective Liquid Insecticide for dipping or syringing.
PRICES, post free:—Pints, 1s. 10d.; quarts, 3s. 3d.;
half gallons, 5s. 6d.

CLIBRAN'S EUCALYPTI MITE KILLER.—A truly
valuable remedy, has saved thousands of bulbs.
PRICES, post free:—Half-pints, 1s. 9d.; pints, 2s. 9d.;
quarts, 4s. 9d.; half-gallons, 8s.

OR FROM YOUR SEEDSMAN.

CLIBRAN'S OLD FIELD
NURSERIES, ALTRINCHAM;
10 & 12 MARKET STREET, MANCHESTER;
And Principality Nurseries, Dewgway, Llandudno.

THE "CLIMAX" INSECTICIDE.

The Cheapest and Best of all Insecticides.

As a Wash for Plants for destroying all kinds of Insects and
Parasites, which infest the foliage and roots, such as Green
and Black Fly, Mealy Bug, Scale and Thrip, Red Spider,
American Blight, Woolly Aphis, Caterpillar, Wood Lice, &c.

Price in tins:—½ Pint, 1s.; 1 Pint, 1s. 9d.; 1 Quart, 3s.;
½ Gallon, 5s.; 1 Gallon, 9s.; 5 and 10-Gallon Drums, 8s. per
Gallon. Carriage Paid.

Testimonials and Particulars sent free on application.

PREPARED SOLELY BY

THE BOUNDARY CHEMICAL CO., LTD.,
LUTON STREET, LIVERPOOL.

THE "STOTT" SPECIALTIES

For Destruction of Insect Pests.

Patent Distributor, Patent Syringe, Patent Sprayers.

KILLMIGHT.

2-oz. Sample sent free on application.

Testimonials and Price LISTS on application. Retail from
Ironmongers and Seedsmen. Wholesale and Retail from the
Stott Distributor Co., Ltd., Barton House, Manchester

For Green and Black Fly, American Blight, Camellia
Scale, Red Spider, Mealy Bug, Brown and White Scale,
Worms, Wood Lice, &c.

"PICRENA," THE UNIVERSAL
INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.

15, PRINCES STREET, EDINBURGH, July 15, 1887.—"Dear
Sirs, I have thoroughly tested a sample of a new Insecticide
which you were so good to send me. At the rate of 1 oz. to a
gallon of water at a temperature of 80° F. I find it kills Green
Gall of water at a temperature of 80° F. I find it kills Green
Gall at 120° F., seals the fate of Scale of all sorts in a few seconds;
while 3 oz. to gallon at same temperature effectually dissolves
Mealy Bug, and so far as I have yet observed, without the
slightest injury to leaf or flower, and it is withal a most
agreeable compound to work with. All our insect remedies
are applied through common syringe, or garden engine, a much
simpler test of efficiency than when applied by hand-washing
ever used. I ought to command a good sale. (Signed) A.
MACKENZIE," of Messrs. Methven & Sons.

Victoria and Paradise Nurseries, Upper Holloway, London,
January 7, 1888. "GENTLEMEN—I have given your Insecti-
cide, 'Picrena,' a good trial in competition with many others.
I am pleased to say that I have found it to be more effective
in destroying Mealy Bug and other insects than anything we
have ever used. I ought to command a good sale. (Signed)
B. S. WILLIAMS."

Sold by Chemists, Nurserymen, and Florists,
in Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in Tins (1 and 2
gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and
upwards, 8s. per gallon.

Prepared only by
DUNCAN, FLOCKHART & CO., Chemists to the Queen,
Edinburgh.

May be had from B. S. WILLIAMS, Victoria and Paradise
Nurseries, Upper Holloway, London; and from
WILLIAM EDWARDS AND SON, 157, Queen Victoria
Street, London.

"Nothing Succeeds like Success."

HUGHES' (SOLUBLE)
INSECTICIDE
FIR TREE OIL

The most reliable and best of all Insecticides
for destroying Insects and Vermin on Plants
and Fruit Trees, also on Animals, and Birds;
and as a Disinfectant & Bleacher in Washing
Clothes. Full Directions on the Labels of
each Bottle.

Sold by Seedsmen & Chemists, 1/6, 2/6, & 4/6; ½-gallon
7/6, 1-gallon 12/6, or less in larger quantities.

A Treatise on FIR-TREE OIL as an insecticide, its
application to Plants and Animals, sent post free on
application to the manufacturer, addressed to
E. GRIFFITHS HUGHES, Victoria-st., Manchester.
Wholesale from all the London Seed Merchants and
Patent Medicine Houses.
NEW YORK—A. ROLKEE & SONS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for
37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 23s. 6d.
BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and
Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 13s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM,
each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING
COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.

RICHARDS' NOTED
ORCHID and other
SELECTED PEATS (Cut from his
Own Grounds), SOILS,

MANURES, and every description of
GARDEN SUNDRIES.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere
Green, Lambeth, London, S.E.

Write for Samples and Price List, Post-free.
CHIEF PEAT DEPOT: RINGWOOD, HANTS.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton,
or truckload. SPECIAL ORCHID PEAT, in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystall,
and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE,
fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTI-
CIDES, and all other Garden Requisites. Peat Moss Litter,
The Original Peat Depot, RINGWOOD, HANTS.

SAVE HALF THE COST.

GARSIDE'S BEDFORDSHIRE
COARSE AND FINE
SILVER SAND

Is admitted by the
leading Nurserymen
to be the Best
Quality obtainable in the Trade.

Consumers should Buy Direct from the Owner of these
Celebrated and Extensive Pits, which contain a practically in-
exhaustible supply of Splendid Sand, and thus save half the
ordinary cost. Write for TRAVELLER or AGENTS.
Apply direct to the Proprietor for Samples and Price
free on Rail or Canal. All Orders executed with the utmost
promptness and under personal supervision. Special Rail
Rates in force for all parts. All kinds of PEAT supplied
at lowest possible prices. Sample Bag sent on application to
GEO. GARSIDE, Jun., F.R.H.S., Leighton Buzzard, Beds.

ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,
AND ALL GARDEN SUNDRIES.

SENT FOR A
PRICE LIST

from the Largest Manufacturer in the Trade,

H. C. SMYTH,
21, GOLDSMITH STREET,
DEURY LANE, W.C.

GARDEN REQUISITES.—
Sacks, Labels, Virgin Cork, Raffia Mats, Bamboo
Canes, Rustic Work, Manures, &c. Cheapest Prices of
WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

The Original and Only Makers of the
GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).
These Boilers, after long experience, have
proved themselves the Most Efficient, Econo-
mical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges,
and Expansion-Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.



FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

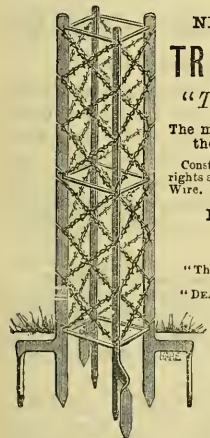
BARB WIRE.

CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARINGTON.



HILL & SMITH,

**BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.O**



**NEW PATTERN
TREE GUARD,**
"The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whitlitter, Herefordshire,
"Dec. 26, 1887.

"DEAR SIRS.—I have now had
an opportunity of trying
your PORCUPINE TREE
GUARDS, and they seem
quite to answer my
purpose, so you may send me
50 more as before. I en-
close cheque for your
account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.

PIT LIGHTS.

Best quality and workmanship, 3 inches thick, 6 ft. by 4 ft.,
iron bar across and very strong, 4s. each; free on rail in
London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door,
&c. Put on rail in London. Low price. Send for detailed
specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.



**WARNE'S
(LATE MATTHEWS)
CELEBRATED WESTON
FLOWER POTS
AND
HORTICULTURAL
POTTERY.**

CONWAY G. WARNE, Limited,
Royal Potteries, Weston-super-Mare.

"FRIGI DOMO" CANVAS.

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

If you fail to obtain this
Valuable Canvas from your local
Seedsman, send a post-card to—

BENJ. EDGINGTON,
(LIMITED),

**2, DUKE STREET,
London Bridge, S.E.,**

Who will reply by return, with
Samples and full Particulars.

"FRIGI DOMO" CANVAS.

"DUROLINE"

(Transparent Wire Wove Roofing)
SUBSTITUTE FOR GLASS
UNBREAKABLE. FLEXIBLE.

LARGELY USED IN ALL PARTS OF THE WORLD.

Government Officials, Fire Insurance
Surveyors, Architects, Engineers, and
numerous Experts have testified on oath
that "DUROLINE" is preferable to
and much safer than Glass for Roofs,
Sightlights, and other similar erections.

See Report "London County Council v. The New Wire
Wove Roofing Co., Ltd." May and June 1891.

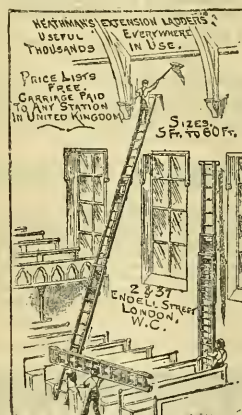
INVALUABLE FOR FARM BUILDINGS.

Extensively used on the estates of H.R.H. The Prince of
Wales, The Duke of Westminster and Sutherland, and
thousands of others.

**SAMPLES AND FULL PARTICULARS OF THE
SOLE PATENTEES AND MANUFACTURERS**

THE NEW WIRE WOVE ROOFING CO., LD.

75s, Queen Victoria Street, LONDON, E.C.



GARDEN REQUISITES, as supplied to
the Royal Gardens.—**COCOA-NUT FIBRE REFUSE,**
1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free;
2-ton truck, 30s., free on rail near works. **FINE ORCHID
PEAT,** 8s. 6d. per sack. **BROWN FIBROUS DO.,** 6s. per
sack, 5 for 22s. 6d. **BLACK DO.,** 4s. 6d. per sack, 5 for 20s.
FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each
3s. per sack. **COARSE SILVER-SAND,** 1s. 6d. per bushel, 14s.
3 ton, 20s. per ton. **CHARCOAL,** 8s. per sack. **SPHAONUM,**
7s. 6d. per sack; all sacks and bags, 2d. each. **RUSSIA MATS,**
10s. 6d. to 18s. per dozen. **RAFFIA, VIRGIN CORK,
STAKES, &c.** **BONES** 4-inch, 11s. per cwt. **PURE BONE-
DUST,** 11s. 6d. **TOBACCO-PAPER,** Special 16s. 10d. per lb.,
28 lb. for 21s. **CLOTH,** 1s. per lb., 28 lb. for 26s. Price List,
free. **W. HERBERT AND CO.,**
Hop Exchange Warehouses, Southwark Street, London, S.E.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The
Registered Address for Foreign and Inland
Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged at two.

4 Lines	.. £0 3 0	15 Lines	.. £0 8 6
5 "	.. 0 3 6	16 "	.. 0 9 0
6 "	.. 0 4 0	17 "	.. 0 9 6
7 "	.. 0 4 6	18 "	.. 0 10 0
8 "	.. 0 5 0	19 "	.. 0 10 6
9 "	.. 0 5 6	20 "	.. 0 11 0
10 "	.. 0 6 0	21 "	.. 0 11 6
11 "	.. 0 6 6	22 "	.. 0 12 0
12 "	.. 0 7 0	23 "	.. 0 12 6
13 "	.. 0 7 6	24 "	.. 0 13 0
14 "	.. 0 8 0	25 "	.. 0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.
If set across three Columns the lowest charge will be 30s.
Page, 2s; Half Page, 2s 10s.; Column, 2s.

NOTICE TO ADVERTISERS.—In many instances
Remittances in Payment of Repeat Adver-
tisements are received without name, address,
or anything beyond the postmark on envelope
by which to identify the sender; this in all
cases causes a very great deal of trouble, and
frequently the sender cannot be identified at all.
Advertisers are requested when Remitting
to give their Names and Addresses, and also
a Reference to the Advertisements which they
wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS,
26 words, including name and address, 1s. 6d.,
and 6d. for every additional line (about nine
words) or part of a line. These Advertisements
must be prepaid. This scale does not
apply to announcements of Vacant Situations,
which are charged at the ordinary scale.

Births, Deaths, and Marriages, 6s. each
insertion.

POSITION.—Advertisers are specially requested
to note, that under no circumstances shall
ever can any particular position be guaranteed
for advertisements occupying less space than
an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers,
and Others.—It is very important in remit-
ting by Postal Order that it should be filled
in payable at No. 42, DRURY LANE, to
A. G. MARTIN, as, unless the number of a
Postal Order is known, and it has been made
payable at a particular office, and to a par-
ticular person, it is impossible to prevent any
person into whose hands it may fall from
negotiating it.

N.B.—The best and safest means of Re-
mitting is by **POST-OFFICE MONEY
ORDER.**

Advertisements for the current week MUST reach
the Office not later than Thursday noon.

All Advertisements should be addressed to the
PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United
Kingdom, 12 months, 15s.; 6 months, 7s. 6d.;
3 months, 3s. 9d. All Foreign Subscriptions,
including Postage, 17s. 6d. for 12 months:
Post-office Orders to be made payable at the
Post-Office, 42, Drury Lane, W.C., to
A. G. MARTIN.

Subscribers who experience any difficulty in
obtaining their Copies regularly, are particu-
larly requested to communicate with the
Publisher (in cases of delay in the delivery
by post, the cover should be forwarded with
complaint).

BOILING WATER OR MILK. EPPS'S GRATEFUL-COMFORTING. COCOA BREAKFAST-SUPPER.

AGENTS WANTED FOR THE SALE OF NATIVE GUANO. The Best and Cheapest Manure for all Farm and Garden Crops.—**THE NATIVE GUANO COMPANY, LIMITED,** 29, New Bridge Street, Blackfriars, London, E.C.

WANTED, good AGENTS, to introduce the "STOTT" HORTICULTURAL SPECIALITIES, Liberal Terms. Address—**THE "STOTT" FERTILIZER AND INSECTICIDE DISTRIBUTOR CO., LTD.,** Barton House, Deansgate, Manchester.

COCOA-NUT FIBRE REFUSE, newly made, the same as supplied to the Royal Horticultural Society, 2 tons loose in truck free to rails—G. W. G. N., S.W., L. & N.W., Mind, 23s.; other lines, 25s.; in bags, 29, 16s.; 40, 30s. Cash with order.—**J. STEVENS** and CO., Cocoa-nut Fibre Merchants, 153, High Street, Battersea, S.W.

BROWN and BLACK FIBROUS PEAT, 25s. per Ton, or 25 per Truck of 4 Tons; Bags, 5s. each; 10 Bags, 45s. PEAT, for forming Rhododendron, Bog, and American Plant Beds, 21s. per Ton, or 24 4s. per Truck of 4 tons; Bags, 5s. each; 10 Bags, 45s. **THOMAS WALKER,** Tekela Park, Camberley, Surrey.

ORCHID PEAT; best Quality; **BROWN FIBROUS PEAT** for Store and Greenhouse use. **RHODODENDRON and AZALEA PEAT.** Samples and Prices of **WALKER and CO.,** Farnborough, Hants.

TO HORTICULTURISTS.—GREENHOUSE GAS COKE and SMITH'S COKE delivered in Trucks loads to any Station in England and Wales.—Address, **G. J. EVESON,** 26, Corporation Street, Birmingham.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in latter from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 2s., and 10s. 6d.

GISHURSTINE keeps Doots dry and soft on wet ground. Boxes, 6d. and 1s. from the Trade. Wholesale from **PRICE'S PATENT CANDLE COMPANY (Limited),** London.

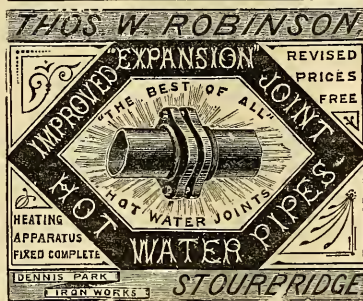
SIX CAVENDISH PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 8s. Stamp size, 24 for 1s. 6d.; 100 for 3s. 3d. Send Card or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—**FRANCIS and CO.,** 29, Ludgate Hill, London.

FREE GRANTS OF LAND IN MANITOBA and other PARTS OF CANADA.—The reports (illustrated) of the twelve British Tenant-Farmers who visited Canada in 1890, and other pamphlets issued under the authority of the Imperial and Dominion Governments, containing maps and full information as to land regulations, bonuses granted to settlers, openings for capital, demand for labour, rates of wages, cost of living, and all other particulars, may be had post-free, on applying to the High Commissioner for Canada (Mr. J. G. COLLIER, C.M.G., Secretary), 17, Victoria Street, London, S.W.; or to Mr. JOHN DYKE, Canadian Government Agent, 15, Water Street, Liverpool.

CHAS. FRAZER'S EXORS.—Conservatories, Orchard-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. **HOT-WATER BOILERS and HEATING APPARATUS,** for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Pottery Appliances, Portable Summer-houses, Tool-houses, Pigeon Coops, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps. **PALACE PLAIN HORTICULTURAL WORKS, NORWICH.**

THREE MILLIONS RAILWAY PASSENGERS ASSURANCE COMPANY, FOR ACCIDENTS OF ALL KINDS. 64, CORNHILL, LONDON.

W. D. MASSY, Secs.
A. VIAN,



AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

THE AMERICAN GARDEN,

WHICH INCLUDES—

THE AMERICAN GARDEN ... 18th Year. United in
THE GARDENERS' MONTHLY ... 32nd Year. ONE.
and HORTICULTURIST ... 44th Year.
THE FLORAL CABINET ... 19th Year.

Making the Largest, Best, Oldest, Live-liest, Handsomest Gardening Magazine in America.

THE LEADING AMERICAN JOURNAL FOR HORTICULTURAL ADVERTISEMENTS.

Subscription Price for England and Countries in the Universal Postal Union, 10s.

E. H. LIBBY, Publisher, Times Building, New York, U.S.A.

Agents for Great Britain and Ireland:—**STEEL and JONES,** 4, Spring Gardens, Charing Cross, London, S.W., to whom Orders for Advertisements and Subscriptions may be sent. A Specimen Copy post-free for 10d. (stamps).

Agricultural Economist.

An ILLUSTRATED MONTHLY MAGAZINE, of 52 pages and cover. Exponent of scientific and high farming; advocate of co-operation in agriculture, in the supply of farm requisites, and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of manure, complete manures, reliable seeds, and implements on wholesale terms. Specimen copy free. Subscription, per annum, 5s., inclusive of postage. Single copies 6d. each, through all Newsagents.

3, Agar Street, Strand, London, W.C.

MY GARDENER. Demy 8vo, cloth, 2s. 6d. Illustrated by H. W. Ward, F.R.H.S., Head Gardener to the Earl of Radnor, Longford Castle, Salisbury.
"Clear, sensible, and full of instruction."—*Times*.
"This is the best work on gardening which we have come across for a long period . . . and certainly deserves a place in every gardener's library or bookcase."—*Rural World*.
"As a practical handbook for the million, it has no superior on the subject."—*Bell's Weekly Messenger*.
"The book is replete with valuable cultural notes, indispensable to the millions who are now turning to gardening as a source of pleasure and profit."—*Gardener's Chronicle*.
"The professional gardener, amateur, and cottager may look to it as a trustworthy guide in matters affecting the routine of the garden."—*Gardener's Chronicle*.
"It is likely to be most useful and very popular."—*D. T. FISH, Esq.,* Bury St. Edmunds.
"I hope for the good of the country it may meet with the extensive sale it deserves."—*W. THOMSON, Esq.,* Clonsford.
"I shall consult it myself with pleasure."—*F. W. BORDRIDGE, Esq.,* Curator of Trinity College Botanical Gardens, Dublin.
EYRE and SPOTTISWOODE, Esd. Harding Street, E.C., and all Booksellers.

GARDENING APPOINTMENTS.

Mr. A. THOMSON, for the last two years Gardener at Slingsby Hall, as Head Gardener to J. C. NICHOLSON, Esq., Moorfields House, Leeds.

Mr. J. ENGLAND, Foreman at Hickleton Gardens, Yorkshire, for the last five years as Gardener to Lord AUCKLAND, Edenthorpe, near Doncaster.

Mr. A. BENJAMIN, until recently Foreman at Middleton Park Gardens, Bicester, as Gardener to H. HOARE, Esq., Wavendon, Woburn, Beds.

TRAVELLER WANTED AT ONCE,

To represent a large English Firm on the Continent. Must have a good knowledge of General Nursery Stock, especially Orchids, Hardy Plants, &c., and speak French and German fluently. Only those who have been on the road before need apply, stating previous employment, and terms expected, to Box 3, *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

Commercial Travellers' School, Pinner.

WANTED, for the above-named Schools, a WORKING BAILIFF or GARDENER, who is thoroughly experienced in the Management of Cows and Pigs, and can also Superintend General Farm Work and Plain Gardening. Wages 21s. per week, with a good cottage.—Application to be made, by letter, to the SECRETARY, 37, Milk Street, London, E.C.

WANTED, a thoroughly reliable married MAN of about 30, as MANAGER in a Shop. Must have a fair knowledge of the Seed Trade, and a thorough knowledge of the Out Flower and Plant Trade. Character and ability must bear the strictest investigation.—**MARSHALL BROS. and CO.,** Barnham Junction, Bognor.

WANTED, for North Wales, a MAN to Manage and Assist on a small Farm of 50 Acres, where Stock is kept, and a few Acres of Fruit Farming. Give full particulars by letter to **THOMAS PERKINS and SONS,** Nurserymen, 34, Drapery, Northampton.

WANTED, a HEAD WORKING GARDENER. Second kept. He must be able and willing, and take an interest in his work.—Apply by letter to H. Messrs. Nutting & Sons, 105, Southwark Street, S.E.

WANTED, a GARDENER.—To board and sleep in the house preferred, in a small, good place. Must be a thoroughly experienced and steady man, with full knowledge of Conservatory, Fruit, and Kitchen Gardening; also willing to clean hives, knives, &c., in a small family. Good wages will be paid to suitable men. State age, wages, and full particulars to Mr. HUMPHREYS, Holmesdale, New Gardens, Surrey.

WANTED, as GARDENER, a married MAN, about 35, without any family, at a small country house where Under Gardener is kept. Must be a good all-round working man, and wife to assist part of the day in house duty. Wages, 25s. a week, with rooms, coal, oil, and vegetables if sufficient is produced from garden. Good testimonials required.—Apply, by letter only, to C. G., 99 and 100, White Lion St., Pentonville, N.

To Gardeners.

WANTED, a thoroughly experienced MAN, to take the entire Management of a Garden of 10 Acres, 4 acres of which are glass, situated at Hillingdon, near Uxbridge. Only thoroughly experienced men, accustomed to grow fruit market, and whose characters will bear the strictest investigation, need apply, stating fully the whole of past experience, age, and salary required. House food but no commission or any extras allowed.—Apply, by letter only, to market private, to **WILLIAM WHITELEY,** Westbourne Grove, London, W.

Saakeys famous GARDEN POTS * Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and is every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your Garden Pots, and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

GARDENER (HEAD WORKING).—Age 39. Married, two children, youngest 12; twenty-three years' experience in Growing Grapes, Peaches, Melons, Cucumbers, Tomatoes, Mushrooms, Stove and Greenhouse Plants, Flower and Kitchen Gardening, Early and Late Forcing. Abstainer. Good references. Please state particulars of place.

GARDENER. Lampitt, Huddesdon, Herts.

GARDENER (HEAD WORKING).—Age 32, married, no family; thoroughly practical in all branches. Seventeen years' experience. Excellent testimonials and references. Nearly four years in present situation. A death case of leaving. —H. TULLETT, The Trowlock, Teddington.

GARDENER (HEAD WORKING); age 31, married, no children. —Mrs. THURSTAN HOLLAND wishes strongly to recommend her Gardener, who has lived with her four years. He is honest and sober; a very good Gardener. Leaving for no fault. —W. BELL, Durham Road Dairy, Wimbeldon.

GARDENER (HEAD WORKING).—Age 30, married, two children, ages 10 and 15. Life experience in all branches. Fourteen years Head; excellent character and testimonials. —W. H. STONE, 2, Lishorne Terrace, Torquay.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 25, has had good experience of Store Fruit, Greenhouse Flower, and Kitchen Garden work. Good character. —F. W. Harold Hall, Beds.

GARDENER (HEAD WORKING); age 36, married. —G. KEMP, late Head Gardener, The Manor House, Eppingham, offers his service to any lady or gentleman in efficient, energetic, and practical man, in all branches of Gardening, also Land and Stock. Life experience in good gardens. Highest reference. —G. KEMP, Eppingham, Leatherhead.

GARDENER (HEAD WORKING), where two or more are kept. —Age 30. Fifteen years' experience in all branches. Three years foreman in present place. Excellent references from present and previous employers. —A. CAMPIN, Cannon Hall Gardens, Bursley.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 31, married. Well experienced in all branches of the work. Nine years' good personal character from last employer; abstainer. —A. G., Dorset Lodge, Merton Park, Merton, Surrey.

GARDENER (HEAD WORKING).—Age 31, married, two children; thoroughly experienced in all branches, including Landscape Gardening; 15 years' experience; five years with the Earl of Oaslow. Thorough good character. —W. ATFIELD, Bellagio, Surrey.

GARDENER (HEAD WORKING).—Seventeen years with the late Bishop of Carlisle. Highly recommended by members of his family. —S. FOSTER, Barton, near Lincoln.

GARDENER (HEAD WORKING), where three or four are kept. —Age 39, married, small family; thoroughly understands the general routine of Gardening. Well recommended. Leaving through death of employer. —HORN, The Gardens, Cedar Lawn, Hampstead Heath, N.W.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Jollydown, near Dorking, wishes to recommend his Foreman, James Fullen. Thoroughly practical in all branches, including Orchids, Hardy Alpines, and Herbaceous plants. Excellent character.

GARDENER (HEAD WORKING), where one or more are kept. —Age 35, married, one child; life experience in all branches, Land and Stock. Good character. —GARDENER, East Ashling, Chichester, Sussex.

GARDENER (HEAD WORKING).—Age 32, married, no family; eighteen years' thorough experience in Vines, Melons, Tomatoes, and good all-round Gardening. Leaving through death of employer. —P. T., The Lodge, Eirfield, Addlestone, Surrey.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 30, married, life experience. Excellent character and testimonials. —GARDENER, Gladmans Villa, Bath Road, near Cranford, Hounslow.

GARDENER (HEAD WORKING).—Age 37, married; twenty-five years' practical experience in all its branches; Table and Drawing-room Decorations. Four and a half years in last place, six years previous. Land and Stock. —E. DOWLING, The Bery Stead, Sunninghill, Berks.

GARDENER (HEAD, or good SINGLE-HANDED).—Eight years' good character. Thoroughly experienced in all branches. Address R. P., 3, Meredene Street, Sozers Road, Brixton Hill, S.W.

GARDENER (HEAD, or SINGLE-HANDED).—Age 35; twelve years' experience. Wife Laundress or Dairy, if required. Testimonials and character. —S. B., West Mill, Buntingford, Herts.

GARDENER (Good SINGLE-HANDED, or where there is help given).—Age 29; twelve years' experience both inside and out. Understands the general routine of a Gentleman's Garden. Willing and obliging. —F. SIMMONDS, Main Street, Epsom, Surrey. With confidence recommend J. Dallman as above for a good establishment. —J. DALLMAN, Ditton Hall Gardens, Ditton, Surrey.

GARDENER (good SINGLE-HANDED, or where help is given).—Age 24. Thorough experience in good gardens. Good characters from previous employers. —J. H., East Thyberly, near Stockbridge, Hants.

GARDENER (SINGLE-HANDED).—Age 29; has good knowledge of Vegetable and Flower Gardens. Good reference. —JOHN BRISTOW, 4, Dale View, Belvedere, Kent.

GARDENER (SINGLE-HANDED, or FIRST in Kitchen Garden in large establishment).—Excellent character from last place. Good references preferred. —R. FICHAM, Hockwold, Brandon, Norfolk.

GARDENER (SINGLE-HANDED).—Age 25, single. Good references. —J. T. 19, Ballantine Street, Wandsworth, Surrey.

GARDENER (SINGLE-HANDED), or where one is kept.—Age 28, married, two children; seven years' good character from present employer. —W. HIBBERT, Carn Hall, Farnham.

GARDENER, good SINGLE-HANDED, or where help is given.—Well up in all branches. Five years' good character. —WALTER HILLS, Church Street, Steyning.

GARDENER (SINGLE-HANDED), or where more are kept.—Age 25; single; twelve years' experience in Fruit and Plants. Good reference. —No. 2, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (SINGLE-HANDED preferred).—Married, no family. Abstainer, with reference. —A. KNIGHT, North Petherton, Bridgewater, Somerset.

GARDENER (good SINGLE-HANDED).—Age 24, single; eight years' experience in all branches. Good references. —H. GLADDEN, Scio House, Putney Heath, London, S.W.

GARDENER (SINGLE-HANDED), or where help is given.—Age 40, married, no family; good all-round man. Abstainer; good references, easy distance from London preferred. —GARDENER, 31, Bruce Road, High Barnet, Herts.

GARDENER (SECOND), inside, or inside and out, where four or five are kept; age 25. —F. HAMBLYN, Gardener, Harewoods, Bell-hingley, Surrey, will be pleased to recommend J. TREADWELL as above, who has been with him three years.

GARDENER (SECOND), where four are kept. Age 23; nine years' good practical experience inside and out. Four years in present situation. Good characters. —W. G., 50, Homedale Road, Bromley, Kent.

GARDENER (SECOND), inside and out.—Age 26. Experienced in all branches; good character. —W. H., 34, Croyham Road, South Croydon, Surrey.

GARDENER (SECOND, or SINGLE-HANDED).—Age 22; seven years' experience, inside and out. Good references. —A. SNEELING, 26, Stamford Terrace, Stamford Hill, London, N.

GARDENER (SECOND).—Age 23, six years' experience, in and out doors, good character from last and previous places. —A. S., 16, Queen's Road, Upper Norwood.

GARDENER (SECOND), where two or three are kept, or SINGLE-HANDED. —Age 28. Disengaged. Good reference. —F. COLES, 5, Park Terrace, Upper Cutham, Surrey.

GARDENER (SECOND), or FOREMAN (SINGLE-HANDED).—Age 29; experienced in Early and Late Forcing, and Greenhouse work in general. Good character from previous employer. Disengaged February 26th. —H. NAPIER, The Gardens, Babworth Hall, Retford, Notts.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 25, married, no family. —A Lady wishes to recommend her Gardener as above. Ten years' experience. —H., The Grove, Hertford.

GARDENER (SECOND), under a good Working Gardener, where three or more are kept. —Age 22. —A. BEWITT, The Gardens, Woolton House, Woodhay, Newbury, Hants.

GARDENER (UNDER), Outside. —Age 21; five years' good character; five years previous. —J. PAYNE, The Gardens, Orchardleigh Park, Frome, Somerset.

GARDENER (UNDER) in a gentleman's garden. —Age 19; five years' experience, two inside and out. Good reference. —E. POWELL, Powkhall, Claverley, Bridgnorth.

GARDENER. —Age 45, married; good all-round. Nineteen years' experience as Head. Good references. —W. P., The Gardens, Frenchay Park, near Bristol.

GARDENER (UNDER).—A young man, age 20, seeks engagement, where not less than four or five are kept. Five years' experience; good references. —W. LEWIS, Queen Street Gardens, Colchester.

GARDENER (UNDER).—Situation wanted for a single man, age 26, where he can work inside and out. Very steady and reliable man. —HEAD GARDENER, Compton, Stebbage, Hants.

GARDENER (UNDER).—Age 22; both in and out. Outdoors preferred. Eighteen months character. Total abstainer. —J. D., 161, Livingstone Road, Thornton Heath.

GARDENER (UNDER), inside, or inside and out.—Age 22; good character from present situation. —W. STACEY, The Gardens, Stanmore, Middlesex.

GARDENER (UNDER).—Age 18. Four years' experience. —ALBERT ALDRIDGE, Clarence Road, Teddington, Middlesex.

GARDENER (UNDER, or in a Nursery).—Age 23; eleven years' practical experience. Good references. —A. MCCALLUM, High Street, Haslemere.

GARDENER, where two or more are employed.—Age 39, married; experienced in the Cultivation and Forcing of Fruit, Flowers, and Vegetables, and all Garden Work. Good testimonials. —GEORGE ADAMS, The Red House Lodge, Great Barr, Birmingham.

GARDENER.—Age 30, married; enthusiastic and successful cultivator of Florists' and other Flowers, Fruit, and Vegetables. Well up in all branches of Gardening. Understands Forcing of Vines and Peaches. —G. SAUNDERS, 28, Haringay Road, Middle Lane, Horesey.

GARDENER.—Good, hard-working, practical, single-headed, age 28. —Head Gardener can highly recommend the above. —G. N., *Gardeners' Chronicle* office, 41, Wellington Street, Strand, W.C.

GARDENER, where one or two undermen are kept.—Age 28, single. Member of the Church of England. —LEWIS MILLER, Mrs. Arnold, Hardwick, near Aylesbury.

MANAGER.—Age 40, married; life experience in Growing large quantities of Fruit, Flowers, and Vegetables for Sale. Thoroughly versed in Management of Business. Five years in present position as Manager. —T. WILES, Redland's Nursery, Emsworth, Hants.

To Nurserymen.

MANAGER or TRAVELLER.—Thirty years' practical knowledge in leading Nurseries. Seven years in late position as Manager. First-class testimonials. Knows England, Scotland, and Ireland well. —H. O., The Vineyards, Garston, near Liverpool.

To Nurserymen.

PROPAGATOR (ASSISTANT).—Age 21; good practical experience in Roses, Rhododendrons, Clematis and Cuscutae. First class references. —J. WATERS, Hollamb's Nurseries, Groombridge, Tunbridge Wells.

PROPAGATOR AND GROWER for Market.—Age 23; twelve years' experience in Tomatoes, Cucumbers, Plants, Ferns, Roses, Bulbs, Forcing, Wreaths, Eouquets, &c. Good references. —WOODS, Campden Nurseries, Broughly Ferry, N.B.

To Nurserymen.

PROPAGATOR AND GROWER of Soft-wooded Stuff, Ferns, &c.—Age 24; 10 years' experience. Good references. —W. CLAYDEN, 8, Trinity Terrace, College Park, Lewisham.

To Nurserymen.

FOREMAN or PROPAGATOR.—Age 23; married, fourteen years' London and Provincial experience in Hard and Soft-wooded Plants, Ferns, Palms, Roses, Fruit; well up in Wreaths, &c. Good references. —J. S., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

FOREMAN, in the Houses, in a good establishment. 11 years' practical experience; 2 years previous, can be well recommended. —H. AKTHUIS, 3, Culmer Road, South Streamham.

FOREMAN.—J. PUZEY can with every confidence recommend his Foreman (F. Eupton) to any Gardener requiring an energetic and trustworthy man. Good knowledge of Plants and Fruit. —Scampton Hall, Killegreen, York.

FOREMAN, in the houses.—Age 25; eight years' experience; over 4 years in present situation. Can be well recommended. —T. NOTLEY, The Gardens, Catton Park, Norwich.

FOREMAN.—Age 26; eleven years' experience. Thoroughly practical in all branches. Two years foreman in last place. Excellent testimonials. —FOREMAN, 10, Helreide Street, Ferry Hill, Catford.

FOREMAN, in a good Establishment.—Well up in Store and Greenhouse Plants; Fruit Culture. Ten years' experience from present and previous employers. Abstainer. —E. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN.—Age 24; good experience in Store and Greenhouse Plants; also Chrysanthemums, Vines, Peaches, Cucumbers, and Melons. —W. SIMMONDS, 4, Priopce Road, Ealing Dene.

FOREMAN, or MANAGER.—Age 38, married; well up in Cucumbers, Tomatoes, Cut Flowers and Plants; Fruit Growing and Market Garden. —FOREMAN, Mr. HANLIN, Blitchley, Bucks.

FOREMAN (INSIDE, or GENERAL in good establishment), age 27. —Mr. GRAY can, with every confidence, recommend his Foreman, W. Duffin, as above. Twelve years good practical experience. —Bodogon Gardens, R.S.O., Anglesy, N. Wales.

FOREMAN (INSIDE, or GENERAL).—Age 28; thirteen years' experience. Good Grower of Plants, Fruits, and Orchids; House and Table Decorations. Two years Foreman in Nobleman's place. Abstainer. —FOREMAN, 28, Cadogan Street, Cadogan Square, Chelsea, S.W.

FOREMAN, in a good Establishment.—Age 23; has a good knowledge of Store and Greenhouse Plants, also Early and Late Forcing. Good references. —S. CONN, Oakley Cottage, Nauton Crescent, Cheltenham.

FOREMAN, or JOURNEYMAN (FIRST), in a large establishment; age 24. —Mr. BROWN, Gardener, Chapel Manor, Horsmonden, Kent, can with confidence recommend Edward Beid as above. Ten years' experience.

FOREMAN, age 25, good Plant and Fruit Grower, also first-class experience. Good character and testimonials. —YOUNEN, Whittle, Chelmsford.

FOREMAN, in the Houses.—Age 28; two years in present place as First Journeyman and Decorator. Abstainer. —Mr. METCALFE, Swinton Park Gardens, Masham, Yorkshire, will have great pleasure in recommending George, a most respectable, painstaking, and industrious young man. Six years in previous situation.

FOREMAN, in the Houses.—Age 26; ten years' experience in good places. Good references and testimonials from last and previous employers.—**T. STEAD**, The Gardens, Lees Court, near Faversham, Kent.

FOREMAN.—Age 35; married; thoroughly experienced in growing large quantities of Grapes, Tomatoes, Melons, Cucumbers, Strawberries, Beans, Arons, Chrysanthemums, &c. Seven years' excellent character as Foreman in a large market place. E. C. 32, Market Street, Worthing, Sussex.

NURSERY FOREMAN or MANAGER.—Appointment wanted by thoroughly practical man in all branches.—**F. G. Gardner's Chronicle Office**, 41, Wellington Street, Strand, W.C.

FOREMAN, in a good Establishment.—Age 26; good practical experience. Excellent testimonials from last and previous situations.—**W. FISHER**, Orchard Gardens, Williton, Somerset.

FOREMAN (INSIDE).—Age 27; twelve years' experience in Fruit and Plant Growing. Nearly two years in present place as Foreman. Good testimonials.—**C. W.**, The Gardens, Brooklands, Weybridge, Surrey.

FOREMAN (INSIDE, or GENERAL).—Twelve years' experience in all branches. Good references.—**WILLIAM WATT**, Stannore, Middlesex.

FOREMAN, or to Manage.—Twenty years' experience in growing leading Crops, under glass and in the Open. Offers himself to anyone who requires a practical Man in all branches of a Nursery business. Good testimonials from past and present employers.—**ONWARD, Gardeners' Chronicle Office**, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, Outside, or Inside and Out.—Age 21; over four years' experience. Good character. Total abstinence.—**J. JOHNSON**, The Gardens, Hill House, Here Hill, S.E.

JOURNEYMAN, in the Houses.—Age 23; seven years' experience, Inside and Out. Good references from present and previous places.—**J. HARDY**, Wentworth Castle Gardens, near Barnsley.

JOURNEYMAN (FIRST or SECOND), under a Premium, in good Gardens.—**H. GILLMAN**, Gardeners' North Clay Place, Foul's Cray, Kent, can highly recommend E. Morris (age 22), to any Gardener wanting a willing hand.

JOURNEYMAN (FIRST), in the Houses.—English. Age 22; nine years' experience, inside and out. Two years with present employer, the Earl of Listowel; seven years in previous. Good character.—**B. MOTHERSOLE**, Connamore, Mallow, Co. Cork.

JOURNEYMAN, with charge, in good Establishment.—Age 21; eight years' experience; nearly three years in present situation as above. Good testimonials.—**W. WRIGLESWORTH**, Grimston Gardens, Tadcaster.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 21; five years' experience. Good character.—**G. HAZLITT**, Denacre, Wrentham, Suffolk.

JOURNEYMAN, Inside, or Inside and Out.—Age 19; seven years' experience; good character.—**H. WARREN**, 3 Plantation Cottage, Hextable, Kent.

JOURNEYMAN, Inside.—Age 26; eight years' experience, chiefly outdoors. Good recommendations. Bothy preferred.—**F. LATTIMORE**, Ketton, near Stamford.

JOURNEYMAN, in a large Establishment, or SECOND in a smaller place.—Age 24. Ten years' experience Inside and Out. Good references from present and previous employers. Bothy preferred.—**F. MANFIELD**, Wood Green Park, Cheshunt, Herts.

JOURNEYMAN, Inside and Out, in a Gentleman's or Nobleman's Garden.—Age 24 years' experience.—**F. THOMAS**, 12, Winslade Road, Upper Clapton, London, S.E.

JOURNEYMAN (SECOND or THIRD), in the Houses.—Age 20. Good character from last situation.—**A. FOWLER**, Brockhurst, Gosport View.

JOURNEYMAN (Inside and Out).—Age 20; five years' experience, inside and out; willing; good character.—**J. COOPER**, 41, Felix Road, Ealing, Kent.

JOURNEYMAN, in the Houses, under a Premium.—Age 22; three and a half years' good character from present situation.—**E. DUNNINGTON**, Elmby, Middleborough.

JOURNEYMAN (SECOND).—Age 19; in the Houses, under a good Foreman. Good character. Bothy preferred.—**E. BARNWELL**, Brog Hill Gardens, Wimbledon.

JOURNEYMAN (SECOND) in a Private Establishment, where three or four are kept.—Age 24; good knowledge of Orchids, and highest reference from present employers.—**W. MASON**, Brendal's Priory, Derby.

JOURNEYMAN in the Houses in a good establishment.—Age 18; two years in present place. Good reference. Bothy preferred.—**J. WRIGHT**, Chalk-pit Cottage, Caterham Valley, Surrey.

JOURNEYMAN (FIRST). Age 23; experienced in private and nursery. Good references.—**Box 8, Gardeners' Chronicle Office**, 41, Wellington Street, Strand, W.C.

JOURNEYMAN.—Age 20; six years in present situation, both Inside and Out.—**F. BARTON**, The Gardens, Totworth Court, Falsfield, R.S.O., Gloucestershire.

JOURNEYMAN (FIRST), in the Houses; in a good establishment.—Age 22; six years' experience. Thorough knowledge of Orchids.—**F. GILBERT**, Messrs. Hugh Low & Co., Clapton Nursery, N.E.

JOURNEYMAN, age 20.—**R. HENDERSON** can highly recommend a young man who has been with him five years in the Fruit and Plant Houses.—**St. Leonard's**, West Malling, Kent.

JOURNEYMAN (INSIDE or OUT).—Age 19; four years' experience. Can be well recommended.—**A. HINCHLIFFE**, The Gardens, St. Vincent's, Grantham.

JOURNEYMAN, Inside, or Inside and Out.—Age 22.—**J. H. DIBSON** has great pleasure in recommending J. Wilcox, who has been under him three years, as a thorough practical, obliging, active young man. Abstinence.—**J. WILLCOX**, The Gardens, Elham House, Grantham.

JOURNEYMAN in good establishment.—Age 22; seven years' experience. Good references. Bothy preferred. Apply, with particulars, to **E. LACEY**, Hayes, Beckenham, Kent.

JOURNEYMAN (FIRST) in the Houses.—Age 22; at least eighteen months at Clifton Manor, Wimburne. Good character. Bothy preferred.—**W. FENNEL**, 92, Camden Street, Camden Town, London.

JOURNEYMAN, in the Houses.—Age 20; six years' experience, Inside. Good character. Bothy preferred.—**F. CHALKLEY**, The Gardens, Wood Hall Park, Hertford.

JOURNEYMAN, Indoors and Out.—Age 21; good character from previous employers.—**E. N.**, Northill, Eglewade.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 20. Six years' experience. Strong and active. Bothy preferred.—**G. DOWNS**, Burkhams Gardens, Alton, Hants.

JOURNEYMAN in Houses.—Age 20; six years in present Place, in and out. Bothy preferred. Well recommended.—**JOHN DEWHURST**, Clifton Hall Gardens, Preston, Lancs.

IMPROVER, in good Establishment, in the Houses.—Age 19; good character. Willing to pay Premium.—**H. LOVE**, Wingfield House, Trowbridge, Wilts.

IMPROVER (Inside, or Inside and Out).—Six years' experience, chiefly outdoors, wishes to improve. Age 21; strong, active, willing. Good references.—**T. BELCHER**, Kingham, Chipping Norton, Oxon.

IMPROVER under a good Gardener, Inside and Out.—Age 16; b.b. prof. read. Strong, active, willing. Three years' good character.—Apply, **CHARLES LAWRENCE**, Stone House Farm, Brompton, near Reading.

IMPROVER.—Age 17; in the Houses in a Gentleman's Garden. Anxious to get on.—**G. SIMMONDS**, Gore, Uphurch, Near Sittingbourne, Kent.

IMPROVER, in the Houses.—Age 19; three years' and a half experience Inside and Out. Bothy preferred. Good references.—**E. L. 31**, Diamond Terrace, Teignmouth.

MANAGER, PROPAGATOR and GROWER (Inside of Roses, Clematis, Conifer, Rhododendrons, General Hard and Softwooded stuff. Fifteen years' practical experience.—**C. MILLER**, Hethersede Cottages, Camberley, Surrey.

PROPAGATOR and GROWER.—Age 23. Experienced in the general run of Market stuff, Palms, Ferns, Double Primulas, Cyclamens, Poinsettias, Pelargoniums, Cinerarias, Stove plants, Forcing, &c. Good references.—**Box 5, Gardeners' Chronicle Office**, 41, Wellington Street, Strand, W.C.

IMPROVER, in the Houses, in a large or small Nursery. Age 18; good character.—Moderate wages.—**H. 90**, St. Ann's Hill, Wandsworth, S.W.

IMPROVER, in a Gentleman's Garden, under Glass preferred.—Youth, age 19; four years' character. Well recommended.—**W. WALTERS**, Trubshaw Gardens, Leicestershire.

APPRENTICE (GARDENERS), or **IMPROVER** under good Gardener in Bath.—Age 20; good knowledge of gardening.—**C. THOMAS**, North Lodge, Wemyss Bay, N.B.

ORCHID GROWER'S ASSISTANT or **JOURNEYMAN (FIRST)** in a good all-round place.—Age 23. Eight years' varied experience; three years in Orchid-houses.—**C. MITCHELL**, Abbot Hey's, Green Hill Road, Allerton, Liverpool.

TO THE TRADE.—Advertiser is open for an engagement as **NURSERY MANAGER**, or **GENERAL TRAVELLER**, in a good establishment. Has had a thorough practical training in all departments, also in Office-work, and can produce references of the highest order.—For further particulars apply to **W. M.**, *Gardeners' Chronicle Office*, 41, Wellington Street, Strand, W.C.

TO GARDENERS, &c.—**Mr. FORD**, Gardener to Sir C. Pigott, Bart., is desirous of recommending a young man (age 26), for Flower and Kitchen Garden, who has lived with him for two years. He is a thorough hard-working young man.—**Hexham Park, Slough, Bucks.**

TO GARDENERS.—The Advertiser wishes to place a young Man (age 19) under a good Gardener, in bothy; £3 given.—Particulars to **JOHN FERRY**, Hillingdon Heath, Uxbridge.

TO GARDENERS.—**WILLIAM DRIVER**, Longford's Minchinhampton, Glos., wishes to recommend his son (age 19) to any Gardener wanting a smart, intelligent young man for the Houses. Five years' experience.

TO GARDENERS.—A Youth wishes to learn Gardening, especially Orchid growing. Small premium or time.—**A. J. W.**, 18, Gloucester Road, South Kensington, London, W.

TO NURSERYMEN.—Wanted, situation in a Nursery, where Strawberries and other Fruits are extensively grown for Market, by a young Man, (age 21, seven years' experience), and where further knowledge could be acquired. Premium given for suitable place.—**W. WREN**, The Firs, Normandy, near Guildford, Surrey.

TO NURSERYMEN.—A young Man (age 21) seeks a situation in a Market or Trade Nursery. Several years' experience. Good character.—**Z. Y.**, Mr. Michael, Amwell Street, Huddersfield, Herts.

TO NURSERYMEN.—A Y. Mr. Michael, Amwell Street, Huddersfield, Herts. Requires a situation where Grapes and Tomatoes are principally grown; thorough practical knowledge of market work. Excellent references.—**WILLIAMS**, 27, London Street, Basingstoke.

TO NURSERYMEN.—Situation wanted, by a young Man, age 21; five years' experience in Nursery Work, Fruit and Plants. Four years' good character.—**G. H.**, 1, Belsleigh Road, Richmond, Surrey, S.W.

TO NURSERYMEN.—A Dutchman (age 22) seeks a situation in a market nursery; near London preferred. Seven years' experience in and outside, in Holland, Germany, and England, from present and past employers. **A. OOSTERBAAN**, 12, Friestoppelsestraat, Hoxham, Northumberland.

TO NURSERYMEN.—A strong Lad, aged 16, just left school, offers himself. No premium; willing to pay part board. Particulars to **J. H. G.**, 123, Hopton Road, Streatham, S.W.

TO FRUIT FARMERS and GROWERS.—Appointment wanted as **MANAGER**, at Home or Abroad. Advertiser having thorough experience in Fruit Culture, and Management of Men. Age 32, married.—**H. A.**, *Gardners' Chronicle Office*, 41, Wellington Street, Strand, W.C.

TO FRUIT GROWERS.—A Gentleman wishes to recommend a young man who has been four years at the Crystal Palace studying Land-caps Gardening, and two years at Swaleley College, Growing Fruit, as **WORKING INSTRUCTOR or FOREMAN**, for Fruit Growing in Field, or under Glass.—**Mr. KETTEL**, Post Office, Igham, Sevenoaks.

GARDENER'S HANDY MAN wants work.—Glazier, Painter, and handy at repairs; any district; good character.—**J. C.**, 7, Lutet Street, Dartmouth Park Hill, Highgate, N.

CARPENTER seeks employment in Nursery or Estate; willing to make himself generally useful.—**J. FIELDER**, Ashurst Wood, East Grinstead, Sussex.

CORRESPONDING CLERK.—**JOHN LAING** & SONS will be pleased to recommend H. J. Pettit, to any good House in the Trade, requiring efficient service in this capacity, or that of **BOOK-KEEPER**, combined with an excellent knowledge of Plants and the general requirements of the Trade.—The Nurseries, Forest Hill, S.E.

SHOPMAN (ASSISTANT), age 20, seeks an engagement. Five years' experience in Seed and Bulb Trade. Good references.—Apply, **Box 5, Gardeners' Chronicle Office**, 41, Wellington Street, Strand, W.C.

TO GROWERS and MARKET GARDENERS.—Wanted by an experienced man, position as **SALESMAN**. Good references as to ability, &c.—**Box 269**, Watson's, 150, Fleet Street, E.C.

TO FLORISTS.—A young Lady seeks a situation in above business. Five years' experience in Flowers, Fruit, Seeds, &c.—**AMY**, *Gardeners' Chronicle Office*, 41, Wellington Street, Strand, W.C.

TO FLORISTS.—Two young Ladies seek situations, as **FIRST HAND and IMPROVER**. Seven and three years' experience. Undeniable references.—**E. 623**, Harrow Road, London, W.

TO FLORISTS.—A young Lady desires a situation as **IMPROVER**. Highest references. London preferred.—**MILLY**, *Gardeners' Chronicle Office*, 41, Wellington Street, Strand, W.C.

HOLLOWAY'S PILLS.—Weak stomachs. The wisest cannot estimate the number of distressing symptoms arising from enfeebled digestion, all of which might be readily dispelled by these admirable Pills. They remove all unpleasant tastes from the mouth, flatulency, and constipation. Holloway's Pills rouse the stomach, liver, and every other organ, helping digestion to that healthy tone which fully enables it to convert all we eat and drink to the nourishment of our bodies. Hence these Pills are the surest strength-givers and the most efficacious remedies for indigestion, nervousness, wasting, and chronic debility. Holloway's Pills are infallible remedies for impaired appetite, eructations, and a multitude of other disagreeable symptoms, which render miserable the lives of thousands. These Pills are approved by all classes.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by—
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS,
The Late EMPEROR OF THE FRENCH—THE EMPEROR OF RUSSIA,
And most of the Nobility, Clergy, and Gentry of the United Kingdom.



Royal Horticultural Society's Show, South Kensington, London, June 3 to 7, 1881. The "Journal of Horticulture," of June 8, says:—"MOWING MACHINES.—After a critical examination, the Silver Medal was granted to the old firm of world-wide fame, Messrs. T. GREEN & SON, of Leeds and London. As the Machines are known in all lands where good lawns are cherished, it is quite unnecessary to give any description of them."

Upwards of 170,000 of these Machines have been Sold since they were first introduced in the year 1856, and thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.

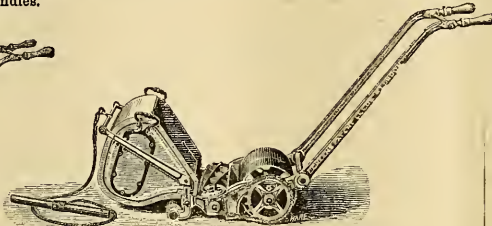
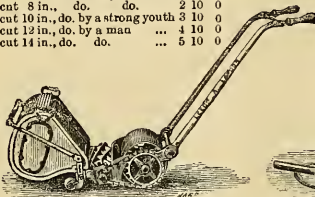
They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER.

With Improved Steel Chains and Handles.

To cut 6 in., can be worked by a Lady ... £1 15 0
To cut 8 in., do. ... 2 10 0
To cut 10 in., do. by a strong youth 3 10 0
To cut 12 in., do. by a man ... 4 10 0
To cut 14 in., do. do. ... 5 10 0

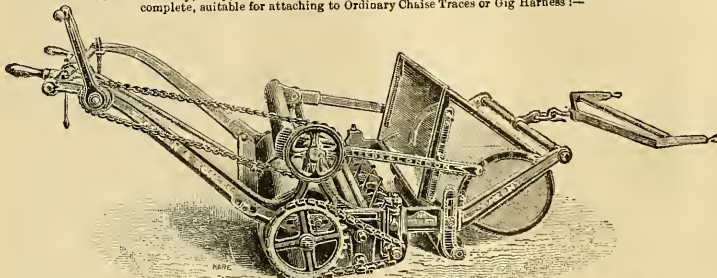


DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man } 26 10 0
To cut 18 inches, do. on even lawn ... } 7 10 0
To cut 20 inches, do. man and boy ... } 8 0 0
To cut 22 inches, do. do. ... } 9 0 0
* If made stronger, suitable for Donkey, 30s. extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches ... £14 0 0
To cut 28 inches ... 16 0 0
To cut 30 inches ... 18 0 0
Leather Boots for Donkey ... 1 0 0
Leather Boots for Pony ... 1 4 0

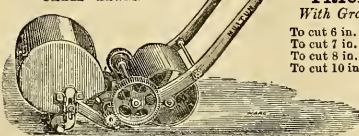
The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of its running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

HORSE MACHINES.

To cut 30 inches ... £22 0 0
To cut 36 inches ... 26 0 0
To cut 42 inches ... 30 0 0
To cut 48 inches ... 34 0 0
Leather Boots for Horse ... 1 9 0

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.

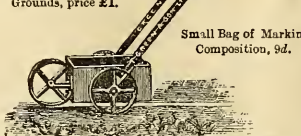


PRICES, With Grassbox.
To cut 6 in. £1 5 0
To cut 7 in. 1 13 0
To cut 8 in. 2 5 0
To cut 10 in. 3 0 0

GREEN'S Patent LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.
Size with 1 wheel for Ordinary Courts, price 14s.
Do., with 3 wheels, 17s.
Size for Clubs and Large Grounds, price £1.



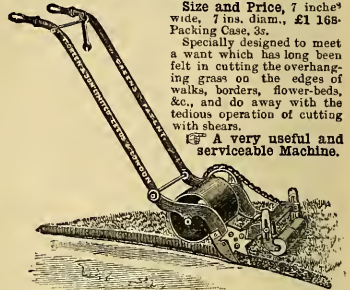
Small Bag of Marking Composition, 9d.

GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 1/2 in. diam., £1 10s. Packing Case, 3s.

Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

It is a very useful and serviceable Machine.



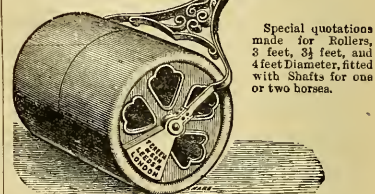
REDUCED PRICES OF

GREEN'S Patent ROLLERS, For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

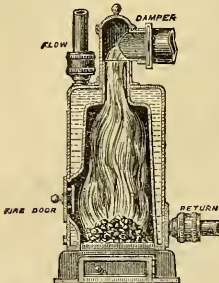
Diam. Length £ s. d.
16 in. by 17 in. ... 2 5 0
20 in. by 22 in. ... 3 5 0
24 in. by 26 in. ... 4 10 0
30 in. by 32 in. ... 7 10 0



Special quotations made for Rollers, 3 feet, 3 1/2 feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

HOT-WATER BOILERS



AND OTHERS WITH SHELVES, AND HOLLOW OR ORDINARY CAST-IRON GRATE BARS.

VERTICAL SADDLE BOILERS, &c.

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c.

Descriptive Illustrated PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON; or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2660.

No. 269.—Vol. XI. { THIRD SERIES }

SATURDAY, FEBRUARY 20, 1892.

{ REGD. AS A NEWSPAPER. } PRICE 3d. POST-FREE, 24d.

CONTENTS.

Acres of fruit in Great Britain	242
Amateur's garden, the	244
Vegetable quarter, the	244
American blight	245
Apple crop, our	246
Apples, Tasmanian	246
Books, &c.	246
Botanical Magazine	249
Elements of Agriculture	249
The Carnation	249
Hooker's Tooses Plantarium	249
Natural Science	249
Orchids	249
Brussels Garden Calendar for a home	249
Camellia, a venerable	249
Ceylon	249
Crosses and Crossings of plants	249
Dendrochloa, pruning	249
Diseases of plants	249
Education, technical	249
Eucalyptus globulus, flowering	249
Florist's flowers	249
Centropogon Lucyanus	249
Chrysanthemum in February	249
Fog-eliminating plant	249
house, Toope's	249
Ash as a timber tree	249
Forestry lectures, University of Edinburgh	249
Foreign correspondence	249
Hardiness of Calceolarias	249
Fuel, anthracite coal	249
Fuel and stoking	249
Gardeners and their employers	249
Ghent Horticultural Meeting	249
Ghent, Quinquennial, the	249
Grass, new, Marchioness of Downshire	249
Herbaceous border, the	249
Horticultural Club, the	249
Hothouses of H.M.I., the	249
Empress Frederick at Cronberg	249
Kew	249

ILLUSTRATIONS.

American blight	245
Cypripedium Chamberlainianum	245
Ocotoglossum crispum, var. obovatum	245
Henderson, Mr. Montgomery	245

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

ORCHIDS A SPECIALITY.—Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants.

W. L. LEWIS and CO., P.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

Raspberry Canes and Currant Trees.
BAUMFORTH SEEDLING, 40s. per 1000;
SEMPER FIDELIS, 30s. per 1000. Sample 100 of either sort, 6s. RED CURRANT TREES, 8s. per 100.
Cash with order. Free on rail. Apply—
R. H. BATH, Wisbech.

Hardy Fruits for the Midlands.
PROFITABLE FRUIT GROWING: What to Plant, and How to Plant. New Edition up to date, now ready, price 6d.—A. H. PEARSON, Chilwell, Notts.

LAXTON'S SEEDS AND STRAWBERRIES.—Best novelties and best standard sorts. 100 Certificates. Send for Descriptive Price Lists.
T. LAXTON, Seed Grower, Bedford.

SUTTON'S FORCING DWARF BEAN.

The demand for Dwarf Beans, before it is possible to gather from plants in the open, is now so widespread that a variety especially adapted for forcing has become indispensable, and we are glad to be able to offer a new Bean peculiarly suited to the purpose. Sutton's Forcing is the dwarfest-growing variety with which we are acquainted; it comes remarkably early, and is very prolific. Price, 2s. 6d. per quart.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

STANDARD ROSES.—All leading kinds, good Staff, 2s. to £3 10s. per 100, to clear at once.
JOHN NEWMAN, Stratford, Sandy, Beds.

TO ORCHID LOVERS.—"LE JOURNAL DES ORCHIDÉES," published in French, on the 1st and 15th of each month, 16 pages of text, by LUCIEN LINDEN, and 50 Selected Collaborateurs, furnishes the best information as to Culture.

Subscription, 8s. per annum, post-free, to be sent to the Publisher, LUCIEN LINDEN, 100, Rue Belliard, Brussels.

Specimen Number sent Gratis on demand.

THUIA LOBBII.—50,000 propagated yearly; adapted to all soils and situations; of vigorous growth. Wood of finest quality, not subject to spring or autumn frosts, 10 to 12 inch, 40s. per 1000; 12 to 15 inch, 50s. per 1000; 15 to 18 inch, 60s. per 1000. All sizes to 5 feet.

GARLIES MITCHELL, Nurseryman, Strathairn.

ORCHIDS FOR IMMEDIATE SALE.

Two Private Collections.
12s., 21s., 30s., and 42s. per dozen. LIST ready.
THE PLANT CLUB, Kirkstall, Leeds.

W. D. BUNDAY, of Covent Garden Market, 35, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOES, GRAPES, &c. Good references.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MOARTRUF, The London Nursery, 4, Maida Vale, London, W.

CUT FLOWERS.—ARTHUR L. BULLEN, Wholesale Flower Salesman and Grower, 33, Exeter St., Covent Garden, 271 and 272, Flower Market, Covent Garden, W.C., and Highfield Nursery, Bromley Common, Kent.

CONSIGNMENTS OF CHOICE FLOWERS SOLICITED.

LONDON PLANES.—Large quantity of fine Standard Trees, straight stems and splendid roots, 10 to 20 feet high, as supplied to London County Council for street planting.

W. FROW and SONS, Sutton Court Nursery, Chiswick.

MESSRS. SQUELCH and WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS OF GRAPES, TOMATOES, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE.

Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empty and labels supplied. Reference, London and County Bank, Covent Garden Branch.

EARLY OFFSHOOTING CABBAGE PLANTS for SALE. True Stock. Apply to—
J. H. BROWN, Swinhead, Boston.

DAMSONS.—Strong Standards for Hedgerow Planting; fine stock, a little rough. Special cheap offer 2s. per 100.

J. R. PEARSON & SONS, Chilwell Nurseries, Notts.

WANTED, 6000 CARNATION CUTTINGS, Miss Joffie. Particulars to TOTTINGTON ORCHARD COMPANY, Wincobach.

WANTED, SEEDS or PLANTS of Cestrum aurantiacum, Cynanthus lucanus, Glia androsaceae, G. Branderger, and Collomia linearis.—BEDHAM, Cambridge.

WANTED, MAIDENHAIR FERN, ROSES, ORCHIDS, CARNATIONS, LILUM HARESHI, and other CHOICE FLOWERS, to SELL on COMMISSION. Boxes and labels supplied. Established 1870. Telephone No. 2939.
R. END, Wholesale Florist, 23, Wellington Street, Covent Garden, W.C., and Crystal Palace, Sydenham.

CHRYSANTEMUMS.—CARTERS' ILLUSTRATED CATALOGUE of the FINEST COLLECTION in the COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—The Queen's Seedsmen, 237 and 238, High Holborn, London, W.C.

B. S. WILLIAMS AND SON'S IMPROVED MUSHROOM SPAWN, For Out-door and In-door Culture. Per bushel, 5s.; per cake, 6d.; per cake, free by Parcel Post, 1s.
Victoria & Paradise Nurseries, Upper Holloway, London, N.

Sharpe's Victor Potatoes.
W. W. JOHNSON & SON, SEED GROWERS and MERCHANTS, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

Buy Direct from the Grower.
CUCUMBER SEEDS, Rolisson's Telegraph, 60 for 1s.; 100 for 1s. 9d.; 8s. 6d. per ounce, post-free, from—
S. BARRATT, Cucumber Grower, Radcliffe-on-Trent, Notts.

LOVEL'S YORKSHIRE STRAWBERRIES.—We offer for Cash, good sorts in nice plants, carriage paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample boxes, 6d. Descriptive LIST free.

W. LOVEL and SON, Strawberry Growers, Driffield.

PURITY PRIMULA, first-class seed, 2s. 3d. per ounce.
POPE and SONS, King's Norton, Birmingham.

150,000.—Special Offer of Kentias.
W. ICKTON has a large quantity of the above to offer, very reasonable, at from 2s. 10s. per 1000. Thumb, well-established, 210 per 1000; in 60s., well-established, at 230 per 1000.
W. ICKTON, Putney, S.W.

Vegetable and Agricultural Seeds.
H. and F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

TARRAGON, RHUBARB, SEAKALE, for Forcing. Standard MORELL CHERRIES. Car. Early Prolific, Virginia PLUMS. Lancashire Lad, Industry, Whitesmith GOOSEBERRIES. Standard MEDLARS. FIGS in pots. Prices low.

WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

THE usual SURPLUS FLOWER ROOTS (Alpine and Herbaceous), from these Gardens now ready. Hampers of 50 strong roots, 5s. 6d. each. Interesting variety. WOOD'S HARDY PLANT CLUB, Kirkstall, Leeds.

COELOGYNE CRISTATA, well grown, with bloom spikes, and cheap for cutting. Also the TRENTHAM and MAXIMA VARIETIES. TRUSTEES, late J. STEVENSON, Timperley, Cheshire.

Standard Cherries.
CHARLES TURNER has still a large Stock of the above, with straight stems and good heads, of all leading kinds. The Royal Nurseries, Slough.

RASPBERRY CANES.—Norwich Wonder, R. Carter's Prolific, also Fastolf, strong and well rooted. Sample 100 Carter's Prolific on rail for Post-office Order for 4s. ALBERT BATH, Vine Court, Sevenoaks, Kent.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney.

WM. THOMSON and SONS, Clonsfords, Galashiels, N.B.

FORCING SALES BY MESSRS. PROTHEROE & MORRIS,

Horticultural Auctioneers and Valuers.
CENTRAL AUCTION ROOMS AND ESTATE OFFICES, 67 and 68, CHEAPSIDE, E.C. CATALOGUES FOR ALL AUCTIONS SENT FREE BY POST ON APPLICATION.

Monday Next.—Hardy Plants and Bulbs.

MESSRS. PROTHEROE AND MORRIS will sell by auction, at their rooms, 67 and 68, Cheapside, London, E.C., on **MONDAY NEXT, February 22**, at half-past 11 o'clock, many thousands of **HARDY PERENNIALS**, all being true to name; **GLADIOLUS**, **PART TUBEROSUS**, **NARCISSUS**, a collection of **CARNATIONS**, including a number of Continental varieties; **HOLLYHOCKS**, **HYDRANGEAS**, **PHLOXES**, **FEONIES**, **BEGONIAS**, **CYPRIPEDIUM**, **SPECTABILIS**, **Imported LILIES**, a fine collection of **Home-grown LILIES**, **BESSERA ELEGANS**, **TROPEOLIMUM TUBEROSUM**, **Choice Hardy BULBS**, **CACTUS**, **Pompon** and **Single DAILIES**, **Hardy ANEMONES**, and a quantity of beautiful **Hardy CLIMBERS**, &c.

On view morning of Sale, and Catalogues had.

Richmond, Surrey.

IMPORTANT CLEARANCE SALE of well-grown **NURSERY STOCK**, by order of Messrs. G. & W. Stoll, in consequence of the death of the Senior Partner, and the intention of the Vendors to relinquish the Business.

MESSRS. PROTHEROE AND MORRIS will sell by auction, on the Premises, the Gasfield and Common Nurseries, Richmond, Surrey, about 10 minutes' walk from the Richmond Railway Station, on **TUESDAY and WEDNESDAY, February 23 and 24**, at 12 o'clock precisely, without the slightest reserve, the **SECOND PORTION** of the **VALUABLE NURSERY STOCK**, including **8000 Aucuba japonica**, 2 to 4 feet; **1000 Japanese Lawsoniana**, 20,000 **Green Hollies**, 2 to 6 feet; **2500 Variegated Hollies**, 2 to 7 feet, comprising fine **Golden Green Hollies**, **Pyramidal** and **Bush Golden** and **Silver Hollies**, in various sizes; **2500 Green and Variegated Box**, **2000 English Yew**, **5000 Standard Rhododendrons**, **3000 Potentilla Rhododendrons**, **5000 best-named Rhododendrons**, **3000 large bushy Laurels**, of sorts; **Fruit and Ornamental Trees**, and other stock.

May be viewed any day prior to the Sale. Catalogues had on the Premises; at the New Road Nurseries, Richmond; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C. N.B.—THE LEASE OF THE HOME NURSERY, and the OLD ESTABLISHED BUSINESS is for Sale by Private Treaty. Particulars of the Auctioneers.

Chesterfield.

THREE DAYS' SALE of well-grown **NURSERY STOCK**, by order of Mr. W. Proctor, a portion of the land being required for the new line of Railway.

MESSRS. PROTHEROE AND MORRIS, will sell by auction, on the Premises, the Nurseries, Ashgate Road, Chesterfield, on **TUESDAY, WEDNESDAY, and THURSDAY, February 23, 24, and 25**, at 12 o'clock precisely, **50,000 Ornamental TREES, SHRUBS, ROSES, and FRUIT TREES**, including **3000 AUCUBA JAPONICA**, 1½ to 4 feet; **8000 Dwarf ROSES**; **7000 Broad-leaved PRIVET**, 2 to 6 feet; **3000 HOLLIES**, various, 2 to 6 feet; **1000 English YEW**, 2 to 10 feet; **2000 LAURELS**, grand stuff, 2 to 3½ feet; **1000 AZALEA FORTICA**, 12 to 18 inches; **HERBACEOUS PLANTS** in great variety.

The Stock may be viewed any day prior to the Sale. Catalogues had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Wednesday Next.—Palms, Ferns, Roses, &c.

MESSRS. PROTHEROE AND MORRIS will sell by auction, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **WEDNESDAY NEXT, February 24**, at half-past 11 o'clock, **500 AZALEAS**, **PALMS** in variety, **Greenhouse FERNS**, **TEA ROSES** in pots, choice **GLORIAS**, **BEGONIAS**, 100 lots of **LILUMS** in variety, **TUBEROSUS**, **GLADIOLUS**, **CARNATIONS**, **DAFFODILS**, **HEBEOUS PHLOX**, 200 **Standard and Dwarf ROSES**, &c.

On view morning of Sale, and Catalogues had.

Paddock Wood, Kent.

At the very low upset price of **£1700**, £55 per acre. **FREEHOLD FARM**, **MARKET GARDEN**, adapted for building development.

MESSRS. PROTHEROE AND MORRIS will sell by auction, at the Mart, Tockenhay Yard, London, E.C., on **WEDNESDAY, February 24**, at 2 o'clock, the valuable and productive **FREEHOLD MARKET GARDEN** and **FRUIT GROUND**, of 26 acres, abutting on the South and East of the Tockenhay Wood Station, with 2 Cottages, Stabling, and Buildings, at present let at £100 a year, but possession could be arranged.

May be viewed. Particulars had on the Premises; at the Mart; of Messrs. HORSLEY and WIGHTMAN, Solicitors, 1, Guildhall Chambers, London, E.C.; and of the Auctioneers and Surveyors, 67 and 68, Cheapside, London, E.C.

Roehampton.

Two minutes walk from Barnes Station.

IMPORTANT CLEARANCE SALE of the remaining portion of the noted collection of **STOVE and GREENHOUSE PLANTS** formed by the late D. B. Chapman, Esq.

MESSRS. PROTHEROE AND MORRIS will sell by auction, on the Premises, Downshire House, Roehampton Lane, S.W., on **THURSDAY, February 25**, at 12 o'clock, without reserve, the whole of the valuable **STOVE and GREENHOUSE PLANTS**, fine coloured **Crotons**, **Dracaenas**, and other specimen **Chimeras**, handsome **Palms**, including a few **Imported LILIES**, **Chimeras**, and **Lettuce**, **Established Orchids**, **Lapagerias**, **Two Green's Lawn Mowers**, **Garden Roller**, and other garden utensils.

May be viewed any day prior to the Sale. Catalogues had on the premises; of the head gardener, Mr. RAWLINS; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday Next, February 26

CATTLEYA LABIATA, from Swainson's hunting ground, **CATTLEYA SP.**, from the Venezuelan frontier, in magnificent masses. **CATTLEYA** of the Imperialis section, from the Cattleya aurea country.

CATTLEYA GRANULOSA VAR.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. F. Sander to sell by auction, at their rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY NEXT, February 26**, at half-past 12 o'clock, a grand importation of **CATTLEYA LABIATA**, from Swainson's hunting ground, with broad sepals and petals and big lip, not the *Fernambuco variety* which, although pretty and desirable, is flimsy compared with Swainson's original plant. The *Fernambuco* form of the old labiata was shown in Paris during the Universal Exhibition in 1889, but it is the poorest form for horticultural purposes of all the labiatae.

A fine lot of a most distinct-looking **CATTLEYA**, from the Colombo-Venezuelan frontier, in splendid and perfectly shaped masses.

A capital lot of **CATTLEYA GRANULOSA VAR.** and **CATTLEYA IMPERIALIS**.

A magnificent importation of **DENDROBIUM FORMOSUM GIGANTEUM**, the finest type, in simply superb order. **CYPRIPEDIUM SP.**, much like *C. Regineri* in habit, together with **VANILIA**, **SACCOLABIUM**, **BULBOPHYLLUMS**, and **PHATIS** from the East.

Some fine plants of the chaste and elegant **CYMBIDIUM EUBURNUM** in flower and bud. Importations of **DENDROBIUM AUREUM**, **HEDYOSMUM CAMBODIANUM**.

Also two hybrid seedling **CYPRIPEDIUMS**, very distinct, **ORCHIDS IN FLOWER**, &c. (another property).

On view morning of Sale, and Catalogues had.

TUESDAY, MARCH 1.

By order of Messrs. F. HORNMAN & Co.,

Five Thousand

ODONTOGLOSSUM CRISPUM,

and ITS VARIETIES.

Collected by Mr. JOHN CARDER,

(late partner in the Firm of SHUTTLEWORTH, CALDER & Co.)

MESSRS. PROTHEROE AND MORRIS will sell by auction, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **TUESDAY, March 1**, at half-past 12 o'clock,

5000 ODONTOGLOSSUM CRISPUM.

Mr. CARDER is a well-known Collector of this plant, and his name has been associated with the finest forms ever imported.

On view morning of Sale, and Catalogues had.

Friday, March 4.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. F. Sander to sell the following most remarkable and **VANILIA ORCHIDS** by auction at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY, March 4**, at half-past 12 o'clock.

NEW ORCHIDS.

NO RESERVE.

CATTLEYA VICTORIA REGINA (Sander).

A distinguished and excellent New Cattleya. From one of my oldest exploring Collectors, and a superb Novelty of great merit in every way. Free growing, free and abundant flowering. The flowers are, individually, 5 inches across, and as many as eight or nine are borne on a spike. The flower is very compact, and of great substance. The sepals and petals are of a deep rosy red, glowing and glistening, blotched crimson and purple, the margin lighter and undulate. The lip is crimson, with a white tube. The importation is in magnificent condition.

CATTLEYA SPECIES.

A beautiful Cattleya. See dried flowers on view day of Sale.

CYPRIPEDIUM GOLDEN YELLOW.

When the beautiful **Cypripedium insignis** Sander flowered, a few years ago, we induced our collector to search for it, and are pleased to be able to offer now a few plants of a simply magnificent golden-yellow and white **Cypripedium insignis**. The plants are in fine order.

On view morning of Sale, and Catalogues had.

THE STAND HALL COLLECTION OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

HIGHLY IMPORTANT SALE of the whole of this Renowned Collection,

Including many plants matchless in point of rarity, the whole being unsupplied for culture and condition.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of the late Thomas Statter, Esq., to sell by auction, early in May, on the Premises, Stand Hall, Whitefield, near Manchester, the whole of the

CELEBRATED COLLECTION OF ESTABLISHED ORCHIDS. A list of the principal plants appeared in the *Gardeners' Chronicle*, February 6, 1892. The Catalogues will be prepared in due course, and the Auctioneers will be pleased to receive early application.

MARCH 4 NEXT.

NEW ORCHIDS.

GREAT SALE. NO RESERVE.

EXTRAORDINARY NEW LADY'S SLIPPER.

CYPRIPEDIUM CHAMBERLAINIANUM (SANDER).

GRAND NEW SPECIES.

EVERY PLANT RECEIVED WILL BE OFFERED WITHOUT ANY RESERVE.

A magnificent and beautiful new **Cypripedium**, which we have the privilege to offer; it is delicately, by permission, to the Right Hon. J. Chamberlain, M.P.

An altogether unique and absolutely new departure in every way from all known **Cypripediums**. In inflorescence, in habit, and in leaf, a perfectly marvellous novelty. Its leaves are in some instances 4 inches across, simple, undulated, and beautifully tessellated on the upper surface, reminding one slightly of **Cypripedium Morganii**, but much larger and finer. It is altogether a noble plant.

This extraordinary **Cypripedium** produces flower-spikes up to 2 feet high, bearing all along it; stem its white, yellow, and purple blossoms, and we are able to show dried flower-spikes which have produced over 50 flowers. Another remarkable feature is, that the flower-seeds are not more than half an inch from each other.

The upper part of the flower is yellow, with about six rosy-purple lines, divided by the midrib emerging from a profusion of rosy-purple spots; these at the lower part are much denser than at the upper half of the dorsal sepal; the whole is beautifully reticulated, and charmingly transparent towards the margin, densely covered on the outer surface with white hairs; the upper half of the dorsal sepal is clear and pure, without any spots or lines; the lower dorsal sepal is similar in its markings, only not so dense, and about half the size of the upper dorsal sepal, which, extraordinary enough, is as broad as it is long, being about 2 inches in diameter.

The two petals are spreading, curled and twisted at the ends like a corkscrew, and spotted in the way of **Cypripedium cupreum**, the margins are charmingly undulated and bear a profusion of white hairs. They are spotted on both surfaces with blackish purple and chocolate spots and blotches, some purple lines also run along them; they are of a lovely shining white and creamy yellow colour, each of them of about two inches long, the slipper, shoe or pouch, sometimes called the labellum, is also exceptionally beautiful, it is rose and white more inflated than **Cypripedium cardinale**, and double its size, reminding one of a beautiful spotted bird's egg, so exquisite is the fine blackish purple spotting over two-thirds of its lower part; the upper part and side-lobes are of a shining porcelain white colour, this combined with the purple black spotting leads it a hue and charm perfectly unique.

We have been asked by several gentlemen to sell the whole importation of this altogether extraordinary and charming new **Cypripedium** without reserve, and we will do so. **Cypripediums** are most difficult to introduce, and unless the right moment is caught, all arrive dead; this is the case unfortunately with *Cypripedium Victoria Regina*.

Our importation is the first of the kind we have ever imported. We shall try next year to introduce it; however, the finest of the two *Cyp. Chamberlainianum*, and, fortunately, this has come home in altogether exceptional order and condition, and we have secured the valuable importation of about 700 plants. Abundant dried material will be on view.

MAGNIFICENT NEW CYPRIPEDIUM.

(CYPRIPEDIUM KIMBALLIANUM, SANDER.)

QUITE NEW SPECIES.

This grand new species is now offered for the first time, and no plants have ever been sold of it. It is a grand grower and a grand novelty. Nothing similar to it or in any way like, has ever been imported up to now. It is a safely species, its flowers are said by the natives to be of enormous size, and the colours are described as crimson, purple and white. In this description we believe. It has been a terrible difficulty to get plants home alive, and after all the trouble and expense, got a few plants only. Those offered are in grand condition, and we believe that it will be absolutely impossible for us to get again to offer it. It will be on view only this time. It will be on sale. An imported plant had leaves on it fully 2 feet long; the leaves are most beautiful, of elegant shape and heavily mottled and blotched.

CYPRIPEDIUM SPECIES.

This may turn out to be simply a variety of **Cypripedium Wallisii**, but it comes from quite a different country. The extraordinary flowers have the long narrow, lanceolate, pointed, very satiny white, excepting the lip, which is rose. In *Wallisii* it is white. It is one of the most stately of **Cypripediums** we have introduced. In fact it is quite a sensational plant. The consignment is in fine condition.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from Mr. F. Sander to sell the above **VALUABLE ORCHIDS** by auction at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY, March 4th**, at half-past 12 o'clock.

On view morning of Sale and Catalogues had.

Wednesday Next.

12,000 Bulbs of **PANCRATIUM ZEVIANICUM**, a free-flowering species; flowers snow-white, something like *petraea* in appearance, very fine for cut flowers. Importation received direct from India. Six splendid Specimen Plants of **ASPIDISTRA CUNEA VARIEGATA**.

MESSRS. PROTHEROE AND MORRIS, will include the above in their SALE on **WEDNESDAY NEXT, February 24**, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

TUESDAY, March 1.

ODONTOGLOSSUM CRISPUM AND ITS VARIETIES,

Collected by Mr. JOHN CARDER (late Partner in the firm of Shuttleworth, Carder & Co).

Messrs. FRED. HORSMAN AND CO. have much pleasure in informing their friends that Mr. John Carder, whose well-known character as a collector has extended for upwards of twenty years, and whose name has been associated with the finest forms of ODONTOGLOSSUM CRISPUM ever imported, is now collecting, and has forwarded on their behalf 5000 large plants. His instructions were to get the most perfect forms, large pieces, and spotted varieties, no one knowing better than he where to find such. He writes that he "cannot get as many as he wished for, and that such are very costly when obtained." He has, however, succeeded to a certain extent, and the above number of plants will be offered at—

MESSRS. PROTHEROE & MORRIS' SALE ROOMS,

67 and 68, CHEAPSIDE, LONDON, E.C., on TUESDAY, March 1, at half-past 12 o'Clock.

Thursday Next.

1500 LILION LONGIFLORUM, PEPERONIES, VALLOTAS;
100 lots of choice SEEDLING GLADIOLI, BEGONIAS,
&c.; HERBACEOUS PLANTS in variety, English-grown
LILIES, DAFFODILS, hardy BORDER BULBS, 100
AZALEAS, from Belgium, PEARL TUBEROSES, &c.

MESSRS. PROTHEROE AND MORRIS will
SELL the above by AUCTION, at their Central Sale
Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY
NEXT, February 25, at half-past 11 o'Clock.
On view morning of Sale, and Catalogues had.

Cheshunt.—Expiration of Lease.—Final Portion.
ABSOLUTE CLEARANCE SALE of unusually well-grown
NURSERY STOCK, growing on this branch Nursery, by
order of Messrs. F. J. Ward, Esq., the Trustee.

MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, on the Premises, the Churchfield
Nursery, Cheshunt, 1 mile from the Cheshunt Station, on
THURSDAY, March 3, at 12 o'Clock, without reserve, 3000
AUCUBAS, 14 to 50 feet; 1000 Green BOX, 6 to 7 feet; 1500
PRIVET, 1500 LIMES, 2500 HORSE CHESTNUTS, POPLARS,
and other STANDARD TREES, 1000 Persia, White, and other
LILACS, in choice variety; 100000 RASPBERRIES, 100000
CURRANTS, and GOOSEBERRIES, a great variety of Flowering
and Deciduous SHRUBS, specimen CEDRUS DEODAR, &
other Stock.

May be viewed. Catalogues obtained on the Premises; at
the Old Nurseries, Cheshunt; and of the Auctioneers, 67 and
68, Cheapside, London, E.C.

Feltham, Middlesex. Absolutely without Reserve.
TWO DAYS SALE of splendidly-grown NURSERY STOCK,
by order of Messrs. C. Lee & Son.

MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, on the Premises, Lee's Nursery,
Feltham, Middlesex, 10 minutes from the Feltham
Station, on TUESDAY and WEDNESDAY, March 1 and 2, at
12 o'Clock precisely, 500 splendid Specimen Golden YEWs,
from 2 to 4 feet; Standard Variegated HOLLIES, 1500
beautifully-shaped Specimen CONIFERS and EVER-
GREENS, all recently transplanted, 2½ to 5 feet; 1000 English
YEWs, 1 to 4 feet; 1200 THUA LOBBII, 2 to 7 feet; 1600
LAURELS, 1000 CUPRESSUS, 2½ to 10 feet; 400 AUCUBAS,
2 to 4 feet; 500 CUPRESSUS, ERGOTA VIRIDES, 2½ to 5 feet;
500 named RHODODENDRONS, 800 LIMES, 6 to 8 feet; POP-
LARS, PRIVET, Flowering Shrubs, and other Stock.

May be viewed any day prior to the Sale. Catalogues had
on the Premises, at the Royal Vineyard Nurseries, 2, Tanner
Smith Road, W.; and of the Auctioneers, 67 and 68, Cheapside,
London, E.C.

Havant, Expiration of Lease.

The THIRD and FINAL PORTION of the well-grown
NURSERY STOCK on the Leasehold Land, and the FIRST
PORTION on the Freehold land, by order of Messrs.
EWING & Co., who are relinquishing the business.

MESSRS. PROTHEROE AND MORRIS will
SELL by AUCTION, on the premises, the Sea View
Nurseries, Havant, on THURSDAY, March 3, without reserve,
5000 BORDER SHRUBS, in greatest variety; 5000 ORNAMENTAL
TREES, a large portion of which are fit for Avenue or Park
planting for immediate effect; 3000 FRUIT TREES, consist-
ing of Pears, Apples, Plums, Cherries, &c.; 5000 Flowering
SHRUBS and HARDY CLIMBERS, a large quantity of Standard
Dwarf, and Pot ROSES; several thousands of FOREST
TREES, and a quantity of small stock for growing on.

May be viewed. Catalogues had on the Premises, and of
the Auctioneers, 67 and 68, Cheapside, London, E.C.

N.B.—THE FREEHOLD NURSERY and GOODWILL of the
BUSINESS are for Disposal. Particulars of the Auctioneers.

The Nurseries, Catterham Valley.

In Bankruptcy, re G. R. Woollett. By order of F. J. Ward,
Esq., the Trustee.

SALE of the LEASE and the whole of the STOCK and
UTENSILS in TRADE of the TWO NURSERIES, in
one Lot, as a going concern.

MESSRS. PROTHEROE AND MORRIS are
instructing by the Trustee to SELL the above by
PRIVATE TREATY.

The Nurseries have been established for many years, and
the Business is capable of much extension. An excellent
opportunity is thus afforded to an energetic person desirous
of embarking into the Nursery Trade.

Full particulars of Messrs. PROTHEROE AND MORRIS,
Estate Officers and Auction Rooms, 67 and 68, Cheapside,
London, E.C.; of Mr. R. J. WARD, Chartered Accountant,
Bloombury Mansions, Hart Street, London, W.C.; and of
Messrs. WARD, PERKES, and MCKAY, Solicitors, 55, Grace-
church Street, London, E.C.

Wednesday Next.

1000 Choice-named Standard, Half-Standard, Dwarf and Climbing
ROSES, including many of the leading sorts; 500
Fruit Trees, a fine collection of border Plants, Liliums
from Japan, Pearl and African Tuberoses, Stove and Green-
house Plants, Spirea Japonica, &c., &c.

MR. J. C. STEVENS will SELL the above
by AUCTION, at his Great Rooms, 38, King Street,
Covent Garden, on WEDNESDAY NEXT, February 24, at
half-past 12 o'Clock precisely.
On view morning of Sale, and Catalogues had.

THOMAS B. JAMES (many years with
Protheroe & Morris) holds WEEKLY SALES at his
Rooms, 12, Bull Ring, Birmingham, of RULES, PLANTS,
NURSERY STOCK, &c., every WEDNESDAY and FRIDAY, at
4.30 P.M. Sales of choice Cut Flowers. Fresh Entries invited.
Account Sales and cheques daily. Empties and labels found.

Matlock Bank Nurseries.

MESSRS. ELSE AND SON are instructed to
SELL by AUCTION (Without Reserve), on TUESDAY,
March 1, and following day (if necessary), on the above
grounds, an assortment of NURSERY STOCK, including
upwards of 100,000 Transplanted Rhododendrons, in sizes up to
2 feet. Also Special Lots of Cupressus, Retinosporas, &c., in
sorts; Irish and Golden Yews, Privets, &c., of which Catalogue
of particulars may be had free on application to—
Messrs. ELSE AND SON, Auctioneers, &c., Matlock, Derbyshire.

Potter's Bar.

Two minutes' walk from the Station, G. N. R.

FINAL CLEARANCE SALE.

By direction of Mr. E. BENNETT, F.R.H.S., who is leaving
the neighbourhood.

EXTENSIVE SALE of THRIVING NURSERY STOCK,
comprising Hardy Ornamental TREES and SHRUBS.

MESSRS. HARLAND AND SON will SELL
the above by AUCTION on FRIDAY and SATURDAY,
February 26 and 27, 1892, at 1 o'Clock precisely each day.

Catalogues free by post of the Auctioneers, Barnet, N.

Preliminary Advertisement.

TO LANDED PROPRIETORS, FORESTERS, NURSERY-

THE LARGER PORTION of the Mag-
nificent and well-known COLLECTION of GOLDEN
YEWs, ENGLISH YEWs, Varieties of HOLLIES and
PINES, and ARAUCARIAS, &c., at present growing in the
Policies of Govauchan, near Falkirk, N.B., and planted by the
late Sir JAMES GOWAN at very great expense, will be exposed
for SALE by Public AUCTION in March next.
Particulars in future Advertisements.
CHARLES S. NELSON, Auctioneer, Falkirk.

WANTED, TO RENT ON LEASE, about
2 Acres of LAND, with about 2 Greenhouses. Send
full particulars to J. S., 2, Beach Terrace, Exning, Suffolk.

GOOD NURSERY BUSINESS.

Apply to—

POWELL and FOWELL, Bath.

TO BE SOLD, near Southport, an ASPARA-
GUS FARM, in splendid condition; also 2 Houses, either
with or without the Farm.—A. R. CURPHEX, Woodville,
near Southport.

To Fruit Growers, Nurserymen, and Others.

GOOD ARABLE and MEADOW LAND to
be LET or SOLD. Close to the main road at Ponder's
End (6 miles from London). Long leases granted. Rent, £12
per acre, with option to purchase the Freehold at any
time during the first nine years. Several large Market
Nurseries are established on the Estate. Full particulars of
A. and G. GUIVER, Land Agents, Ponder's End.

To Nurserymen, Florists, &c.

FOR SALE, FREEHOLD LAND,
remarkably well adapted for the above purposes, and
within easy distance of Hampton. By private Treaty,
in large or small quantities. Apply to—
Mr. JOHN EMBLETON, Suffolk House, Hampton Hill.

To Market Gardeners.

TO BE LET, 50 Acres of good LAND, Small
House, and suitable Buildings.—Apply by letter, to
D. C. THOMPSON, Esq., near Romford, Essex.

TO LET, a MARKET GARDEN and DAIRY,
within ten minutes' walk of Eton College, twenty to
Windsor, where a large Business in Fruit and Flowers has
been done; containing Dwelling-house, Mushroom and Forcing
Houses, Show-house, and two large Greenhouses, stocked
with Violes and Fruit Trees, a large Range of Pits, Stable,
Barn, Dairy, Poultry-house, and Piggeries.

A Lease would be given to a Gentleman for extensions, to
make it a larger residence, if required.

Enquire of Mr. MARTIN, Castle View, Bagstone Road,
Slough.

**SEED and NURSERY BUSINESS FOR
DISPOSAL. AT ONCE.**—Established forty years. The
Seed Shop, Office, Warehouse, and Residence are spacious and
convenient, situate in a leading thoroughfare of the City of
Truro, adjacent to the principal public buildings. The Nursery
Ground is fertile, fairly sheltered, well watered, in good
heart and condition, within an easy distance at the west end,
five minutes' walk of the railway station; a Cottage, Glass
Houses, Packing Sheds, Frames, &c., on the same; a good
demand for Fruit Trees, Roses, Sirals, Decorative Plants, Cut
Flowers, &c. The stock at present is low, to be taken at a
valuation. Market Stall in the best position. All the premises
mentioned are within an hour's distance by rail of the seven
principal market towns in the County, thus offering a favourable
opportunity to a man or men, of experience and energy,
with moderate capital to realise advantageously.

Apply to ROBERT DOBELL, Jun., Solicitor, Truro.

Truro, February 9, 1892.

**FOR ORCHIDS, and GARDENERS
TO Grow Them,** apply to SANDER'S, St. Albans. The finest
stock of Orchids in the World.—30 minutes from St. Pancras.

CALCEOLARIA Golden Gem, Strong Autumn

Struck. 8s. per 100 for cash.

A. WHITE, late Hardy, Stour Valley Nurseries, Bures.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have an immense stock of

ORCHIDS,

Both Established and Semi-Established, and
they are constantly receiving

IMPORTATIONS

from various parts of the world.

INSPECTION IS VERY EARNESTLY INVITED.

The Company's Prices are all fixed as low
as possible, with the view of inducing liberal
Orders.

PRICED and DESCRIPTIVE CATALOGUE

Post-free on Application to the Company.

THE VINEYARD AND NURSERIES,
CARSTON, NEAR LIVERPOOL.

EXHIBITIONS.

CRYSTAL PALACE.
The ANNUAL SHOW OF SPRING FLOWERS will be held on SATURDAY, MARCH 26.
Schedules are now ready, and may be had on application to Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E.

Entries close March 19.

Trade offer of Large Plants.

W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application.
W. ICETON, Putney, S.W.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Descriptive CATALOGUES, post-free, on application.
FLETCHER BROS., Otterburn Nurseries, Chertsey, Surrey.

R. GILBERT, High Park, Stamford, is now offering the best of all RHUBARBS, "True Champagne," 4s. per doz.; King of the BRUSSELS SEAROUTS, "Universal Savory," "Late Victoria BROCCOLI," and "CHOU DE BURGHELEY," at 1s. per packet.

LAPAGERIA ALBA.—Healthy, well-rooted Plants, in pots, single shoots, 5 to 6 feet long, 7s. 6d. each; stronger plants, 10s. 6d. each.
THOS. CRIPPS and SON, Tunbridge Wells Nurseries, Kent.

CHRYSAETHUMS, best sorts.—Plants 2s. 6d. per dozen, 16s. per 100; Cuttings 1s. 6d. per dozen, 10s. per 100. For price of new sorts, see Catalogue, two stamps, of W. ETHERINGTON, Chrysaethum Grower, Swancombe, Kent.

FOR SALE, CALANTHE BULBS, VEITCHII and VESTITA; four 7-inch pots of FAGUS GRANDIFLORA and CECYLOGNE CRISTATA, 3 pans, all in good condition.
R. H. BROWN, Chapel Manor, Horsmonden.

SEAKALE, most delicious vegetable; good roots, special lot, rise to sell out. 3s. 6d. per 100, worth double. AUTOCROT PEA, grand late Marrow variety, 2s. per quart. Grown and offered by—
F. MILLER and CO., 267, Fulham Road, London, S.W.; and Daffodil Farm, Spalding, Lincolnshire.

FERNS! FERNS!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cuneatum, Aspid. Solanum, Cyperus, and Primulas, all in 48s. 6d. per doz. Ferns and Ficus, 1s. each. Large Ferns, 10 best sorts, 5s. 6d. per doz., in 48s. Cinerarias, Spiraea, and Cyclamen, full bloom, 9s. per dozen, in 48s. Adiantum cuneatum and P. tremula, extra size, in 24-inch pots, 16s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

FOR SALE, a very handsome PAGODA, exhibited in Exhibition of 1881. Suitable for Summer-house. Foundation entirely new within the last three years. A HOT-HOUSE, with division for Forcing, fitted with Boiler, Pipes, &c., complete; Forcing-Pit, and Garden Frames. Fowl-House, with Iron Dog-Kennel.—Address, in first instance, to E. C., at Northcote's, Cheshire, London, E.C.

L'HORTICULTURE INTERNATIONALE (Orchid Emporium), Leopold Park, Brussels.
THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

Price Cob Filbert Trees.

MR. COOPER, F.R.H.S., of Western Elms, Reading (late of Calcut Gardens), is the Largest Grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good Trees now ready for distribution.
Descriptive Price LISTS, &c., on application.

ROSES! ROSES! ROSES!—Plant now. 100 strong dwarf, H.P. Roses for 25s.; or 211 10s. per 1000. The finest in the Trade.
Send for Sample Dozen, 5s. Cash with Order.
CATALOGUES, free on application.
C. H. GORRINGE, Roseland Nursery, Eastbourne.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.
Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Apiculture, &c., as in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by FELHAM and SON, 50, Finsbury Square, London, E.C., and Broxbourne, Herts. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE, AUTOCROT PEA and VALUERS, 67 and 68, Chesham, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

FOR SALE, 20,000 twice transplanted SCOTCH FIRS, the finest lot in the trade, highly suitable for ornamental planting. Must be cleared.
E. TANNER, Broadwater Nurseries, Groombridge, Sussex.

STANDARD ROSES, 14s. per doz.; Bush Roses, 6s. per doz.; 1 best name Clematis, 14s. per doz.; Ampelopsis Veitchii, 4s. per doz.; Variegated Ivies, 4s. per doz.; Mrs. Sinkins Pinks, 12s. per 100; Ferns, in pots, 15s., 21s., and 45s. per 100. Catalogue, gratis and post-free.
H. ENGLISH, Clevedon Nurseries, Clevedon.

KELWAY'S SEED MANUAL for 1892.
"Cram full of useful reading-matter and illustrations."—*Mark Lane Express*.
1s., post-free (deducted from first order) to those unknown to us.
KELWAY and SON, Langport.

BIRMINGHAM PRIMULAS, Lady Churchill, The Queen, Marquis of Lorne, and all select sorts, 2s. 6d. per packet. Mixed, 2s. 6d. Usual Trade discount.
POPE and SONS, King's Norton, Birmingham.

BEGONIAS.—Davis's New, Rare, & Beautiful. The Best BEGONIA CATALOGUE published. Enumerates a magnificent and unsurpassed Collection, with descriptions, illustrations, and much valuable information on this now popular flower; post-free. The first grower to issue a Begonia Catalogue was R. S. DAVIS, Begonia Grower, Yeovil Nurseries, Yeovil, Somerset.

CHRYSAETHUMS.—Proved NOVELTIES in EARLY JAPANESE, INCURRED, and other Select Varieties. New LISTS free. Gave great satisfaction last year.
A. J. A. BRUCE, The Nurseries, Chorlton-cum-Hardy, Manchester.

GOOD HARDY PERENNIALS.—A large quantity of strong flowering clumps of Sunflowers in variety, Tritoma Uvaria, Pyrethrum albigundum, Marguerites, and many other good things, 4s. per doz.; extra large, 6s. and 9s. per doz. Per 100 on application.
R. MARIES, Florist, Lytham, Lancashire.

Fruit Trees a Specialty.

APPLES, PEARS, PLUMS, STRAWBERRIES, and all sorts of Small and Hardy Fruits grown in immense quantities. The best of the Old and New Varieties either to Order for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most complete issued, 6d. Ordinary LIST free.
JOHN WATKINS, Fomona Farm Nurseries, Withington, Herford.

Thirty-seventh Issue.

W. THOMPSON, SEEDSMAN, Tavern Street, Ipswich, begs to announce that the SUPPLEMENT to his CATALOGUE OF FLOWER SEEDS for the present season is now ready, and has been forwarded to all his Patrons. Will be sent post free, with the general catalogue, to any address. Both include many Rare and Choice Seeds, and at moderate prices.

Seed Potatoes.

H. AND F. SHARPE invite the attention of the Seed Trade to their fine selected stocks of SEED POTATOES, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine. The prices will compare favourably with those of other growers.
Seed Growing Establishment, Wisbech.

TRADE OFFER OF PALMS.
COCOS Weddelliana, in thumbs ... at 20s. per 100.
" " " " " in 60's, at 55s. per 100.
KENTIA Fosteriana and Belmoreana, in thumbs, at 20s. per 100.
" " " " " in 60's, at 60s. per 100.
" " " " " in 48's, at 24s. per doz.
" " " " " in 32's, at 44s. per doz.
SEAFORTHIA Elegans, in 48's, ... at 32s. per 100.
" " " " " in 48's, ... at 42s. per 100.
W. Icton has a fine Stock of Asparagus plumosus nanus, in 48's and 60's; Pandanus Veitchii, Dracaena Lindenii, and Ficus elastica.—W. ICETON, Putney, S.W.

Seed Potatoes.—Seed Potatoes.

MYATT'S PROLIFIC, the earliest of all Kidneys, which every one with early land should grow. Potatoes dug in July and August are always worth 100 per cent. more than later sorts. Price, 120s. per ton, grown in Lincolnshire.
MAGNUM BONUMS, later kind, for main crop. Price, 70s. per ton, grown in Lincolnshire.
Apply to W. N. WHITE and CO., Ltd., Covent Garden, London, W.C.

Many Acres of Lilies of the Valley.

T. JANNCHO, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Trade of seedling out, November 1 to May 1. Prices and terms on application.

T. JANNCHO (Lily of the Valley Grower) by special appointment to H.R.H. the Prince of Wales, Dersingham, King's Lynn, Norfolk.

GOOD STOCKS, carefully Hand-picked, of
HARLINGTON and Green Windsor, White and Green Longpod.
PEAS.

Abundance, Berkshire Marrow, Dr. McLean, Fortyfold, Fillasset, Gladiator, Hundredfold, Little Gem, Ne Plus Ultra, Paradise Marrow, Frisco Royal, Pride of Market, Stratagem, Telegraph, Triumph, and Yorkshire Hero.

CARTER'S ELEPHANT SWEDE.
To effect a speedy Clearance, these will be Sold Cheap FOR CASH, in Large or Small Quantities. Apply—
GEORGE ELSOM, Seed Grower and Merchant, Spalding.

County Borough of Newport.

TO ARCHITECTS, LANDSCAPE GARDENERS, AND OTHERS.
PUBLIC PARK.—THE CORPORATION OF NEWPORT are prepared to receive COMPETITIVE PLANS for LAYING OUT LANDS for a PUBLIC PARK, with Estimates of the probable Cost. Plans of the site showing the levels, and particulars, may be obtained on application to Coopers Kirby, Esq., Town Surveyor, Newport, Mon. A premium of fifty guineas will be awarded to the Author of the Plans most approved, and a premium of twenty guineas in respect of the drawings next approved by the Corporation. The plans in respect of which the premiums are awarded are to become the property of the Corporation, and the Authors of such plans will not necessarily be employed by the Corporation to carry out the works. Plans indorsed "Public Park," under a motto, with a sealed envelope containing the Author's name and address, to be sent to my office not later than the 26th day of March, 1892.—Dated this 16th day of February, 1892.

ALBERT A. NEWMAN, Town Clerk.

Town Hall, Newport, Mon.

CHRYSAETHUMS.—Our Illustrated CATALOGUE will be sent free on application. 15 First Prizes. (10 this year.) 5 Gold Medals for Chrysaethums. REID and BORNEMANN, Sydenham, London, S.E.

Selected.

TUBEROUS ROOTED BEGONIAS.
Special Cheap Offer for Cash. Fine strong Bulbs for bedding, Crimson, Rose, and Pink, 15s. per 100; choice mixed varieties for bedding, 10s. per 100; extra large, 15s. per 100 for pot culture in all colours separate, 30s. per 100; 5s. per dozen.
HENRY LOADER, Kirkdale Nursery, Sydenham, S.E.

To the Trade Only.

LARGE STOCK, at low prices, of—
ANEMONE PULSATILLA,
DICENTANUS FRAXINELLA,
GILLENIA (SPIREA) TRIFOLIATA,
HIS KEMPSONIA,
PEONIA SINENSIS,
SPIREAE ARUNCUS,
" ASTILOIDES,
PALMATA ALBA,
TRILLIUM GRANDIFLORUM.
THE TOTTENHAM NURSERIES, Limited, Deddensvaart, near Zwolle, Netherlands.
Managing Directors: J. A. M. C. JONGKINDT CONINCK, A. M. C. VAN DER ELST.

THE GARDEN.

We issue the best book and the best varieties of everything for the best-kept gardens. Send for one immediately.

The "WEEKLY TIMES" says—

"H. Cannell & Sons' Floral and Vegetable Guides are the most complete illustrated Catalogues published. They are indispensable to all growers of flowers, &c. Those who wish to see what the florists art can do should pay a visit to Swanley."

One of our greatest connoisseurs writes us thus:—

"B. HOOKE, Esq.,

"The Turret, Hollingdon, Exbridge.
"I had some sprays of blooms of your Begonias on my table the other evening, and I had some difficulty in persuading my friends that they were not Rose 'La France.'"

"ANATEUR GARDENING" also states:—

"Messrs. H. Cannell & Sons give an open invitation to Swanley; consequently, there ought not to be one solitary individual among the whole army of amateur gardeners who would fail to avail himself of the opportunity thus afforded of viewing one of the grandest floral displays imaginable, had he but the slightest idea of its magnificence. Well, indeed, was I repaid for my journey thither on New Year's Day, for, although the country around was wrapped in its mantle of snow, and everything that I saw appeared desolate and dreary, yet on reaching the 'Home of Flowers' one seemed to have suddenly dropped into midsummer, so great was the wealth of bloom."

Our far-away friends encourage us by the following:—

"Rupert Nursery, Preston, Victoria, Australia,

May 28th, 1891.

"DEAR SIRS.—We received the box of plants last winter. They have flowered splendidly, and were exhibited at our Chrysaethum Show. Your novelties were in the centre, distinguished by a drapery of yellow silk. All the papers spoke of them, and we send you two reports. We were so pleased that we had your name and address printed on placards, and also decided to give you the enclosed order, to further show the pleasure and satisfaction we have had from dealing with your firm."

"JAMES STEVENSON, Esq., Hounslow.
"The Vegetable Seeds we had last year gave great satisfaction to myself and my garden."

Mr. W. HURSON, Gardener to A. YULE, Esq., Bracide, Norwood.

"The seed I had of you all came up splendidly. I have had seeds from other well-known firms for several years past, but none have been equal to yours."

CANNELSEEDS
PERFECT ONLY—DIRECT FROM SWANLEY—KENT.

LAURELS.—CAUCASICUM, LATIFOLIA, ROTUNDFOLIA, and COMMON, fine bushy plants, well-rooted, 2 to 8 feet high.
PORTUGAL LAURELS. Standards, fine heads.
 CATALOGUE on application.
H. LANE and SON, Nurseries, Berkhamsted, Herts.

KENTISH SEED POTATOS.

H. CANNELL & SONS

Have a large quantity of the best kinds. Special prices for large quantities.

SEND FOR A CATALOGUE.

SWANLEY, KENT.

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Peonies, Pansies, Violas, Pelargoniums, Pentstemons, Petunias, Philoxera, Pinks, Potentillas, Primulas, Pyrethrums, Verbenas, Herbaceous Plants, &c.; also of my first and reliable strain of

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now justly celebrated all the world over. In 5 distinct sorts, crimson purple, scarlet, white, and Wallflower-leaved white, each sort, 1s., 2s. 6d., and 5s. per packet.

It is an indispensable Reference-Book on all sections of Florists' Flowers, and should be carefully perused by all buyers of flowers. Free on application.

JOHN FORBES, Nurseryman, Hawick, Scotland.

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standards, Pyramids, and Wall-trained), Apples, Pears, Cherries, Peaches, Filberts, and Plums; 20,000 noble tall standard Victoria Plums and Damsons, six years old. The Trees are without blemish, twice transplanted, splendidly rooted, and intended for the tenants and hedgerows on the Estate. Guaranteed true to name. The superb Rhododendrons, specimen Shrubs, and Hollies, secured but recently regardless of cost; 2000 Maiden, Standard, and Dwarf Roses; 40,000 Black and Red Currants, four years old; and forty kinds of Gooseberries. 6000 Raspberries. Price, half their value. Sent by Catalogue. Removing.—**LAND STEWARD, Hon. GEBRUDE JONES, Churchfield, Cradley, near Malvern.**

NOW READY.

SHARPE'S TRADE CATALOGUE

OF GARDEN and FARM SEEDS for 1892.

Post-free on application to

CHARLES SHARPE & CO.,
 Seed Farmers and Merchants, **SLEAFORD.**

ROSES.

STANDARDS, from 21s. per dozen.

DWARFS, from 6s. per dozen.

CATALOGUES, post-free.

FRANK CANT, BRAISWICK NURSERY, COLCHESTER.

FERNS A SPECIALITY
 The finest & most interesting Collection in the Trade.
 "1400 SPECIES & VARIETIES"
 Stove, Greenhouse, Hardy Exotic & British
 EVERY ONE interested in FERNS SHOULD
 SEND FOR OUR partially descriptive
 CATALOGUE FREE ON APPLICATION.
 also our ILLUSTRATED CATALOGUE No. 21.
 Price 1/6 post free.
W. & J. BIRKENHEAD
 FERN NURSERY, SALE, MANCHESTER.

VEITCH'S PROLIFIC TOMATOS.

HAM GREEN FAVOURITE.

FIRST-CLASS CERTIFICATE, Royal Hort. Society.
 Quality and flavour unsurpassed. The variety held in highest esteem for profit at Chiswick.

Per Packet, 1s. 6d.

ACQUISITION TOMATO.

The first of a new race of Tomatos, of dwarf, compact, stout growth, and scarcely needs any support to carry the heavy crop of fruit produced. The fruit is of a bright red colour, handsome shape, smooth, neatly rounded, and of excellent quality. Per Packet, 2s. 6d.

HACKWOOD PARK PROLIFIC TOMATO.

Two First-class Certificates, Royal Horticultural Society.
 A very handsome and heavy cropping Tomato. Quality and flavour unsurpassed.

Per Packet, 1s.

For full description of the above, see SEED CATALOGUE for 1892, forwarded gratis and post-free on application.

JAMES VEITCH & SONS

ROYAL EXOTIC NURSERY,
CHELSEA, S.W.

WILLIAM BARRON and SON offer the following well-grown and finely-rooted, which they offer at very low prices—

ABIES, in variety, 3 to 8 feet.
CEDRUS ATLANTICA and DEODARA, 2 to 7 feet.
CUPRESSUS LAWSONIANA, in great variety, 2 to 8 feet.
NUKKAENSIS, in variety, 2 to 8 feet.
PICEA NOBILIS, very fine, 1½ to 2½ feet, 65s. per 100, in variety, 2 to 10 feet.
PINUS AUSTRIACA, over 100,000, 1 to 8 feet.
 Forest-tree sizes, very cheap, grand specimens, 6 to 8 feet.
PINUS, in variety, 1 to 8 feet.
RETINOSPORA, in variety, 1 to 8 feet.
THUYA OCCIDENTALIS, for hedges, 5 to 8 feet, 25s. per 100, in variety, 2 to 8 feet.
YEW, Common, many thousands, 1½ to 2½ feet.
 Golden, grand specimens, up to 8 feet.
HOLLIES, in great quantity and variety, 4 to 10 feet.
 Golden Queen Specimens, 4 to 7 feet, very fine.
AUCUBA, green and variegated, 1½ to 2½ feet.

AVENUE TREES.

ACER SCHWEDLERII (scarlet-leaved Maple), 10 to 14 feet.
NORWAY MAPLE, 10 to 14 feet.
SPRING MAPLE, from 12 to 14 feet.
HORSE CHESTNUTS, very stout, 10 to 12 feet.
POPLARS, in variety, 10 to 14 feet.
PURPLE BEECH, from 10 to 12 feet.
OAKS, Scarlet and other varieties, 10 to 12 feet.
ELMS, fine variety, 10 to 14 feet.
THORN, Scarlet, Pink, and White, fine standards.
LARCH, very fine, from 2 to 3 feet.
THORN (Quick), strong, 15s. per 1000.
 Very strong, 20s. to 25s. per 1000.
FRUIT TREES, all kinds.
APPLES and PLUMS especially fine.

A visit from intending planters is respectfully invited. Elvaston Nurseries, Borrowash, Derby, only three minutes walk from Borrowash Station, Nottingham and Derby, Midland Line.

SEEDLING & TRANSPLANTED FOREST TREES.

IRELAND & THOMSON

NURSEYMEN, GRANTON ROAD, EDINBURGH.

Have to offer large quantities of nearly all kinds of hardy, Scotch-grown Seedling and Transplanted FOREST TREES; also a splendid lot of straight-stemmed AVENUE TREES of all kinds, with splendid roots.

Samples, Prices, and Catalogues on application.

FOREST TREES.—Alders, 2 to 3 feet, 16s. per 1000; Ash, 3-yr., 2s. 6d. per 1000; 1½ to 2 feet, 13s. per 1000; 2 to 3 feet, 16s. per 1000; 3 to 4 feet, 20s. per 1000; Ash, Mountain, 3 to 4 feet, 24s. per 1000; Beech, 2 to 2½ feet, 22s. per 1000; 4 to 5 feet, 40s. per 1000; Chestnut, Horse, 2 feet, 16s. per 1000; Spanish C., 1½ to 2½ feet, 16s. per 1000; Elm Wych, 2 to 2½ feet, 16s. per 1000; Larch, 12 to 15 inch, 14s. per 1000; 1½ to 2 feet, 20s. per 1000; 2 to 2½ feet, 24s. per 1000; Spruce Fir, 1½ to 2 feet, 14s. per 1000; Scotch Fir, 2-yr., 2-yr. tr., 16s. per 1000; 2 feet, 20s. per 1000; Hazels, 2 to 3 feet, 20s. per 1000; Hornbeam, 2 to 3 feet, 16s. per 1000; Oak, English, 1½ feet, 12s. per 1000; 2 feet, 14s. per 1000; 2½ to 3 feet, 18s. per 1000; Fir, Scotch, Oval, 1½ to 2 feet, 20s. per 1000; Privets, Common, 1½ feet, 12s. per 1000; Sycamores, 1½ to 2 feet, 12s. per 1000; 4 to 5 feet, 40s. per 1000; Thorns, 2 feet, 10s. per 1000; 1½ feet, 12s. per 1000; 3 feet, 16s. per 1000; 2 to 4 feet, 17s. per 1000.

GARLIES MITCHELL, Nurseryman, Stranraer.

ASPARAGUS, of fine quality—for forcing and planting: 2-yr. old, 2s. 3d. per 1000; 3-yr. old, good roots, 4s. per 1000; ditto, selected, 4s. per 1000; 6d. per 100 less for quantities of 1000 and upwards. For forcing, 4-yr. old, 5s. per 1000; 5-yr. old, splendid roots, 10s. per 1000; ditto selected, 12s. 6d. per 1000; 6-yr. old, extra fine, 15s. per 1000. Cash with order. My Asparagus always makes top price at Covent Garden.

Read the following unsolicited testimonial:—"Please send me another 200 of 5-yr. old Asparagus Roots. I may say that the last 200 were the best lot of forcing roots I ever bought, and my employer says the quality is excellent."—**C. H. FARRINGHAM, The Gardens, Milton Abbey, Bradford.**

J. J. CLARK, Market Gardener, Goldstone, Brighton.

Select **VEGETABLE**,
 Choice **FLOWER**,
 The best qualities at
 Moderate Prices.

Delivered Free by Rail or Parcels Post.

The Best SEED **POTATOS**,
 Garden Tools,
 Sundries, &c., &c.

Illustrated Descriptive Catalogue, No. 403
 POST FREE ON APPLICATION.

Dicksons Seed Growers, Chester.
 (Limited)

LAXTON'S STRAWBERRIES.

SCARLET QUEEN, a new, bright-coloured, high quality, large, early seedling, from Noble, and with **WHITE KNIGHT**, a distinct, and richly-flavoured, new main sort, Certificated at the Fruit Conference, 1891. **COMPETITOR**, **CARDINAL**, **LATEST OF ALL**, **JOHN RUSKIN**, **NOBLE**, and all best new standard sorts can now be supplied in good runners, true to name.

LISTS FREE.

T. LAXTON, Seed Grower, BEDFORD.

For PLEASURE and PROFIT.

FRUIT.

Nothing so Profitable and Easy to Grow. 74 ACRES IN STOCK.

See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Soils.

ROSES.

Hundreds of Thousands.
 BUSHES, Packing and Carriage Free for Cash with Order.
 8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.

ORNAMENTAL TREES, 91 ACRES.

4 ACRES of GLASS.

CLEMATIS (80,000), from 15s. per dozen.

N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS

VEGETABLE, FLOWER, and FARM.

DESCRIPTIVE LIST, FREE.

RICHARD SMITH & CO., WORCESTER.

ANTHONY WATERER invites from intending Planters an inspection of the following well-grown and finely-rooted EVERGREENS—

ABIES CANADENSIS (Hemlock Spruce), 5 to 8 feet.
 „ **DOUGRASTI**, 4 to 12 feet.
 „ **GLAUCA**, 5 to 8 feet.
 „ **HOOKERIANA** (Pattoniana), 3 to 8 feet.
CEDRUS ATLANTICA, 4 to 8 feet.
GLAUCA, 5 to 8 feet.
 „ **LIBANI** (Cedar of Lebanon), 4 to 10 feet.
CUPRESSUS LAWSONIANA **ERECTA VIRIDIS**, 4 to 8 feet.
LUTEA (Golden), 3 to 8 feet.
JUNIPERUS CHINENSIS, 3 to 10 feet.
 „ **AUREA** (Golden Chinese Juniper), 3 to 8 feet.
PICEA CONCOLOR, 3 to 7 feet.
 „ **GRANDIS**, 5 to 8 feet.
 „ **LASIOCARPA**, 4 to 5 feet.
 „ **MAGNIFICA**, 3 to 5 feet.
 „ **PUNGENS**, 1½ to 4 feet.
 „ **GLAUCA** (Blue Spruce), 1½ to 4 feet.
PINUS AUSTRIACA, 3 to 7 feet.
 „ **LABRICIO**, 3 to 4 feet.
THUOPSIS BOREALIS, 4 to 7 feet.
 „ **DOLABRATA** and **VARIEGATA**, 3 to 8 feet.
THUJA LOBBII (gigantea), 5 to 9 feet.
 „ **OCCIDENTALIS LUTEA** (Golden), 3 to 4 feet.
WELLINGTONIA GIGANTEA, 3 to 7 feet.
YEW, Common, 3, 4, 5, and 6 feet.
 „ Golden, of all sizes up to 10 feet, in various forms, Pyramids, Globes, and Standards, in point of variety, size, and quality unequalled.
 „ Golden Seedlings, 3, 4, 5, and 6 feet.
 „ Irish, 5 to 10 feet.
 „ Golden, 3 to 8 feet.
AUCUBA JAPONICA, 2½ to 4 feet.
RAMEUSA METAKE fine clumps, 4 to 7 feet.
BOX, Green and Variegated, 3, 4, 5, and 8 feet.
HOLLIES, Common, from 3 to 10 feet.
 „ **ALPACERENSE**,
 „ **HODGKINSII**,
 „ **LAURIFOLIA**,
 „ **MYRTIFOLIA**,
 „ **SCOTICA**,
 „ Yellow berried, and other sorts
 „ Variegated, of sorts, 3, 5, up to 10 feet.
 „ Golden Queen, 4, 5, up to 10 feet.
 „ Silver Queen, 4, 5, up to 10 feet.
 „ Weeping Perry's (Silver Variegated), on straight stems, with heads of 10 to 15 years' growth.
 „ New Golden Weeping,
RHODODENDRONS, 3 to 8 feet.
 Knapp Hill Nursery, Woking, Surrey.

PLANTING SEASON.
HARDY-GROWN
FOREST, FRUIT,
& ALL OTHER
TREES & PLANTS,
EVERGREENS, ROSES, &c.
NURSERIES 400 ACRES:
VERY EXTENSIVE STOCK. Inspection invited.
 Priced Catalogues Gratis & Post Free.
DICKSONS THE NURSERIES
(LIMITED) CHESTER.

GEORGE JACKMAN & SON,
WOKING NURSERY, SURREY,
 INVITE INSPECTION OF THE FOLLOWING WELL-GROWN STUFF:—

FRUIT TREES.—A fine stock of Apples, Pears, Plums, and Damsons, in Standard, Pyramid, and Dwarf-trained trees; also Dwarf-trained Apricots, Peaches, and Nectarines.

ROSES.—A large Collection of Dwarf and Standard Hybrid Perpetual and Tea Roses, in all the leading varieties; also Tea Roses, in pots, for forcing.

RHODODENDRONS.—Choice named varieties set with flower-buds; also Hybrid Seedlings and Pottingons.

CONIFERS.—Fine stuff, in various Sorts, for Lawn and Shrubbery planting.

SHRUBS.—Ornamental and Flowering, adapted for Belts, Shrubberies, Screens, &c.

CLIMBERS.—Including their celebrated Clematis, suitable for Walls, Trellis-work, Rockwork, &c.

ORNAMENTAL TREES.—For Parks, Avenues, Streets, and Private Gardens.

FOREST TREES.—In large quantities, for Coverts, Woods, &c.

CATALOGUES FREE ON APPLICATION.

LANDSCAPE GARDENING.—A leading Feature. Plans designed, and Advice given as to Laying-out, Planting, or Renovating Parks, Cemeteries, Recreation Grounds, and Private Gardens.

WHEELER'S CAMBRIAN FAVOURITE MELON.

A grand New Melon, which we believe will prove to be one of the finest standard varieties in cultivation.

Per packet, 2s. 6d.; small pkt., 1s. 6d., post-free.

Mr. J. MUIR, in writing of it, says:—"It is extremely handsome, and the flavour is all that could be desired; indeed, it combines more good points than I ever found in any other Melon."

Wheeler's List of Specialties and Novelties will be forwarded, gratis and post-free, on application.

WHEELER & SON,
Seed Growers, GLOUCESTER.

FRUIT TREES AND ROSES!

VAST QUANTITIES TO OFFER,
of the usual excellent quality.

HUGH LOW & CO.,
Bush Hill Park Nursery, ENFIELD.

HENDER'S PETUNIAS.

The Grandest Strain grown. Seed saved entirely from large flowers, beautifully mottled and striped, 1s. and 2s. per packet. **PRIMUM A.**—Large frilled flowers, mixed, carmine, rose, white, and blue, special strain, 1s. 6d. & 2s. 6d. per packet. **BEGONIA.**—Saved from the best-named Double and single flowers, 1s. 2s. 6d., and 3s. per packet.

LIST OF SELECT FLOWER AND VEGETABLE SEEDS, Free.
HENDER AND SONS, Nursery, Plymouth.

SEEDS

ESTABLISHED 1793.

THE BEST
AND
THE CHEAPEST.

SEND FOR FREE TO
CATALOGUE ALL
JOHN K. KINC, Royal Seed
Grower,
COGGESHALL, ESSEX.

SEEDS



**SHARPE'S
VICTOR POTATO.**

"Earliest of all Earlies."

TO OBTAIN THE

True Yellow-fleshed Variety,
Apply to

CHARLES SHARPE & CO., SLEAFORD.

SHRUBS AND CONIFERÆ.—American Arbor-vitæ, 2½ feet, 20s. per 100; Berberis aquifolium, 2 feet, 18s. per 100; Box Tree, 1½ feet, 12s. per 100; Cotoneaster microphylla, 2 feet, 12s. per 100; C. Simonsii, 3 feet, 12s. per 100; Escallonia macrocarpa, pot, 2 feet, 24s. per 100; Laurel, Common, 1½ feet, 10s. per 100; 2 to 2½ feet, 14s. per 100; 3 to 3½ feet, 24s. per 100; 4 to 4½ feet, 24s. per 100; 5 to 5½ feet, 24s. per 100; 6 to 6½ feet, 24s. per 100; 7 to 7½ feet, 24s. per 100; 8 to 8½ feet, 24s. per 100; 9 to 9½ feet, 24s. per 100; 10 to 10½ feet, 24s. per 100; 11 to 11½ feet, 24s. per 100; 12 to 12½ feet, 24s. per 100; 13 to 13½ feet, 24s. per 100; 14 to 14½ feet, 24s. per 100; 15 to 15½ feet, 24s. per 100; 16 to 16½ feet, 24s. per 100; 17 to 17½ feet, 24s. per 100; 18 to 18½ feet, 24s. per 100; 19 to 19½ feet, 24s. per 100; 20 to 20½ feet, 24s. per 100; 21 to 21½ feet, 24s. per 100; 22 to 22½ feet, 24s. per 100; 23 to 23½ feet, 24s. per 100; 24 to 24½ feet, 24s. per 100; 25 to 25½ feet, 24s. per 100; 26 to 26½ feet, 24s. per 100; 27 to 27½ feet, 24s. per 100; 28 to 28½ feet, 24s. per 100; 29 to 29½ feet, 24s. per 100; 30 to 30½ feet, 24s. per 100; 31 to 31½ feet, 24s. per 100; 32 to 32½ feet, 24s. per 100; 33 to 33½ feet, 24s. per 100; 34 to 34½ feet, 24s. per 100; 35 to 35½ feet, 24s. per 100; 36 to 36½ feet, 24s. per 100; 37 to 37½ feet, 24s. per 100; 38 to 38½ feet, 24s. per 100; 39 to 39½ feet, 24s. per 100; 40 to 40½ feet, 24s. per 100; 41 to 41½ feet, 24s. per 100; 42 to 42½ feet, 24s. per 100; 43 to 43½ feet, 24s. per 100; 44 to 44½ feet, 24s. per 100; 45 to 45½ feet, 24s. per 100; 46 to 46½ feet, 24s. per 100; 47 to 47½ feet, 24s. per 100; 48 to 48½ feet, 24s. per 100; 49 to 49½ feet, 24s. per 100; 50 to 50½ feet, 24s. per 100; 51 to 51½ feet, 24s. per 100; 52 to 52½ feet, 24s. per 100; 53 to 53½ feet, 24s. per 100; 54 to 54½ feet, 24s. per 100; 55 to 55½ feet, 24s. per 100; 56 to 56½ feet, 24s. per 100; 57 to 57½ feet, 24s. per 100; 58 to 58½ feet, 24s. per 100; 59 to 59½ feet, 24s. per 100; 60 to 60½ feet, 24s. per 100; 61 to 61½ feet, 24s. per 100; 62 to 62½ feet, 24s. per 100; 63 to 63½ feet, 24s. per 100; 64 to 64½ feet, 24s. per 100; 65 to 65½ feet, 24s. per 100; 66 to 66½ feet, 24s. per 100; 67 to 67½ feet, 24s. per 100; 68 to 68½ feet, 24s. per 100; 69 to 69½ feet, 24s. per 100; 70 to 70½ feet, 24s. per 100; 71 to 71½ feet, 24s. per 100; 72 to 72½ feet, 24s. per 100; 73 to 73½ feet, 24s. per 100; 74 to 74½ feet, 24s. per 100; 75 to 75½ feet, 24s. per 100; 76 to 76½ feet, 24s. per 100; 77 to 77½ feet, 24s. per 100; 78 to 78½ feet, 24s. per 100; 79 to 79½ feet, 24s. per 100; 80 to 80½ feet, 24s. per 100; 81 to 81½ feet, 24s. per 100; 82 to 82½ feet, 24s. per 100; 83 to 83½ feet, 24s. per 100; 84 to 84½ feet, 24s. per 100; 85 to 85½ feet, 24s. per 100; 86 to 86½ feet, 24s. per 100; 87 to 87½ feet, 24s. per 100; 88 to 88½ feet, 24s. per 100; 89 to 89½ feet, 24s. per 100; 90 to 90½ feet, 24s. per 100; 91 to 91½ feet, 24s. per 100; 92 to 92½ feet, 24s. per 100; 93 to 93½ feet, 24s. per 100; 94 to 94½ feet, 24s. per 100; 95 to 95½ feet, 24s. per 100; 96 to 96½ feet, 24s. per 100; 97 to 97½ feet, 24s. per 100; 98 to 98½ feet, 24s. per 100; 99 to 99½ feet, 24s. per 100; 100 to 100½ feet, 24s. per 100; 101 to 101½ feet, 24s. per 100; 102 to 102½ feet, 24s. per 100; 103 to 103½ feet, 24s. per 100; 104 to 104½ feet, 24s. per 100; 105 to 105½ feet, 24s. per 100; 106 to 106½ feet, 24s. per 100; 107 to 107½ feet, 24s. per 100; 108 to 108½ feet, 24s. per 100; 109 to 109½ feet, 24s. per 100; 110 to 110½ feet, 24s. per 100; 111 to 111½ feet, 24s. per 100; 112 to 112½ feet, 24s. per 100; 113 to 113½ feet, 24s. per 100; 114 to 114½ feet, 24s. per 100; 115 to 115½ feet, 24s. per 100; 116 to 116½ feet, 24s. per 100; 117 to 117½ feet, 24s. per 100; 118 to 118½ feet, 24s. per 100; 119 to 119½ feet, 24s. per 100; 120 to 120½ feet, 24s. per 100; 121 to 121½ feet, 24s. per 100; 122 to 122½ feet, 24s. per 100; 123 to 123½ feet, 24s. per 100; 124 to 124½ feet, 24s. per 100; 125 to 125½ feet, 24s. per 100; 126 to 126½ feet, 24s. per 100; 127 to 127½ feet, 24s. per 100; 128 to 128½ feet, 24s. per 100; 129 to 129½ feet, 24s. per 100; 130 to 130½ feet, 24s. per 100; 131 to 131½ feet, 24s. per 100; 132 to 132½ feet, 24s. per 100; 133 to 133½ feet, 24s. per 100; 134 to 134½ feet, 24s. per 100; 135 to 135½ feet, 24s. per 100; 136 to 136½ feet, 24s. per 100; 137 to 137½ feet, 24s. per 100; 138 to 138½ feet, 24s. per 100; 139 to 139½ feet, 24s. per 100; 140 to 140½ feet, 24s. per 100; 141 to 141½ feet, 24s. per 100; 142 to 142½ feet, 24s. per 100; 143 to 143½ feet, 24s. per 100; 144 to 144½ feet, 24s. per 100; 145 to 145½ feet, 24s. per 100; 146 to 146½ feet, 24s. per 100; 147 to 147½ feet, 24s. per 100; 148 to 148½ feet, 24s. per 100; 149 to 149½ feet, 24s. per 100; 150 to 150½ feet, 24s. per 100; 151 to 151½ feet, 24s. per 100; 152 to 152½ feet, 24s. per 100; 153 to 153½ feet, 24s. per 100; 154 to 154½ feet, 24s. per 100; 155 to 155½ feet, 24s. per 100; 156 to 156½ feet, 24s. per 100; 157 to 157½ feet, 24s. per 100; 158 to 158½ feet, 24s. per 100; 159 to 159½ feet, 24s. per 100; 160 to 160½ feet, 24s. per 100; 161 to 161½ feet, 24s. per 100; 162 to 162½ feet, 24s. per 100; 163 to 163½ feet, 24s. per 100; 164 to 164½ feet, 24s. per 100; 165 to 165½ feet, 24s. per 100; 166 to 166½ feet, 24s. per 100; 167 to 167½ feet, 24s. per 100; 168 to 168½ feet, 24s. per 100; 169 to 169½ feet, 24s. per 100; 170 to 170½ feet, 24s. per 100; 171 to 171½ feet, 24s. per 100; 172 to 172½ feet, 24s. per 100; 173 to 173½ feet, 24s. per 100; 174 to 174½ feet, 24s. per 100; 175 to 175½ feet, 24s. per 100; 176 to 176½ feet, 24s. per 100; 177 to 177½ feet, 24s. per 100; 178 to 178½ feet, 24s. per 100; 179 to 179½ feet, 24s. per 100; 180 to 180½ feet, 24s. per 100; 181 to 181½ feet, 24s. per 100; 182 to 182½ feet, 24s. per 100; 183 to 183½ feet, 24s. per 100; 184 to 184½ feet, 24s. per 100; 185 to 185½ feet, 24s. per 100; 186 to 186½ feet, 24s. per 100; 187 to 187½ feet, 24s. per 100; 188 to 188½ feet, 24s. per 100; 189 to 189½ feet, 24s. per 100; 190 to 190½ feet, 24s. per 100; 191 to 191½ feet, 24s. per 100; 192 to 192½ feet, 24s. per 100; 193 to 193½ feet, 24s. per 100; 194 to 194½ feet, 24s. per 100; 195 to 195½ feet, 24s. per 100; 196 to 196½ feet, 24s. per 100; 197 to 197½ feet, 24s. per 100; 198 to 198½ feet, 24s. per 100; 199 to 199½ feet, 24s. per 100; 200 to 200½ feet, 24s. per 100; 201 to 201½ feet, 24s. per 100; 202 to 202½ feet, 24s. per 100; 203 to 203½ feet, 24s. per 100; 204 to 204½ feet, 24s. per 100; 205 to 205½ feet, 24s. per 100; 206 to 206½ feet, 24s. per 100; 207 to 207½ feet, 24s. per 100; 208 to 208½ feet, 24s. per 100; 209 to 209½ feet, 24s. per 100; 210 to 210½ feet, 24s. per 100; 211 to 211½ feet, 24s. per 100; 212 to 212½ feet, 24s. per 100; 213 to 213½ feet, 24s. per 100; 214 to 214½ feet, 24s. per 100; 215 to 215½ feet, 24s. per 100; 216 to 216½ feet, 24s. per 100; 217 to 217½ feet, 24s. per 100; 218 to 218½ feet, 24s. per 100; 219 to 219½ feet, 24s. per 100; 220 to 220½ feet, 24s. per 100; 221 to 221½ feet, 24s. per 100; 222 to 222½ feet, 24s. per 100; 223 to 223½ feet, 24s. per 100; 224 to 224½ feet, 24s. per 100; 225 to 225½ feet, 24s. per 100; 226 to 226½ feet, 24s. per 100; 227 to 227½ feet, 24s. per 100; 228 to 228½ feet, 24s. per 100; 229 to 229½ feet, 24s. per 100; 230 to 230½ feet, 24s. per 100; 231 to 231½ feet, 24s. per 100; 232 to 232½ feet, 24s. per 100; 233 to 233½ feet, 24s. per 100; 234 to 234½ feet, 24s. per 100; 235 to 235½ feet, 24s. per 100; 236 to 236½ feet, 24s. per 100; 237 to 237½ feet, 24s. per 100; 238 to 238½ feet, 24s. per 100; 239 to 239½ feet, 24s. per 100; 240 to 240½ feet, 24s. per 100; 241 to 241½ feet, 24s. per 100; 242 to 242½ feet, 24s. per 100; 243 to 243½ feet, 24s. per 100; 244 to 244½ feet, 24s. per 100; 245 to 245½ feet, 24s. per 100; 246 to 246½ feet, 24s. per 100; 247 to 247½ feet, 24s. per 100; 248 to 248½ feet, 24s. per 100; 249 to 249½ feet, 24s. per 100; 250 to 250½ feet, 24s. per 100; 251 to 251½ feet, 24s. per 100; 252 to 252½ feet, 24s. per 100; 253 to 253½ feet, 24s. per 100; 254 to 254½ feet, 24s. per 100; 255 to 255½ feet, 24s. per 100; 256 to 256½ feet, 24s. per 100; 257 to 257½ feet, 24s. per 100; 258 to 258½ feet, 24s. per 100; 259 to 259½ feet, 24s. per 100; 260 to 260½ feet, 24s. per 100; 261 to 261½ feet, 24s. per 100; 262 to 262½ feet, 24s. per 100; 263 to 263½ feet, 24s. per 100; 264 to 264½ feet, 24s. per 100; 265 to 265½ feet, 24s. per 100; 266 to 266½ feet, 24s. per 100; 267 to 267½ feet, 24s. per 100; 268 to 268½ feet, 24s. per 100; 269 to 269½ feet, 24s. per 100; 270 to 270½ feet, 24s. per 100; 271 to 271½ feet, 24s. per 100; 272 to 272½ feet, 24s. per 100; 273 to 273½ feet, 24s. per 100; 274 to 274½ feet, 24s. per 100; 275 to 275½ feet, 24s. per 100; 276 to 276½ feet, 24s. per 100; 277 to 277½ feet, 24s. per 100; 278 to 278½ feet, 24s. per 100; 279 to 279½ feet, 24s. per 100; 280 to 280½ feet, 24s. per 100; 281 to 281½ feet, 24s. per 100; 282 to 282½ feet, 24s. per 100; 283 to 283½ feet, 24s. per 100; 284 to 284½ feet, 24s. per 100; 285 to 285½ feet, 24s. per 100; 286 to 286½ feet, 24s. per 100; 287 to 287½ feet, 24s. per 100; 288 to 288½ feet, 24s. per 100; 289 to 289½ feet, 24s. per 100; 290 to 290½ feet, 24s. per 100; 291 to 291½ feet, 24s. per 100; 292 to 292½ feet, 24s. per 100; 293 to 293½ feet, 24s. per 100; 294 to 294½ feet, 24s. per 100; 295 to 295½ feet, 24s. per 100; 296 to 296½ feet, 24s. per 100; 297 to 297½ feet, 24s. per 100; 298 to 298½ feet, 24s. per 100; 299 to 299½ feet, 24s. per 100; 300 to 300½ feet, 24s. per 100; 301 to 301½ feet, 24s. per 100; 302 to 302½ feet, 24s. per 100; 303 to 303½ feet, 24s. per 100; 304 to 304½ feet, 24s. per 100; 305 to 305½ feet, 24s. per 100; 306 to 306½ feet, 24s. per 100; 307 to 307½ feet, 24s. per 100; 308 to 308½ feet, 24s. per 100; 309 to 309½ feet, 24s. per 100; 310 to 310½ feet, 24s. per 100; 311 to 311½ feet, 24s. per 100; 312 to 312½ feet, 24s. per 100; 313 to 313½ feet, 24s. per 100; 314 to 314½ feet, 24s. per 100; 315 to 315½ feet, 24s. per 100; 316 to 316½ feet, 24s. per 100; 317 to 317½ feet, 24s. per 100; 318 to 318½ feet, 24s. per 100; 319 to 319½ feet, 24s. per 100; 320 to 320½ feet, 24s. per 100; 321 to 321½ feet, 24s. per 100; 322 to 322½ feet, 24s. per 100; 323 to 323½ feet, 24s. per 100; 324 to 324½ feet, 24s. per 100; 325 to 325½ feet, 24s. per 100; 326 to 326½ feet, 24s. per 100; 327 to 327½ feet, 24s. per 100; 328 to 328½ feet, 24s. per 100; 329 to 329½ feet, 24s. per 100; 330 to 330½ feet, 24s. per 100; 331 to 331½ feet, 24s. per 100; 332 to 332½ feet, 24s. per 100; 333 to 333½ feet, 24s. per 100; 334 to 334½ feet, 24s. per 100; 335 to 335½ feet, 24s. per 100; 336 to 336½ feet, 24s. per 100; 337 to 337½ feet, 24s. per 100; 338 to 338½ feet, 24s. per 100; 339 to 339½ feet, 24s. per 100; 340 to 340½ feet, 24s. per 100; 341 to 341½ feet, 24s. per 100; 342 to 342½ feet, 24s. per 100; 343 to 343½ feet, 24s. per 100; 344 to 344½ feet, 24s. per 100; 345 to 345½ feet, 24s. per 100; 346 to 346½ feet, 24s. per 100; 347 to 347½ feet, 24s. per 100; 348 to 348½ feet, 24s. per 100; 349 to 349½ feet, 24s. per 100; 350 to 350½ feet, 24s. per 100; 351 to 351½ feet, 24s. per 100; 352 to 352½ feet, 24s. per 100; 353 to 353½ feet, 24s. per 100; 354 to 354½ feet, 24s. per 100; 355 to 355½ feet, 24s. per 100; 356 to 356½ feet, 24s. per 100; 357 to 357½ feet, 24s. per 100; 358 to 358½ feet, 24s. per 100; 359 to 359½ feet, 24s. per 100; 360 to 360½ feet, 24s. per 100; 361 to 361½ feet, 24s. per 100; 362 to 362½ feet, 24s. per 100; 363 to 363½ feet, 24s. per 100; 364 to 364½ feet, 24s. per 100; 365 to 365½ feet, 24s. per 100; 366 to 366½ feet, 24s. per 100; 367 to 367½ feet, 24s. per 100; 368 to 368½ feet, 24s. per 100; 369 to 369½ feet, 24s. per 100; 370 to 370½ feet, 24s. per 100; 371 to 371½ feet, 24s. per 100; 372 to 372½ feet, 24s. per 100; 373 to 373½ feet, 24s. per 100; 374 to 374½ feet, 24s. per 100; 375 to 375½ feet, 24s. per 100; 376 to 376½ feet, 24s. per 100; 377 to 377½ feet, 24s. per 100; 378 to 378½ feet, 24s. per 100; 379 to 379½ feet, 24s. per 100; 380 to 380½ feet, 24s. per 100; 381 to 381½ feet, 24s. per 100; 382 to 382½ feet, 24s. per 100; 383 to 383½ feet, 24s. per 100; 384 to 384½ feet, 24s. per 100; 385 to 385½ feet, 24s. per 100; 386 to 386½ feet, 24s. per 100; 387 to 387½ feet, 24s. per 100; 388 to 388½ feet, 24s. per 100; 389 to

Now is the Time to Plant
PÆONIES, PYRETHRUMS,
DELPHINIUMS, and GALLIARDIAS, the most showy
of all hardy, easily-grown Perennial Plants. For Priced Lists,
see **KELWAY'S SEED and PLANT MANUAL** for 1892, 1s.,
post-free (deducted from first order), to those unknown to us.
KELWAY and SON, Langport, Somerset.

For Exhibition!
BROAD BEAN, BIDDLES' MONSTER
LONGPOD.—Extra long, fine quality. Per quart,
1s. 6d.
CARROT, BIDDLES' SCARLET PRIZETAKER, Intermediate,
the finest exhibition Carrot grown. Per oz., 1s.
ONION, BIDDLES' GIANT SPRING.—Too well known as
a prize-winner to need further recommendation. Per
oz., 1s.
BIDDLES and CO., THE PENNY PACKET SEED CO.,
Loughborough, Leicestershire.

THE OLD BROWN QUARRY EARLY
POTATO. The Oldest Existing Stock in Ireland.

I believe this to have been in existence here for 150 years;
certainly, when I was a child, prior to the famine period.
There was no other sort grown for harvest purposes when men
worked with a sickle. I am enabled to offer it for redistribution—
it never having made its way to England—from a stock
preserved for years on peat land, resting on limestone, in a
remote part of county Car. There must be something in the
soil that preserved it for years. It is a first-class variety, of
great substance. 7-lb. bag and postage for 2s. 9d.

WM. BAYLOR HARTLAND, F.R.H.S., Old Established
Seed Warehouse, Cork, Ireland.

Seeds.—Carriage Paid.—Seeds.

DICKSON and ROBINSON'S
DESCRIPTIVE CATALOGUE for 1892.
Enumerates the Best and Cheapest Varieties of VEGETABLE
and FLOWER SEEDS, and SEED POTATOS; MANURES,
INSECTICIDES, HORTICULTURAL IMPLEMENTS, and
GARDEN REQUISITES. Post-free on application.

COLLECTIONS OF VEGETABLE SEEDS, from 6s. to 81s.
COLLECTIONS OF FLOWER SEEDS, from 2s. 6d. to 81s.
Seed Warehouse, 12, Old Millgate, Manchester.

BEGONIAS A SPECIALITY.—Awarded

Four Gold Medals, and Gold Cup, and all First Prizes.
Seed saved from Prize plants. Our Begonia Seed and Bulbs
sell up all previous years. Cheapest mixed, single or double
varieties, 1s., 2s. 6d., and 5s. per packet. Collections (Seed)—
single, 12 named varieties, separate, 5s. 6d.; 6 ditto, 3s.
Tubers, named singles, from 12s. to 42s. per dozen; unnamed
seedlings, 12s. to 21s. per dozen; bedding, choicest, 4s., 6s.,
8s., and 9s. per dozen; choicest named doubles, from 42s. per doz.;
unnamed, choicest, 18s. to 30s. per dozen; choicest mixed, for
bedding, 8s. and 12s. per dozen. Catalogues gratis.

JOHN LAING and SONS, Begonia Growers, &c., Forest
Hill, London.

FOR SALE.—10,000 KENTIA PALMS, in
60, 48, and 32-pots; 5000 COCOS, in 60, 48, and 32-pots;
5000 LATANIAS, in 48-pots; 5000 SEAFORTHAS, in 60-pots;
500 STORE-BOXES, SEAFORTHAS, 2000 ASPIDISTRAS, in
32-pots, Green and Variegated. Grand, clean, healthy stuff.

To be sold Cheap, to make room for other Stock.

May be seen, or prices and particulars from **JAMES WING-
FIELD, Widmore Hill Nursery, Bromley, Kent.**

BARR'S SEEDS, BULBS and PLANTS.

VEGETABLE SEEDS.—The best sorts only. Much valuable
information. CATALOGUE FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 2000 species and varieties, all
decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus
candicans, Tigridias, &c., for Spring Planting. LISTS
on APPLICATION.

PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double
and Single Pæonies, Irises, Oriental Hellebores, Carna-
tions, &c. LISTS FREE ON APPLICATION.

BARR and SON, 12, King Street, Covent Garden, London.

CHEAL'S NEW TOM THUMB DAHLIAS.

Choice mixed Seed of above can now be supplied at 2s.
6d. per packet.

CHEAL'S CACTUS DAHLIAS, carefully

selected Seed, 1s. 6d. and 2s. 6d. per packet.

CHEAL'S SINGLE DAHLIAS, carefully

selected Seed, 1s. 6d. per packet.

NEW CATALOGUE OF DAHLIAS, containing

many Novelties, will be ready shortly, post free.

J. CHEAL and SONS, The Nurseries, CRAWLEY.

A GOOD INVESTMENT.

Last season I sowed a small quantity of Chrysanthemum
seed, from which I obtained twenty varieties that I would not
sell for one hundred pounds. I have again obtained seed from
the same source, and have a small quantity to spare at 1s. 6d.
and 2s. 6d. per packet. I shall be pleased to purchase at a fair
price any good varieties raised from this seed.—**H. J. JONES,**
Ryecroft Nursery, Lewisham.

The best book on the Chrysanthemum is—**Chrysanthemums,**
and How to Grow Them. Now ready, post-free, 9 stamps, of
H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

CHRYSANTHEMUMS.

See our New DESCRIPTIVE CATALOGUE for all Novelties
of the present Season. It contains all the best varieties in cultivation,
post-free, on application to—

PITCHER & MANDA,

The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

SEASON 1892. WM. CLIBRAN & SON Beg to inform their patrons that their NEW CATALOGUE OF

SELECT
VEGETABLE
SEEDS

CHOICE
FLOWER
SEEDS

Is NOW READY, and will be sent post-free on application.
It contains Descriptions of all the STANDARD VARIE-
TIES of VEGETABLE and FLOWER SEEDS, with a
careful selection of the most promising NOVELTIES.
BUTTERFLY GENIUS, RELIABLE SEEDS should
send for a copy before placing their Orders.
INSECTICIDES, IMPLEMENTS, TOOLS,
And Miscellaneous Requisites of every description,
for the GARDEN or FARM, supplied.
**10 & 12, MARKET ST., OLDFIELD NURSERIES,
MANCHESTER, ALTRINCHAM.**
And Principality Nurseries, Deganwy, Llandudno.

SMALL SHRUBS and CONIFERÆ.—Abies
orientalis, 4-yr., 40s. per 1000; Cupressus macrocarpa,
1-yr., 30s. per 1000; C. Lawsoniana, 1 foot, 40s. per 1000;
C. erecta viridis, 8 to 9 inch, 30s. per 1000; Cotoneaster Sim-
monsii, 1 foot, 30s. per 1000; Escallonia nescantha, 9 inch,
8s. per 100; Ivy, Irish, 2-yr., 40s. per 1000; Lilac, purple,
2-yr., 30s. per 1000; Laurestinus, 6 to 8 inch, 7s. per 100;
Oaks, evergreen, 7-yr., drilled, 10 inch, 50s. per 1000; Pinus
cembra, 2-yr., transplanted, 40s. per 1000; P. Nordmanniana,
2-yr., transplanted, 60s. per 1000; P. nobilis, 2-year trans-
planted, 6s. per 100; Privets, oval, 9 inch, 8s. per 1000; ditto,
10 to 12 inch, 14s. per 1000; Retinospora plumosa, 8 inch,
transplanted, 40s. per 1000; R. aurea, 6 to 8 inch, 8s. per 100;
Rhododendron ponticum, transplanted, 4 to 6 inch, 40s. per
1000; 6 to 9 inch, 55s. per 1000; Veronica Traversii, 8 inch,
7s. per 100; V. Fingoidii, 6 inch, 8s. per 100; Yew, English,
2-yr., 1-yr., transplanted, 20s. per 1000; Irish Yew, 8 to
9 inch, 8s. per 100.

GARIES MITCHELL, Nurseryman, Stranraer.

AMERICAN SPECIALITIES.

CHRYSANTHEMUM SEED,

Carefully hand-hybridized, and saved from all the newest
and best varieties known, at our

SHORTHILL NURSERIES (U.S.A.).

Price, 3s. 6d. per Packet; 5 Packets for 15s.
£35 offered in three Special Prizes at the Royal Aquarium
Show for the three best new varieties raised from this Seed.
For particulars, write for our

NEW DESCRIPTIVE CATALOGUE,

Now ready, Post-free on application to—

PITCHER & MANDA,

THE UNITED STATES NURSERIES,

HEXTABLE, SWANLEY, KENT.

SPECIAL CULTURE OF

FRUIT TREES and ROSES.

A LARGE and SELECT STOCK IS NOW
OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of
Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,

THE NURSERIES,

SAWBRIDGEWORTH, HERTS.

THE NEW EARLY DESSERT APPLE, COOLING'S BEAUTY OF BATH,

Is the handsomest and best-flavoured First
Early APPLE yet introduced, and should be
in every collection.

MAIDENS, 2s. each.

PYRAMIDS, 3s. 6d. and 5s. each.

PAN-TRAINED, 6s. and 8s. each.

STANDARDS, 3s. 6d. each.

Trade price on application.

Descriptive FRUIT TREE and ROSE CATA-
LOGUE, Post-free on application.

GEO. COOLING & SONS,
THE NURSERIES, BATH.

10,000 BUONUMUS (Green), bushy, well-
grown, 18 inches to 30 inches, 6s. to 15s. per
dozen. Less by the 1000, Cash with Order.

J. J. CLARK, Goldstone, West Brighton.

LARGE QUANTITIES of strong THORNES,
very cheap; 2-year, 2s. 6d. per 100; 3 and 4-year,
250 Stock LINES, well-grown, ready to put
into fruiting-pots, very clean, and in perfect health; also, fine
fruiting plants of the same varieties, ready for immediate
thopping up. Giving up Pine Growing, reason for disposal.
Apply, **H. E. GRIBBLE, Wynyard Park, Stockton-on-Tees.**

PINES for SALE.—QUEEN'S, CHAI-

LOTTE ROTHSCHILD'S, and SMOOTH CAYENNES.
A very fine lot of Suckers, in 7 and 3-inch pots, ready to put
into fruiting-pots, very clean, and in perfect health; also, fine
fruiting plants of the same varieties, ready for immediate
thopping up. Giving up Pine Growing, reason for disposal.
Apply, **H. E. GRIBBLE, Wynyard Park, Stockton-on-Tees.**

VINES. VINES. — VINES.

We hold a fine stock of the above, both Fruiting
and Planting Canes. Names and prices sent on application.
**JOHN PEED and SONS, Rouppell Park Nurseries, Norwood
Road, London, S.E.**

The Best Present for a Gardener.

VINES and VINE CULTURE.
The most complete and exhaustive Treatise on
Grapes and their Culture ever published.

3rd Edition.

A. F. BARRON, Royal Horticultural Society, Chiswick.

**DOBBIE'S CATALOGUE and COMPETI-
TORS' GUIDE for 1892.**—25th Annual Edition, 160 pages,
illustrated. Described by one of the greatest authorities in
England as "the most useful list published in the trade."
Now ready, 6d. to all who apply for it and enclose 2d. to
cover postage.—**DOBBIE and CO.,** Seed Growers and Florists,
Rothney, Glamis.

20,000 DAHLIA ROOTS.

H. CANNELL & SONS

Have the largest and finest stock in the world,
from 6s. to 30s. per dozen.

SEND FOR ILLUSTRATED CATALOGUE.

SWANLEY, KENT.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(BIDDLES & CO., Proprietors),

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send
for a copy of our complete Seed Catalogue and Guide, which
will be sent gratis and post free on application.
3000 Varieties catalogued, 500 Illustrations.



By Royal Appointment
Nurserymen & Seedsmen
to H.M. the Queen,
and His Royal Highness the
Prince of Wales.

*Nurseries &
Seed Farms*
400 Acres.

**PURE & RELIABLE
GARDEN SEEDS**
CARRIAGE PAID. CATALOGUES FREE.

**LITTLE & BALLANTYNE
CARLISLE.**

The Original and Only Makers of the
GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).

These Boilers, after long experience, have
proved themselves the Most Efficient, Econo-
mical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges,
and Expansion-Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

TO HORTICULTURISTS.—GREENHOUSE

GAS COKE and SMITH'S COKE delivered in Trucks
to any Station in England and Wales.—Address,
G. J. EVESON, 26, Corporation Street, Birmingham.

Williams'

WORLD-RENOWNED
GOLD MEDAL STRAINS

Primula Cyclamen

Per Packet, 1/6, 2/6, 3/6, & 5/-.

Calceolaria

Per Packet, 1/6, 2/6, 3/6, & 5/-.

FLOWER SEEDS POST FREE.

Every Packet of above bears our Registered Trade Mark, without which none are genuine.

ILLUSTRATED SEED CATALOGUE,
comprising everything necessary and requisite for the
Garden, Gratis and Post-free on application.

B.S. Williams & Son,
UPPER HOLLOWAY,
LONDON, N.

NEW VEGETABLES

Of Sterling Merit.

WEBBS' SEEDS.

TOMATO.—WEBBS' REGINA.

This valuable novelty is early and very prolific. The fruit is smooth, somewhat round in shape, of beautiful colour, and delicious flavour.

1s. 6d. and 2s. 6d. per Packet.

PEA.—WEBBS' TALISMAN.

A blue, wrinkled, main-crop Pea (a cross between the varieties, Culverwell's Giant Marrow and Omega). It grows about 5 feet in height, has stout stems, and large light-green foliage; the pods are long, straight, and very handsome in appearance.

5s. per Pint.

BROCCOLI.—WEBBS' AVALANCHE.

A splendid new variety, suitable for early spring use, very hardy, and robust in habit of growth; the heads are snowy white, close, and well protected.

1s. 6d. and 2s. 6d. per Packet.

WEBB & SONS, WORDSWORTH, STOURBRIDGE

PAULS' NURSERIES, WALTHAM CROSS.

South Entrance, four minutes' walk from Waltham Cross Station (G.E.R.); West Entrance, three minutes' walk from Theobald's Grove Station (G.E.R.).



ROSES.

The Largest and Finest Stock in the Country.

NEW ROSES A SPECIALTY.

Also Books on Roses, by Wm. Paul, F.L.S.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



SEEDS & BULBS

OF BEST QUALITY.

ALSO

MUSHROOM SPAWN, GARDEN MATS, MANURES, INSECTICIDES, and all other GARDEN REQUISITES.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



FRUIT TREES

AND

GRAPE VINES.

An enormous Stock of fruiting and other Trees unsurpassed in quality, being vigorous, clean, and true to name.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



HARDY TREES AND SHRUBS.

EVERGREEN, DECIDUOUS, and CONIFERS, in endless variety, kept constantly transplanted.

RHODODENDRONS off Loom.
HARDY CLIMBING PLANTS a specialty.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



CAMELLIAS

The Largest Stock in the Country.

Plants well set with Bloom-buds.

Also,

AZALEAS, LAFAGERIAS, and other GREENHOUSE CLIMBERS.

Descriptive Priced CATALOGUE Free by Post.

Prices strictly moderate: reduced rates for large quantities. Inspection of stock invited. Goods packed by experienced hands for all parts of the world. Gardeners of character and experience recommended.

Important: Observe the Christian Name and Address—

WM. PAUL & SON,
WALTHAM CROSS,
HERTS.

SUTTON'S



PRIZE GLOXINIA.

A superb strain, producing flowers with unusual freedom, varied and rich in colour.

"The Seedling Gloxinias were much admired at our show, taking off two First Prizes. They were the talk of the whole show."—F. BUCKINGHAM, Esq., St. John's.

Price of seed, mixed colours, 5s. and 2s. 6d. per packet, post-free.

SUTTON & SONS, The Queen's, READING.
Seedsmen.

VAN MEERBEEK & CO'S

BULBS

Begonias,
Gladioli,
Gloxinias,
Anemones,
Ranunculus.

AND

PLANTS,

Besides an immense variety of other Bulbous and Rhizomatous Roots and Plants, specially adapted for

SPRING PLANTING,

As well as for

GREENHOUSE AND STOVE.

NO PACKING CHARGES!!!

Goods delivered CARRIAGE PAID
at PURCHASER'S DOOR in
Great Britain and Ireland.

Superb Complete Collections for the Garden, at
9s., 12s., £1 1s., £2 2s., and £3 3s.

Beautifully Illustrated Amateur's Catalogue (in English),
Gratis and Post-free from the Growers,

VAN MEERBEEK & CO.,
HILLEGOM, near
HAARLEM, HOLLAND.

PLEASE MENTION THIS PAPER.

March 4th next.

NEW ORCHIDS.

GREAT SALE.—NO RESERVE.

Extraordinary New Lady's Slipper,

CYPRIPEDIUM CHAMBERLAINIANUM (SANDER).

GRAND NEW SPECIES.

EVERY PLANT RECEIVED WILL BE OFFERED
WITHOUT ANY RESERVE.

A magnificent and beautiful new *Cypridium* which we have the privilege to offer. It is dedicated by permission to the Right Hon. Joseph Chamberlain, M.P.

An altogether unique and absolute new departure in every way from all known *Cypridiums*, in inflorescence, in habit, and in leaf, a perfectly marvellous novelty. Its leaves in some instances are 4 inches across, ample, undulated, and often beautifully tessellated on the upper surface, reminding one slightly of *C. Morganæ*, but much larger and finer; it is altogether a noble plant.

This extraordinary *Cypridium* produces flower spikes up to 2 feet high, bearing all along its stem its white, yellow, and purple blossoms, and we are able to show dried flower spikes which have produced over thirty flowers. Another remarkable feature is, that the flower seats are not more than half an inch from each other.

The upper part of the flower is yellow with about six rose-purple lines, divided by the midrib, emerging from a profusion of rosy-purple spots; those at the lower part are much denser than at the upper half of the dorsal sepal; the whole is beautifully reticulated and charmingly transparent towards the margins, densely covered on the outer surface with white hairs. The upper half of the dorsal sepal is clear and pure, without any spots or lines; the lower dorsal sepal is similar in its markings, only not so dense, and about half the size of the upper dorsal sepal, which extraordinarily enough is as broad as it is long, being about 2 inches in diameter.

The two petals are spreading, curled and twisted at the ends like a corkscrew, and spotted in the way of *C. superbians*; the margins are charmingly undulated, and bear a profusion of white hairs. They are spotted on both surfaces with blackish-purple and chocolate spots and blotches; some purple lines also run along them. They are of a lovely shining white and creamy-yellow colour, highly ornate, each of them over 2 inches long. The slipper, shoe, or pouch, sometimes called the labellum, is also exceptionally beautiful; it is rose and white, more inflated than *C. cardinale*, and double its size, reminding one of a beautifully-spotted bird's egg, so exquisite is the fine blackish-purple spotting over two-thirds of its lower part. The upper part and side-lobes are of a shining porcelain white colour; this combined with the purplish-black spotting lends it a hue and charm perfectly unique.

We have been asked by several Gentlemen to Sell the whole Importation of this altogether extraordinary and charming new *Cypridium*, without reserve, and we will do so.

Cypridiums are most difficult to introduce, and without the right moment is caught, all arrive dead. This is the case unfortunately with *Cypridium Victoria Regina*. These have perished on the journey. We shall try next year to introduce it. However, the finer of the two is *CYPRIPEDIUM CHAMBERLAINIANUM*, and fortunately this has come home in altogether exceptional order and condition, and the Sale will contain the whole Importation of about 700 Plants.

Abundant dried material will be on view.

March 4th next.

NEW ORCHIDS.

NO RESERVE.

CATTLEYA VICTORIA REGINA

(SANDER).

A distinguished and excellent new *Cattleya*. From one of my oldest exploring collectors, and a superb novelty of greatest merit in every way. Free growing, free and abundant flowering. The flowers are, individually, 5 inches across, and as many as eight or nine are borne on a spike. The flower is very compact, and of great substance. The sepals and petals are of a deep rosy-red, glowing and glistening, blotched crimson and purple, the margin lighter, and undulate. The lip is crimson, with a white tube. The importation is in magnificent condition.

CATTLEYA SPECIES.

A beautiful *Cattleya*. See dried flowers on view day of sale.

CYPRIPEDIUM

(GOLDEN YELLOW).

When the beautiful *Cypridium* insignis Sandera flowered, a few years ago, we instructed our collector to search for it, and are pleased to be able to offer now a few plants of a simply magnificent golden-yellow and white *C. insignis*. The plants are in fine order.

MAGNIFICENT NEW CYPRIPEDIUM.

CYPRIPEDIUM KIMBALLIANUM

(SANDER).

QUITE NEW SPECIES.

This grand new species is now offered for the first time, and no plants of it have ever been sold. It is a grand grower, and a grand novelty. Nothing similar to it, or in any way like it, has ever been imported up to now. It is a stately species. Its flowers are said by the natives to be of enormous size, and the colours are described as crimson, purple, and white in this description, we believe. It has been a terrible difficulty to get plants home alive; and after all our trouble and expense, we only got a few plants. Those offered are in grand condition, and we believe that it will be absolutely impossible for us to ever again offer it, and that this will be the only time it will be on sale. An imported plant had leaves on it fully 2 feet long. The leaves are most beautiful, of elegant shape, and heavily mottled and blotched.

CYPRIPEDIUM SPECIES.

This may turn out to be simply a variety of *Cypridium Wallisii*, but it comes from quite a different country, the extraordinary flowers have petals nearly 2 feet long and are pure satiny white, excepting the tip—which is rose. In *Wallisii* it is white. It is one of the most stately of *Cypridiums* we have introduced. In fact, it is quite a sensational plant. The consignment is in fine condition.

As a Supplement

TO THE

GARDENERS' CHRONICLE

FOR

Next Week, February 27,

Will be Published an Ink-Photograph of

VANDA CÆRULEA,

GROWN IN LORD ROTHSCCHILD'S GARDEN.

THE

Gardeners' Chronicle.

SATURDAY, FEBRUARY 20, 1892.

CEYLON.

PROFESSOR GOODALE, of Harvard University, has been visiting some of the tropical botanic gardens, and contributes an account of his trip to one of the American papers, whence, through the medium of the *Tropical Agriculturist*, we take the following extracts:—

1. Botanic Gardens in the Equatorial Belt and in the South Seas (First Paper).—It is my purpose to give, in the following notes, some account of the more important Botanic Gardens visited by me during a recent journey. The tour carried me from Genoa, through the canal at Suez, to Ceylon, in which country *Peradeniya* and *Hakgala* were examined; thence to Adelaide, in South Australia; Melbourne and Geelong, in Victoria; Hobart, in Tasmania; Dunedin, Christchurch, and Wellington, in New Zealand; Sydney, in New South Wales; Brisbane, in Queensland; Buitenzorg, in Java; Singapore, in the Straits Settlements; Saigon, Hong Kong, and Shanghai, in China; and Tokio, in Japan. With the exception of Shanghai and Tokio, the visits were made at favourable seasons; in Northern China and in Japan the spring was not far advanced, but the early flowers were in perfection.

The journey was undertaken with a view of securing from the establishments in question, for the University Museum at Cambridge, specimens illustrative of the useful products of the vegetable kingdom. In every instance the writer met with a cordial reception, and received innumerable courtesies, for which he desires to thank again the directors, curators, and superintendents of the various botanical establishments. Every facility was afforded for careful inspection of the workings of the gardens and museums, and it should be added, of the educational institutions with which some of them were connected.

A satisfactory photographic outfit rendered it possible to supplement the collection of photographic views which were purchasable at most points; so that the series, now stored in the Museum at Cambridge, may be regarded as one of the largest yet brought together. It comprises views not only of groups of plants, both in gardens and in their wild state, but of individual plants as well. Early next year these illustrations will be accessible to any visiting naturalists.

The present sketch will follow essentially the route outlined in a preceding paragraph, beginning with the gardens in Ceylon.

Peradeniya and *Hakgala* (Ceylon).—After the desert of Egypt and Arabia, and of treeless Aden, have been passed, the traveller comes, by an abrupt transition, upon tropical luxuriance of vegetation. There is, to be sure, a distant

MESSRS. PROTHEROE & MORRIS

Have received Instructions from Mr. F. SANDER to SELL, at their Great Rooms,

67 and 68, CHEAPSIDE, LONDON, E.C.,

A Grand Lot of the above New *Cypridiums*, &c.,

ON FRIDAY, MARCH 4.

glimpse of Socotra, but its shores are too far away to yield anything plainly discernible; and even Minicoy, an island lying between the Maldives and Laccadives, gives only a faint suggestion of plant-life. Its low-lying land is fringed with scattered Cocoa-nut Palms, of which, later, one sees so many. Before reaching Ceylon, the ship passes within sight of the southern point of India, but not near enough to show what its plants are like. In fact, therefore, the arrival in the harbour of Colombo brings a surprise. Coming down to the shore, and extending as far as the eye can reach on either side, are crooked* Cocoa-nut Palms, here and there intermingled with trees having foliage of the deepest green. A botanist is struck at once by the superb capabilities of such a country for a tropical garden. These capabilities were not overlooked by the Dutch, who succeeded the Portuguese in possession. A Botanic garden was founded by them at Slave Island, in Colombo, but when the Dutch were driven out by the British, it fell into neglect. There was, however, at this period, an excellent garden connected with the country place of the first English Governor, near Colombo, which, at the beginning of his century, was under the charge of a naturalist, who gave it somewhat the character of a botanical garden.

In 1810 Sir Joseph Banks sketched the plan for a botanical garden in Slave Island, Colombo, and succeeded in transferring thither from Canton Mr. Kerr, who became its chief. According to the work from which I have derived these facts, the Slave Island garden was subject to floods, and consequently the establishment was moved to Kalutara. One finds here and there in Colombo traces of the old occupancy remaining in the names of some of the streets—"Kew," for instance. From Kalutara the garden was transferred, in 1821, to its present site. Since that time, the large garden has established four branches, in order to secure all the advantages which can come from having land at different altitudes and with different exposures.

The branch gardens are—(1) Badulla, founded in 1886, in the eastern part of the island, with an elevation somewhat over 2000 feet. "The climate here is somewhat drier than on the western side of the hill region, receiving but little rain with the south-west monsoon." (2) Anuradhapura, dating from 1883, about a hundred miles north of the large garden, is the ancient capital of the island. Besides the interesting ruins at this point, which are well worth seeing, there exists the oldest historical tree in the world, *Ficus religiosa* (the sacred Bo), assigned to 283 B.C. This garden has a short rainy season and a hot dry climate. (3) Henaragodda, 33 feet above the sea, and thoroughly tropical, is on the railroad running from Colombo to Kandy. It was founded in 1876. Here certain plants which cannot be grown at Peradeniya, are very successfully cultivated. (4) Hakgala, established in 1890, as a nursery for Cinchona cultivation, is near Nuwara, Eliya (commonly pronounced "Nuwralia") the famous sanitarium. It is almost 6000 feet above sea-level,† in a place of surpassing beauty. Above the garden is a frowning double cliff 1500 feet high, and all around the views are most attractive. The Gate affords one of the best of these. The landscape reaches over the Uva district towards the Haputale gap and the Madulula hills. On entering the garden the bewilderment begins. On every hand one sees species in the most grotesque juxtaposition. Plants from Australia, such as Casuarinas and Acacias, are perfectly at home with East and West Indian, Japanese, and English plants; of the latter there are many which seemed thrifty and well established.

Although the garden is used primarily for experi-

mental purposes, it has been laid out with regard to effectiveness of grouping, and with remarkable success. A botanical visitor is, however, constantly trying to separate in his mind the different plants from the curious collocations which everywhere abound, and demonstrate better than in any other place I have ever seen the wide range of tolerance of climate. The superintendent, Mr. W. Nock, who has had large experience in the West Indies, has carried on some interesting experiments in acclimatizing plants from the western hemisphere, such as "Cherimoyer" and the like. There are few plants in the garden more attractive from an economic point of view than the vegetables of doubtful promise, such as Arracacha, and those of assured culinary position, "Choco" or "Chocho" (*Sechium edule*), for example. Some of the medicinal plants in hand were doing well in every way, while others have proved somewhat disappointing, for instance, Jalap and Ipecacuanha.

The Ferns, especially the Tree Ferns, and the species of *Eucalyptus*, form one of the marked successes at this garden. Mr. Nock stated that the most troublesome weed in the garden is a species (perhaps more than a single species) of *Oxalis*; it is simply impossible to eradicate it. G. L. G.

(To be continued.)

NEW OR NOTEWORTHY PLANT.

CYPRIPEDIUM CHAMBERLAINIANUM,
O'Brien, n. sp. (See fig. 34.)

This is a surprisingly beautiful and distinct novelty, and quite unexpected by its lucky importers, Messrs. F. Sander & Co., of St. Albans, who, when sending their collector to a hitherto unsearched part of New Guinea, had little hopes of gaining such a plant, which, in addition to being an entirely new species, is also the first of a totally new section of *Cypripedium*. The plant is robust, and resembles a giant *C. Spicerianum*, or it might easily be taken for a large *Angraecum pellucidum*, so distinct is its growth from that of any other species.

From the evidence of the dried spikes sent over by the collector, and those which opened immediately after their arrival, and from which our illustration was prepared, it is seen that native specimens have spikes showing from twelve to twenty or even more flowers on a spike, each flower springing from a stout and ornamental bract. The flowers themselves may be likened in colour to those of *C. superbiens* or *C. Morganae*, but in their botanical features there is nothing to compare them with. The dorsal sepal is yellowish-white, with six rosy-purple lines, three on each side of the mid-rib, and the base of the sepal has a profusion of rosy-purple spots. The lower sepal is similar to the upper, but smaller; and a very peculiar feature in both is, that they are strongly pubescent or hairy on the backs. The petals are spreading, curled, and twisted, and beautifully spotted with crimson, the margins undulated and furnished with white hairs at the edges. The labellum or pouch is white, beautifully and densely spotted with rose colour on the lower portion. Altogether it is a charming plant, and well worthy to bear the name of the Right Hon. Joseph Chamberlain, M.P., to whom Messrs. Sander have requested it to be dedicated. James O'Brien.

THE HOTHOUSES OF H.M. THE EMPRESS FREDERIC AT CRONBERG.

THE Empress Frederic's castle at Cronberg is built among most picturesque and mountainous scenery. The air which blows from the adjacent mountains is extremely pure, and doubtless very favourable to the growth of Orchids and alpine. Annexed to the castle are many greenhouses, three of which are over 357 feet long. Each is divided into four compartments, varying from 65 to 97 feet long, by 19½ feet wide, and 10½ feet high. One of these houses is devoted to Orchids, and was selected because of its particularly favourable position. It contains a great number of the rarest and most

beautiful species and varieties, many plants being of unusual size, and now in full bloom or showing great promise for the future. A table 6 feet wide is set apart in the centre of this house, and decorated with hothouse and ornamental-foliaged plants; many choice and beautiful species are represented. On each side of this stand a path, 3 feet wide, leads past all the stages, which are about 3 feet wide and raised 2½ feet above the ground. The space beneath the shelves is bordered with red ornamental tiles.

Between the stages and the wall is a space 3 inches wide, to allow the warmed air to circulate. The shelves are not perforated, but the pots are not stood directly upon them, being raised on a Pitch-Pine lattice-work 4 inches high, so that the air can freely circulate; this arrangement also enables zinc basins full of water to be placed near the plants, so as to increase the humidity of the atmosphere. The house is heated by twelve pipes, six on each side, so that in spite of the extent, an even temperature of 64° to 68° can be maintained. This charming building contains a considerable number of Orchids, all furnished by the Horticultur Internationale, the fine foliage of which fully attests the good care taken of them and the appropriateness of the locality chosen. Among the Orchids we may cite: sturdy specimens of different varieties of *Laelia purpurata*; good varieties of *Cattleya labiata autumnalis*, which have just bloomed well; the rare *Laelia grandis tenebrosa*, so much admired when shown this year for the first time, and which is now in spathe; *Cattleya Mendeli*, *C. Mossiae*, *C. aurea*, *C. gigas*, *C. Percivaliana*, with good promise of bloom; *C. granulosa*, various fine plants of *Phalaenopsis Schilleriana*, *P. amabilis*, *P. grandiflora*, and other beautiful varieties; twelve splendid *Angraecum sesquipedale* covered with buds, showing excellent cultivation, 18 to 24 inches high, and of remarkable beauty; their graceful leaves are of a sombre green colour, entire all the way down to the pot; *Oncidium Lanceanum*, which has recently flowered; a quantity of *Dendrobium bigibbum* which has been in bloom five months, and is still covered with clusters of flowers; *Grammatophyllum Ellisii*, and other good species; *Houlletia odoratissima* Lindeni; fine plants of *Laelia elegans*; of *Rodriguezia* (*Burlingtonia*) *rubescens*, a charming species, the smallest plant of which has borne since the commencement of the season a dozen clusters of pure white flowers, most graceful in form. They began to come into leaf at once, and at the end of ten days some of them had as many as fifteen shoots, all well-rooted. As soon as the blooms were faded, the flower-stems were cut, and the surface of the compost dressed with living sphagnum, in which roots soon formed abundantly; to this treatment, the vigour of the plants may, doubtless, be attributed. The plants of *Rodriguezia rubescens* are hung about a foot from the glass, as are the *Phalaenopsis*, certain *Paphiopsis*, *Stanhopea*, *Miltonia Roezlii*, *M. Phalaenopsis*, and *M. vexillaria*, now in full bloom, and many other species, the vigorous health of which leaves nothing to be desired. Other hot-house plants are doing well in the same house, especially the *Nepenthes*, which are hung near the entrance, and bear many graceful pitchers. The other houses contain various plants; *Stephanotis floribunda* climbs along the rafters; *Cissus Lindeni* and *C. discolor*, the charming *Tropaeolum Lindeni*, newly imported by the Horticultur Internationale, has evergreen foliage of an excellent colour, and promises to take a first place as an ornamental plant; there are also *Passiflora triloba*, another recent importation, and many others. One house is full of *Gardenia grandiflora*, well grown, and blooming abundantly; others are filled with Pinks and other plants requiring a similar temperature. Finally, there is a house especially built for cool Orchids; it is about 65 feet long, 13 feet wide, and 7½ feet high; the shelves to the right and left are about 2 feet above the ground; in the centre is a path about 3 feet wide. The shelves support Pitch-Pine lattices of various heights, on which the pots are arranged on steps, so that the plants may be as near the glass as possible. In this house is a fine collection of *Odontoglossum*, chiefly *O. Alexandrie*

* Crooked conveys the idea of sharp angles, whereas the Cocoa-nut Palms are gracefully bent.

† Somewhat over 5000 feet would be more correct.

selected from good varieties of the type known as Pacho; a fiftieth part are now in bloom, amongst others *O. Alexandræ Trianæ*, *O. Claesianum*, &c., coming from a collection imported last year, and which has done exceedingly well.

A collection of the best species of *Masdevallia* promises an ample harvest of flowers, and we may finally mention *Coleogyne cristata*, placed close to the glass, *Lycaste Skinneri*, *Cypripedium insigne*, full of buds, *Odontoglossum arachnoides*, of wonderful colour, which has been in bloom six weeks, and seems likely to last in full beauty almost as long again; as well as a great number of other choice species, excellently cultivated, and in vigorous health. *Jean Tonel*, in *Journal des Orchidées*.

Harris has purchased a lot of choice Orchids during this time, and amongst some of those in flower recently might have been noticed some very fine pieces of *Lycaste Skinneri* alba and *L. Skinnerii* with seven spikes, grand plants of *Dendrobium Wardianum*, *D. formosum*, *D. giganteum*, *Cymbidium Lowianum*, an excellent form of this; *C. Spicerianum*, *C. Dayanum*, *C. Boxalli*, *C. callosum*, *C. Sedeni*, and *C. barbatum*. Flowers were also to be noticed on plants of the pretty *C. bellatulum*, one plant carrying two spikes of between seventy and eighty flowers; *Zygopetalum intermedium* and *Z. maxillare*; *Masdevallia tovarensis* with sixteen spikes of three or four flowers, each in a 48-pot; *Cattleya Trianæ* and about thirty plants of

Bowden Hill has become an enthusiast in everything horticultural, and he has found a good cultivator in Mr. Deacon, as may be surmised from my short account of what I saw, but much more remained to be inspected when night set in. *W. A. Cook*.

ODONTOGLOSSUM ROSSII FROM CHELTENHAM.

An interesting series of varieties of the above come from Mr. J. Cypher, Queen's Road Nurseries, Cheltenham, and taking the extreme varieties, it is difficult to reconcile them as being of one species. The handsomest is a large light flower of the *O. R. majus* type, and the most curious a rather small flower with sepals and petals spotted alike, except that the petals have a narrow white margin. The lip of this variety is blush-white, and the callus cream coloured. With these also come flowers of a very fine form of hybrid *O. Rossii* with a pale primrose ground colour. An example of *O. crispum* with flowers $4\frac{1}{2}$ inches across, and prettily-spotted sepals and lip; and a spray of noble flowers of *Oncidium splendens*.

ODONTOGLOSSUM CRISPUM VAR. NOBILIOR.

This is another noble spotted variety of *O. crispum*, which has flowered in the valuable collection of these plants in the gardens of Baron Schroder, at The Dell, Egham, and in the care of that clever cultivator, Mr. H. Ballantine. It was exhibited at the meeting of the Royal Horticultural Society, on February 9, when it gained a First-class Certificate, and was much admired. Its sepals are nearly covered with warm reddish-brown blotches, its petals and lip also being adorned with heavy markings of the same colour. *J. O'B.*

CROSSES AND CROSSING OF PLANTS.

This was the subject of a paper read at the late meeting of the Massachusetts State Board of Agriculture by Professor L. H. Bailey, of Cornell University. The paper is too long to reproduce entire, but we give in a condensed form the report as published in *Garden and Forest*. Professor Bailey's language is adhered to in the main, but in some cases a paragraph is summarised in a sentence, and in this way the original loses some of its richness of illustration.

Sex clearly has two offices: (1) To hand over, by some mysterious process, the complex organisation of the parent to the offspring; and (2) to unite the essential characters or tendencies of two beings into one. The second office is the greater, for it insures an offspring somewhat unlike either parent, and therefore better fitted to seize upon any place or condition new to its kind. And as the generations increase, the tendency to variation in the offspring must be constantly greater, because the impressions of a greater number of ancestors are transmitted to it. If, therefore, the philosophy of sex is to promote variation by the union of different individuals, it must follow that greatest variation must come from parents considerably unlike each other in their minor characters. Thus it comes that in-breeding tends to weaken a type, and that cross-breeding tends to strengthen it.

In this discussion the term "cross" is used to denote the offspring of any sexual union between plants, whether of different species or varieties, or even different flowers upon the same plant. There are different kinds of crosses. One of these is the hybrid, or a cross between two species, as a Plum and a Peach, or a Raspberry and a Blackberry. Crosses between varieties of one species are termed "half-breeds," or "cross-breeds;" and those between different flowers upon the same plant are called "individual crosses." Distinct species, however, as a rule, refuse to cross. If we apply the pollen of a Hubbard Squash to the flower of the common field Pumpkin, the fruit will not form. The same is true of the Pear and the Apple, the Oat and the Wheat,



FIG. 33.—ODONTOGLOSSUM CRISPUM VAR. NOBILIOR.

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT BOWDEN HILL HOUSE.

This place has quite lately sprung into notoriety owing to Herbert Harris, Esq., the High Sheriff of Wilts, and owner of the place, having taken to the cultivation of Orchids. During the last two years many improvements have been effected in the gardens, a range of Orchid-houses having been put up, besides two Peach-houses and some other plant-houses, and a bit of land taken in from the park to increase the size of the kitchen garden, and a high wall built around the addition. Water has been laid on all about this part of the garden. Bowden Hill House stands out prominently, and lovely views of the surrounding country can be enjoyed. Mr.

the true *C. labiata*; various choice *Denbrobes* were showing profusely for flower, and some *Laelia autumnalis* were in flower, and *L. purpurata* was looking well. In the cool-house were nearly 300 plants of *Odontoglossum*, of which a few *O. crispum* were in flower, as was a large mass of *Cymbidium Lowianum*, the spikes numbering six, and the blooms eighty. The general good health of all the occupants of the various houses struck one at the first view, and it appeared as if Mr. Harris would in a very little time have a beautiful show of Orchids in flower. In the greenhouses a fine lot of tree *Carnations* and *Cyclamen* were remarked, and in the stove some very fine *Crotons* and other plants. The collection of *Begonias* is one of the finest hereabouts, and they are employed for bedding as well as for the decoration of apartments, &c., and none but the best-named varieties are grown. The owner of

and most very unlike species. Or the pollen may "take," and the seeds may grow, but the plants which they produce may be wholly barren, sometimes even refusing to produce either flowers or seeds, as in the instance of some hybrids between the Wild Goose Plum and the Peach. Sometimes the refusal to cross is due to some difference in the time of blooming, or some incompatibility in the structure of the flowers. But it is enough to know that there are characters in widely dissimilar plants which prevent inter-crossing, and that these characters are just as positive as are size, colour, productiveness and other characters. That is, the checks to crossing have been developed through the principle of universal variability and natural selection, just as other characters have been established. The result is simply, that the best results of crossing are obtained when the cross is made between different individuals of the same variety, or, at farthest, between different individuals of the same species. In other words, hybrids—or crosses between species—are rarely useful, and it follows, as a logical result, that the more unlike the species the less useful will be the hybrids.

Again, crossing alone can accomplish little. The chief power in the progression of plants appears to be selection. Selection is the force which augments, develops and fixes types. Man must not only practice a judicious selection of parents from which the cross is to come, but he must constantly select the best from among the crosses, in order to maintain a high degree of usefulness and to make any advancement; and it sometimes happens that the selection is much more important to the cultivator than the crossing. I do not wish to discourage the crossing of plants, but I do desire to dispel the illusion which too often hangs about it.

CROSSING STRENGTHENS EXISTING TYPES.

The improvement of existing varieties by crossing is a more important office than the summary production of new varieties. This is the chief use which Nature makes of crossing—to strengthen the type. Think, for instance, of the great rarity of hybrids or pronounced crosses in Nature! No doubt all the authentic cases on record could be entered in one or two volumes, but a list of all the individual plants of the world could not be compressed into 10,000 volumes. There are a few genera, in which the species are not well defined, or in which some character of inflorescence favours promiscuous crossing, in which hybrids are conspicuous; but even here the number of individual hybrids is very small in comparison to the whole number of individuals. That is, the hybrids are rare, while the parents may be common.

Darwin was the first to show that crossing within the limits of the species or variety results in a constant revitalising of the offspring, and that this is the particular ultimate function of the operation. Darwin's results are, concisely, these:—Self-fertilisation tends to weaken the offspring; crossing between different plants of the same variety gives stronger and more productive offspring than arises from self-fertilisation; crossing between stocks of the same variety grown in different places, or under different conditions, gives better offspring than crossing between different plants grown in the same place or under similar conditions; and his researches have also shown that, as a rule, flowers are so constructed as to favour cross-fertilisation. In short, he found, as he expressed it, that "Nature abhors perpetual self-fertilisation." Darwin's well-known experiments show that crosses between fresh stock of the same variety were nearly 30 per cent. more vigorous than crosses between plants grown side by side for some time, and over 44 per cent. more vigorous than plants from self-fertilised seeds. On the other hand, experiments showed that crosses between different flowers upon the same plant gave actually poorer results than offspring of self-fertilised flowers. It is evident, from all his experiments, that Nature desires crosses between plants, and, if possible, between plants grown under somewhat different conditions.

In extended experiments of my own in the crossing of Pumpkins, Squashes, and Gourds, carried on during several years, increase in productiveness due to crossing has been marked in many instances. Marked increase in productiveness has been obtained from Tomato crosses, even when no other results of crossing could be seen.

(To be continued.)

CALIFORNIA AS A HOME.

I AM writing on January 14. Over in the mild climate of England, my fellow-gardeners are protecting their plants from frost, and sheltering carefully all those potted plants which they are going to force for the market. California is large—twice the size of England, I should say. But if you want to find a place here where you would have to do the like in your profession, you would have to hunt the cool and somewhat treacherous bay-surroundings of our metropolis, or you would have to climb the peaks of our sierras, and then you would have to reach an elevation of 3000 feet before finding places with a real winter. We have no winter here, and what is generally called winter, is understood to be the rainy season. This season is very mild, and we work at our place here in the foot-hills of the Sierras in shirt-sleeves to-day, and call it a most beautiful day. Our foot-hills rival the valley; we have the high mountains at the back of us protecting us from the dry winds of the plains east of them, and giving us the benefit of the warm reflection of the sun, which shines here almost every day. Our Grapes ripen at 2000 feet elevation, but seven days later than those from the Fresno region; while our climate is not so hot, being easier reached by the winds which blow every day from the ocean, we can dry Raisins in the sun in spite of the occasional early rains which set in once in a while in the haying season, at end of July. The highest temperature I have recorded for the last four years was 112° Fahr. in the shade. I must say for a person coming from a cool climate like that of England, this is anything but agreeable. But then 112° up in the mountains feels nothing like that heat in the valley, where no air may blow at the time. Hot spells last usually from three to five days, and then again we record 90° to 95°, or even 85° Fahr., for weeks at a time. By the time a person has been living here for say five years, he gets pretty well used to it, and lives through it just like everybody else. It is healthy here. The air is wonderfully pure, and the fogs which visit us from the ocean are quite pleasant, pure and refreshing. The coast-range is different altogether. It is affected by the evaporation of the ocean, and consequently cooler and temperate. The coast-range cuts the valley sharply from the ocean border, and its peculiarity is best demonstrated by alluding to the fact that, while the Grapes never ripen at San Francisco, 10 miles from it, just behind the coast-range, there lies the land which supplies the city nearly all the year round with the most delicious Strawberries. Most people who come to California usually stop, and stay at San Francisco. The climate is more agreeable, and there are more fellow countrymen, and all the advantages which city life offers. But the most acceptable openings are in the interior. Gardeners as a rule are people who are the least afraid of anything, and if they cannot get a job at their own trade, very well, they try another.

Fruit-growing is at its very best in California, and its climate is adapted to every kind in every part. The Grape will grow and ripen, rich in alcohol, or sour like a Riesling, just as you choose to pick your location. The Orange is at home south and north up to 1500 feet, and wonderful to note! the Apple will ripen side by side with this subtropical fruit. Olives seem to be destined to shade every hill side which now gives ground to Pines and underbrush; and Peaches and Apricots bring such wonderful returns that it is not surprising that English capital seeks investment by the million. If only the ground is kept cultivated, it needs no irrigation, and shoots of 10, 12, even 15 feet length on 2-year-old trees are

something a person may see from the railroad-car while travelling through our glorious state.

The population of California is still small. One million and a quarter is all this State's census gave last year as the number of inhabitants. There will be homes for just as many as may choose to come and work their way. The great danger is that the warm climate and the ease with which the soil gives a return, will make the people too lazy. The young generation springing up at the present is not as energetic as their forefathers, from whatever country they came. Times have been too easy for the old folks: if they did not make any money through labour, they did so in trading, and as a last and most important resource, they can fall back upon their real estate, and turn into money what the emigrants are willing to buy. The estates are too large altogether at present, and the more they are cut up the better it will be. A 10 or 5-acre farm is just as much as a person needs to possess to make a living for himself and family, and the returns are manifold. Wages are very high, though they are coming down, and hired help eats up the profits of a small household. Of all the acreage of this wonderful State only 1 acre out of every 400 has been put into vineyards, and out of every 100, there are but 2 which would be valueless for the working population of the old country. What resources for the overcrowded kingdoms of Europe! The man who comes here ought to know a trade, and be a handy man all round. He should be content to work for other people for a time until he gets accustomed to the ways of this climate. And he should work at the wages which the trade unions have established. As he works for other people, he has the best opportunity to watch his chance without running any risk. And if he has a little something to expect from home, I give him the warning: leave it there. If a man is worth anything at all, he will be able to show it from the first day, even if he does not know the language. As long as any funds from home are at his disposition, he will not feel disposed to work, and of little worth is the money which you have not earned yourself. Whoever has been able to establish himself in California has made his way, if he has not accumulated a fortune, and property acquired is bound to increase in value. Of course, it must be understood that such comparatively rough country has no wants like an old-established commonwealth over in the old country; time will pass by before such wants are developed. But it is a very good thing if anybody living here is acquainted with the ways of Europe, and applies that experience to our surroundings. The advantages of California are unrivalled: the healthiest climate, cheap real estate, rich soil, sure crop, no storms, no winters, free schools, and a bright future. *Geo. Hansen, Foothill Agricultural Station (University of California), Jackson, Amador County.*

THE RICINUS, OR CASTOR-OIL PLANT.

THE Ricinus, like the Croton, is named after an objectionable insect, owing to the resemblance the seeds are supposed to bear thereto. The insect in this case is the cattle-tick, or as it was called in olden times, and probably is to this day in other countries, *kik*. The plant is also known as Palma Christi, though the origin of this name does not seem very clear. I find equal difficulty concerning the origin of the word castor, as applied to the well-known medicinal vegetable oil obtained from the plant, especially as this is the generic name of the beaver, and castoreum or castory is the name of the peculiar liquor found in the beaver's groin; to say nothing about gemini, the fiery meteor occasionally observed on a ship's rigging. Owing to the name Castor-oil Plant, the seeds are also sometimes called Castor Beans. Strange as it may appear, Latin writers named the plant *Cucurbita* and *Hedera*.

Gerarde gives some interesting particulars concerning the misnaming of the plant, which he says, "Whereof mention is made in the fourth chapter of

Jonas, and sixth verse." And he proceeds to say:—"Saint Augustine recordeth in his Epistle to St. Jerome, where in effect he writeth thus:—That name Kikajon is of small moment, yet so small a matter caused a great tumult in Africa. For on a time a certain Bishop, having on occasion to intreat of this, which is mentioned in the fourth chapter of Jonas (in a collation, or sermon, which he made in his cathedral), said that this plant was called Cucurbita, a Gourd, because it increased unto so great a quantity in so short a space, or else (saith he), it is called Hedera. Upon the novelty and untruth of this his doctrine, the people were greatly offended, and thereof suddenly arose a tumult and hurly-burly; so that the Bishop was informed to go to the Jews, to ask their judgment as touching the name of this plant. And when he had received of them the true name, he made his open recantation, and confessed his error, and was justly accused for a falsifier of the Holy Scriptures."

Gerarde, moreover, considered the Ricinus was indigenous in America, and goes so far as to name it Ricinus americanus, though it appears to be of African and Indian origin.

Before I leave this old author, I may add his advice concerning the value of the plant as an antidote to sciatia, with which so many gardeners suffer. He says, in effect:—"The broth of the meat supped up wherin the seed hath been sodden is good for the gout, and for and against the pain in the hips called sciatia."

Reverting to America, it is considered moles will not remain where Ricinus seeds are sown. If this be the case, to any practical extent, the fact may occasionally be turned to good account in gardens, when, as sometimes happens, these singular creatures periodically visit newly-planted Celery in the trenches, Onion, Carrot, and other small seeds when sown, amongst which they create great havoc, and with difficulty are caught, or kept away. The difficulty being greater during arid periods in summer, when their runs are deep below the surface, and trapping is next to impossible. It would be well to drop a few seeds into such injurious runs should they occur, and thus test the statement fully.

Seeds are offered by all seedsmen and at reasonable prices, and apart from such considerations as the above, they are so easily germinated and grown, as to be adapted for amateur culture, whether to grow on in pots, or for planting in open borders for summer decoration of a "tropical" kind. A pot, with seeds, placed inside a sunny window with a square of glass over it, quickly gives pleasing results, and they germinate upon a shelf in the greenhouse, sown about April. *William Earley.*

VEGETABLES.

BRUSSELS SPROUTS.

Of all the Brassicas none will compare with Brussels Sprouts, as, besides their great productiveness, they come in at a season when really good vegetables are scarce, and instead of yielding only a limited supply, the plant goes on affording a succession of sprouts for a long time. This is only so, however, when they are properly managed. In some gardens I find that it is the practice to cut off the tops and use them; and worse still is it with others, who pull up the whole plant, instead of picking the hardest, which are the best sprouts. At one time the run seemed to be on the large varieties, these being showy and taking to the eye; but they have had their day, for instead of being in any way equal to the good old imported stock, they had merely size to recommend them, and lacked the mellowness and mild flavour of the old favourites. It is a great thing to get a good strain of Brussels Sprouts, and keep it good by the selection of the best in a plantation as the seed bearers; and it is only in this way that fine sprouts can be obtained. To have the vegetable at its best, the seed should be sown under glass in March, and the plants afforded plenty of air to keep them sturdy. A good way to plant them is to select

a piece of deeply-dug or trenched land, in rows 4 feet apart, running a row of early Potatoes between the rows of sprouts, as doing so the latter get much light and air, and instead of growing tall and weak, they develop massive stems, which are covered with hard sprouts from bottom to top. *J. S.*

NEW AND OLD VARIETIES OF CELERY.

I have not grown all the newer Celeries, which have now become rather numerous, but those I have grown and tested have been grown on a large scale. Fortunately the autumn was rainy, which, while it curls the plant, does not induce a hardy growth, which will withstand severe frosts. Our Celery did not suffer much from frost, owing to moulding up being done in good time, and some dry bracken and litter placed around the leaves. On the other hand, like "J. S.," p. 180, I do not grow the very tall Celeries; indeed, I see no good in doing so, although some market growers may find it advantageous, especially those who grow for early use. Those who grow for late use would soon see the advantage in having a dwarf variety that would require less protection and moulding. I do not object to large varieties when they are grown for special purposes, but as this note refers more to the intermediate kinds, I will devote a few words to their value, especially to those of recent introduction. This year I grew for first early, Veitch's Superb White in quantity; last year I grew but little of it. It was grown alongside of Sandringham Dwarf White, and I was so pleased with its flavour and the solidity of its stalks, that I resolved to have more of it this season. The wet weather seemed to have suited it, for I never had better Celery. I still have a weakness for the Sandringham, but would prefer the Superb for early use, growing the older variety to succeed it, as it possesses the merit of remaining a long time fit for use before going to seed. Superb White is a pure white Celery, of vigorous habit, and of a medium size, and it may be classed as one of the intermediate type. It is very early—always a gain in a white Celery; it remains good till the last, and I have never seen any inclination to bolt, and no decay in the heart. The flavour is excellent, and the stalks very crisp. Being an early Celery, it was not protected, and I was surprised to remark how well it stood the frost. I strongly advise its culture where an early Celery is desired. White Plume, though distinct is, I consider, inferior in quality to the older kinds, and after two seasons' trial I discarded it. White Gem, an early dwarf white Celery, of good substance, very compact, but of less merit than Superb, the flavour not good on our light soil, although it may be different on other soils; it is a valuable Celery in gardens where space has to be made the most of. White Celeries are by some persons considered to be inferior to red; but I think this is on account of their being grown for early use, and of course they cannot be as well flavoured in the early autumn in warm weather and often suffering from deficient watering. The advance in quality of the pink or red Celeries has been equally as great, if not greater than that of the white varieties, as in the Early Rose. My remarks on Superb White are just as applicable, but it has the merit that it may be grown as for early use if white Celeries are objected to. This kind may be termed rose-coloured outside with a much paler tint at the heart, which if kept till late in the spring, becomes white. It is a plant of medium growth, with a flavour of Walnut, and the sticks are solid and crisp eating. It resembles that sterling kind Colonel Clarke's Red, but is earlier. Among varieties worth a trial may be given Williams' Matchless Red, a good kind, with a crisp, juicy, and fine flavour, with a good habit. There is also Sulham Prize, an excellent Celery of medium growth, large heart in comparison to its size, solid, crisp, and juicy. The heads are of great weight when full grown, and it is one of the best of the reds for late use that is to succeed the early white varieties. The best late red Celery running is Standard Bearer, a splendid addition to our red Celeries, of medium size, robust habit, heavy weight, and a fine nutty flavour, keeping good till May. I use no other for late use, and

when kept late much of its pinkness disappears, therefore making it more valuable for culinary purposes. For late use we sow it thinly in the open, and transplant direct into the trenches about sturdy plants; it is very hardy, an excellent late kind. *G. Wythes.*

CRITERION, AND OTHER PEAS.

I was very pleased to remark Mr. Coomber's favourable comments on Criterion. With us it always does well, and crops immensely, and the large Peas are of excellent flavour; in short, I take this Pea to be one of the best of Peas. I like Veitch's Extra Early as an early variety, it being fit to gather a few days before William I. But for cropping, the latter will hold its own against most comers, and it is in every respect a really good Pea. Ne Plus Ultra will never die out, for when once grown, no gardener ever cares to be without it afterwards. As a late Pea, British Queen has always been good in our garden, as is Champion of England. Mr. Waite, Glenhurst, Esher, sent me a variety for trial, a fine Pea, which I hope to grow again. Mr. Waite might say something about it. After all, I am convinced that several of the best old varieties will be in cultivation long after many of the huge wind-bags are forgotten. Medium-sized well-filled pods are those which I and most gardeners prefer, and for all kinds of seasons these are the best and surest croppers. *H. Markham.*

HARICOT BEANS

These do not appear to be cultivated so much as their usefulness deserves they should be. In hard winters if the gardener can supply them they can be used at table, and thus make green and other vegetables hold out longer; and moreover as food these Beans are very nutritious. To cultivate the plant is simple enough; where other Beans will grow, Haricots can be grown. They should be sown late in April, or early in May, according to the warmth of the locality, so as to afford time for the seeds to ripen. They should be treated the same as field Peas; as soon as they are well filled, and the pods turn yellow, the plants should be pulled up and dried out-of-doors if it be fine weather, or bunched and hung up in an airy shed, and on wet days they can be thrashed out or shelled, and put in bags for use. *W. A. C., Compton Bassett.*

FORESTRY.

THE COMMON ASH AS A TIMBER TREE.

Of late years this valuable tree has not been so much planted as it should be. This is prejudice in a great measure, as it is reputed to impoverish the soil to some considerable extent.

It is of a hardy nature, and thrives in even barren soils, if planted in a moist situation; its roots, spreading wide in every direction near the surface, have a tendency to render the ground dry and firm. The timber has the rare advantage of being nearly as good when young as when old, making it a valuable tree to grow for the market; and our wheelwrights and coachmakers are always glad to get it when they can, although of late years they have had to fall back upon the different American and other foreign woods which continually glut our markets. I sold some recently to a local man for 2s. 3d. per cubic foot in the round, and could dispose of almost any quantity on quite as advantageous terms, providing the quality was good.

Where, then, is there any timber that will pay better? and why not introduce it more freely when planting new, or renovating and overhauling old woods? Let it have the preference to some of the hard woods at present planted, but keep it out of fences adjoining arable and pasture land. *J. Garbett, Hale Park, Hants.*

Planting Hawthorns.—As the buds of the Hawthorn begin to expand in early spring, no time should be lost in completing the formation of hedges, making up blanks where necessary, and planting

standards of different kinds for ornamentation. The whole of the Thorn tribe delight in a deep rich soil, thoroughly drained, and well broken up previous to planting. In cases where the soil has become exhausted, or is of a poor character, a dressing of rich decayed manure may be applied with advantage. Young Thorns should be removed from the seed-bed, and planted in nursery lines 12 inches asunder, and 4 inches apart in the rows. Transplant Thorns from the lines where it has become necessary, in order to give the plants additional space, and promote the formation of stocky tops and bushy roots; do not expose the roots for any length of time.

Sowing Haws, &c.—Take advantage of dry weather to sow Haws on rich well-worked soil of a free, open texture, formed into seed-beds 4 feet wide. One bushel of Haws is sufficient to sow 20 lineal yards of a bed the above width. The seed should be sown in an even and uniform manner on the surface, pressed down with a light roller or the back of a spade, and covered with about half an inch of fine soil. In spring, before the plants appear above-ground, the hard crust on the surface had better be slightly broken up with a sharp rake to admit air and heat, and as young Thorns are easily damaged by frost, a few evergreen branches should be stuck into the ground as a protection. The seeds of other berry-bearing trees, such as Mountain Ash, English and Irish Yews, Holly, Service tree, &c., should now be sown, and as the treatment for these is similar to that described for the Thorn, it need not be repeated. If not already done, Oak acorns should be sown at the earliest opportunity. They are generally sown broadcast, on beds 4 feet wide, and one bushel of seed should be used for every 25 lineal yards of a bed of that width; they require similar treatment to the haws. Cherry stones may likewise be sown in a similar manner, but should be covered with about 1 inch of soil. Horse Chestnuts may either be sown in drills or broadcast on beds. One bushel of nuts should be allowed to sow a bed 4 feet wide and 20 lineal yards long; cover with about 1½ inch of soil. Sow Beech mast on dry friable ground, formed into beds 4 feet wide. One bushel of good seed is sufficient to sow about 40 lineal yards of a bed of that width; cover to three-quarters of an inch in depth with light sandy soil. Sycamore seed and Ash keys may be sown similarly, but only half-an-inch deep; one bushel of seed should be allowed for every 21 lineal yards of a bed 4 feet wide. Seeds of the Scotch Elm (*Ulmus montana*), that have been kept over since last summer should be also sown half-an-inch deep; one bushel of good seed should be allowed for 12 lineal yards of a bed 4 feet wide. Sow Hazel nuts and Spanish Chestnuts an inch deep in light sandy soil; one bushel of nuts is sufficient to sow 30 lineal yards of a bed 4 feet wide.

Cuttings.—Plant cuttings of deciduous trees and shrubs that are usually propagated in that manner, such as Willows, Elders, Poplars, &c. Poplar cuttings may be made from strong shoots of one-year's growth. Cut the shoots across at the base of a bud at the lower end, then at the distance of 12 inches from the base cut off the top with a smooth sloping surface, and insert them 8 inches deep into sharp sandy soil in lines 18 inches apart. When the buds at the top begin to expand, rub them off with the exception of the strongest and most central one, which should be left to form the stem of the tree. Tree Willows should be treated in a similar manner, but make the cuttings 15 inches long, and planted 10 inches deep into the soil. Dwarf Willows for basket-making should be planted where they are to remain, in lines from 18 inches to 3 feet asunder, and the plants about 2 feet apart in the rows. *J. B. Webster.*

FOREIGN CORRESPONDENCE.

HARDINESS OF CALOCHORTI.

Now that Calochorti have become more plentiful than they formerly were, their, at present, very moderate price will, I think, induce many growers

to once more try their hands on these most lovely bulbs. To ensure success in their cultivation, everything seems to depend on the situation chosen, and the soil in which they are planted. A soil which is retentive of moisture, or which has been freshly manured, must not be regarded as a place where Calochorti will thrive, as, for the greater part, they inhabit sandy plains in their native homes. Neither do they flourish in a situation where they do not get the full benefit of the sun's rays; the border where they are planted should, therefore, be a due south one, and not one with a western aspect, where the sun cannot get at them before 12 or 1 o'clock P.M. Considering the many hours of sunshine they thus evidently lose day by day, it is not to be wondered at that the Calochorti at Gunnersbury Park, which could not possibly get properly ripened for want of roasting sun, fell a victim to an ensuing trying winter. That they are sufficiently hardy to withstand without injury even a fair amount of frost, has been proved here by their passing unharmed the severeness of the terrible winter of 1890–91; but these bulbs were well matured, and, moreover, had enjoyed a perfect rest by their having been taken up and kept dry for about a month. Gardeners who have but little time to spare, or who object to the annual taking up and storing of the bulbs, may also resort to the Rev. H. Ewbank's excellent method of promoting the ripening process by fastening a pane of glass over the clumps of bulbs. Among the Calochorti imported by me last year, was also the pink variety of *C. albus* called *C. amoenus* by Greene. Has this ever been flowered in England? *C. G. Van Tubergen, Haarlem.*

FLORISTS' FLOWERS.

CENTROPOGON LUYCYANUS.

These are few, if any, plants that are more useful than this one during the winter, as in the temperature of a coolish stove it will flower profusely, and that not only at the ends of the shoots but at almost every joint for their entire length when the head is cut off. The blossoms are about 2½ inches long, tubular, somewhat after the manner of those of the *Salvias* or *Genesars*, and they are borne in bunches or clusters, making a fine show. Moderate-sized useful plants may be grown from cuttings put in during March or April, and in summer they grow freely trained in any pit or cold frame. *J. S.*

CHRYSANTHEMUMS IN FEBRUARY.

There was so much of an attractive character at the meeting of the Royal Horticultural Society on the 9th inst., that some bunches of pretty fresh Chrysanthemum from Mr. Robert Owen, Floral Nursery, Maidenhead, scarcely got the notice they deserved. There were several sprays of Golden Gem, one of the very best of the late-flowering decorative Japanese, of a deep gold, sometimes tinted with bronze and occasionally self-coloured, but more frequently heavily-shaded in the centre with reddish apricot. Some flowers sent to me by Mr. Owen on February 1 appeared to be fragrant. The other variety was Japanese, W. W. Coles, bright shaded red, with somewhat long drooping florets, a remarkably good late-flowering variety, that opens freely, and is of a shade of colour much appreciated. Both are healthy growers; and they may be propagated at any time up to April. Mr. Owen grows three cuttings or small-rooted plants in a pot, and the shoots are kept continually stopped until the end of July or the first week in August. The plants are well exposed to light and air, in order to thoroughly harden and ripen the wood. They are kept outside until there is danger of injury from frost, and protected from harm when necessary, and housed in November according to the weather. Three plants growing up in a 24 or 32-sized pot, if well attended to, should be from 1 to 2 feet through, and carry from twelve to twenty-four heads of bloom. In this manner suitable varieties of Japanese Chrysanthemums, such as those named above, can be had in bloom at the middle of February. *R. D.*

THE HERBACEOUS BORDER.

HELIANTHUS.

WHEN making up and replanting the herbaceous border, it would be well if some of the best varieties of Helianthus be selected. In a great many gardens these most useful decorative autumnal-flowering plants have been too much neglected, especially where there is a great demand for cut flowers. They are readily grown, and produce an abundance of bloom all through the season. The taller kinds, such as *H. multiflorus*, *H. decapetalus* var. *multiflorus* plenus, and *H. orgyalis*, are best adapted for growing in shrubberies, or at the back of herbaceous borders; the latter, which not coming into bloom in October, produces a quantity of small recurved flowers nearly all the way up the stem, forming a large panicle, and lasting until the frost comes. The dwarf-growing varieties worthy of notice are *H. multiflorus*, fl.-pl., *Rôte d'Or*, *H. Marius*, and *H. rigidus*, the former bearing small double flower-heads like miniature rosettes. They thrive well in any good garden soil, and should be propagated by division in early spring. *E. Newitt, Fulham Palace, S.W.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

MELONS.—Plants of Melons raised from seed sown early in the year will now be developing their true leaves, and occupying the soil in the pots with roots. At this stage of growth, either shift them into 14-inch pots, and adopt the treatment advised in a former calendar, or plant on mounds of soil resting on a hot-bed. In the latter case, a hot-bed of leaves, or leaves and stable litter, should be prepared, and covered with turves, grass side downwards, to prevent the compost mixing with the loose materials. On this place a ridge of soil along the side of the bed nearest the glass, with a larger quantity added to form mounds at 2 feet apart. When the soil has become warmed, transfer the plants to them, planting one in the centre of each mound. If there be a warm and cool end to the structure, the earlier fruiting varieties should be placed at the warmer end. In planting make the soil firm, and give it a good soaking of tepid water when the operation is finished. Allow the main stems to grow until within 1 foot of their allotted extremities before stopping them, and stop all lateral growths at the first leaf on the lower half of the stem. The "breaks" from these laterals will show female flowers, and come into bloom with those at the top of the plants, and afford a good chance of securing four fruits of equal size to form a crop. Suppress all growths that may appear on the laterals, and those beyond the second leaf from the fruits. Maintain a temperature of from 70° to 75° in the house at night, and 5° more with fire-heat during the day, and from 15° to 20° higher with sun-heat. Ventilate with care, and avoid draughts of cold, cutting wind. Well sprinkle the beds and paths with water on bright days; when the external conditions are inimical to plant growth, less air with a moist atmosphere may be maintained.

FIGS that were started in the early part of January will now be making fresh growth. As Figs fruit most freely that have a clear stem emerging from the soil, all growth springing from below it should be cut off. Pinch out the points of all strong shoots at the fifth or sixth leaf, and remove weakly ones not required to fill space. Use water at a temperature of 65°, and apply liquid manure, if the plants are carrying good crops. Maintain a minimum temperature of 60°, with a maximum of 80°, and syringe the trees twice daily. Water may also be freely used in the house during sunny weather, to obtain humidity.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

SOWING SEEDS.—In a former calendar, I advised the preparation of a frame for the sowing of Brussels Sprouts, Cauliflowers, Cabbages, and such like, when early vegetables were required, or a deficiency of the two last named and Lettuce existed. The young plants will now be above ground, and

requires careful ventilation to prevent damping. Carrots and Potatoes in frames will need similar treatment to prevent a spindly growth. Radishes, if sown too thickly, should be thinned. Carrots of the Early Nantes kind may be sown on a warm sheltered border. Cover the seed with a light soil; some of the siftings from the potting-ash answers well. Radishes may now be sown in a similar position.

PEAS—Some of the early wrinkled kinds may now be sown on a warm border. There are none better for this purpose than Veitch's Selected Early, Chelsea Gem, and William the First. Those sown in pots or turves in frames must be fully exposed in fine weather, so as to harden them previous to planting out next month. Those just coming through the ground should have some soil drawn up to them, and then place some Laurel or Spruce twigs on each side of the rows to prevent damage from wind. Ground for the main crops should now be prepared.

BROAD BEANS, if sown in boxes, should get free exposures in fine weather, and be kept as dwarf as possible. These will be ready to transplant early in March. Lift them out in clumps, and plant in good soil on a warm border, earthing-up well to shelter from cold winds. Some rows of the Early Longpod section or Beck's Dwarf Gem may now be sown in rows 3 feet apart. Another sowing should be made three weeks later, using some of the Windsor type for succession.

FRENCH BEANS.—Reserve a warm south border for some French Beans, for although it is out of the question to sow for some weeks, yet it is necessary to get a piece of ground into condition by frequently forking or stirring the surface. Those who have frame room would find it advantageous to sow Mohawk or Ne Plus Ultra in 48-pots in a light compost. If given proper attention, these will be ready for planting out in April, and, if covered with hand-glasses, will produce Beans some weeks in advance of those sown direct in the open ground.

VARIOUS.—The ground for Onions should also be got into condition by frequently stirring the surface. Early Paris Market or Golden Queen Lettuce should be sown on a warm border; also Leeks and Spinach, the latter in small quantities at intervals. Shallots and Garlic can now be planted in rows 1 foot apart, making the ground firm before planting, and pressing the bulbs firmly in the soil. Potatoes may be planted on a warm border, using Veitch's Early Ashleaf or Sharpe's Victor, if protection can be given afterwards.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Penrice Gardens, Swansea.

INDIAN AZALEAS.—Plants which were forced early, and of which the flowers are now faded, should be examined, and if there are any signs of thrips, either fumigate, or dip the plants in tobacco-water. Then place the plants in a structure where the temperature ranges from 55° to 60° at night, and a proportionate rise is maintained during the day. Syringe freely twice each day with tepid water, so as to encourage the young growths which commenced to start during the forcing period; stimulants may also be applied with effect at this season. Any plants requiring repotting should be allowed to make some growth first, as the roots of the Azalea do not commence to move until the shoots have started well into growth. Any plants that may have become thin should be cut well back, afterwards growing them in a brisk humid temperature, to encourage them to break, syringing freely on fine days. Care must be taken in watering until root-action commences, and the young shoots are plentiful. Plants required for late blooming should be placed forthwith in a house having a north aspect.

CHRYSAANTHEMUMS.—The earliest batch of cuttings will now be well-rooted, and if three or four are together in a pot, they should be potted off at once. Four-inch pots should be used, and these must be well drained. A compost of three parts loam, and one each of leaf-mould and sand, with the addition of a little manure from an old Mushroom-bed, will be found suitable for them. After potting, place the young plants in a cool pit or frame, keeping them close for a few days, until the roots have taken possession of the fresh soil, dewing them over once each day with the syringe when the outside temperature is favourable. Cuttings may still be put in for furnishing plants for decorative purposes, inserting them in a sandy compost, afterward placing them under hand-lights in ainery or Peach-house.

CALADIUMS.—The first portion of the stock of these plants may now be potted in a compost

consisting of equal parts of good fibrous loam and peat, and a good proportion of sharp sand, the drainage of the pots receiving special attention, abundance of water being required when in full leafage. Place the tubers just under the soil, not deeper, and sufficiently large pots employed to hold the tubers comfortably, with soil below and around them. For this, the first batch, choose the finest and best tubers. Until leaves commence to form, and root-action makes some progress, water must be sparingly afforded, and the temperature should not fall below 60°, with a proportionate rise in the daytime; and if the pots containing the tubers can be plunged in a hotbed of Oak leaves, having a heat of 75° to 80°, it will forward the starting of the roots. To ensure sturdy growth, the plants should be grown at a short distance from the roof-glass, and shaded during the warmest part of the day with some light kind of material.

ACHIMENES.—The first batch of tubers of these useful plants should now be started in shallow boxes or pans, transplanting them when large enough into baskets, pans, or pots. A good compost for these plants consists of one part loam, sifted finely, two parts leaf-mould, and a liberal quantity of silver-sand. Putcocks in the bottom, and rough siftings over them, and then fill to within 1 inch of the rim with compost; make the surface level, and place the tubers 2 inches apart over it, and cover them to a depth of half-an-inch with soil. If the soil be moist, scarcely any water will be required before the tubers have started, as if syringed gently on bright days, it will usually keep the soil sufficiently damp to induce growth. Bottom-heat ranging from 75° to 80° will be found of use in starting Achimenes, but a very moist atmosphere after top-growth has been made, and much syringing are not favourable to the health of the plants; the wetting of the leaves causing brown patches to come on them. There may be two or three successional batches according to requirements.

THE ORCHID HOUSES.

By H. A. BURNETT, Orchid Grower, Highbury, Birmingham.

APHIDES.—These are numerous, and cause a great deal of labour in their extirpation, it being essential for the well-being of the plants that their numbers be kept in check, and as other work is now approaching no time should be lost in taking means to destroy them. The camel-hair brush and a piece of sponge are constantly in request in this direction, and if used by skilful hands there is no doubt they are effectual means of destruction, at the same time to be freed from aphides without other means is well nigh impossible.

INSECTICIDES FOR DIPPING.—Tobacco-water made by soaking common twist with quassa chips and soft-soap in proportion, makes a solution which is both safe and trustworthy, and into which plants may be dipped for a few seconds when thrips or aphides are present. When made strong, and it is washed off the plants with clean water, it is safe to use; or the solution may be made weak, and then it is safe if allowed to dry on the plants, a method which I prefer. But any insecticides whether used weak or strong may cause the young growths to rot, therefore if any of it lodge in the axils of the leaves it must be carefully dried out with a camel-hair brush. The young tender growths of Chysis, Phaius tuberculosa, Colax jugosa, and others with similar tender foliage are very susceptible to injury in this way if care be not taken.

FUMIGATION.—This is a great assistance, and it can now be applied without danger of injury to either foliage or flowers, employed either in the form of Campbell's Kolls or McDougall's Sheets. I use them in every house in accordance with directions issued with them, two or three times in succession, as the case may seem to demand. I have not observed any bad result from the use of these, but the plants and the atmosphere should not be over dry when fumigation is performed, but the foliage must not be wet.

SYRINGING.—The indiscriminate use of the syringe as a check on the spread of insects is not good practice, either with clear water, or water diluted with an insecticide, the result being oftentimes the reverse of satisfactory.

SCALE.—This pest, which clings so tenaciously to the leaves of Saccolabiums and Aërides, should not be removed with a pointed stick, as it is both tedious and dangerous; and if scale exists in large numbers, a good plan is to make a lather with yellow soap, and paint the leaves with it, letting it remain on them about five minutes, afterwards washing it off

with a sponge and clean water. If the scale should still cling to the growths, a little rubbing will remove it. A species of scale which infests Cattleyas and Lælias, is destroyed in the same manner, taking care, however, to place a piece of sponge round the base of the pseudobulbs to prevent the lather getting down to the roots.

COCKROACHES.—The best remedy I have yet found for these depredators is the well known "Chase's Beetle Poison," which should be used at regular intervals, in places where they are most likely to harbour.

WOODLICE.—These should be sought after, and some of the various traps distributed about the houses. The new roots of Orchids will soon be pushing forth, and it is these that woodlice destroy.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Louford Castle, Salisbury.

SEEDLING PANSIES.—There are numerous varieties of this old-fashioned and still popular flower now in cultivation. The Pansy is effective in whatever manner planted, and particularly so when planted in mixed beds of flowering and foliage plants of varying height, forming a nice contrast to other mixed beds having a groundwork of the blue or yellow Viola, Mesembryanthemum cordifolium variegatum, &c. The Pansy grows well in rich soil, inclining to be light and sandy; but for choice varieties which the gardener is desirous to grow thoroughly well, a border having either an east or west aspect should be selected, and soil made suitable for the needs of the plants if not naturally fit, excavating it, and replacing it with rich well-manured soil to a depth of 1½ foot. Before setting out the plants, a dressing of soot or wood-ashes should be forked into it, which will save the roots from the attacks of the grub, wire-worm, &c. Allow a space of 12 inches from plant to plant for weak growers, and 3 inches more for robust ones. Where a stock of summer-struck plants does not exist, seeds of the desired varieties may be sown instead, doing this without delay in pans or shallow boxes nearly filled with sifted light sandy mould. Cover lightly, water gently, and place in a hotbed frame. The young plants will soon come up, and should be pricked into well-drained boxes or pans, at a distance of 3 inches apart, returning them to the warm bed, watering, and shading them when necessary. When the roots have taken to the soil, shade them no longer, and gradually harden them off by planting-out time. I may remark, that for bedding purposes the fancy Pansies are to be preferred to the show section.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, Gardener, Barkham Court, Maidstone.

TOP-DRESSING WALL FRUIT TREES.—This is a very necessary operation, especially in the case of Peaches and Nectarines, also trees that are showing signs of sluggish root-action. We grow many Peaches and Nectarines upon south-west and east walls with excellent results, which may be attributed to top-dressing. The most important point to bear in mind in top-dressing fruit trees is, to bring the new soil in contact with the roots; not just a few roots that are usually found near the surface, but those which have been driven much deeper than is good for the trees. The method I practice is to remove the soil until a nice number of roots are found. The mixture should then be worked underneath and about the roots, bringing the latter up as near the surface as is reasonable; make the soil quite firm in all crevices. Two or three inches only of the new soil should be placed on the top, and do not fill up the border to its usual height. A great bulk of soil placed over the roots is detrimental to the trees, and by no means conducive to good-flavoured and highly-coloured fruit. Where good loam can be obtained, this should form the principal ingredient for top-dressing; but if it is of a very clayey nature, plenty of burnt earth and mortar-rubble should be added. A good compost for Peaches is, four parts of turf and one part of rubble, adding more or less according to the tenacity of the loam. If available, a few half-inch bones, or bone-meal, can be advantageously added, but on no account apply animal manure; this can be more usefully employed as a mulching later in the season. For Apples and Pears, a little thoroughly decayed manure, well mixed with the above materials, can be used. The contents of an old Mushroom-bed make an excellent stimulant for these trees.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING

SATURDAY, FEB. 27—Royal Botanic.

SALES.

MONDAY,	FEB. 22	Hardy Perennials, Phlox, Carnations, Home-grown Lilies, &c., at Protheroe & Morris' Rooms.
TUESDAY	FEB. 23	Nursery Stock Sale at the Nurseries, Ashgate Road, Chesterfield, by Protheroe & Morris (three days). Important Clearance Sale of Nursery Stock, at the Gasfield and Common Nurseries, Richmond, by Protheroe & Morris (two days).
WEDNESDAY,	FEB. 24	Greenhouse Ferns, Palms, Azaleas, Roses, Panormitis, Aspidistras, &c., at Protheroe & Morris' Rooms. Freehold, Fruit, and Market Garden Wood, at 41, the Mart, London, by Protheroe & Morris.
THURSDAY	FEB. 25	Lilium longiflorum, Tree Peonies, Seeding Gladioli, Pearl Tuberoses, &c., at Protheroe & Morris' Rooms. Clearance Sale of Stove and Greenhouse Plants, at Downshire House, Roehampton Lane, S.W., by Protheroe & Morris.
FRIDAY,	FEB. 26	Great Sale of Cattleya labiata, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°.

Few pests are more destructive than the grubs usually known as wire-worms. As is the case generally with popular names, different things are included under the same name, but the name should be applied solely to the true wire-worms which are the larvæ or grubs of the click beetles. Most of our readers know too well the appearance of the long, slender, stiff, wiry grubs, but comparatively few associate them with the small jumping beetles which represent the perfect stage of the insect. Farmers dress their land with salt, lime, particularly gas-lime, and roll the land well, so as to check the progress of the insect, and many grow Mustard or Rape as a cleaning crop. It must be admitted, however, that the measures heretofore adopted, whether of prevention or of destruction, are by no means wholly satisfactory. When, therefore, we took in hand the thirty-third *Bulletin* of the Agricultural Experiment Station of the Cornell University at Ithaca (New York), and saw that it was devoted to the consideration of the best method of preventing the ravages of wire-worms, our hopes were raised. We had not read far however, before we came to this ominous passage:—"We have failed to discover a single satisfactory method of protecting seed, or of destroying immature wire-worms in the soil." In spite of this want of success, the experimenters,

JOHN HENRY COMSTOCK and MARK VERNON SLINGERLAND, the entomologists of the station, have done well to publish their results, which show the futility of certain plans frequently recommended, and may tend to save cultivators from continuing practices that involve considerable labour and expense, and that produce no beneficial results.

We have not space to point out in detail the methods employed by the experimenters, but with a view to show how thorough were their investigations, we cite the following details:—

"In conducting our experiments, both defensive and offensive measures were undertaken. Thus we tried to protect seed by coating it with poisons, and by treating it with various substances that we hoped would render it distasteful to the insects; and we tried to destroy the insects in each of the three stages of their existence, larva, pupa, and adult. Experiments in the destruction of the eggs were not undertaken for lack of opportunity. The following table indicates the scope of our experiments, and the order in which they are discussed:—

"A. Protection of Seed.

"1. By a coating of Paris Green and flour; 2. By a coating of tar; 3. By soaking in a salt solution; 4. By soaking in a copperas solution; 5. By soaking in a chloride of lime and copperas solution; 6. By soaking in kerosene oil; 7. By soaking in turpentine; 8. By soaking in a strychnine solution.

"B. Destruction of Larvæ (Wire-worms).

"1. By starvation; (a), clean fallow; (b), Growth of supposed immune crops, such as Buckwheat, Mustard, Rape.

"2. By the use of Insecticides.

"(a) Substances that act merely as insecticides, kerosene oil, pure and as an emulsion; crude petroleum, pure and as an emulsion, poisoned dough, biulphide of carbon.

"(b) Substances that act also as Fertilisers.

"Salt, kainit, muriate of potash, lime, chloride of lime, gas-lime.

"C. Destruction of pupæ and adults (click-beetles).

"1. By fall ploughing; 2. By trapping."

Full details are given as to these several plans, some of which, such as the use of carbon bisulphide, are effectual, but too costly to be worth carrying out in practice. Salt neither drives the wireworms deeper nor causes them to migrate any appreciable distance. Gas-lime is only partially effective, and its effects are very transient. Autumn ploughing and allowing the ground to lie bare for some months has the effect of destroying the beetles in the soil, and thus preventing their maturing and depositing eggs the following season. If the ground be thoroughly tilled, and pulverised after ploughing for some weeks, a winter crop may be sown, and by this method of short rotation of crops the land may be gradually rid of the pests. This, then, is the method that is recommended by the reporters, and for agricultural purposes it is no doubt excellent. In the garden and in the newly-formed pleasure-grounds the method is not so applicable. Under these circumstances the use of poison is recommended. Small handfuls of freshly-cut clover were dipped in Paris Green water, of what strength it is not stated, and the poisoned herbs placed under boards in various parts of the field. This plan obviously needs to be carried out with much circumspection, to prevent injurious or fatal consequences to other creatures than wire-worms.

Lectures on
Technical
Horticulture.

In spite of adverse opinions in unexpected quarters, we are highly pleased to be able to record that so far they have met with a measure of success greater than might have been

anticipated from a first experiment. Given a lecturer who knows his business, and the exact requirements of his auditory and we believe that the balance of good will largely preponderate, and that the few objectors will hereafter have cause to smile at their own fears. True, the lecturer himself has, in some cases, to be trained and should be sufficiently in touch with the workmen to know not only what they want, but what they ought to want.

From Cambridgeshire, to cite only one out of many instances that have come to our knowledge, we hear that the attendance on Mr. FISH's lectures has been as follows: Feb. 1, Thriplow, 60; 2, Melbourn, 80; 3, Haslingfield, 100; 4, Harston, 70; 5, Barrington, 80. Second week: Feb. 8, Thriplow, 100; 9, Melbourn, 200; 10, Haslingfield, 140; 11, Harston, 91; 12, Barrington, 160.

Illustrations of pruning will be given in an orchard at Mildrith on Tuesday next at 3 P.M., to which all interested are invited.

At these meetings parsons, squires, ministers, fruit-growers, land-owners, and mechanics attend, and deep interest is taken in the proceedings, especially in the practical demonstrations.

Hospitality and kindness meet the lecturer on all sides.

It is impossible to believe that such practical demonstrations in the rural districts, conveying useful knowledge usefully taught, can fail to do good and set cultivators thinking. As we have advocated the course now being followed for years past, we are naturally highly interested in its success, and we should be greatly obliged if the several lecturers, in connection with the County Councils, would communicate to us their names, the districts in which they are at work, and a general indication of the method pursued by them.

The future publication of such details would lead to interesting comparisons, show what to do and what to avoid in future. The very making public the list of those who have undertaken the work would do much to silence objectors, and to show that knowledge and intelligence must not only be the best possible aids to practice, but really the principal means of turning that practice to account.

KEW.—As we have already mentioned, the year 1891 was the jubilee of re-organised Kew. The occasion has been seized to issue in the *Kew Bulletin* an historical account of Kew as it existed prior to 1841. We shall take an early opportunity of making further comment on this interesting document, of which we can at the moment only make passing mention.

HOOKE'S "IGONES PLANTARUM."—The plants figured in part iv., January, 1892, are exclusively Indian Orchids, and chiefly of botanical interest. *Phreatia nana*, a minute flowered species, has regular six-petaled flowers, and an erect column, with a terminal anther—a morphological curiosity, or perhaps a pelorite form. *Ipea Wrayana* is a handsome Malayan species, which should be looked after. *Spathoglottis Wrayi*, t. 2086, is another Malayan species, which our collectors should be on the look-out for. *Ceratostylis malaccensis*, t. 2096, is most remarkable in its resemblance to a Rush *Juncus*, not only in its scapes, but the clusters of minute flowers.

"THE BOTANICAL MAGAZINE."—The plants figured in the February number are:—

Primula imperialis, tab. 7217.—This is a native of Java, with the general aspect of *P. japonica*, but the leaves are more markedly crinkled, and the whorled flowers are smaller and of a yellow colour. It is a



FIG. 34.—CYPRIPEDIUM CHAMBERLAINIANUM, FROM FRESHLY-OPENED FLOWERS. NATURAL SIZE.
COLOURS: WHITE, ROSE, AND PURPLE. (SEE P. 234.)

native of the mountains of Java, at an elevation of from 8,000 to 9,000 feet, and may be serviceable for hybridising purposes.

Hydnophytum Forbesi, t. 7218, is one of those curious plants whose tubercous root-stocks afford a home for ants. The plant does not seem to be injured by the ants, which repay their obligations by keeping off undesirable visitors. The plant in question is cultivated in the Royal Gardens, Kew, where it flowered in 1889 and again in 1891.

Begonia glaucochylla, t. 7219.—A plant of unknown origin—possibly a garden hybrid. In any case, a very beautiful form, with spotted stem, oblong-lanceolate leaves, and pendulous short-jointed clusters of pink flowers. Grown as a basket plant it is very handsome. *Kew*.

Vicia narbonensis, tab. 7220.—The chief interest attaching to this species is that it has been supposed to be the origin of the common field Bean (*Vicia Faba*). Judging from the figure here given, those who indulged in that supposition must have had an extraordinarily vivid imagination, for it is scarcely possible to have imagined two plants of the same genus more different in appearance.

Neo-Benthania gracilis, t. 7221.—A coloured figure of the very singular terrestrial Orchid, described and figured by Mr. Rolfe in our columns in 1891, vol. x., p. 272. It is a native of Zanzibar.

FORESTRY LECTURES: UNIVERSITY OF EDINBURGH.—The Council of the Royal Scottish Arboricultural Society announce to the members and others interested, that the course of lectures on "Forestry" is about to be resumed in the University by Colonel BAILEY, R.E., a distinguished forest officer. The Council urge landowners, foresters, and all interested in forest education to take advantage of these lectures, which began on the 10th inst. Landowners would do well to send one or more foresters to attend the course, and they would thus derive immediate benefit by the employment of men instructed both in the art and science of forestry. The Council point out the excellent opportunity which these lectures provide to intelligent youths for acquiring a thorough scientific knowledge of their profession. To enable them to take advantage of the lectures, the Council have arranged that young men who desire employment while attending the course can obtain it in the nurseries, or elsewhere, near Edinburgh, on applying by letter to W. J. MOFFAT, Esq., Secretary and Treasurer, 5, St. Andrew Square, Edinburgh.

GHEENT HORTICULTURAL MEETING.—Certificates of merit were awarded at the last meeting for the following plants:—1st, *Odontoglossum pulcherrimum* ×, a new hybrid of the *Alexandree* type, shown for the first time; the form is beautifully rounded, the colour white, the edges slightly yellowish, and the entire flower evenly spotted with brown. 2nd, *Odontoglossum Holfordianum leopetrum*, a rare variety with large flowers, the ground golden yellow with large brown spots. 3rd, *Masdevallia ignea perfecta*, an entirely new variety, imported from Columbia and flowering for the first time; it has never before been shown. The flower is exceedingly beautiful and very large, in colour purplish flushed with dark blue; this is one of the most beautiful forms of ignea. 4th, *Masdevallia ignea aurora*, another novelty from Columbia, and flowering for the first time; the habit is very distinctive, the colour flame-orange. 5th, *Amaryllis flammea* ×, a new hybrid remarkable in habit and form, deep red with very fine wavy lines of white. These five fine novelties were from M. CH. VDTLSTREE, of Loochristy. 6th, a species of *Odontoglossum* from M. JULES HYE; a magnificent flower, the ground pink, the sepals and petals fringed, bordered with white, the mid-rib whitish, each sepal and petal having a large brownish-red spot surrounded and underlined with smaller spots of the same shade; the lip has a golden-yellow ground, with tiny spots, the edge white, very finely fringed—the flower is robust. 7th, *Odontoglossum Pescatorei album*, from the same Orchidist, the flowers very fine, pure white, numerous and very fresh. 8th, *Odontoglossum sul-*

phureum, also from M. J. HYE, flowers sulphur-yellow and very distinctive, the several parts of the flower have a small circular spot of brownish-red, which is repeated on the lip. 9th, *Pteris Wallichiana*, from MM. DURIEZ FRÈRES, of Wondelgem, a plant interesting among the many novelties recently introduced. Certificates of Merit were awarded for:—1st, *Adiantum venustum*, to M. SPÆE, Vandermeulen, a very pretty species in vigorous health; 2nd, *Nephtytis picturata*, from the Congo, to M. L. DESMET DUVIVIER, a dwarf plant, with fine leaves of unusual size; 3rd, to MM. E. VERVAET ET C^{IE}, for *Cattleya Masereelii*, a white-flowered variety. Honourable Mention was awarded for:—1st, *Cattleya Trianae*, to MM. VERVAET ET C^{IE}, the lip very dark in colour; 2nd, *Cattleya Trianae*, to the same exhibitors, the lip fringed—very pretty; 3rd, *Miltonia vexillaria*, to M. ALF. VAN INSBOOR, flowers large and dark; 4th, *Microlepia hirta cristata*, to MM. DURIEZ FRÈRES; 5th, *Cologyne Lemoniana?* delicata, to M. J. HYE.

ACREAGE OF FRUIT IN GREAT BRITAIN.—Prominent attention has lately been called to the extending cultivation of fruit in different forms in Great Britain. A relatively large advance is now reported in the *Agricultural Returns of Great Britain* for 1891. The area under small fruits now exceeds that used for Hops, 58,700 acres being returned, compared with 46,200 acres in 1890, and 36,700 acres in 1888, the year when this form of cultivation was first separately recorded. By the introduction of a newly-arranged table this particular area has been more closely analysed than has hitherto been possible, and it will be seen that on 23,416 acres small fruit is grown in plots already returned as orchards; that is doubtless under the larger fruit trees; while 22,510 acres in market gardens, and 12,775 acres of ordinary farm land are now returned as carrying Gooseberries, Strawberries, Currants, and other small fruit. The small fruit area has increased in every county of England and Wales, and in some counties by a remarkable percentage, although nearly a third of the English small fruit area is still to be found in Kent. The changes are not so uniform in Scotland, although there also a larger fruit acreage is reported. The ordinary orchard surface in Great Britain is likewise greater, covering, in round numbers, 210,000 acres. The area, ten years back, was given as under 185,000 acres. A still larger advance appears in the returns of land used by market gardeners for the growth of vegetables, and other garden produce. These were reported as covering 46,604 acres in 1881, while the figures for 1891 make the market garden area 81,368 acres.

TOOPE'S FOG-ELIMINATING PLANT-HOUSE.—As suggested in our issue for November 28, p. 650, when making mention and giving a small illustration of Mr. Toope's invention for mitigating, if not altogether eliminating, the injurious effects of London fog on plants, we have made two visits, and on both occasions have had our previously-formed favourable opinion verified. Situated in the corner of his factory-yard, in one of the foggiest districts in London, viz., Stepney Green, Mr. Toope has erected his experimental house in two divisions. Heated on his own plan, fitted with his chemically-charged air-filters, his charcoal-filters for the water used, and a new and perfect plan of ventilation, it must be said that the plants in the houses, which, it will readily be supposed, could not exist under ordinary circumstances, are in the best health, and progressing well, although the experimenter has fairly enough only begun with small, and in many cases, weak specimens, Orchids being the plants chiefly grown. The evidence of the production and duration of the flowers is a great point; and both in November and December a good show for so small a collection was found. Last week we found some *Cattleya Trianae* in bloom, *C. citrina*, showing flower strongly; several *Dendrobium Wardianum*, a fine *D. crassinode*, *Cologyne flaccida*, *Zygopetalum Mackayii*, *Odontoglossum Rossi majus*, with seven blooms; a fine *O. maculatum*, which, to our certain knowledge,

has been in bloom since the middle of December, and in one corner was a small case in which were plants of *Anacochilus petola* and *Goodyera discolor*, besides others. If regarded only as a system of perfect ventilation, the invention is a good one, and deserves a trial by those who try to grow plants in large cities and smoky manufacturing districts.

SHREWSBURY HORTICULTURAL SOCIETY.—At the annual meeting on the 11th inst., the Mayor presiding, a balance-sheet was produced, showing the income of the Society for the past year to have been £334 10s., as compared with £2963 in 1890—the highest amount ever reached by the Society in one year. The subscriptions for the year amounted to £428 7s., and the receipts at the exhibition in August last were £2796. The amount of prize-money was £428 7s. 6d.; amusements and fireworks cost £421; bands, £253; and the profits on the year's exhibition was £970. A sum of £500 has been added to the invested capital, which now amounts to £3500. Since the Society started, the annual balances have been expended in the improvement of the public grounds in the Quarry, the Free Library, and some money has been given to the charitable institutions of the town, last year £753 being so expended. The balance in the bankers' hands amounts to £747.

BIRMINGHAM GARDENERS' ASSOCIATION.—At the last meeting, an admirable paper on "The Gloxinia, 1739 to 1892," was read by Mr. J. MARTIN (Messrs. SUTTON & Sons), in which the history of its introduction and improvements were sketched, and instructions given as to culture. Anyone who has visited Messrs. SUTTON & Sons' nurseries when the Gloxinias are in flower, will know full well that Mr. MARTIN is an excellent cultivator and cross-breeder of them. On the following evening, the second annual social meeting of members and their wives took place at one of the largest hotels, and about 140 persons were present, Mr. W. B. LATHAM, of the Botanical Gardens, presiding.

THE WEATHER IN THE MIDLANDS.—Mr. J. W. WOODFORD, Atherstone, says that "On February 15, it was snowing hard all day, with gale from north-east, thermometer 26°; altogether, the most wintery day we have had."

A VENERABLE CAMELLIA.—Probably there is no exotic tree or shrub in West Cornwall with a more interesting pedigree than the Camellia at Penvalern, Penzance, writes the *Western Morning News*; and like so many other things with a glorious past, its future is an unknown quantity, except in the rapidity of its decay. It is but a wreck of its former self, and the merest imitation of the blizzard of last March will completely settle it. Half-a-century ago there were scarcely any Camellia trees in West Cornwall, and for a very long period, up to last year, the one in question maintained its reputation as being the largest in the county. When in full bloom, its magnificence could not have been excelled by any single specimen in its native country, Japan. It reached an altitude of nearly 20 feet, and possessed a circumference of nearly three times its height. It was, at its prime, so densely covered with flowers that to photograph it was impossible. The young tree was brought about half-a-century ago by the late Mr. T. S. Bolitho from the gardens of his father-in-law, in North Cornwall, and the vigour with which it grew and thrived in the genial locality of Penzance was little short of marvellous.

"NATURAL SCIENCE."—Messrs. MACMILLAN & Co. announce the publication of a new monthly scientific review—*Natural Science*—devoted more especially to the interests of biology and geology. The first part of *Natural Science* will be published on March 1, 1892.

BRUSSELS BOTANIC GARDEN.—A member of the Belgian Parliament has denounced as excessive the sum expended on the Botanic Garden, which sum we believe is ridiculously small. He pro-

posed that the plants in the garden should be utilised for public fêtes? Why, the Honourable Member asked, should not the State keep such ornamental plants as it requires in its own garden? The Minister of Agriculture judiciously observed that the garden must preserve its scientific character, and furthermore, that it actually grows as many as 40,000 plants, which are used in the squares of Brussels. We can but regret the attacks which are frequently brought against scientific institutions by worthy people who do not understand what they are talking about.

THE THIRTEENTH GHENT QUINQUENNIAL.

The programme of the floral fête to be held in April, 1893, by the Société Royale d'Agriculture et de Botanique of Ghent will be published in March, but we can now mention a few of the new arrangements which have been made. The section devoted to flowering Orchids will include many important competitions, but in each the exact number of specimens to be sent will be mentioned, with one exception—"The largest collection of Orchids of different species, each species to be represented by one example only." There will be no fewer than twenty-five classes open for well-grown and bloomed specimens. In addition to the general classes open for Orchids, there will be twenty-five special classes, to which important prizes will be awarded. This will be a really monstrous exhibition of Orchids. A series of special competitions, with prizes for the finest flowering plant of each of the following genera will be arranged:—Allamanda, Abutilon, Azalea indica, Andromeda, Boronia, Camellia, Choisya, Chorozeana, Citrus sinensis in fruit, Clerodendron, Cliveia, Cochlostema, Correa, Cytisus, Daphne, Diasma, Epacris, Erica, Eriostemon, Euphorbia, Genethyllis, Grevillea, Hebeclinium, Lapageria, Lasiandra, Libonia, Medinella magnifica, Metrosideros, Mimosa, Mirarria, Pimelia, Polygala, Rhododendron, Rose, Sparmannia africana, Stephanotis, Streitzia, Wistaria, &c. Important awards will be given in each of these classes, and a special hall will be arranged for them. The 25th section will be of very great importance; it is reserved for such exhibits as tend to further instruction in botany. It comprehends classes for collections of plants of different type; of Orchids preserved in fluid; many classes for specimens of certain species of plants grown under certain prearranged conditions—without manure, or with chemical manure, in various soils, &c.; specimens of plants obtained by self-fertilisation, the hybrids to be accompanied by the species or varieties from which they have been raised. Microscopic preparations showing the development of the seed and the embryo of a phanerogamic plant, the various stages of development, the various methods of reproduction, &c., of a thallophytic plant. A collection of fifty specimens, giving a complete representation of a plant from the Congo, important from a commercial standpoint. In other ways, also, this thirteenth quinquennial exhibition will certainly not be inferior in interest to those which have preceded it.

SENECIO SAGITTIFOLIUS.—M. ANDRÉ gives, in a recent number of the *Revue Horticole*, an account, with illustrations, of a noble Senecio that he met with in Uruguay. The radical leaves are in tufts, each about a yard long, and often provided on the upper surface with a central crest along the midrib, such as is met with on the under-surface of the leaves in *Xanthosoma*. From the central tuft there rises a stout stalk, 6 to 7 feet high, with lanceolate leaves, covered with white down on the under-surface. The summit of the stalk bears a large, loose corymb of numerous white Aster-like flower-heads. The plant, which will be very ornamental, has been introduced into Touraine by M. ANDRÉ, and it is to be hoped it will resist the climate of Paris if slightly protected in winter.

STOCK-TAKING: JANUARY.—The most remarkable feature in the Board of Trade returns for the past month is the great increase in the amount of imports from foreign countries and British colonies and possessions; this increase amounts to no less a

sum than £4,744,102, and this is spread over nearly every section into which the elaborate returns are divided. Evidently British merchants and manufacturers, having cheap labour, elaborate machinery, a great supply of raw material at a reasonable price, are prepared to fight all foreign tariffs with a pluck which is simply indomitable, worthy of all praise and imitation. Surely this is the way in which to open the year's campaign, unfavourable as the balance may have been for "the year that's awa'." The following is our usual excerpt from the "Summary" of imports for January:—

IMPORTS.	1891.	1892.	Difference.
Total value for month	£33,741,082	£38,485,241	+4,744,162
II.—(A.) Articles of food and drink—			
duty free	9,409,912	11,563,380	+2,153,468
(B.)—do., dutiable	1,929,831	2,006,815	+76,984
VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute),	10,413,376	11,887,376	+1,474,000
VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	2,378,263	2,423,044	+44,181
IX.—Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,124,269	1,414,180	+319,911
(B.)—Parcel Post ...	63,209	54,430	—8,779

How does all this compare with what we read of in the French and Spanish journals respecting the tariff recently formulated there! One is not surprised to find how very rapidly prices to the consumer are going up—nor need surprise be felt if statesmen and capitalists in the "protected" States find a rude awakening from their dream of so-called protection to native industry. That, however, is their business—we can only appease the spirit evinced by our capitalists and statesmen, and cheerfully await the results. We ought not to forget making mention of the deficit on the export side, which amounts to the sum of £687,611—a much lower figure than had been anticipated—compared with previous deficits. We come now to the imports of fruits and vegetables from foreign countries, &c. It may be remarked that in all preceding Returns there have been two very unsatisfactory items—"Fruits, raw, unenumerated," and "Vegetables, raw, unenumerated." It appeared to us that these unsatisfactory records might be amended, and we communicated with the President of the Board of Trade on the subject, drew his attention to the fact that English growers would be benefited by "enumeration." The President promised attention. It will be seen by the annexed table of imports during the past month that the list of unenumerated articles has been reduced in the matter of fruits—vegetables still remain to be dealt with. The figures extracted are as follows:—

IMPORTS.	1891.	1892.	Difference.
Fruits:—			
Apples, raw ... bush.	117,382	326,826	+209,444
Plums ... ..	...	3	+3
Pears ... ..	...	3,742	+3,742
Grapes ... ..	...	334	+334
Unenumerated, value	£15,439	£6,965	+£1,556
Onions bush.	222,672	311,925	+149,253
Potatoes cwt.	53,685	66,268	+12,583
Vegetables, unenumerated, raw, ... value	£30,379	£55,617	+£25,238

TASMANIAN APPLES.—The lovers of Tasmanian Apples will be glad to learn that the crop to be shipped is of excellent promise—good and full; so says Sir E. Braddon, the Agent-General. More than this, he says that freight for 210,000 bushels has been taken up by the Orient and P. and O. companies' steamers. The vessels will

make twelve calls—once a week for three months; and should the market here be a fair one, more than the number of bushels above mentioned will be sent over to the mother country. The first shipment will soon be on the sea—six weeks is the duration of the voyage. Reminded of the very ordinary quality of much of the supply last year, Sir E. BRADDON stated that the Colonial Fruit-Growers' Association had been cautioned as to the result, and he believed they would show that they had not misread the lesson. The reader will have noticed that the amount promised exceeds last year's total by 100,000 bushels. Respecting the supposed disappearance of the best English Apples from the market—supposing such to be the fact—they must be stored away at home, for no refrigeratory company has been approached on the subject, so far as we can learn. The post-office authorities cannot help us in the matter of sale by sample; it would appear useless to try railway companies for information; and inquiries made among growers here and there, again appear to be some diffidence in trying an independent action in provincial towns. To largely preserve fruit in the face of expected imports would not appear to be a very sound policy, and we believe that growers as a rule are quite capable of weighing the chances. Possibly, then, there has been some misunderstanding about the disappearance of good English Apples from the London markets and fruiterers' shops.

THE CARNATION.—A third edition of Mr. DODWELL's handy little treatise on the Carnation has been published by Mr. B. Wynne at the office of the *Gardening World*, Clement's Inn, Strand. We commend it to the notice of Carnation growers for the excellence of its practical hints, but we may be excused for expressing a far less high opinion of the value of Mr. JEANS' so-called philosophy of florists' flowers than does Mr. DODWELL. Mr. JEANS' dicta are irreproachable so far as they go. To pieces of coloured cardboard cut to regulation pattern or any similar artificial production they would be excellent, but their special application to flowers considered as living beings endowed with hereditary "properties," continually subjected to many varied conditions and enervating various purposes, seems to have been almost entirely ignored by the essayist. The difference of habit induced by mode of propagation, whether by means of "piping" or by layers, is an interesting illustration of a phenomenon well-known in other plants, but the reasons for which are entirely almost unknown. The descriptive list will be valuable for reference, and readers will admire the honest enthusiasm of Mr. DODWELL's descriptions, and will reciprocate the kindly feeling which induces him to be tolerant even towards admirers of self and yellow grounds. May he be equally tolerant towards those who abhor the idea of "rule and compass, line and plummet" as applied to flowers, even by so thoughtful a mason as the late Rev. GEORGE JEANS.

PRESERVATION OF POTATOS.—The difficulty of keeping Irish Potatoes in edible condition in late spring is well-known to housekeepers, farmers, and merchants, says *Science*. Professor SCHRIEDAK, of the National College of Agriculture of France, has recently devised a very simple, cheap, and successful method by which he has been able to preserve Potatoes in edible condition for over a year and a half. This process has been adopted by the French Government for preserving Potatoes for the army. The French Minister of Agriculture publishes the details of the process in the official *Bulletin du Ministère de l'Agriculture* for March, 1891. The following is a translation of the essential part of the scheme. The method of preservation consists in plunging the tubers, before storing them away, for ten hours into a 2 per cent. solution of commercial sulphuric acid in water, two parts of acid to 100 parts of water. The acid penetrates the eyes to the depth of about one-fortieth of an inch, which serves to destroy their sprouting power; it does not have any appreciable effect upon the skin of the Potatoes. After remaining in the liquid ten hours, the tubers must be thoroughly dried before

storing away. The same liquid may be used any number of times with equally good results. A barrel or tank of any kind will do for the treatment. The acid is so dilute that it does not affect the wood. Chemical analysis shows that Potatoes treated by this process are as nutritious and healthful after eighteen months as when freshly dug; but they are of course worthless for planting. Attention is called to this method by **GERALD MCCARTHY**, N. C. Experiment Station, Raleigh.

THE HORTICULTURAL CLUB.—The annual dinner of the Club took place on Tuesday, the 9th instant, at their rooms, Hotel Windsor, Victoria Street, Westminster, and was, without doubt, the most successful one it has ever held. The chair was occupied (in the absence of Sir JOHN LLEWELYN, Bart., the Chairman), by **HARRY J. VITCH**, Vice-chairman, who was supported by nearly forty members and their friends. During the evening a selection of music, both vocal and instrumental, was given, under the direction of Mr. **GEORGE BUNYARD**, and several good recitations were given by Mr. C. T. **DEBRET** and others. The Chairman, after the usual loyal toasts, proposed "The Prosperity of the Club," and spoke in strong terms of the excellent work that had been done in bringing together those interested in horticulture, both amateur and professional, thus ably filling an existing void, and he wished it every success. This was responded to by the Hon. Secretary, who said they had reason to be satisfied with their position; they had this year been able to add to their small funded property, and had also been able to receive among them several of those gentlemen who had come to London to be present at the Royal Horticultural Society's meetings, and in many ways to advance the interests of horticulture. Mr. T. W. **GIRDLESTONE** proposed "The Royal Horticultural Society," which was responded to by Mr. H. J. **PEARSON**. The toast of "The Chairman," was given in sympathetic terms by the Rev. W. **WILKS**, whose remarks elicited warm approval from the guests. Some of the friends contributed some excellent dishes of Apples and Pears towards the dessert.

MANSON HOUSE ASSOCIATION ON RAILWAY AND CANAL TRAFFIC (FOR THE UNITED KINGDOM).—A general meeting of this Association, under the presidency of Mr. **DAVID HOWARD**, was held on the 15th inst., at the Cannon Street Hotel, and was well attended. Sir **JAMES WHITEHEAD**, Bt., was unanimously elected President of the Association, now re-constituted as a permanent organisation, and several Vice-Presidents were elected. The Council for the ensuing year were appointed, and it was decided to register the Association as a corporate body. Resolutions authorising the Council to petition to be heard in committee against the Railway Rates Provisional Order Bills recently introduced into Parliament, and expressing regret at the repetition in these Bills of the provisions unacceptable to traders which were authorised by the Railway Rates Acts of last Session, were adopted. The Council were also empowered to take action on behalf of the Association with regard to the revised schedules of rates and tolls, &c., deposited by Canal Companies with the Board of Trade, in accordance with the Railway and Canal Traffic Act, 1888. With respect to the Bill for the transfer of the Hull Docks to the North-Eastern Railway, and other similar Bills, the Council were directed to petition Parliament in opposition to any further acquisition, except under special restrictions, of docks and harbours by railway companies; and they were further directed to petition Parliament against the Medway Navigation Bill, by which the Navigation Company seek power to deal in merchandise which they convey as carriers, it being the opinion of the meeting that the conferring of power to trade in this way would be contrary to public policy. The office of the Association is at Eastcheap Buildings.

DISEASES OF PLANTS.—The following is the Syllabus of three lectures on "The Diseases of the Reproductive Organs of Plants caused by Parasitic

Fungi," to be delivered in the theatre of the Royal College of Surgeons on Monday, Wednesday, and Friday, February 22, 24, and 26, at 4 o'clock each day, by Professor **CHARLES BAGGE FLOWRIGHT**, M.D., M.R.C.S.

Lecture I.—Monday, February 22. Reproductive Parasitism. Introductory remarks. Reproductive Parasites: their apparent tendency to exterminate their hosts; total destruction of seeds exceptional. Indirect effects of Reproductive Parasites on their hosts: favour expeditious fertilization, rapid germination, segregation of hosts, increased root-action, number of blossoms, protection of hosts. Effects on the Floral Organs:—(a) Indirect: (1) Abortion, (2) Starvation, (3) Strangulation. (b) Direct: (1) Destruction of Floral organs, (2) Disease of the Anthers, (3) of the Ovaries, (4) of the Fruit. Concluding remarks.

Lecture II.—Wednesday, February 24. The Ustilagineae as Reproductive Parasites, with special reference to the Economic species. Antiquity of their recognition. Frequency of their reproductive parasitism. Organs affected. Bunt of Wheat: appearance, bunted flour and bread, structure of spores, entrance into host. The Smut of Cereals, not one species. Oak-smut: appearance, germination of spores, infection of host, preventive measures. Wheat-smut: morphology and physiology. The two Barley-smuts. The smut of Maize, infection of its host. The Anther-smut, its mode of attack. Smut of Figs and Dates. Concluding remarks.

Lecture III.—Friday, February 26. On Ergot. **Tulasne's** researches. *Claviceps purpurea*, morphology and physiology. Varieties of Ergot: Rye, Wheat, Dias, *Bromus secalinus*, *Elymus virginicus*. Ergotism, gangrenous and convulsive. Fatal case of Ergot-poisoning. Gangrene of the lung. Cataract, oedema of the skin, changes in the spinal cord. Effects of Ergot on animals: dogs, pigs, cows, horses, birds. Historical notice of Epidemic Ergotism: the Athenian Plague, *Ignis sacer*, *Ignis S. Antonii*. *Thucydides*, *Flodart*, *r. Reims*, *Dumont*, *Thalins*, *Verillart*. Geographical distribution. The Russian Ergot Commission, 1864. *Kobert's* researches. Ergotinic acid, properties and action. Sphaclenic acid, properties, action on fowls, pigs, rabbits. Cornutin, properties, effect on animals, action on the uterus. Concluding remarks.

THE MIDLAND CARNATION AND PICOTEE SOCIETY has issued its schedule for the coming season, in which they say that "it is the ambition and intention of the Committee to make this the largest and most representative annual exhibition of Carnations and Picotees in the kingdom, and should there be a good surplus, to liberally support the Gardeners' Orphan and Benevolent Institutions." The exhibition will be held at the Botanical Gardens, Edgbaston, on Saturday, August 6. Any further particulars may be had from Mr. **WILLIAM DEAN**, the honorary secretary; Mr. **ROBERT SYDENHAM**, Treasurer and Chairman of Committee, Tenby Street, Birmingham; or any other member of the Committee.

MR. BARR.—This enterprising Daffodil-hunter is once more about to proceed to Gibraltar, Southern Spain, and Portugal, back through Northern Spain to France, the Pyrenees, the Maritime Alps, and perhaps Italy.

BOOK NOTICE.

ELEMENTS OF AGRICULTURE. A text-book prepared under the authority of the Royal Agricultural Society of England. By **William Fream**, LL.D. (John Murray.)

In fewer than 500 pages, the Editor has contrived to compile an excellent elementary work, much of which is of use to the horticulturist, as well as to the class for whom it was specially compiled. The general scheme of the work was settled by a sub-committee of the Society, whilst suggestions have

been made, and revision of the proof-sheets have been accomplished by such authorities as Sir John Lawes, Sir John Thorold, Sir Jacob Wilson, Messrs. Ashworth, Bell, Bowen-Jones, Pole-Gell, D. Pidgeon, *Clare Sewell* Read, Dr. Voelcker and Miss Ormerod. The first part is devoted to the consideration of the soil, and the operations connected therewith. The second part comprises a general history of the plant as a living creature, with special references to the agricultural side of the question. In the third part, farm animals are dealt with in a similar manner. In turning over the pages we have been struck with the skill of the editor, who, while he has kept his book within very moderate compass, seems not to have omitted anything of importance. The information is given clearly and popularly, using the latter word in a favourable sense. Those who have endeavoured to condense scientific knowledge, and present it in a form suitable for general reading, will be surprised at the skill with which Dr. Fream has accomplished his task. His statements are not long-winded and prolix; on the contrary, they are clear and intelligible, though sometimes dealing with highly technical matters. A few slips must be expected in such a work, one such at p. 97 requires attention—a cross between two plants of the same species does not produce a hybrid; and fig. 26 can scarcely represent an Onion bulb. It would, however, be invidious to dwell on such minutiae, where the work, as a whole is so well done.

THE AMATEUR'S GARDEN.

THE VEGETABLE QUARTERS.

WINTER having now left us, definitely we hope, at least, as regards his hardest frosts and heaviest snowfalls, although some of our west-country readers who have bitter memories of the snowfall of last March may have their doubts. [Justified, we fear, since this was written. Ed.] Probably much of the outdoor operations of digging, turning gravel, planting and transplanting shrubs and trees have already received a certain amount of attention, but in case the time has hitherto been too short for everything in that way to be wiped off the memory, the present time should be made the most of, the man, boy, or the proprietor himself setting into the various jobs with goodwill. And here it may be said that a little digging is especially beneficial to those who lead sedentary and studious lives, strengthening the nerves and inducing sound sleep; but they must not, at first certainly, greatly fatigue or overheat themselves by digging too fast or for too long periods. We say, at first, advisably, and have the stout gentleman in our eye, as one who is especially apt to overdo the exercise of digging with the idea that the more hard work the less fat; those to whom it is not a new thing will need no caution from us. Here, a hint as to digging in general. Unless the digger possesses a No. 1 spade, which from the nature of things he would eschew, on account of its prodigious size, the digging should be of the kind called "bastard trenching," the word "bastard" in this connection meaning probably, a poor kind of trenching, but which really is a thorough kind of simple digging.

All that it is necessary to do is to line out the ground to be dug into strips 2 feet in width, and as wide as the piece is, the spade being held nearly upright, and thrust into the earth with the foot to the depth of 6 inches, and these spade-thrusts should be made close to each other. Wheeling soil long distances is a wasteful operation, but it may sometimes be necessary in carrying out a big job. It is sufficient if the ground to be dug be divided into half by stretching the line down the middle, and kicking out a small trench to indicate the line of division, then all that is necessary for the digger to do is to throw out the soil of his first trench on to the top of what will really be the last trench of the opposite half. Before this is done, the surface-soil of these first breadths should be shovelled clear of all the weeds and rubbish that may happen to lay on them. Having thrown out this soil in a ridge-like heap, proceed to shovel the top soil of the next

breadth into the hole thus left, and distribute it evenly at the bottom; and having executed this, the now cleaned soil should be thrown in on the top of the shovellings, breaking it up and commingling it, which in stiff soils is best performed with a steel five-tined fork—in a light one the spade is the better implement to use, and so on till the end of the piece is reached, and the last trench thrown out. Into this trench will be thrown the shovellings and soil from number one trench on the opposite half of the piece of ground. It is now too late for the real trenching of the land for early crops, but it is in the above manner that two, and in very good land which has been long under the spade, sometimes three spits are turned over, and capital work it is on frosty days, for those whose backs are strong, and who do not lack muscle. When the soil has settled somewhat, and been dried by sun and wind, it may be forked over, 4 or 5 inches deep, after previously receiving a dressing of soot, lime, burnt earth, sand, and fine coal ashes, if it be heavy, and guano, assuming, of course, that it stands in need of such aids, and has not had a quantity of rich manure turned into the trenches when dug. Just at present there is nothing more to do on such ground; but on ground which was dug in the autumn, a few rows of Broad Beans, and some early kind of unwrinkled Pea, Early Gem, Sangsters, or William I., may be sown. The first-named Pea may be sown 3 feet apart, and the others 5 feet, that is, if the Peas are grown altogether.

The better way, however, is to have a row here and another there, 20 to 25 feet apart, and running north and south, so that the sunshine on both sides of the row and the sparrow do not make it their special preserve. By and by other crops may be put between, say Potatoes, French Beans, Cauliflowers, salading, and indeed, any low-growing vegetable. It is yet too early for other sowings out-of-doors.

(To be continued.)

AMERICAN BLIGHT.

It may be of service to our fruit cultivators to read the following questions put by an American fruit-grower to the Government Entomologist of the United States Department of Agriculture (Professor Riley), and the replies as given in a recent number of *Insect Life*:—

THE WOOLLY ROOT-LOUSE OF THE APPLE.

1. If new trees will cost 4.50 to 6 dols. per 100, would it not be best to get new trees rather than try to cure the disease by hot water and kerosene emulsion?

2. As the ravages of this insect are apparent on all my trees, will it be wise or safe to try a cure and let them stand?

3. Have you any data to show that diseased trees attacked by this louse have been cured and made healthy, strong, and fruitful trees? Would not a doubt still exist, even if a remedy had been administered, that the tree might never amount to anything?

4. Should I be safe in planting new trees in the same old hole when these had died and been pulled up? Would the disease probably be left in the ground on the removal of the diseased tree?

5. Had I better pull these up, take them to some convenient and safe place, burn them, and have a man spade or shovel out the place of setting, and would there then be any danger in replanting?

6. Older fruit-raisers claim that I had better remove the trees, plough up the entire ground and let it be exposed to the action of winter weather; and some even go to the extent of saying that I run risk in planting any sooner than another year. What is your opinion?

7. Some say my ground gave the disease to the trees. If it were in the ground, would the disease be all alike? There is no difference in any part of the orchard, and there was never an Apple tree near it before. It had been forest or bush land previously, all new, and my opinion was and is, that these trees

were diseased and affected before I got them. What is yours?

8. If I take up these trees and burn them, how had I better prepare the ground for the new ones? Can I put on lime or ashes in the same place, and how long before should I be safe in planting?

9. Does this louse attack other trees besides the Apple?

11. Is there danger of leaving the disease in other roots in the ground, such as sprouts of Oak, and returning to new trees set out afterward?

12. I have often seen this white, cloudy appearance on the roots, near the top of the ground, and in and around the young tree's stock or trunk, 1 to 3 inches above the ground. Does this convey disease or infection to other trees near by?

13. Suppose a tree, infected, stands 20 feet from one that is entirely free, or, suppose an infected tree stands 20 feet in an orchard from any surrounding tree or trees, is there any way, by wind, air, fog, dampness, or migration, that these other trees could become diseased or infected?

14. Are ashes (unleached) or lime the best to use in the holes of the displaced trees? *James W. Simpson, Arkansas.*

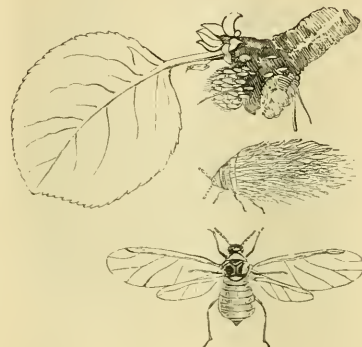


FIG. 35.—AMERICAN BLIGHT.
(Showing the immature and the winged insect as well as the eggs deposited on the bud.)

REPLY.

1. New trees, costing from 4.50 to 6 dols. per 100, would probably cost less than the application of the remedy suggested, but the labour of taking up the old trees and planting the new ones is at least an offset to the labour of applying the insecticides; and you will find, after all, that the remedy is cheaper.

2. The remedy suggested, if thoroughly applied, will be safe and sure, and it will not be dangerous to let the infested trees stand after they have been treated.

3. Whether the trees will, after treatment, become as strong, healthy, and fruitful as they would if they had not been attacked, is a question which can only be decided by ocular examination of their present condition. The extent to which they have been injured already can hardly be determined at this distance.

4. If new trees were planted immediately in the old holes, the probabilities are that some lice will have been left in some of the holes, and that the new trees will become infested.

5. This plan will answer if the old earth is removed, and new earth taken from a distance of several feet from the infested trees is filled in.

6. The plan proposed by your neighbours will be effectual, but that suggested in the answer to No. 5 will answer equally well.

7. Your ground did not give the disease to the young trees, as the insect occurs only on the Apple and some few allied trees, such as the wild Haw and other species of *Crataegus*.

8. Either ashes or lime placed abundantly in the holes will destroy the few lice which will be left. I should say that a month of this treatment would suffice.

9. This question is answered under No. 7.

11. No. Only of those mentioned in No. 7.

12. The insect is spread by the occasional appearance of a winged generation of lice, which fly for some distance. These usually, if not invariably, develop above-ground on the trunk of the tree or the larger branches.

13. Answered under No. 12.

14. Either will do. I have no idea as to their relative merits in such a case.

On the whole, I would certainly recommend you, if your orchard is as badly infested as I infer from your account, not to plant new trees in the same orchard after rooting up and destroying those now in the ground without first grafting upon some resistant variety. This may take a little longer to renew your orchard, but will in the end be the most satisfactory course. The experience in New Zealand and Australia shows very fully that the Northern Spy and Winter Majetin are practically proof against the insect, and by grafting upon these, and taking care that the new stock does not sucker below-ground, you will in my judgment, most successfully contend against the insect; for, however thoroughly you may now free your orchard, there is nothing to prevent continual introduction in the winged form from other orchards in your neighbourhood, even if miles away. I do not, of course, know whether the two varieties which I have indicated will succeed in your locality; but the probabilities are that they will do very well as stocks, even if they should not be desirable to grow for their fruit. I shall be glad to learn the course pursued by you, and its success.

SCOTLAND.

EDINBURGH BOTANICAL SOCIETY.

THE meeting adjourned from the 14th ult., was held on the 28th, Dr. Cleghorn, vice-president, in the chair.

Mr. Malcolm Dunn exhibited cones of *Cedrus libani* from Lebanon, and gave an account of the trees from which they were taken last year. Mr. Dunn enumerated a number of the finest examples now growing in Britain. Dr. Aitchison remarked on Cedars he had seen in India, in confirmation of the belief that the Cedar of Lebanon, the Deodar, and the Mount Atlas Cedar are varieties of one species. Dr. Paterson, Bridge of Allan, sent flowers of *Vanda Gowerii*. Mr. Rutherford Hill exhibited fruit of *Poinciana regia* and dried specimens of *Andropogon paniculata*.

A paper was communicated by Mr. G. F. Scott Elliot, M.A., B.Sc., on "Notes on Fertilisation, chiefly of British Cruciferae." The twenty-one cruciferous plants tabulated included *Barbarea vulgaris*, *Nasturtium officinale*, *N. palustre*, *Arabis hirsuta*, *A. Thaliana*, *Cardamine pratensis*, *C. amara*, *C. flexuosa*, &c. After careful observations as to the kinds of insect visitors and the frequency of their visits, the author concluded that it seems inevitable that in fertilisation insect visits are chiefly relied upon in every case, and that self-fertilisation is only of occasional and additional assistance.

Mr. Gustav Mann made observations in support of his view that the embryo sac does not correspond to the macrosopore. The plant studied was *Myosurus minimus*. The early development was given, and the conclusion came to that the embryo sac is a sporocyte and not a spore. Reference was made to Guignard's discovery, that the primary nucleus of the embryo sac corresponds to the nucleus of the pollen mother cell; and Dodel's discovery that the synergids may be fertilised and develop into

embryos, giving thus three embryos in an ovule. The author traced minutely the stages in the conjugation of the two primordial cells of the embryo sac.

THE EDINBURGH BOTANIC GARDEN.

Mr. Lindsay's report on "Temperature and Vegetation" at the Royal Botanic Garden during December was as follows:—"This month was for the most part mild and open, with a very heavy rainfall. The thermometer was at or below the freezing point on eighteen mornings, the total amount of frost registered being 83°, as against 121° for the corresponding month of 1890. The lowest readings occurred on the 15th, 24°; 16th, 26°; 17th, 23°; 18th, 24°; 22nd, 23°. The lowest day temperature was 34° on the 11th, and the highest 57° on the 2nd. Rain fell on twelve days, and slight showers of snow on two days. On the rock garden the following plants came into flower during the month:—*Helleborus niger* major, *H. purpurascens* var., and *Primula infanta*. The total number of alpine and dwarf-growing herbaceous plants which have flowered on the rock garden during the year 1891 amounts to 1216, being 137 less than during 1890. The deficiency occurred chiefly during the month of May. The number of species which came into flower each month was as follows:—January, 6; February, 39; March, 40; April, 119; May, 260; June, 359; July, 262; August, 84; September, 41; October, 13; November, 0; December, 3.

GLASGOW BOTANIC GARDEN.

Mr. Bullen sent the following report from the Botanic Garden, Glasgow:—"The weather throughout December was exceedingly mild, but mostly very wet and stormy. The highest day reading on a shaded thermometer at 3 feet from the ground was 53° on the 3rd. The lowest was 24° on the 13th, when a light fall of snow was experienced. The night readings were correspondingly high for the month. The lowest reading was 25°, or 7° of frost, and the total of the readings for the nine nights on which frost was registered was only 31°, but on five or six other nights the mercury was either at or very near the freezing point. Within a mile of the city the temperature was from 3° to 6° lower. The sudden change of wind and weather, frequent rains, and thick fogs were a great impediment to out-door work."

HOME CORRESPONDENCE.

TECHNICAL EDUCATION.—"W.," p. 116, in your issue for Jan. 23, very wisely asks, "Where are we now?" This question goes to the root of the matter. Some elaborate letters have appeared, which, if measured by the foot or yard, must be very valuable. For myself I have endeavoured to read up to date, but I confess, in wading through them, I came to the conclusion that, after the self-education of the writers, the question remains very much "as you were." I would ask our learned technical lecturers to point out how many good gardeners or farmers have been turned out by the colleges, schools, and lecture-rooms which have been in existence for years. [Where? En.] This will be an answer to "W.'s" question, and now, as an "Old Dolt," I am bold to say I think the letter of Mr. Thistleton Dyer is nearer the mark than all the rest put together. N. C. [We have a large number of letters on this subject, but after publishing those now in type we shall close the correspondence. En.]

MISTLETOE ON FRUIT AND OTHER TREES.—The recent statement in these pages that Mistletoe does no harm, but may be rather beneficial to the trees on which it grows, will cause some surprise amongst the readers of this paper. The truth of the statement can be vouched for by persons who have resided in parts where Mistletoe abounds; and who may have remarked on the general healthiness of Apple, Maple, Poplar, and Lime trees, on which it is commonly found growing. The writer has seen Maples which were so overrun with Mistletoe that they looked in the winter almost as green as in the summer, and yet these trees were perfectly healthy. Possibly, the Mistletoe would in time, if it had been left alone, have so crowded the shoots of the Maples as to have caused their gradual extinction, and the trees themselves would in course of time have become unhealthy, and perished before their time. But

more from a wish to provide the numerous roe deer in the neighbouring forest with easily-available food in the winter, than for other seasons, much of the accessible Mistletoe on trees on which it abounded most, was hacked off the branches, and strewn around the trees, or stuck into bushes and crotches of trees, so that the animals might readily reach it. In no case where this was done did any harm accrue to the trees, nor did the removal of the parasitic growth appear in any way to promote finer growth than hitherto. When Mistletoe is found growing in great quantity on unhealthy trees, it will mostly be found that unhealthiness is due to old age, starvation at the roots, or a waterlogged, or, at least, an undrained soil. It may be that Nature intends the Mistletoe plant to be one of the means of bringing about, in company with moss, lichens, canker, and insect attacks, the death of unhealthy subjects, and thus make space for the development of young and vigorous trees to perpetuate the species, or, at any rate, bring about the speedy death of those least fitted to maintain their existence in a particular locality. It seems, therefore, that the presence of Mistletoe on a tree, like that of lichen, &c., shows that the conditions are favourable to its growth, and that it rests with man to let it develop greatly and injure the host-plant, or keep it within moderate bounds, or clear it off in the same thorough manner as the other parasitic vegetation is served. *Mäherer*.

PINUS LARICIO.—Your correspondent, "S.," at p. 174 of the *Gardeners' Chronicle*, for Feb. 6, is full of the praises of the Corsican Pine; but I must differ from him. I really cannot see one thing about this tree to recommend it, the Scots Pine being in every way its superior, in grace as a specimen standing alone, the quality of the wood, and unquestionably as shelter tree. I might add, it is less fastidious as to soil. The timber of *P. laricio* is coarse-grained to a high degree, and the tree has but few roots, and is therefore very liable to be blown down by high winds. Its fast-growing qualities are spoken of, but the Douglas Fir will beat it in the direction, and the timber is twice as valuable. Again, it was said that rabbits would not touch it; but this is not true, for I have seen them frequently barked. Generally speaking, where this Pine will grow, there the Larch will also prosper, and there is no comparison in the quality of the timber; and if it is true that foreign seed produces healthier trees, then let us go in for that, and not discard the Larch, seeing, as I do sometimes here, trees carried out of the wood 110 feet high, without spot or blemish. It becomes landed proprietors to think twice before they give up planting the Larch. Your correspondent, J. Garbett (p. 182), is quite right in his description of the timber—certain soils producing different quality. I have myself specimens of the true Highland Pine (*Pinus sylvestris*), the timber from a damp boggy place, white, soft, and light; and another specimen of the same kind of tree from the mountain's brow, full of turps, and twice as heavy, and, therefore, twice as lasting. I have not a word to say against the Austrian Pine. It is a lovely tree, and the very best of shelter; but I would not plant one for timber while I could get the true Highland Pine, and on this I lay stress, because the spurious variety from Germany, the seed of which can be bought for half the money, is in every way an inferior kind. *J. Rust, Erldrig Castle*.

STANDS FOR JAPANESE CHRYSANTHEMUMS.—In reply to "E. M.," (p. 182), I advised the altering of the size of these to 24 by 32 inches, in order that the change when it is made may be of some lasting benefit; for considering the advance in size of Chrysanthemum blooms during the last few years, I am convinced that this size is not too great. "E. M." writes as if we had attained to the limits of size; but even if that were true, I have seen many stands of flowers during the last season which would have looked very much better on enlarged stands, for each flower was overlapping its neighbours, and the full beauty of the Japanese blooms is hidden when they are crowded together. Moreover, such a stand has not a fair chance in the contest with others where flowers are smaller, and they stand clear of each other. The mountains which "E. M." hints at me are all molehills. The increased size of a box to hold forty-eight blooms would be 6½ inches by 8½ inches, and 5 inches deeper. This would not make much difference on the floor of a cart or a railway van; the distance to be travelled makes no difference whatever in this matter, even if it were double what "E. M." suggests,

but surely very few places are 12 miles from a railway station. And as to the increased length of table required, how much extra space would be required to take "E. M.'s" example? If staged on both sides of a table, as is usual in the large classes, the tables would have to be 12 feet longer and 12 inches wider than the older stands required that they should be. I have seen some crowded Chrysanthemum shows, and venture to say that this increased size of table might easily have been accommodated. The green boards seem to have frightened "E. M." the most; well, he must grow his flowers large enough to cover the greater part of them. A small piece of green around a flower of whatever colour enhances rather than detracts from its appearance generally. *W. H. Divers, Kelton Hall Gardens, Stamford*.

FUEL AND STOKING.—I quite agree with your correspondents as to the cleanliness, durability, and reliability of anthracite. I have used it five years, and should have continued to do so, except for the sudden and heavy rise in the price towards the close of last year. I have four boilers; one driving between 3000 and 4000 feet, two others about 750 feet each, and one small Loughborough, with 100 feet, all 4-inch pipes. I do the banking-up and most of the stoking myself. In my large boiler I used to consume during winter 1½ ton of anthracite per week, and in the two small boilers, 1 cwt. per day; the anthracite cost me 27s. 6d. per ton delivered to the stove-hole. Last December I determined to try coke, with the result that my big boiler consumes 2½ chaldrons, or about 1½ ton per week at a cost of 20s. per ton, and the other two boilers 3 bushels a day each, or a little over half a chaldron per week. My anthracite cost me just over £3 a week, and the coke £2 4s., or a saving of at least 16s. per week. In addition, I have from 4° to 8° more heat in my houses than with the coal, and paradoxical as it may seem, I get more heat from wet or exposed coke than from new, dry coke. Coke and anthracite will not do together, for the coke consumes the anthracite at a terrible rate. There is no mistake about these figures, for they are the result of actual experience, the fuel being measured and weighed, the duration of each, and the temperatures being carefully noted. The great drawback in coke is, it will not last, and I have to turn out at 3 A.M. to renew the fires. My fires were swept twice a year with anthracite, but with coke they must be cleaned every three months. I find but little difference in the amount of sulphur in coke and anthracite. The latter, of course, is perfectly smokeless, the former not so, but I fail to find enough blacks or soot to damage the roof of any house, and my highest stack is only 12 feet from the ground. I clinker out once a day about 2 P.M., the same with the coke as with the anthracite. After all is said and done, more than half depends upon the form of the boiler; many of these are simply fuel wasteful, and require more draught, more cleaning, a higher chimney, and much more fuel than other classes of boiler. A plain saddle with check end, or terminal end with flues through sides, and a good quantity of cross tubes, is the most economical, and will burn anything. My large boiler is of the latter type, 7 feet long, with eleven upright and three cross tubes; size of fire-box, 3 feet 6 inches by 3 feet, with direct heating surface of 9 square feet to every foot of grate, which is important as regards economy. I consider all fired boilers as bad in principle, expensive, and troublesome; they require more draught, more fuel, and more cleaning—in fact, the latter should be done at least twice a week, or the iron will not take up the heat as it passes to the shaft. *R. C. Worstead, Norwich*.

OUR APPLE CROP.—I think the reason that only American and Australian Apples are at present to be seen in shops is, that all the best home-grown fruit was sold last autumn. In my case, I commenced selling White Transparent early in August, following with Ecklinville Seedling, Lord Suffield, &c., the demand being so good that by Christmas I had sold all out—early, mid-season, and late—at prices much higher than those realised by American Apples. Our salesman informed me that he would be glad of 100 tons of such fruit per week. The demand for good home-grown Apples, honestly packed, and carefully graded, is enormous, and there are so signs of the supply equalling the demand, as witness by the quick consumption of the produce of our orchards last year. Apple-growing for profit is much the same as any other business, being remunerative or otherwise, according to the attention bestowed upon it. If fruit trees are planted on suitable soil, and receive careful attention, the fruit

marketed in a sensible manner, there will be no cause to cry out for Protection; in fact, the foreign imports may possibly do good by causing us to be on our metal, and thus grow finer fruit and more of it than otherwise would be the case. *S. T. Wright, Gleuston Court Gardens, Ross.*

THE HARDINESS OF HERBACEOUS CALCEOLARIAS.—The herbaceous Calceolarias are generally regarded as being very tender, and till a short time ago I shared the general opinion; but to my surprise, some surplus plants that I had left over, stood out during the first part of the late severe weather under a small portable frame, in which they had been pricked out in fine rich soil laid on the hard ground, and they had no other covering whatever. As we required the frame to put over some Christmas Roses, it was taken off the Calceolarias, and they have since been subjected to all the snow and frost, and now that the snow has melted from them, I find that they still look fresh and uninjured. This proves that they are quite as hardy, or even more so, than is the ordinary shrubby or bedding kind; but most of us know that to grow them well, they require a temperature ranging between 40° and 50°, with the atmosphere moist and genial, under which conditions they thrive, and, if kept free from aphides—their great enemy—they make fine healthy plants. *J. S.*

PRUNING DENDROBIUMS.—I read with much interest Mr. Burberry's remarks on Dendrobiums in the "Week's Work" of the *Gardeners' Chronicle* for February 6, p. 175. Doubtless he has had great experience in the management of this genus of Orchids; but does he mean to tell us that only those stems that have become unsightly through old age should be cut away? Having to-day packed a large box of flowers with the growths attached, I would here ask him what he calls "unsightly growths." With us all growths are considered unsightly on some species when they have done flowering. At the present time we have plants carrying upwards of a thousand racemes of flowers each, with not an old growth on them. In fact, no growths are more than two years old. I wonder what Mr. Burberry would say to a plant of *D. nobile* 7 feet across, with no growths on it except those made last year, some of which are between 3 and 4 feet long, and carrying from fifteen to twenty racemes each? I should like to hear what he has to say to this. *B. P.*

FUEL: ANTHRACITE COAL.—If every gardener follows the methods of dealing with the above, which have been described in the *Gardeners' Chronicle*, no difficulty would be found in getting it to burn. It is in use at this garden, and we are sorry when we are obliged to fall back on coke, which we have at times to do. Our houses are heated with two of Weeks' tubular boilers, but it is only on very rare occasions that we have to use both; and all through the severe winter of 1890-91, the fires were seen to every night at 10 o'clock, and we found the temperature at the right point at 6 A.M. We labour under the disadvantage of having to burn the house-refuse. *S. S.*

EUCALYPTUS GLOBULUS FLOWERING.—I should say that it is certainly a very rare occurrence for the above plant to flower at such an age, and, indeed, at all in this country, as "C. II. II." mentions in p. 180. Here, two years ago, fine specimens, 50 feet high and upward, and nine years old, from seeds, flowered freely, and formed their peculiar seed-cases, siles, but the seeds they contained were imperfect, and not fully developed. Since then, unfortunately, the last winter (1890-91) was seriously crippled the plants, and I fear this will finish some, if not all of them. *John Roberts, Zan-y-bwch, North Wales.*

NEW GRAPE, MARCHIONESS OF DOWNSHIRE.—I was recently favoured with some fruit of this new Grape, a seedling raised by Mr. Bradshaw, gardener to the Marchioness of Downshire. It is a cross between White Gros Colmar and Madresfield Court, the first-named being the seed-parent, and it is a promising kind, with Muscat flavour. The berries sent were as large as those of a well-grown Muscat of Alexandria, of a beautiful amber colour, and with rather a thick skin. I should think this Grape will find favour with those who require late-keeping kinds, as the bunch sent had been cut on September 7, and placed in water, having thus kept in good condition for more than five months. The Vine being in his earliest house, the raiser was obliged to cut the Grapes at that period mentioned, but they have

certainly kept well. He also informs me he has now got it planted in a late house, so will be able to test its late-keeping properties better next season. I saw this Grape in fine condition at the late International Show at Edinburgh where it was much admired by noted growers, and thought to be a valuable late variety of good flavour. It has also been shown at Chiswick on one occasion, but not in time to get any of the committee to test its merits with other kinds. Next year, Mr. Bradshaw hopes to get it in quantity, and then send it at different dates to show its keeping qualities. When I saw it last year it promised to produce bunches equally as large as those of Muscat of Alexandria, and as free-bearing as most of its parents—the well-known Madresfield Court Muscat. *G. Wythea.*

IRISH POTATOS.—It is nearly fifty years since, when in my first situation with John Macifield, Esq., Bathkollidar, Dunoon, N.B., we had 5 hogs-



Mr. Henderson

heads of seed Potatos from Ballymote, Ireland. The varieties were distinctly different in their appearance. Their names were—English Flats, Black Benifits, Cherry Reds, and the Apple Potato; and they were all first-class eating sorts, and, being my own cook at the time, I boiled them in their jackets, and up to the present day I think there is no better way of cooking Potatos. Although it is nearly half a century ago, these Irish varieties are quite fresh in my recollection, being real "Murphys." These required careful attention in cooking, and when ready, they laughed all over. The first-named was a red-skinned flatish variety, very mealy, and when well cooked, seemed always to part into a half from its dryness. The Black Benifits were a large round sort, the outside being the colour of a Black Hamburg Grape, with a very pale inside, and quite as mealy as the others, although it required more watching in the boiling, or it at once melted into a pulp. The Cherry Red was a more evenly round Potato, and good eating, nearly resembling the smooth Scotch Reds of those days. The Apple Potato was a late one, and the outside was striped or flecked, with deep pink eyes, but I remember little about the quality of this variety, only it had to all appearance quite as strong a constitution as the others. They were all grown on newly-cleared land from the natural Oak copse, the ground being thoroughly drained and trenched, likewise well limed; the manure employed when planting the crop was Peruvian guano, mixed with wood ashes saved from the burning of the scrub. Some of your other correspondents will be glad to learn if any of the above

varieties are still to the fore. I would willingly send almost any distance for "English Flats," if they can be got, as I have never tasted a better flavoured tuber. I may state, that just before the surprise of the Potato disease had developed into a murrain, I had left Bathkollidar. *J. Miller, Rusley Lodge.* [Mr. Baylor Hartland in a note received from him recently, blames us for cooking the Quarries to test their qualities, and telling us that we ought to have planted them instead. He states that it is an early June Potato (in Ireland?), but keeps plump and excellent up to the present time of the year, and probably much longer. For good and long keeping, there were none better than Quarries, Black Mignon, and Red Apple. *Enj.*]

RHODOENDRON.—I have to-day (February 16) cut several trusses of Rhododendron growing in the flower garden on the banks of an artificial lake. Some of the other trusses have more fully expanded flowers than the one enclosed. [The flower sent by our correspondent was one of *R. Nobleanum*, *Enj.*] This is rather remarkable, seeing that we have had a total of 205° of frost since the commencement of the winter. On Sunday morning the thermometer stood at 27° Fahr., and this morning at 26°, with a strong north-easterly wind. *A. Bullen, Gardener, Wakehurst Place, Haywards Heath.*

GARDENERS AND THEIR EMPLOYERS.—Referring to "Vagabond's" criticism of my remarks, p. 147, concerning the best men not being in the best places. I am willing to admit that "employers are not fools or too indulgent," especially where it is a question of profit and loss—that is, where produce is grown to pay garden expenses—as imperfections are more obvious in a gardener when he is placed under such conditions than when he grows for home consumption only. But who will be bold enough to deny that many gardeners retain their situations through the indulgence of their employers, and not through their capacity. Personally, I knew a man who remained in an excellent place many years until the death of his employer. He was known by the latter to be unqualified for the post he was filling, and yet he was not discharged. This gentleman and his family were imbued with a missionary spirit, and thoroughly appreciated the same spirit in others. It so happened that their gardener was full of it, even to overflowing. He was constant in his attendance at all religious assemblies. He lifted up his voice in the choir, having a melodious bass voice; he also displayed his vocal abilities at the village concerts, was strong in the advocacy of total abstinence, and discoursed most eloquently on many subjects, and thus found favour in the eyes of his employers, and it is not wonderful that they spoke of him as such an earnest superior man, &c., and winked the other eye at garden deficiencies. May I ask you if a gentleman is always a fair judge of the merits of his gardener, when the majority of them know nothing about gardening, and could not contradict any excuse a gardener might make concerning failures, which were probably due to his negligence or ignorance? Referring to your remarks on gentlemen leaving the selection of their gardeners to nurserymen, I maintain that they might do worse; but I did not intend to convey the meaning that they should so do to the exclusion of all other means, and certainly not to banish applications to gardeners in responsible positions, or to curators of botanic gardens. I have more faith in our nurserymen than to believe that they would give the preference to those who had been good customers only, unless these customers were good practical gardeners, and fitted to fill the vacant place. *W. E. G.*

Obituary.

MR. MONTGOMERY HENDERSON, formerly gardener at Coleorton Hall, Ashby-de-la-Zouch, Leicester, died, at Ashby, on Sunday, February 14. Mr. Henderson was a Scotchman, having been born at the village of Swanston, near Edinburgh, in 1808. At the age of fourteen years he began his gardening career in one of the market gardens of that city, where he was initiated into the laborious part of the business. Subsequently, he spent two years at Messrs. James Dickson & Sons' nursery at Inverleith; and then he went to Salton Hall, and afterwards to Melville Castle, where he remained but a

short time. In the autumn of 1832, he was sent, by a former master, Mr. Dod, who was then gardener at Cliefden, in Buckinghamshire, to be gardener to Captain Foster, at Warmwell House, Dorchester. Leaving that place in 1834, he served as foreman under Mr. Niel Wilson, at Gopsall Hall, Leicester-shire. In 1838, having left Gopsall, he obtained employment in the nursery of Mr. Joseph Knight, of Chelsea, whence he was sent to be gardener to Sir George H. Beaumont, Cole Orton Hall. Mr. Henderson was famous as a Grape grower, and at p. 719 of the *Gardeners' Chronicle* for December 5, 1874, is to be found, besides an account of his life, of which the above is mainly an extract, a description of the methods he adopted with the Vines at Cole Orton. The deceased had lived retired at Ashby for the past ten years.

LAW NOTES.

LADY GARDENERS.

A CASE, which created great interest in Derbyshire amongst gardeners, occupied the attention of the County Court at Derby for upwards of four hours on Tuesday. It was an action brought by Miss Elizabeth Paterson Campbell against the Misses Grace and Elizabeth Harriman to recover £30 for breach of a contract to instruct the plaintiff in all matters appertaining to an industry carried on at The Grange Gardens, Sawley, called "The Ladies' Fruit and Salad Garden Association," and to provide employment and a home, with sufficient food and drink.

Mr. Noble, on behalf of the Plaintiff, said the action was founded on a verbal agreement made between the parties on the 17th of April, 1889. That agreement was in effect that the plaintiff should go to a piece of land owned by the defendants at Sawley for a period of twelve months, and that she should be instructed there in gardening, and in return should give her services, and also be supplied with board and lodging. There was a very voluminous correspondence. He proceeded to read extracts from letters which made it appear that the plaintiffs formerly resided at Harrow. They had written for the *Strand* and other magazines, with the object of drawing the attention of ladies to a scheme which they desired to float. That scheme was that the piece of land mentioned at Sawley should be changed from turf or grass land to garden land, and that the ladies joining in cultivating it should join in the receipts from the produce. Eventually, on February 25, the parties met, and three courses were suggested to carry out the scheme of the Misses Harriman, which were—(1) that the defendant should give six ladies a ninety-nine years' lease of the ground, and that these should contribute £100 each, and that the house and grounds should at once become their own and that it should at some future time be converted into a company; (2) that the Misses Harriman should take the entire risk, and maintain the ladies, teaching them gardening, for the payment of a fixed sum; and (3) that Miss Campbell might board for thirteen weeks at a guinea per week, giving such services as she felt inclined to do. Miss Campbell made an agreement on the second of the courses proposed, paying £20 for the course of instruction. Mr. Noble went through the correspondence, which was of an interesting, if somewhat amusing, nature. It chiefly related to instructions sent by Miss Harriman to her "dear lady gardeners" regarding the growing of Potatoes, Radishes, Tomatoes, &c., the time when they ought to be got ready for market, &c. One letter caused some merriment in Court, which was in reply to a letter to the Lady Gardeners at Sawley, from Miss Harriman, telling them that they must not expect men of spotless character to dig for Potatoes. In consequence of some delay in some hampers of Potatoes being sent to market, and a loss of £80 on a crop of Radishes, being pulled too late, the relations between the industrious Miss Harriman and the Lady Gardeners became strained, and Miss Harriman was not

residing at Sawley, but wrote her instructions; she went about the country selling the produce. Miss Campbell wrote a letter owing to a wrong inference she had drawn from a letter of Miss Harriman that she was not going to work from 4 o'clock in the morning with men of questionable character, when 4 o'clock in the afternoon was meant.

The matter eventually reached a climax, and the defendant stopped the provisions being sent to the house, and showed the lady gardener out. Mr. Noble contended that the whole of the mischief and the misunderstanding had arisen through the absence of the defendants, which was contrary to the terms of agreement. They left all the responsibility on the lady gardeners and pupils. There was no personal supervision, and the dismissal was unjust. The Judge suggested that the case might be settled between the parties. It would be much better for both. Mr. Noble concurred, and Mr. Hextall also. He, however, would like it to be stated that there was not the slightest imputation of incompetency against the defendants. He moreover entirely absolved the Misses Harriman from all blame. They had acted with the highest and most *bona fide* motives. A consultation was held in the Judge's room, all imputations being withdrawn on both sides.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees = 8 "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.			
	Mean for the week ending February 13.					Total Fall since Jan. 3, 1892.		Percentage of possible duration for the week.			
	ACCUMULATED.					Percentage of possible duration since Jan. 3, 1892.		Percentage of possible duration since Jan. 3, 1892.			
	Above 42° for the Week.	Below 42° for the Week.	Above 43° difference from Mean since Jan. 3, 1892.	Below 43° difference from Mean since Jan. 3, 1892.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 3, 1892.	Total Fall since Jan. 3, 1892.	Percentage of possible duration for the Week.			
Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.	Ins.	Ins.	Ins.				
0	4	20	10	+	3	4	5	36	84	10	12
1	6	29	11	+	9	14	4	23	98	31	22
2	4	27	12	+	14	23	2	20	18	43	23
3	4	25	15	+	4	34	1	22	14	19	22
4	4	23	11	+	9	29	3	23	19	22	22
5	3	22	7	+	3	11	3	20	15	13	20
6	5	25	4	+	2	22	7	31	68	19	19
7	4	17	3	—	4	14	2	27	43	24	19
8	3	25	5	—	15	30	6	27	34	21	24
9	5	27	0	—	17	18	2	31	42	9	16
10	3	22	0	—	19	19	7	26	39	8	19
* 3	3	31	0	—	1	18	31	3	30	6	15

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.
Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending February 13, is furnished from the Meteorological Office:—

"The weather was unsettled, with slight rain, during the earlier part of the period, but subsequently it became dry in nearly all parts of the kingdom. Much cloud, however, was experienced except in the north-east of Great Britain, and slight falls of rain continued in the extreme north-western districts."

"The temperature was considerably above the mean, the excess ranging from 3° in 'England, S. and S.W.,' 'Ireland, S.,' and the 'Channel Islands,' to 6° in 'Scotland, W.,' and 'Ireland, N.,' and to 6° in 'Scotland, E.' The highest of the maxima were recorded, as a rule, either on the 7th or 11th,

and varied from 57° in 'Scotland, E.,' and the 'Midland Counties,' to 52° in 'Scotland, N.,' and 51° in the 'Channel Islands.' The lowest of the minima were registered either on the 12th or 13th, and ranged from 27° in 'England, E.,' and the 'Midland Counties,' and from between 29° and 33° in most other districts to 33° in 'Ireland, N.,' and 41° in the 'Channel Islands.' At the end of the week the temperature was decreasing very quickly.

"The rainfall was less than the mean in all districts, but the deficiency in 'Ireland, N.' was slight when compared with other districts."

"The bright sunshine exceeded the mean in 'England, N.E.," but showed a deficit in nearly all other districts. The percentage of possible duration ranged from 42 in 'England, N.E.' and 31 in 'Scotland, E.' to 10 in 'Scotland, N.,' 8 or 9 over Ireland, and to only 6 in the 'Channel Islands.'"

MARKETS.

COVENT GARDEN, February 18.

BUSINESS REMAINS STEADY. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Acacia or Mimosa,	French, per bunch	1 6-0	Narcissus, paper-	white, Fr. p. bun.	2 6-4 0
Arums, per doz. bl.	4 6-0		Orchids	—	—
Azalea, per doz. sprays	9 1-0		Cattleya, 12 blms.	6 6-12 0	
Camellias, white, doz.	2 0-3 0		Odontoglossum	—	—
— red, per doz.	1 0-1 6		crispum, 12 blms.	3 0-6 0	
Caranations, 12 blms.	2 0-3 0		Pelargoniums, scar.	—	—
Chrysanthemums, 12	—		— let, per 12 bun.	9 0-12 0	
— blooms	1 0 5 0		— 12 sprays	1 0-1 6 0	
— 12 bunches	5 0-2 0		Poinsettia, 12 blms.	12 0-9 0	
Eucharis, per dozen	4 0-6 0		Primula, sing., 12 bun.	4 0-8 0	
Gardenia, per dozen	4 0-9 0		Roman Hyacinths, 12	—	—
Hellebora, 12 sprays	0 8-0 9 0		— sprays	—	—
Lilac white (Franchi)	—		— 1 6-2 0	—	—
— per bunch	5 0-6 0		— coloured, dozen	2 0-4 0	
Lilium Harrisii, doz.	6 0-10 0		— yellow (Maré-	—	—
Lily of the Valley, per	—		chals), per doz.	8 0-12 0	
— 12 bunches	0 9-1 6		— red, per dozen	1 6-2 0	
Maiden Hair Fern,	12 bunches	—	Tubero es, 12 blms.	1 0-1 6	
— 40 9-0 9 0	—		Tulips, per doz. blms.	1 6-2 0	
Marguerites, per doz.	—		Violets, Farms, per	—	—
— bunches	3 0-4 0		— bunch	3 0-4 0	
Mignonette, per doz.	—		— Czar, per bunch	1 8-2 0	
— bunches	1 6-2 0		— English, 12 bun.	1 6-2 0	

ORCHID-BLOOM IN VARIETY.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0-12 0		Ficus elastica, each	1 8-7 8	
Arum, per dozen	12 0-18 0		Hyacinth Dutch, doz.	6 0-9 0	
Aspidistra, per doz.	18 0-83 0		Lily of the Valley, per	2 0-3 0	
Azalea, per doz.	36 0-60 0		Marguerites, per doz.	6 0-12 8	
Begonia, per doz.	4 0-12 0		Primulacinas, doz.	4 0-8 0	
Cyclamens, per doz.	12 0-18 0		Palms, various, each	2 0-21 0	
Cyperus, per dozen	4 0-10 0		— specimens, each	10 6-84 0	
Draconema, per doz.	1 0-5 0		Pelargoniums, Scar-	—	—
Euphorbia, per doz.	—		— let, per doz.	6 0-10 0	
— pots	9 0-18 0		Poinsettias, per doz.	9 0-18 0	
Erica hymalis, per	—		Roman Hyacinth, p.	—	—
— dozen	12 0-18 0		— doz. pots	9 0-12 0	
Erica gracilis, doz.	8 0-12 0		Solanum, per dozen	9 0-12 0	
Ferns, various, doz.	4 0-9 0		Tulips, per doz. pots	8 0-9 0	
Ferns, per 100	8 0-15 0		—	—	—

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, Canadian and	—		Kent Cobs, 100 lb.	4 0-0 0	
Nova Scotian, per	—		Lemons, per case	10 0-16 0	
— barrel	10 0-25 0		Pine-apples, St. Mi-	—	—
Apples, 3-shive	1 0-4 0		— chael, each	2 0-8 0	
Grapes	1 9-3 6		—	—	—

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes, Glob.	—		Lettuces, per doz.	1 8-2 0	
— each	0 4-0 8		Mushrooms, punnet	2 0-4 0	
Beans, French, lb.	1 6-2 0		Mustard and Cress,	—	—
— per doz.	2 0-3 0		— punnet	0 4-0 4	
Carrots, per bunch	0 4-0 6		Parsley, per bunch	0 3-0 8	
Cauliflowers, each	0 3-0 6		Saukale, p. basket	2 0-3 0	
Celery, per bundle	1 0-3 0		Shallots, per lb.	0 6-0 8	
Cucumbers, each	3 6-6 9		Spinach, per bush	3 6-6 9	
Endive, per dozen	2 0-3 0		Tomatos, per lb.	0 6-1 0	
Herbs, per bunch	0 9-1 0		Turnips, per bunch	0 4-0 6	

POTATOS.

Best floury samples, keeping colour, are still sought after, but only small lots are to hand. These realise 8s. to 10s. per ton. Ordinary samples sell from 8s. to 9s., and Blacklands from 5s. to 6s.; B. Bunch, Abundance, and Main Crop, find favour with best buyers. J. B. Thomas.

FRUITS AND VEGETABLES.

SPITALFIELDS, Feb. 16.—Quotations:—Seakale, 1s. to 1s. 6d. per punnet; Savoy, 2s. to 4s.; Cauliflowers, 8s. to 12s. per tally; Greens, 1s. 6d. to 2s. 6d.; Turnips, 1s. 6d. to 2s.; Carrots, 1s. 6d. to 2s. 6d.; Parsley, 1s. 6d. to 2s. 6d. per dozen bunches; Spinach, 1s. to 1s. 6d. per bushel; Turnip-tops, 2s. to 3s.; Sprouting Broccoli, 1s. 6d. to 2s.; per sack; Parsnips, 4d. to 8d. per score; Endive, 1s. to 1s. 6d.; Cabbage Lettuce, 3d. to 6d.; Leeks, 1s. 6d. to 2s. 6d.; Beetroots, 3d. to 4d. per dozen; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; English Onions, 6s. 6d. to 7s. per cwt.; Bordeaux do., 3s. 9d. to 4s. 6d.; Spanish do., 6s. 6d. to 7s. per cwt.; Belgian

do., 4s. 9d. to 5s. 3d.; Dutch do., 4s. 9d. to 5s. 3d. per bag of 110 lb.; Celery, 4d. to 1s.; Horse-radish, 1s. to 1s. 1d. per bundle; English Apples, 2s. 6d. to 5s. per bushel; American do., 8s. to 17s. 6d. per barrel; Foreign Tomatoes, 1s. to 1s. 9d. per box.

BOROUGH, Feb. 16.—Quotations.—Savoys, 2s. 6d. to 3s.; Brocoli, 7s. to 10s. per tally; Spinach, 1s. 6d. to 2s. 6d. per bushel; Brussels Sprouts, 1s. to 1s. 6d. per half sieve; Greens, 1s. 6d. to 2s.; Turnips, 1s. 6d. to 1s. 9d.; Carrots, 1s. 3d. to 1s. 9d. per dozen bunches; English Onions, 6s. to 7s. 6d. per cwt.; Apples, 2s. 6d. to 6s. per bushel; Canadian do., 11s. to 21s. and Newtown Pippins, 15s. to 20s. per barrel.

STRAFORD, Feb. 17.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done at the undermentioned quotations:—Savoys, 2s. 6d. to 3s. per tally; Greens, 1s. to 1s. 9d. per sieve; do., 2s. to 3s. per dozen bunches; Cauliflowers, 9d. to 1s. 6d. per dozen; do., 2s. to 7s. per tally; Turnips, 30s. to 45s. per ton; Carrots, household, 30s. to 45s. do.; do., cattle-feeding, 10s. to 28s. do.; Parsnips, 6d. to 1s. per acre; Mangels, 16s. to 18s. per ton; Swedes, 15s. to 22s. 6d.; Onions, English, 10s. to 120s. do.; do., Dutch, 3s. 9d. to 4s. 9d. per bag; do., Bordeaux, 3s. to 5s. per case; Apples, English, 2s. 6d. to 6s. per bushel; do., American, 18s. to 21s. per barrel; Horse-radish, 1s. to 1s. 6d. per bundle; Celery, 9d. to 1s. 6d. per tally; Brussels Sprouts, 1s. to 1s. 6d. per half sieve; do., 2s. to 2s. 6d. per sieve; Turnips, 2s. to 3s. per dozen bunches; Carrots, 1s. 6d. to 2s. 6d. do.

NOTICES TO CORRESPONDENTS.

ALTERNANTHERA CUTTINGS: *C. J.* The trade do not sell cuttings as a rule. Why not advertise your wants?

AMARYLLIS: *L. M.* The red spots on the scales are accompanied by a minute yeast-fungus, often figured in these columns. Generally the bulb-mite is also present, but we do not see them in your bulb.

CALLA SPORTING: *Vagabond.* Every year specimens are sent to us which exhibit various deviations from the normal flower, and we may pretty safely infer that in most instances the departure may be traced to extraordinary vigour in the plants, caused by the manures now so commonly afforded to the plants. We have to-day received from a correspondent at Stony Stratford some *Calla* spathes, in which the tip of the spathe in one instance is green streaked with white. At one time probably the spathe of *Calla aethiopica* was always green, like the foliage.

CARNATION: *E. H. A.* (Next week.)

DENDROBIUM HILLII: *G. S.* It is a free flowering variety; still ninety flowers on one growth is rare.

EARTH-WORMS IN PALM-TUBS: *L. D.* Clear lime-water employed, when water is needed by the plants, will bring the worms to the surface soon after applying it. The worms should be at once collected. Strong tea will do the same thing. And there is a kind of soap sold which attracts worms in a remarkable manner, and of which they are very fond. It is broken into small pieces, and strewn on the surface of the soil.

NAMES OF PLANTS: *H. P.* *Boronia megastigma*, belonging to the natural order Rutaceae, a native of south-west Australia. The plant requires greenhouse treatment, a little warmer indeed when making its growth; and whilst quite young the same kind of soil as *Erica* are found to do best in, although when it grows into half-specimen size, a little good loam, finely sifted, and in the proportion of one-eighth of the whole may be added to the peat. Failing good loam, charred earth may be used. In the summer months the plant may stand out-of-doors, plunged in a bed of gravel or coal-ashes, or be kept in a cold frame with the lights off, except during heavy rains; in fact, young plants are best in frames. Propagation by means of seeds or cuttings. The latter want much care. They may be struck in pots of sandy-peat, surfaced with the cleanest silver-sand, and should be made either of the half-ripened or the young shoots. Bottom-heat is not needed, but the cutting-pots should be stood in the shade of the front wall of the greenhouse-pit, and the soil kept moist by pouring water round the edge of the pot between the rim and the bell-glass, which the cuttings must be covered with. The bell-glass must be wiped out every morning, and the cuttings aired for five or ten minutes.—*C. W. D.* *Bignonia venusta*.—*W. Chibran*, *Begonia Digwelliana*.—*M. C. I.* *Arbutus Unedo*; 2, *A. Unedo*; 3, *A. Andrachne*; 4, *A. Unedo*; 1, 2, and 4, are different varieties of *A. Unedo*, a species

which varies a good deal.—*J. M. B.* 1, *Doryopteris palmata*; 2, *Pteris serrulata*; 3, *Selaginella involvens*; 4, *Adiantum Pacotii*; 5, *A. concinnum latum*; 6, *A. tenerum*.—*T. H.* 1, *Asplenium bulbiferum*; 2, *Davallia canariensis*; 3, next week.—*E. M.* *Echeveria retusa*, *Salvia splendens*, *Neprolepis pectinata*, *Pteris cretica albineata*; put numbers next time.

NAMING NEW SPECIES OF ORCHIDS: *J. C. Mr. Rolfe*, of the Royal Gardens, Kew, obliges us by naming the greater number of these, and is considered as the referee in such matters. As to varieties of garden origin, there are several experts competent to deal with them.

OBJECTIONABLE BUILDING: *S. W.* The best thing that occurs to us is a trellis, strongly fixed by means of standards securely fastened to the face of the wall, which might be covered with rapid-growing Creepers, as *Glycine sinensis*, *Virginian Creeper*, *Clematis Vitalba*, *Bignonia radicans*, or the stronger-growing vines. Failing these, you could plant pyramidal Elm, Poplar, Oak, or Acacia, or rapid-growing Conifers or Red Cedar.

ROTTEN BANANA ROOT: *T. S.* The appearance of the piece to root sent, point to a water-logged border, and the consequent souring of the soil. It would be advisable to throw out the whole of the old soil, and re-arrange the drainage, filling the bed anew with fibrous loam, to which sand and charcoal may be added. Manure is best left out, and top-dressings and liquid manure afforded when aids to growth are actually needed.

SEEDLING GLOXINIAS STILL GREEN: *A. C.* Grow them on, shifting them into slightly larger pots when the roots approach the sides of the pots they are now in. They should bloom after receiving one shift. Grow them in a temperature of 58° to 60° at night, with 10° to 15° rise, according to the state of the weather. Do not wet the foliage, but maintain a moist atmosphere in the pit. Keep them not far from the roof so as to promote stockiness, and do not crowd them together.

SHOWING PLANTS AT THE ROYAL HORTICULTURAL SOCIETY MEETINGS: *G. S.* No fee; but persons showing anything at the meetings usually make themselves in advance fellows of the Society. Write to the Secretary, 117, Victoria Street, Westminster.

VINES: *A. C.* Last autumn was not favourable for the ripening of the canes, and unless greater attention than usual was given to them, hard cutting back will be necessary. From great exuberance of growth, your Vines failed to show any bunches. Do not apply any more manure for a season or two; keep the surface of the border friable and loose, so as to permit the entrance of sun-heat; see that the outlets of the border drains are not stopped. Employ no mulching, unless the soil is very light, and then only a sprinkling of horse-droppings; keep the laterals 1 foot apart on opposite sides of the rods, which will give ample space for old Vines. Preserve the first foliage that appears in good health to the last. If the Vines are grown on the one or two rod system, let each lateral grow to four or five joints, and pinch out side-shoots from these, and stop the leaders of laterals at one joint each time a new one grows. Give each lateral shoot its own proper space, and have no crowding. Follow the ordinary treatment of the Vine under glass, and you may expect good crops.

WOOLCIE IN THE ORCHID-HOUSE: *G. K. H.* You can trap these marauders by the same methods that are pursued by *Dahlia* cultivators to entrap earwigs, i.e., by lightly stuffing some hay into 60-sized pots, and laying these about on their sides amongst the plants. The woodlice avoid the light, and during the day they will retreat into these nice snug pots of hay, and all that you have to do is to go round some time during the forenoon, and empty the insects into a pailful of scalding water. Follow this method for several weeks, and you will have caught the most of them. Toads like woodlice, but then some persons do not like toads, at least not in the Orchid-house; and as the pots are, perhaps, the better of the two.

COMMUNICATIONS RECEIVED:—*D.*, *Revision der Arten von Trollius*, by Dr. Ruth, shortly.—*W. A. C.*—*G. C. M.*—*J. O'B.*—*W. B.* (next week)—*D. W. A. C.*—*Pteris*.—*Thos.*—*Woodford*.—*W. J. W.*—*Botanist*.—*Hogg & Wood*.—*J. J. W.*—*A. D.*—*R. A. K.*—*E. H. E.*—*Vagabond*.—*T. H.*—*W. D.*—*C. H. B.*—*H. W. W.*—*A. P.*—*Expert*.—*E. J. P.*—*K. E. M.*—*J. B. J.*—*M. B. D.*—*E. C.*—*Southcott* (next week).—*F. C.* (next week).—*D. G. H.*—*E. H.*—*W. Corry*.
PHOTOGRAPHS RECEIVED:—*J. B.* (with thanks).

HILL & SMITH,
BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN

TREE GUARD,

"The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Uprights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

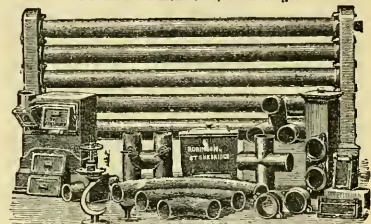
TESTIMONIAL.

"The Whittener, Herefordshire," Dec. 28, 1887.

"DEAR SIRS,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 50 more as before. I enclose cheque for your account."

Yours truly,
RICHD. GREEN,
Messrs. Hill & Smith.

THOS. W. ROBINSON,
Dennis Park Ironworks, Stourbridge.



EXPANSION JOINT HOT-WATER PIPES,
SOCKET HOT-WATER PIPES.

Illustrated revised Price List on application, free.



WARNE'S
(LATE MATTHEWS)
CELEBRATED WESTON
FLOWER POTS
AND
HORTICULTURAL
POTTERY.

CONWAY G. WARNE, Limited,
Royal Pottery, Westport, near Morea.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. **HOT-WATER BOILERS and HEATING APPARATUS**, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps. **PALACE PLAIN HORTICULTURAL WORKS, NORWICH.**

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt., and OIL Mixture, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

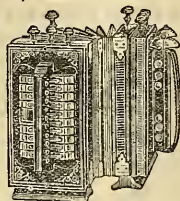
GROVE WORKS, BATTERSEA, LONDON, S.W.

15, VICTORIA STREET, WESTMINSTER, & W.; and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

CHEERFUL WINTER EVENINGS.

CAMPBELL'S BROAD REED MELODEONS

(Patent). GRAND NEW MODELS.

MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONSMELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS

NO HOME SHOULD BE WITHOUT ONE.
CAMPBELL'S world-famed MELODEONS have Organ and Celestine and Charming Bell Accompaniments. The Solenn Psalm, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming Instruments. No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.

To readers of the *Gardeners' Chronicle*.

OUR GRAND PRIZE MEDAL "GEM" MELODEON.

6s. 6d.

6s. 6d.

With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 6s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.

To readers of the *Gardeners' Chronicle*.

OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON.

10s.

10s.

WORTH DOUBLE.

With Two Sets of Broad Reeds, Organ and Celestial Tone, and the charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS.

Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales:—"Campbell's Patent Melodeons are the finest Instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

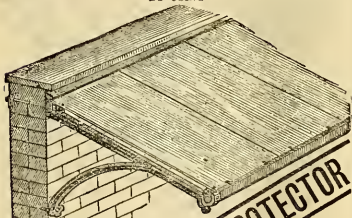
N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready. 100,000 of those valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS,
116, TRONGATE, GLASGOW.

ESTABLISHED 50 YEARS.

SAVE YOUR FRUIT CROP

BY USING



RICHARDSON'S

THE CHEAPEST MADE
AND THOROUGHLY STRONG.
3 feet wide, 1s. 10d. per foot run.
3 feet wide, 2s. 6d. per foot run.
Carriage paid for Orders over £5.

PRICE LISTS OF WALL-TREE PROTECTORS,
GLASSHOUSES, HEATING APPARATUS, &c., free.

W. RICHARDSON & CO.,HORTICULTURAL BUILDERS AND HOT-WATER ENGINEERS,
DARLINGTON.

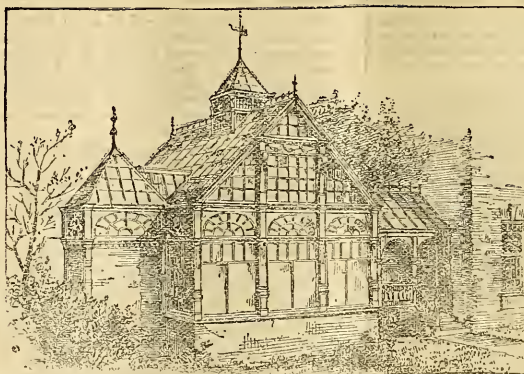
BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO
THE LONGFORD WIRE CO.

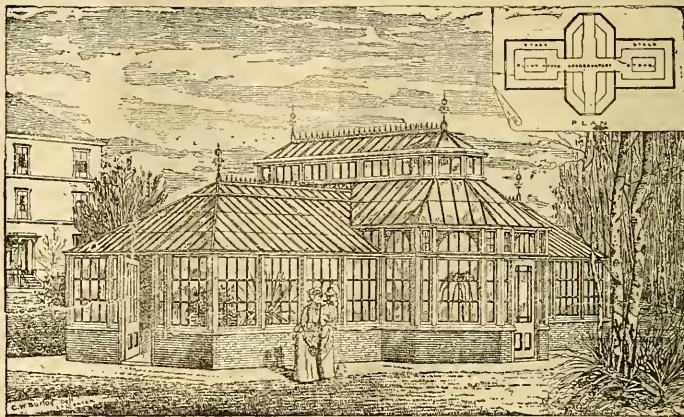
(LIMITED).

WARRINGTON.


**CROMPTON
& FAWKES,**
HORTICULTURAL BUILDERS,
CHELMSFORD.

BOOK of Photo-Lithographed Sketches of Winter Gardens, Ranges of Hothouses, Vineries, Architectural Conservatories, &c., of various Designs and Sizes, recently constructed, erected, fitted, and heated complete by us in different parts of the country; with particulars of the most successful Hotwater Heating Apparatus of the century.

Post-free on application.



MESSENGER & CO.'S New CATALOGUE of Greenhouses and Heating Apparatus,

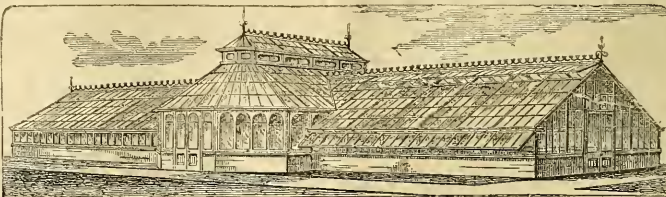
Just issued, will be found the most complete, practical, and reliable guide to all about to build, alter, or heat Greenhouses. Illustrations of every description of Glasshouse, from the largest range of Winter Gardens to the simplest forms of Portable Greenhouse, Plant Protectors, and Garden Frames; also of all the best kind of Boilers, Hot-water Pipes, and all appliances for heating. This Catalogue, possessing hundreds of illustrations of all the latest improvements in greenhouse building and heating, is on a scale never before attempted. It should be in the hands of every one interested in gardening, as it contains many practical hints on the subjects of which it treats, the result of many years' experience. Price, 2s. post-free.

A large number of the illustrations are taken from greenhouses erected by us in various parts of the country; an inspection of this Catalogue shows, therefore, buildings the efficiency of which has been well tested by actual use. The advantages possessed by us enable us to carry out work with the utmost promptness, and in the very best style, at prices which defy competition. Surveys made, and gentlemen waited on in any part of the country. Plans and Estimates free on application.

MESSENGER & COMPANY, LOUGHBOROUGH.

London Office:—163, Palmerston Buildings, Old Broad Street, E.C.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Sashes, Hooped Boxes, &c., always in stock.

Plans, Estimates and Catalogues free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

G F S

STOCK

Inches.

14x12
16x12
18x12
20x12
16x14
18x14
20x14

SIZES

Inches.

20x15
20x16
22x16
24x16
20x18
22x18
24x18

21-02. and 15-02. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."

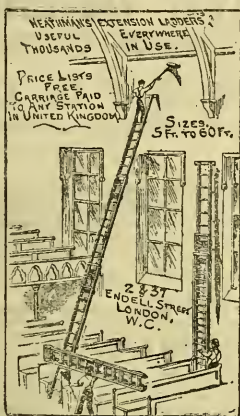
GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

21-02. and 15-02. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.



PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail to London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

THE DOUBLE-POINTED NAIL.

THE BEST FENCE NAIL INVENTED.
This Nail renders any wooden fence perfectly unclimbable. It is a complete protection against trespassers and cats.

In use at Hurst Park and Hurl Racecourses, Lord's Cricket-ground, and hundreds of other places.

A—HAMMER HEAD. B—CRISTLE EDGE.

Price of Fence Nails in Malleable Iron—1½, 2, 2½, 3, 4, 5, and 6-in. 7-lb. Bags, 3s. 6d.; per cwt., 55s. 1½-in. Steel Nails, for thin palings, 1s. per gross. MACHINE-PUT Nails for dwelling joinery, wood block flooring, &c., 1, 1½, and 2-in. per gross. Sample boxes, assorted sizes, 6d.; by post, 8d.

DURRAN'S PATENT NAIL SYNDICATE, Limited,
43 & 44, UPPER BAKER STREET, LONDON, N.W.

FREE GRANTS OF LAND IN MANITOBA
and other PARTS OF CANADA.—The reports (illustrated) of the twelve British Tenant-Farmers who visited Canada in 1890, and other pamphlets issued under the authority of the Imperial and Dominion Governments, containing maps and full information as to land regulations, bonuses granted to settlers, openings for capital, demand for labour, rates of wages, cost of living, and all other particulars, may be had post-free, on applying to the High Commissioner for Canada (Mr. J. G. COLMER, C.M.G., Secretary), 17, Victoria Street, London, S.W.; or to Mr. JOHN DYKE, Canadian Government Agent, 15, Water Street, Liverpool.

TO GARDENERS.—FOR SALE, good TOBACCO PAPER and CLOTH, price: 28 lb. at 8d., 55 lb. at 7d., and 112 lb. at 6d. per lb. Apply to—

W. H. AND J. WOOD, Tobacco Manufacturers, Preston.

"I herewith enclose Postal Order for Tobacco Paper received with thanks, and wish to say I am much pleased with it; it is the best Tobacco Paper I can get anywhere. I have paid 1s. 6d. per lb. for not near so good stuff.—Yours faithfully, G. H. SMITH, The Gardens, Kent, Feb. 10, 1892."

SANKEY'S famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your Garden Pots, and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

RICHARDS' NOTED ORCHID and other

SELECTED PEATS (Cut from his Own Grounds), SOILS,

MANURES, and every description of

GARDEN Sundries.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E.

Write for Samples and Price List. Post-free.

CHIEF PEAT DEPOT: RINGWOOD, HANTS.

EPPS'S selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only.

Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal, and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE,

fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter.

The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.

SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d.

SECOND QUALITY, 5s. per sack; 5 for 27s. 6d.

BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.

PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s.

PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

GARDEN REQUISITES.

COCO-NUT FIBRE REFUSE,

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 6s. per sack, 5 sacks, 22s.; sacks, 4d. each.

COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.

SPHAGNUM MOSS, 6s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, Write for Price List.

H. G. SMYTH, F.R.H.S., 21, Goldsmith's Street, Drury Lane (lately called 17A, Cranial Yard), W.C.

GARDEN REQUISITES, as supplied to

the Royal Gardens.—COCO-NUT FIBRE REFUSE,

1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free.

2-ton truck, 30s.; free on rail near works. Fine ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS do., 5s. per sack, 5 for 22s. 6d.

BLACK do., 4s. 6d. per sack, 5 for 20s.

FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. Coarse SILVER SAND, 1s. 6d. per bushel, 15s. 4d. per half ton, 26s. per ton.

CHARCOAL, 8s. per sack. SPHAGNUM, 7s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 10s. 6d. to 18s. per dozen.

RAFFIA, VIRGIN CORK, STAKES, &c. BONES, ½-inch, 11s. per cwt. Pure BONE-DUST, 11s. 6d. TOBACCO-PAPER, Spécialité, 10d. per lb., 26 lb. for 21s.

CLOTH, 1s. per lb., 25 lb. for 26s. Price List, free.

W. HERBERT AND CO.,
Hop Exchange Warehouses, Southwark Street, London, S.E.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

GARDEN FRAMES in great VARIETY.

BOILERS

Of all makes and sizes supplied at the cheapest rates.

VALVES, PIPES, and FITTINGS always in Stock.

GARDEN FRAMES in great VARIETY.

No. 74. THREE-QUARTER SPAN GARDEN FRAME.

CASH PRICES. CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 17 0

8 ft. by 6 ft. ... £ 5 6 | 16 ft. by 6 ft. ... £ 7 8 6

No. 75. MELON and CUCUMBER FRAME.

CASH PRICES. CARRIAGE PAID.

4 ft. by 6 ft. ... £2 0 0 | 12 ft. by 6 ft. ... £4 3 0

8 ft. by 6 ft. ... £ 3 0 0 | 16 ft. by 6 ft. ... £ 5 6 0

All Frames made of Select! Red Deal, painted three times, and Laths glazed with 21-oz. sheet glass.

Carriage paid on All Orders of 40s. value.

Estimates on Application.

Catalogue of all our Manufactures, post-free on application.

GARDENING APPOINTMENTS.

MR. H. R. BROWN, as Head Gardener to A. B. WELCH THORNTON, Esq., Beauparc Park, Basingstoke, Hants.

MR. F. PETTY as Head Gardener to Lord DUNHAM, Adaro Manor, co. Limerick.

MR. W. OWEN, formerly Head Gardener to Mrs. MELVILLE, Fort Manor, Longford, as Head Gardener to Sir WILLIAM EYEN Hart, Windleston Hall, Ferry Hill, Durham.

MR. CHARLES JEFFERIES, until recently the foreman at Woodlands Castle Gardens, Clonsilla, co. Dublin, as Bailiff and Gardener to the Hon. Mrs. LASCELLES, Norley, Epsom, Cheshire.

PARTNERSHIP.—An experienced Gardener

with Capital wishes to join a good paying Nursery as WORKING PARTNER. Millant Counties preferred.—J. B. Gardener's Chronicle Office, 41, Wellington St., Strand, W.C.

MR. B. HOPE, Middleton Park Gardens,

Bicester, begs to THANK the numerous APPLICANTS (1892), to his Advertisement in last week's *Gardeners' Chronicle*, and to say HE IS SUITED.

INSTRUCTOR IN HORTICULTURE.—The

Technical Instruction Committee of the Staffordshire County Council REQUIRE, during March and April, an experienced GARDENER to give practical instruction to cottage-gardeners and to lecture occasionally. Apply, stating terms per week, exclusive of railway fares, to the Director of Technical Instruction, County Offices, Stafford.

WANTED, A HEAD WORKING all-round

GARDENER, without family. Wife good BAKY and POULTRY WOMAN, for a Nobleman's Country Place, experienced good servants, and well acquainted with their duties, orderly, and methodical.—Apply by letter, with full particulars, age, references, and combined wages required, to L. B. St. George's Club, Hanover Square, London, W.

WANTED, A HEAD GARDENER, for

Abbotsbury, near Weymouth, where Sub-tropical Gardening has been practised for many years past. Required a good Propagator. Good wages given, with cottage and garden.—Write full particulars to J. E. Melbury Gardens, Dorchester.

WANTED, a good practical and trustworthy

FOREMAN, chiefly for Fruit and Plant-houses. Wages 18s. per week, holly and vegetables extra, stating age and experience, to W. WENMAN, Hickleton Gardens, Doncaster.

WANTED, IMMEDIATELY, AN UNDER

GARDENER, to attend to the Flues.—Live in the house. Has House-work till about 10 o'clock A.M.—Mrs. EVERARD, Fulsey House, Spalding.

WANTED, a young MAN, for the Nursery,

Inside and Out. Must be able to Bud, Graft, and Grow Vines, Tomatoes, Cucumbers, and Plants for Market. State age, and wages expected. Also a strong LAD, to deliver goods, with knowledge of Garden work.—MANAGERS, Cemetery Nurseries, Aldington, West Brighton.

WANTED, a young MAN who understands

Growing for Market. Wages, 18s. per week. Reference as to ability required.—Apply, LEWIS and WILLIAMS, Ember Nursery, Thames Ditton, Surrey.

WANTED, a young MAN, about 25.—Must

thoroughly understand the working of a Horse Lawn-mower, and can use Scythe, and make himself generally useful in the Gardens. Apply to J. JOHNSON, for the Houses (not under 23), well up to his work. Plants, Chrysanthemums, Tomatoes, &c. Good character in every respect.—Apply, Q. HARDING, Mainditch Court Gardens, Abergavenny.

Seed Trade.

WANTED, IMMEDIATELY, TWO or

THREE smart ASSISTANTS, for the Counter and Order Department. Permanent, and good wages given to men used to a pushing trade.—Apply by letter to AKMISTAGE BROTHERS, Seed Merchants, Nottingham.

WANTED, TWO young MEN, for the

Houses, quick at Watering, Tying &c.—Permanent place. Wages 18s.—Apply, by letter only, to W. CLEMENTS, Nurseryman, Church End, Finchley.

WANTED, A STOKER, for Greenhouses.—

Must thoroughly understand his work. Good references indispensable.—Apply, stating wages, to 35, Queen St., Cardiff.

WANTED, a young MAN, as SECOND, in

the Glass Department. Wages 18s. to 22s., according to qualifications.—Apply, stating age, experience, and lowest wages, to STORRIE and STORRIE, Florists, Dundee, N.B.

WANTED, A GROWER for Market.—WAL-

SHAW and SON, Scarborough.

WANTED, a good practical SINGLE-

HANDED GARDENER. State age, wages required, and full particulars.—HURST and SON, Burbage Nurseries, near Huddley.

WANTED, a strong willing YOUNG MAN,

to work in Garden and assist Cowman. Gentleman's place near London. Rooms, fire, lights, milk and vegetable found; wages 15s. a week. Copies only of testimonials.—Address, H. D., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London.

WANTED, a good GARDENER, with

thorough knowledge of Vegetable and Flower Gardening.—No Glass. Garden is about 3 acres. Assistance given. State wages, age, and send copies of testimonials.—A. G. Street & Co., 30, Cornhill, E.C.

WANTED, as GARDENER, a thoroughly experienced steady man (abstainer).—Must understand Vines, Conservatory, Lawns, and be willing to be generally useful. State age, references, and wages. Board and lodging provided.—Miss WHITMORE, Burgess Hill, Sussex.

WANTED, A HEAD WORKING GAR-

DENER, two others kept.—Must be well up in orchids and all kinds of Store Plants, Vines, Peaches, Cucumbers, Tomatoes, and Melons, and Flower and Kitchen Garden. An abstainer preferred. Character must bear strictest investigation.—Apply, first by letter, stating age and wages, and family, to E. JEX, Dukeries, Springfield, Chelmsford, Essex.

WANTED, a young, energetic, competent

WORKING GARDENER, who really understands his business, and can manage Vines, Greenhouses, and ordinary Heraceous and Florists' flowers. Advertiser an enthusiastic Gardener, so no dodger tolerated.—Rev. H. EVERETT, Rectory, Dorchester, Dorset.

WANTED, a good all-round WORKING

FOREMAN and GROWER. Cut Flowers a specialty for Wealth and other Florists' work. Also a PROPAGATOR. State age, if married, also wages and experience.—W. TROUGHTON, Nurseryman, Preston.

WANTED, A PROPAGATOR and

GROWER of Plants and Cut Flowers, in quantity. Must have good experience of the general Market requirements.—State age, wages, and references, to W. BALCHIN and SONS, 87, Western Road, Brighton.

WANTED, A PROPAGATOR and

GROWER of Grapes, Cucumbers, Tomatoes, Plants, Cut Flowers, &c. State experience, references, and wages to J. FERGUSON, Whitegate Lane Nursery, Blackpool.

WANTED, a good general WORKING

GARDENER.—Abstainer and Churchman. Married, without family. Wife desired who would take lodger.—Address A. B., Mr. Clark, High Street, Dorking.

WANTED, a thoroughly practical MAN,

for Growing Cucumbers and Tomatoes for Market, and to assist in Fruit and Vegetable Gardens. Abstainer preferred.—State age, wages, references, and if married, to JAMES POSSON, jun., Market Gardener, Castle Donington.

WANTED, A PROPAGATOR, well up in

Rhododendrons, Clematis, Roses, Conifers, &c. Good character indispensable.—F. STREET, Heathcote Nurseries, Camberley, Surrey.

WANTED, a thoroughly reliable married

MAN of about 30, as MANAGER in a Shop. Must have a fair knowledge of the Seed Trade, and a thorough knowledge of the Cut Flower and Plant Trade. Character and ability must bear the strictest investigation.—MARSHALL BROS. and CO., Barnham Junction, Bognor.

WANTED, as STOKER, a good, steady man

as above in a Nursery. Constant place. Married man preferred.—Apply to ARTHUR MATTHEWS, Nurseries, Waltham Cross.

WANTED, a well-educated Youth, as an

APPRENTICE to the Nursery and Seed Trade. Small premium required. Also an ASSISTANT for the Shop, with a knowledge of Trees and Plants.—Apply, stating age, wages required, and experience to JAMES WRIGHT, Nurseryman and Seedsman, Leicester.

WANTED, AT ONCE, MARRIED COUPLE.

—Ages about 30, without family, to live in Lodge. Man for Pleasure Ground work; wife attendance to gate, and assist in house when required. Wages, 16s. per week. State the full particulars to HEAD GARDENER, Tillingbourne, Dorking.

WANTED, a young MAN, used to Potting

and General Market Work, Cut Flowers, &c. Wages, 18s.—ROBT. GRAHAM, The Nurseries, Newmarket.

WANT PLACES.

TO GARDENERS, AND OTHERS

SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

B. S. WILLIAMS and SON beg to intimate

that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

THE LIVERPOOL HORTICULTURAL

COMPANY (JOHN COWAN), Limited, The Vineyard and Nurseries, Garden, near Liverpool, wish to recommend any Nobleman or Gentleman who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterpool, near Liverpool.—Full particulars on application to the Company.

To Noblemen and Gentlemen requiring Land Agent

STEWARDS, BAILIFFS, or GARDENERS.

JAMES CARTER and CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. CARTER. Enquiries should be made to 237 and 238, High Holborn, W.C.

Head Gardeners.

JOHN LAING and SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Street-handled Situations, will be supplied with full particulars by applying at Stansfeld Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly

RECOMMEND several first-class HEAD GARDENERS.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH and CO.

beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

AS BUYER for the TRADE (Cut Flowers).—

Advertiser, having had long experience in the above, DESIRES a few more COMMISSIONS daily from India, florists and others unable to attend Covent Garden Market. Good references.—Apply for particulars to L. WIGGINS, Florist, 24, High Road, Clapton, N.E.

GARDENER (HEAD), in a large establish-

ment; age 44, widower, two children, youngest 9 years.—E. S. WILES, who has had charge of the Edgemoor Grove, for the last thirteen years, will be engaged on March 25, and is open to re-engage to any Lady or Gentleman requiring a good all-round Gardener. Excellent characters from present and past employers.—E. S. WILES, Edgemoor, Banbury, Oxon.

GARDENER (HEAD), to any Lady or Gen-

tleman requiring a thorough practical man in every branch of the profession, in and Out, Landscape, &c.—Age 41, married, one child; over twenty years Head in good establishments, seven and a half last place. Highest character from each employer. Would Manage Home Farm, if required.—WM. LEWIS, Hollingbourne, Maidstone.

GARDENER (HEAD); age 33.—J. E.

MCCLAVE, eight years Head Gardener to R. Heywood Jones, Esq., Badsworth Hall, Foulcraff, is open to a re-engagement in a good establishment. Nineteen years' experience in all branches. Testimonials of the highest order.—Catsclough, Winsford, Cheshire.

GARDENER (HEAD).—Age 34. Thorough

practical experience in all parts of garden work. First-class testimonials.—GARDENER, Mr. Joseph Handley, Upper Hackney, near Matlock, Derbyshire.

GARDENER (HEAD).—Age 50, married, no

family; practical Grape Grower, and all kinds of Fruit Growing, Kitchen and Flower Gardening, Pleasure-Grounds, &c.—SMITH, Gardener, Roydon, Essex.

GARDENER (HEAD); age 35, married, two

children.—A Gentleman wishes to recommend his Head Gardener as above. Understands the routine of a good establishment. Excellent personal character. Good reasons for leaving.—E. PAINE, Mr. Somers, Chemist, Mortlake, S.W.

GARDENER (HEAD), where two are kept;

age 27.—J. ANDERSON, Gardener, Charman Dean, Broadwater, Worthing, wishes to recommend his FOREMAN, James Skinner, to any Lady or Gentleman, requiring a good practical man; twelve years' experience.

GARDENER (HEAD); age 35.—R. BULEN,

Esq., Curator of the Royal Botanic Gardens, Glasgow, Scotland, would be pleased to recommend his Foreman, W. Davies, to any Lady or Gentleman requiring a thorough practical Gardener. Has had twenty-two years' experience in some of the largest and best establishments in England and Scotland; is thoroughly conversant with the requirements of a first-class establishment. He has been employed as Foreman at Blenheim Palace Gardens, Brompton Park, and other noted Gardens.—Apply as above, or to W. DAVIES, Sheddon Post Office, Herefordshire.

GARDENER (HEAD).—Mr. WARD, Gardener

to the Right Hon. Lady Emily Foley, Stoke Edith Gardens, Hereford, would be pleased to recommend his Foreman, John Wild, to any Lady or Gentleman requiring the services of a first-class practical man. He has had twenty-two years' experience in all branches of the profession, has lived in first-class establishments, and can be well recommended by previous employer.

—Any one giving Advertiser information

leading to a situation as HEAD GARDENER, where three or four are kept, will receive the above sum. Good experience in all branches. Highest references.—Head of four. Age 30, single.—F. M. Parsons, Pampford, Cambs.

GARDENER (HEAD), where three or four

are kept.—Age 30, single; sixteen years' experience in all branches. Good references.—A. G., Basing Park Gardens, Alton, Hants.

GARDENER (HEAD).—Age 42; married, no

family. Life experience in all branches. Fourteen years as Head. Land and Stock if desired.—F. W., 57, Bridge Street, Witney, Oxon.

GARDENER (HEAD), where three or more are kept.—Age 45, married, no family. Thoroughly experienced with Vines, Stove and Greenhouse Plants, Flower and Kitchen Garden, and all kinds of Fruit. Five years in last situation; fourteen previous.—C. R. SAYKE, Bramley, Guildford.

GARDENER (HEAD).—JAS. BROWN, Gardener to R. Broome White, Esq., Ardurrough, Galloway, N.B., will be pleased to recommend his Foreman as above. Fifteen years' experience in all branches, including Orchids. Two and a half years in above Gardens, previously as Foreman at Colchester, Hortham; Sunderland Hall, Selkirk, and other well-known places. A thoroughly efficient, reliable man.—For further particulars apply as above.

GARDENER (HEAD).—Age 34; married, no family. Has a thorough practical knowledge in the Cultivation of all varieties of Plants, Fruit, and Vegetables, together with the requirements and Management of a well-kept Establishment. Five years' good character as Head Gardener, and is strongly recommended by Mr. J. Willard, Head Gardener, Holly Lodge, Highgate, N., where he was previously employed, and who will answer any enquiries. Please reply as above.

GARDENER (HEAD).—Age 44, married; no family; thoroughly experienced in Nobleman's and Gentlemen's Gardens. Fifteen years in last situation. Highly recommended.—S. L., Shipborne, Tonbridge, Kent.

GARDENER (HEAD), where three or four are kept.—Age 30, married, two in family. Abstainer. Well up in Stove and Greenhouse Plants, Peaches, Vines, Cucumbers, and Melons, also Early and Late Forcing. Food and a half years' character from present situation.—WM. JONES, The Gardens, Maiden Newton, Dorset.

GARDENER (HEAD) where two or three are kept, or good SINGLE-HANDED.—Age 25, married. Ten years' experience in large establishments. Good references.—G. M., 13, Clifton Terrace, Ashville Road, Leytonstone, Essex.

GARDENER (HEAD), in good establishment.—Married, no family. Abstainer. Life experience in Stove and Late Forcing, Fruit, Flowers, Vegetables, Mushrooms, also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' character from present employer and sixteen years' previous references.—J. D., Northmead Lodge, Hampton Wick, Middlesex.

GARDENER (HEAD).—MR. CLARKE, Head Gardener to the Earl of Lonsdale, Lowther Castle, Penrith, can with every confidence recommend his Foreman to any Lady or Gentleman requiring the services of a thorough practical man, experienced in all branches.

GARDENER (HEAD WORKING).—A young Man (married, when asked), of good looks, desires to engage with any Lady or Gentleman requiring a good all-round Gardener. References on application.—S. S. DAVIDSON, The Gardens, Dissington Hall, Newcastle-on-Tyne.

GARDENER (HEAD WORKING).—Abstainer. Excellent references to large establishments as Foreman. Three years in present situation. Leaving for no fault.—E. E., Casino House, Horne Hill, Surrey.

GARDENER (HEAD WORKING), where two or more are kept.—Age 35, married, one child; life experience in all branches, Land and Stock. Good character.—GARDENER, East Ashling, Chichester, Sussex.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 39, married; life experience. Excellent character and testimonials.—GARDENER, Glandman's Villa, Bath Road, near Hounslow.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Jollywinds, near Dorking, wishes to recommend his Foreman, James Pullen, Thoroughly practical in all branches, including Orchids, Hardy Alpines, and Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING), where three or more are kept.—Age 27, married when suited. Three years in similar position. Well experienced in all kinds of Fruit Forcing, Stove and Greenhouse plants, Flower and Kitchen garden. Good testimonials from large establishments.—W. DAVIES, Camp Lane, King's Norton, Birmingham.

GARDENER (HEAD WORKING).—Age 28; twelve years' experience in good establishments. Present place as Foreman. Character will bear investigation.—F. CHAMBERLAIN, Marbury Hall Gardens, Northwich.

GARDENER (HEAD WORKING).—Age 32, married.—Messrs. WILLS & SEAGAR, The Royal Exotic Nursery, South Kensington, S.W., can recommend with every confidence C. Taylor, to any Lady, Nobleman, or Gentleman requiring the services of a thoroughly experienced man, where a large demand of fruit, flowers, and vegetables are required, including House and Table decorations.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Thoroughly experienced in all branches. Wife good Landress. Good character and testimonials.—GARDENER, 26, Ringleade Road, Wood Green, N.

GARDENER (HEAD WORKING).—Age 29; has a thorough knowledge of the profession in all its branches, including Early and Late Forcing. Abstainer. Excellent testimonials and character.—B. G., The Gardens, Coles Park, Buntingford, Herts.

GARDENER (HEAD WORKING).—Age 32, two children; thoroughly experienced in the cultivation of Plants, Grapes, Peaches, Melons, Vegetables, &c. Excellent testimonials for thoroughness, ability, &c.—FIELD, 8, West Grove Villas, Walton-on-Thames.

GARDENER (HEAD WORKING), where Surplus produce is disposed of.—Age 40, three children, youngest 10. Brought up to the profession. Thoroughly experienced in Growing Fruit, Flowers, and Vegetables, Inside and Outside. Five years' character from present employer.—T. E., Redlands Gardens, Emsworth, Hants.

GARDENER (HEAD WORKING).—Age 28; fourteen years' experience. Two years Foreman in present situation. Good references from present and previous employers.—J. SIMPSON, Marton Hall, Marton, R.S.O., Yorks.

GARDENER (HEAD WORKING).—Age 40, married, two boys (9 years and 7); thoroughly understands all branches; Land and Stock, if required. Good character and references.—W. T., Stationer, Market Street, Mayfair, W.

GARDENER (HEAD WORKING).—Trustworthy and thoroughly practical in all departments, including decorating and laying out; single; abstainer; high testimonials from counties preferred.—J. H., 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING), where another or more are kept.—Age 29, married, no family; twelve years' experience in Vines, Flowers, Fruit, Flower and Kitchen Gardening. Excellent character.—J. WHITING, 21, Guildford Street, Hereford.

GARDENER (HEAD WORKING).—Age 30, married; thoroughly experienced in the cultivation of Stove and Greenhouse Plants, Forcing, Fruit, Flower, and Kitchen Gardens, and the requirements of a good establishment. Sixteen years' practical experience. Excellent testimonials. Death cause of leaving.—A. CORDING, Shales, Epsom, Southampt.

GARDENER (HEAD, or otherwise).—Age 43; married, no family. Experienced in Orchids, Stove, and Greenhouse. References.—J. J., Westley, N. W. market.

GARDENER (HEAD or good SINGLE-HANDED).—Age 26, single; ten years' experience inside and out. Orchids, Fruit, &c. Abstainer. Good character.—D. M., BRIDGES, Carrville Hall Gardens, Brentford.

GARDENER (SINGLE-HANDED, or with help).—Middle age, 1 girl (age 13); good character. Seventeen years' previous as Head. Would not object to charge of Cows or Stock.—W. GREEN, 51, Woodscote Place, West Norwood, Surrey.

GARDENER (SINGLE-HANDED), or where one is kept.—Age 28, single; good character.—O. ELMS, 70, South Wallington, Farnham, Hants.

GARDENER (SINGLE-HANDED) or where help is given; single; ten years' practical experience inside and out. First class testimonials from last and previous places; abstainer.—H. A., The Lodge, Boyle Farm, Thames Ditton, Surrey.

GARDENER (SINGLE-HANDED).—Age 25, single. Two years' experience. Good references.—JOSEPH TRUNDELL, Distillery House Gardens, Wandsworth, Surrey.

GARDENER (good SINGLE-HANDED).—Age 24, single; eight years' experience in all branches. Good references.—H. GLADDEN, Scio House, Putney Heath, London, S.W.

GARDENER (good SINGLE-HANDED).—Age 25; married, no family. A Lady wishes to highly recommend the above. Ten years' experience.—GARDENER, The Grove, Hereford.

GARDENER (SINGLE-HANDED).—Age 22; life experience in all branches; well recommended by present and previous employers.—A. S., 17, Nightingale Lane, Balham, S.W.

GARDENER (SINGLE-HANDED, or SECOND).—Age 24, single; abstainer. Understands Growing under Glass, Inside and Out. Good reference and experience.—W. HAYES, 4, Ingleton Street, Brixton, S.W.

GARDENER.—Age 45, married; good all round. Nineteen years' experience as Head. Good references.—W. P., The Gardens, Frenchay Park, near Bristol.

GARDENER (SECOND), Inside, or Inside and Out, where four or five are kept; age 25.—F. HAMBLEN, Gardener, Harewoods, Bletchingley, Surrey, will be pleased to recommend J. TREADWELL as above, who has been with him three years.

GARDENER (SECOND), under a good working Gardener, where three or four are kept.—Age 23.—A. HEWITT, The Gardens, Woolton House, Woolhay, near Newbury, Hants.

GARDENER (SECOND); age 23; ten years' experience in early and late forcing, and Greenhouse Work in general; good character; disengaged February 26.—H. NAPIER, The Gardens, Babworth Hall, Retford.

GARDENER (SECOND), where four or five are kept.—Age 22. Seven years' experience, Inside and Out. Good character.—F. UPTON, 28, Prospect Road, Child's Hill, N.W.

GARDENER (good SECOND); age 25, single. E. W. WINGROVE, The Gardens, Effield, Addlestone, Surrey, can thoroughly recommend a good all-round man as above. Well up in Plants, Forcing Grapes, Fruits, &c. Seven and two and a half years' references.

GARDENER (SECOND), where three or four are kept.—Age 24, single; experienced Inside and Out. Good reference.—W. TURNER, Burntwood Lane, Upper Caterham, Surrey.

GARDENER (SECOND), in a good private establishment, where several are kept.—Age 27; life experience. Good references. Abstainer. Both preferred.—G. BLAKE, The Gardens, Boreham House, Chelmsford.

GARDENER (good SECOND or SINGLE-HANDED), where help is given. Experienced inside and out. Age 31, married, one child, age 4. Highest reference.—GARDENER, Upton Grove, Slough, Bucks.

GARDENER (SECOND), under a good Gardener.—Age 25; two years' good character from present situation.—B. G. GRIFIN, The Gardens, Oaklands, Cosham, Hants.

GARDENER (UNDER).—Age 24; Kitchen Garden and Lawn, and Assist in Houses, if required. Good character from present situation.—H. E., 4, Watts' Lane, Teddington.

GARDENER (UNDER), Inside, or Inside and Out.—Age 21; eight years' experience. Good character.—H. MILES, Singleton, Chichester.

GARDENER (UNDER), Inside and Out.—RICHARD SHARPE, Low Hill Gardens, Easbury, Wolverhampton, thoroughly recommends Harry Groves, who has lived under him, as a strong active young man.

GARDENER (UNDER), or THIRD or FOURTH in a good place.—Age 18; good knowledge of Inside and Outside work, with excellent character.—S. P., Hascombe, Godalming, Surrey.

GARDENER (UNDER), Inside and Out.—Age 23; four years' good character from present situation.—B. BARTON, 19, Queen Street, Crook's Place, Norwich.

GARDENER (UNDER).—Three and three-quarters years' good character.—F. TURNER, Mustard, near Gravesend, Kent.

GARDENER (UNDER), where two or three are kept.—Age 17; good character.—A. W., Green Hill, Down, Farnborough, R.S.O., Kent.

GARDENER (UNDER or SINGLE-HANDED).—Married. No family; no children; one or two cows. Six years' character.—HAWKINS, Rowell, nr. Chelmsford, Essex. (Disengaged now.)

GARDENER, Inside or Out.—Age 20. Seven years' previous knowledge of both. Two years' good character.—C. CARBAR, Water Lane, Purfleet, Essex.

GARDENER (KITCHEN).—Age 42; Single. Well understands Cows and Poultry; steady, honest, and sober. 14 years' good reference.—A. B., Stroud Cottage, School Lane, Sunbury, Middlesex.

To Nurserymen.
PROPAGATOR (ASSISTANT), Inside.—Age 21; good practical experience in Roses, Rhododendrons, Clematis and Camellias. First class references.—J. WATERS, Hollabys Nurseries, Groombridge, Tunbridge Wells.

To Nurserymen.
PROPAGATOR or GROWER.—Age 22. Well up in Stove and Greenhouse plants, Ferns, and Soft-wooded stuff, and Out Flowers for Market. Eight years in leading Establishments. First-class references.—L. W. P., *Gardener's Chronicle*, 10, Wellington St., Strand, W.C.

To Nurserymen, Seedsmen, and Florists.
MANAGER or FOREMAN.—Sixteen years' practical experience in Growing Cucumbers, Tomatoes, Grape Vines and Fruit under Glass; Fine-foliated, Hard and Soft-wooded Plants, Out Flowers for Market, and General Nursery Stock.—W. FERNIE, Strathallan, Auchterarder, Perthshire.

MANAGER (WORKING).—Age 40, married; life experience in Growing large quantities of Fruit, Flowers, and Vegetables for Sale. Thoroughly versed in Management of Business. Five years in present position as Manager.—T. WILES, Redland's Nursery, Emsworth, Hants.

MANAGER, PROPAGATOR and GROWER of Roses, Clematis, Rhododendrons, Conifers, Hard and Softwooded stuff, Flowering and Bedding Plants, also Cut Flowers and Garden stuff for first-class nursery.—C. MILLER, Heatheridge Nurseries, Camberley, Surrey.

PROPAGATOR (SOFT-WOODEN), and FERN GROWER, also Roses and other Market Stuff.—Age 34. Nine years' experience; good character.—F. S., 41, Wellington Street, Strand, W.C.

To Nurserymen.
PROPAGATOR.—Age 23; nine years' experience in stove and soft-wooded stuff for market. Good references.—W. E., 41, Wellington Street, Strand, W.C.

PROPAGATOR and GROWER in a Market Nursery.—Age 25. Ten years' practical experience. Good references.—X., Mr. H. Day, High Street, Haslemere.

FOREMAN.—Age 25; thirteen years in good Establishments. Good experience in Orchids, Stove and Greenhouse Plants; also Fruits. Abstainer.—W. D., 3, Hursthamore Terrace, Bexley, Kent.

FOREMAN (INSIDE, or GENERAL).—Age 28; thirteen years' experience. Good Grower of Plants, Fruit, and Ornamentals, and other Market Stuff. Age 34. Two years Foreman in Nobleman's place. Abstainer.—FOREMAN, 28, Cadogan Street, Cadogan Square, Chelsea, S.W.

To Nurserymen.
FOREMAN, of Parcel Post Department, or charge of Nursery.—Age 27, single. Well up in various branches.—T. R., Mr. S. Rogers, Nurseryman, Whitlesses, near Peterboro.

To Florists.

FOREMAN and PROPAGATOR.—Age 30, married. London and Provincial experience. Good references.—Y. Z., 154, London Road, East Grinstead, Sussex.

FOREMAN, or JOURNEYMAN (First), in a good establishment.—Age 24; eight years' practical experience. Good character from present and previous employers.—A. G., Dunkirk, Eversham, Kent.

FOREMAN, or PROPAGATOR and GROWER.—Age 26; twelve years' experience in all branches. Wreaths, Bouquets, &c. Book-keeping. Good references.—G. F., 24, Kingsbury Road, Brighton.

To Florists.

FOREMAN, in a good retail nursery.—Practical and experienced; six years' character.—H., Spring Cottage, Wickham Bishops, Witham, Essex.

FOREMAN (INSIDE, or GENERAL in good establishment.—Age 27.—Mr. GRAY can, with every confidence, recommend his Foreman, W. Duffin, as above. Twelve years good practical experience.—Bodogran Gardens, R.S.O., Anglesey, N. Wales.

FOREMAN, age 25, good Plant and Fruit Grower, also Decorator. Ten years' first-class experience. Good character and testimonials.—YOUNDEN, Writtle, Chelmsford.

FOREMAN, in a good establishment.—Age 27; twelve years' experience in all branches. Early two years in present place as Foreman. Good references from present and previous employers.—C. W., The Gardens, Brooklands, Weybridge, Surrey.

FOREMAN, or GROWER.—Age 27; ten years' experience in Tomatoes, Plants, Forcing, Wreaths, &c. Good references.—A. G., 3, Addison Terrace, Chiswick Road, Chiswick, W.

FOREMAN, in the Houses.—Age 26; seven years' experience; four years in present place as Second. Good character.—C. CLARKE, Barrell's Park, Henley-in-Arden.

FOREMAN, in the Houses, in a good Establishment.—Age 25; two years as Foreman at Catton Park. Can be well recommended.—T. NOLLEY, Stoke Holy Cross, Norwich.

FOREMAN (LANDSCAPE).—ALFRED WILSHIER, Superintendent, Whitworth Park, Manchester, can with confidence recommend his Foreman, John Reece, age 30, as a thoroughly practical and reliable man; leaving through completion of work.—J. REECE, Whitworth Park, Manchester.

FOREMAN, in the Houses, or Inside and Out.—Age 26. Thirteen years' experience in large Gardens. Excellent testimonials. Bothy preferred.—A. NICHOLSON, 3, Sudley Road, Aigburth, Liverpool.

FOREMAN.—Age 26; eleven years' experience in all branches. Good references.—W. DODWELL, Babraham Hall, Cambridge.

FOREMAN (INSIDE, or GENERAL).—J. BATLEY will be pleased to recommend James Marwood as above. Eleven years' experience. Three years in present place.—The Gardens, Westworth Castle, Barnsley.

FOREMAN, or PROPAGATOR and GROWER.—Accustomed to Soft-wooded Stuff, Palms, Ferns, Cucumbers, Tomatoes, and Cut Flowers, Greenhouses, &c. Seven years' Foreman in good Market Nursery. Southern Counties preferred.—A. FLOYD, 5A, Mallet Road, Hither Green, Lewisham, S.E.

To Nurserymen and Market Growers.

FOREMAN or MANAGER.—Age 30, married; thoroughly practical; well up in all branches of the profession. Excellent character from present and previous employer.—HORTUS, 61, Coyer Cope Road, Beckenham, Kent.

FOREMAN.—Age 28; well up in Fruit, Stove and Greenhouse work. Two years' good references as Foreman.—C. Mrs. Gould, Fernhill Heath, Worcester.

FOREMAN.—Age 24. **Mr. DILLY, Gardener**, Endcliffe Hall, Sheffield, will be pleased to recommend B. Mason as above. Nine years' experience in good establishments. Bothy preferred.

FOREMAN.—Age 35; married; thoroughly experienced in growing large quantities of Grapes, Tomatoes, Melons, Cucumbers, Strawberries, Beans, Asparagus, &c. Seven years' excellent character as Foreman in a large market place.—E. C. 32, Market Street, Worthing, Sussex.

FOREMAN, in the Houses.—Age 28; two years in present place as First Journeyman and Decorator. Abstainer.—Mr. METCALFE, Swinton Park Gardens, Masham, Yorkshire, will have great pleasure in recommending Messrs. Beech, a most experienced, painstaking, and industrious young man. Six years in previous situation.

JOURNEYMAN, Outside, or Inside and Out.—Age 31; over four years' experience. Good character. Total abstainer.—J. 38, North Cross Road, East Dulwich, S.E.

JOURNEYMAN, in the Houses, under a Foreman, or Inside and Out.—Age 20; six years' experience.—G. DOWNS, The Gardens, Burkhams House, Alton, Hants.

JOURNEYMAN, in the Houses.—Age 20; seven years' experience, Inside. Good character. Bothy preferred.—F. CHALKLEY, The Gardens, Wool Hall Park, Hertford.

JOURNEYMAN (First or Second), in the Houses.—Age 22. Eight years' experience. Can be well recommended.—W. B., 9, Hampton Street, Walworth Road, S.E.

JOURNEYMAN, Inside, or Inside and Out.—Age 19; seven years' experience; good character.—H. WARREN, 3 Plantation Cottage, Hextable, Kent.

JOURNEYMAN (SECOND) Inside or Out, in a good establishment.—Age 19; four years' experience. Can be well recommended.—A. HINGHILL, The Gardens, St. Vincent's, Grantham.

JOURNEYMAN, or IMPROVER, in good Establishment.—Age 19; five and a half years in present situation. Can have good character from present Gardener.—J. SHEPPARD, Sotterley, Wangford, Suffolk.

JOURNEYMAN (Inside, under a Foreman); age 20.—J. THIRGRO, Milton Gardens, Peterborough, can highly recommend John Samworth, who has been under him four years. Bothy preferred.

JOURNEYMAN (SECOND), in the Houses, under a good Foreman; age 19.—T. AMON, Head Gardener, Roehenth, Chisle, Lewes, can thoroughly recommend J. Parker to any Gardener requiring a steady willing young man.

JOURNEYMAN (First or Second), under a Foreman, in good Gardens.—H. GILLMAN, Gardeners, North Clay Place, Foot's Cray, Kent, can highly recommend E. Morris (age 22), to any Gardener wanting a willing hand.

JOURNEYMAN (First), under a Foreman.—Age 24; twelve years' experience Inside and Out with Fruit and Flowers.—F. SPILLARD, Earlbam, Chichester, Sussex.

JOURNEYMAN (INSIDE and OUT).—Head gardener wishes to recommend a young man as above. Excellent character.—G. WOOLYAR, Palace Gardens, Beaulieu, Southampton.

JOURNEYMAN (SECOND).—Age 22.—Mr. F. C. JENNINGS can recommend a young man as above. Two years in last place. R. HILL, The Gardens, Roselands, Woolston, Southampton.

JOURNEYMAN (First), in the Houses.—Age 27; two years' good character in last place at Leigh Park, Hants.—G. SPRECKLEY, Tangle, Worplesdon, Guildford, Surrey.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; in a private establishment preferred. Good references.—S. G. SMALLIDGE, 69, West Street, East Grinstead, Sussex.

JOURNEYMAN (First), in the Houses.—English. Age 22; nine years' experience, Inside and Out. Two years with present employer, the Earl of Listowel; seven years in previous. Good character.—B. MOTHERSOLE, Conamore, Mallow, co. Cork.

JOURNEYMAN (First), in the Houses, in a good Establishment.—Age 24; ten years' experience. Can be well recommended by present and previous employers.—W. PEARCE, London Road, Asot, Berks.

JOURNEYMAN, in Houses.—Age 20; six years' experience. Good character from late situations.—A. FOWLER, Brookhurst View, Gasport.

JOURNEYMAN, in a good Establishment.—Age 22; has had seven years' experience in two good places. Strong, active, and willing, with good character. C. WEST, Keowood Park Gardens, Sharrow, Sheffield.

IMPROVER, under a good Gardener, Inside and Out.—Age 16; bothy preferred. Strong, active, willing. Three years' good character.—Apply, CHARLES LAWRENCE, Stone House Farm, Brompton, near Reading.

IMPROVER.—Wanted an opening by a Young Man (age 20); strong, active, willing, well educated; has had two years' experience in Glasshouse and Outdoor Work. Can pay Premium.—L. J. WACKILL, 35, Portland Street, Leamington Spa.

IMPROVER, in a Gentleman's Garden by a respectable youth.—Age 19; some experience inside and out. Bothy preferred.—J. J. JOHNSON, Shipton, Thorp Market, Wighton.

IMPROVER (Inside, or Inside and Out).—Mr. H. DROVER can highly recommend a young Man as above (age 19), who has had four years' experience with him, chiefly Inside.—W. ROWSON, 31, West Street, Ventnor, Isle of Wight.

IMPROVER.—Situation wanted by a Youth, age 17. Has been in gardens one year, and has some knowledge of Glass.—H. BAY, Elvia Cottage, Turpin Road, Dunstable.

IMPROVER, Inside, or Inside and Out.—Age 18. Good character.—F. D., Rev. J. P. Davis, Street Rectory, Hassocks.

IMPROVER, Inside and Out.—Age 19. Desires situation under a good gardener. Eighteen months' good character.—FENWICK IRWIN, Harton Colliery, South Shields.

IMPROVER in the Houses.—Age 19; three years' and a half experience Inside and Out. Bothy preferred. Good character.—F. SAUNDERS, Worton House, Steeple Aston, Oxon.

IMPROVER, in or out of Houses.—Age 20; anxious to get on. Good character.—A. R., 8, Rosberry Terrace, West Ewell, Surrey.

TO FRUIT FARMERS and GROWERS.—

Appointment wanted as MANAGER, at Home or Abroad. Advertiser having thorough experience in Fruit Culture, and Management of Men. Age 32, married.—A. A. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS.—A Youth wishes to learn Gardening, especially Orchid growing. Small premium or time.—A. J. W., 18, Gloucester Road, South Kensington, London, W.

TO GARDENERS, &c.—Situation wanted, in a Gentleman's Garden preferred. Good references. Age 20. Abstainer.—DIX, The Gardens, Normansfield, Hampton Wick, Kingston-on-Thames.

TO GARDENERS.—G. SIMPSON, Esq., can recommend W. Cooper (age 18), who has been in his gardens five years, as JOURNEYMAN in the Houses. Bothy preferred.—W. COOPER, The Gardens, Wray Park, Reigate, Surrey.

TO GARDENERS.—A Youth (age 16) seeks employment in a Gentleman's Garden, Inside and Out. One year's experience under his father.—E. F., The Cottage, Iping, Midhurst.

TO GARDENERS, &c.—Wanted, a place in a Gentleman's Garden for a lad, age 16. Six months in a nursery. Bothy preferred.—J. HOWARD, Down Ampney, Cricklade, Wilts.

TO GARDENERS.—Situation wanted under Glass by a young man, age 22. Seven years' experience, principally outdoor. 25 premium given for a suitable place.—W. KEYWOOD, The Lodge, St. Mary Hall, Brighton.

TO GARDENERS.—Mr. MILSON, Claydon Gardens, Winslow, Bucks, can recommend a strong, active youth (age 17), to any Gardener requiring the same. One year's experience.

TO GARDENERS.—A young man (age 21 years) seeks situation as JOURNEYMAN in the Houses. Bothy preferred. Good character from present place, having been six years. Principally employed in the house.—F. BUSSON, Quar Wood Gardens, Stow-on-the-Wald, Glouc.

TO GARDENERS and NURSERYMEN.—A Christian youth, age 18, as IMPROVER in garden or nursery. Four years' all-round experience. Good characters.—J. RENDALL, Hawkwell Place, Fintbury, Kent.

TO NURSERYMEN.—Situation wanted, by a young Man, age 21, Inside; nine years' experience. Two years in present situation.—W. UNSTED, Windmill Hill, near Hailsham, Sussex.

TO NURSERYMEN.—A young Man (age 20) seeks a situation in a Market or Retail Nursery. Has been used to Growing Soft-wooded stuff; also Cut Bloom for Market. Good character. State wages.—A. Z., 2, Maid Cottages, Wolsey Road, Hampton Hill, Middlesex.

TO NURSERYMEN.—A Young Man (age 21) wants a situation in a Market Nursery; seven years' experience in Nursery work. Good references.—L. W., Sussex Cottage, Cobham, Surrey.

TO NURSERYMEN.—Engagement wanted, as WORKING MANAGER or WORKING FARMER; thoroughly understands Outdoor Work, also general knowledge of all branches of the Trade, or could travel. Twenty years' experience. Age 33.—G. B., 41, Wellington Street, Strand, W.C.

TO MARKET NURSERYMEN.—Situation wanted, by a young man (age 26), used to general routine of Market Nursery. Can take charge of Houses. Good character from present employer.—JOSEPH SKELTON, Stoneleigh, Sower's Road, Reigate.

To Nurserymen, Gentlemen Gardeners, &c. PAINTER and GLAZIER will be glad to hear of Work. Good reference. Job not objected to.—G. M., Baker, 10, Secretin Road, Camberwell, S.E.

SHOPMAN (Age 22).—Seven years' experience in Seeds, Plants, and Fruit; well up in decorating and window dressing.—H. H., 29, Third Avenue, London, W.

SEED TRADE.—Experienced BOOK-KEEPER, CORRESPONDENT, and GENERAL CLEVER, who could attend Markets, wants a berth. Excellent references. Moderate salary. Country preferred.—SHORTLAND, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

CORRESPONDING CLERK.—JOHN LAING & SONS will be pleased to recommend H. J. Pettit, to any good House in the Trade, requiring efficient service in this capacity, or that of BOOK-KEEPER, combined with an excellent knowledge of Plants and the general requirements of the Trade.—The Nurseries, Forest Hill, S.E.

HOLLOWAY'S PILLS.—Weakness and Debility.—Unless the blood be kept in a pure state, the constitution must be weakened, and disease supervene. These capsules, or Pills, possess the power of neutralizing and removing all contaminations of the blood and system generally. They quietly but certainly overcome all obstructions tending to produce ill-health, and institute regular actions in organs that are faulty from derangement or debility. The dyspeptic, weak and nervous, may rely on these Pills as their best friends and comforters. They improve the appetite, and thoroughly invigorate the digestive apparatus. Holloway's Pills have long been known to be the surest preventives of liver complaints, dreadful dropsies, spasms, colic, constipation, and many other diseases always hovering round the feeble and infirm.

INTERNATIONAL HORTICULTURAL EXHIBITION. LONDON, 1892.

THE great INTERNATIONAL HORTICULTURAL EXHIBITION, to be held this year at EARL'S COURT, which has been secured from the Metropolitan District Railway Co. for this purpose, will be OPENED on MAY 7. It will display the state of progress of Horticultural science, taste, resources, implements, and plant culture at the present date; and, in addition, the various departments and exhibits will serve as models, not only for the possessors and managers of estates, but for each and every one who loves a garden. An abounding profusion of plants and flowers from all parts of the world will display their beauties of form and colour, grouped for effect in a garden charmingly laid out, both under cover and in the open, in one of the few available spaces in London. There will also be Music of the highest class, the buildings and grounds will be brilliantly lighted by electricity, and everything will be done to ensure that this Exhibition—which appeals so much to the great English love of Gardening—shall be a stupendous success.

Chairman of the Executive Committee.

HENRY ERNEST MILNER, F.L.S., Assoc.M.Inst.C.E.

Honorary Secretary.

G. A. LOVEDAY, B.A.

PRELIMINARY PROGRAMME.

FLOWER SHOWS:—

MAY 7.—GROUPS OF PLANTS (FLOWERING and FOLIAGE),
FROM NURSERYMEN. Medals.

MAY 27 and 28.—GREAT SUMMER FLOWER SHOW. Cash Prizes.

JUNE 6, 7, and 8.—MARKET GROWERS' SHOW. Medals.

JULY 5 and 6.—ROSES, TABLE DECORATIONS, &c. Cash Prizes.
AUGUST 1, 2, and 3.—MARKET GROWERS' and COTTAGERS' SHOW
(Carnations, &c.). Cash Prizes and Medals.

SEPTEMBER 9 and 10.—AUTUMN FLOWERS. Cash Prizes.

OCTOBER —. Two Shows,—(1), HARDY FRUITS. (2), HARDY ORNAMENTAL TREES and SHRUBS.

In addition, there will be Permanent Displays of Groups of Flowering Plants and of Fruits throughout the Season, arranged for effect. Special Cash Prizes will be distributed Monthly in Competition.

SCHEDULE.

GROUP A.

Class 1.—Plant Houses, Conservatories, Show Houses, Winter Gardens, Hot Houses, Vineries, Peach Houses, Forcing Houses, Stoves, Fruit Rooms, Frames, Pits. 1 Gold, 2 Silver, 2 Bronze Medals. Certificates.

Class 2.—Systems of Patent Glazing and Ventilation. Certificates.

Class 3.—Systems of Heating, including Hot-Water Boilers. 1 Gold, 1 Silver, 1 Bronze Medal.

GROUP B.

Class 4.—Lawn Mowers (Hand and Horse Machines). 1 Gold, 1 Silver, 1 Bronze Medal.

Class 5.—Garden Rollers. Silver Medal.

Class 6.—Water Barrows, Syringes, Pumps, Spray Distributors. 1 Gold, 2 Silver, 1 Bronze Medal. Certificates.

Class 7.—Garden Tools and Cutlery. Silver Medal. Certificates.

Class 8.—Thermometers, Barometers. Silver Medal. Certificates.

Class 9.—Rain and Snow Gauges. Silver Medal. Certificates.

GROUP C.

Class 10.—Garden Tents. Certificates.

Class 11.—Garden Seats, Band Stands. Silver Medal. Certificates.

Class 12.—Flower Stands and Baskets for Conservatory Decoration. Silver Medal. Certificates.

Class 13.—Rustic Summer Houses and Seats. 1 Silver, 1 Bronze Medal.

Class 14.—Ice Houses, and artificial methods of maintaining equable temperature. 1 Silver, 1 Bronze Medal.

GROUP D.

Class 15.—Ornamental Iron Work for Conservatories and Hot Houses. Silver Medal. Certificates.

Class 16.—Ornamental Wire Work, Trellises, Arches, Apiaries, Aviaries, Borders. 1 Gold, 1 Silver, 1 Bronze Medal.

Class 17.—Fences, Gates, Tree Guards. 1 Gold, 1 Silver, 1 Bronze Medal.

GROUP E.

Class 18.—Shadings (various kinds). Certificates.

Class 19.—Paints and Wood-preserving Materials. Silver Medal and Certificates.

Class 20.—Labels, Sticks, Bamboo Canes. Certificates.

Class 21.—Cocoa Fibres, Refuse Manures, and Silver Sand. Certificates.

GROUP F.

Class 22.—Ropes, Lies and Twines. Certificates.

Class 23.—Russia Mats, Archangel, Taganrog and Petersburg. Certificates.

Class 24.—Kaffin Fibre. Certificates.

Class 25.—Pumigating Materials and Processes. 1 Bronze Medal and Certificates.

Class 26.—Insecticides and Weed Killers. 1 Bronze Medal and Certificates.

Class 27.—Horticultural Glass. 1 Silver Medal and Certificates.

GROUP G.

Class 28.—Orchid and other Plants. Certificates.

Class 29.—Fuel for general Horticultural Purposes. (Comparative value and enduring powers of various materials—Coal, Coke, Gas, Oil, &c.) Silver Medal.

Class 30.—Fertilizers and Artificial Manures.

GROUP H.

Class 31.—Ferneries, portable and permanent. 1 Silver, 1 Bronze Medal.

Class 32.—Rock Work. Built in natural stone. Do., do., artificial material. 1 Gold, 1 Silver Medal.

GROUP I.

Class 33.—Garden Pottery. 1 Silver, 1 Bronze Medal. Certificates.

Class 34.—Statuary, Fountains, Vases, Edgings, &c. 1 Gold, 1 Silver, 1 Bronze Medal.

GROUP J.

Class 35.—Tree-transplanting Machines. 1 Gold, 1 Silver Medal.

Class 36.—Tree Tubs. 1 Silver Medal. Certificates.

GROUP K.

Class 37.—New or Patent Inventions amongst Garden Requisites. Silver Medal. Certificates.

GROUP L.

Class 38.—Miscellaneous Decorative Requisites, such as Bouquet-holders, Papers, Tubes, &c. 2 Silver Medals and Certificates.

GROUP M.

Class 39.—Machinery for Seed Cleaning and Saving. Silver Medal.

Class 40.—Machinery for Extracting Essential Oils. Silver Medal.

Class 41.—Perfumes. Gold and Silver Medal.

Class 42.—Fruit Evaporators. Silver Medal.

Class 43.—Pumps, Methods of Irrigation. Silver Medal.

N.B.—Practical Trials will be made in the various classes, where necessary, in order to arrive at satisfactory decisions.

GROUP N.

Class 44.—Standards exhibiting Models of Produce from Seeds provided by Exhibitor. 1 Gold, 1 Silver, 1 Bronze Medal. Certificates.

Class 45.—Collections of Flower and Vegetable Seeds. Silver Medal.

Class 46.—Do., Agricultural Seeds. Silver Medal.

Class 47.—Do., Grass Seeds (mixtures) for Permanent Pastures and Lawns, according to soil. Silver Medal.

Class 48.—Flower Seeds—12 most popular sorts. Silver Medal.

Class 49.—Vegetable Seeds—12 most popular sorts. Silver Medal.

Class 50.—Grass Seeds—6 sorts, distinct. Bronze Medal.

Class 51.—Agricultural Seeds—6 sorts, distinct. Bronze Medal.

GROUP O.

Class 52.—Design for the Laying-out of a Typical Estate of 100 Acres, bounded by Roads, 5 miles from Town in Midlands, with Ground sloping gradually towards South. Gold and Silver Medal.

Class 53.—Design for Improvements of Grounds to Private Residences. Silver Medal.

Class 54.—Photographs of Trees and Shrubs. Silver Medal.

Class 55.—Photographs of Garden Scenes. Silver Medal.

GROUP P.

Class 56.—Essays on the Progress of Gardening since 1856 (the date of the last International Horticultural Exhibition). Silver Medal.

Class 57.—Essays on Practical Education of Gardeners, embracing Scheme for a School of Horticulture. Silver Medal.

Class 58.—Essays on Practical Education of Foresters, embracing Scheme for School of Forestry. Silver Medal.

GROUP Q.

Methods of determining the Nature and Fertility of Soils, with Tabulated Statements of Ingredients required to Improve under different Conditions. Silver Medal.

Methods of determining Germinating Powers of Seeds. Silver Medal.

Method of using the Electric Light in the Growth of Plants. Gold Medal.

The GARDENERS' CHRONICLE

ESTABLISHED 1841.

No. 270. Vol. XI. {THIRD SERIES}

SATURDAY, FEBRUARY 27, 1892.

No. 2670.

{Regt. as a Newspaper.} {PRICE 3d.} {WITH SUPPLEMENT.} {POST-FREE, 2½d.}

CONTENTS.

Acresage of nursery grounds ...	274
Amateur's garden, the ...	268
Foli-henry and favouring ...	278
Apple crop ...	278
Books ...	275
Flanzien ...	275
Schillerden ...	274
The Book of Choice Ferns ...	275
The Formal Garden in England ...	275
Calceolarias, hardiness of herbaceous ...	274
Celery, varieties of ...	278
Ceylon ...	275
Chrysanthemums, foreign opinion of some new ...	274
Garden Garden Liboat ...	275
Crosses and Crossing plants ...	278
Cymbidium grandiflorum ...	267
Disease in Cattleyas ...	276
Feeding London ...	274
Frost in Norfolk ...	278
Fuels and stoking ...	278
Gardener's training ...	278
Heating by hot air ...	277
Hyaehin Monsiear Kreuge ...	278
International fruit show ...	278
Isles of Scilly flower trade, the ...	278
Law note ...	280
Sale of "Weed-killers" by seedsmen ...	280
Lectures on horticulture ...	278
Manure, the depreciation of ...	274
Metropolitan Public Gardens Association ...	273
Mushroom culture ...	274
New Guinea ...	278
New or noteworthy plant ...	266
Dendrobium O'Brienianum ...	266

ILLUSTRATIONS.

Cymbidium grandiflorum ...	267
Odonoglossum baskets ...	277
Rubus phoenicolasium ...	269
Tecoma capensis ...	275

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

MRS. CATER desires to THANK THE SUBSCRIBERS to the GARDENERS' ORPHAN FUND for their kind ELECTION of Mr. WASELEY'S YOUNGEST SON.—14, Douglas Street, Derby.

W. D. BUNDAY, of Covent Garden Market, & 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPES, &c. Good references.

CUT FLOWERS.—ARTHUR L. BULLEN, Wholesale Flower Salesman and Grower, 23, Exeter St., Covent Garden, 271 and 272, Flower Market, Covent Garden, W.C., and Highfield Nursery, Frome Common, Kent. CONSIGNMENTS of CHOICE FLOWERS SOLICITED.

Seed Potatoes. H. AND F. SHARPE invite the attention of the Seed Trade to their fine selected stocks of SEED POTATOS, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other growers. Seed Growing Establishment, Wisbech.

CHRYSANTHEMUMS.—CARTERS' ILLUSTRATED CATALOGUE of the FINEST COLLECTION in the COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—The Queen's Seedsman, 227 and 228, High Holborn, London, W.C.

TO ORCHID LOVERS.—"LE JOURNAL DES ORCHIDÉES," published in French, on the 1st and 15th of each month, 16 pages of text, by JUSTICE LINDEN, and 50 Selected Collaborators, furnishes the best information as to Culture.

Subscription, 8s. per annum, post-free, to be sent to the Publisher, JUSTICE LINDEN, 100, Rue Belliard, Brussels. Specimen Number sent Gratis on demand.

MESSRS. SQUELCHI AND WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

Fern Spores! Fern Spores!! B. S. WILLIAMS and SON beg to offer FERN SPORES saved from their large and unique Collection of Greenhouse Varieties, mixed, per packet, 1s. Stove Varieties, mixed, per packet, 1s. Greenhouse and Stove Varieties, mixed, per packet, 1s. Victoria and Paradise Nurseries, Upper Holloway, London, N.

Seeds.—Carriage Paid.—Seeds. DICKSON and ROBINSON'S DESCRIPTIVE CATALOGUE for 1892. Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOS; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application. COLLECTIONS of VEGETABLE SEEDS, from 5s. to 81s. COLLECTIONS of FLOWER SEEDS, from 2s. 6d. to 84s. Seed Warehouse, 12, Old Millgate, Manchester.

BARR'S SEEDS, BULBS and PLANTS. VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION. FLOWER SEEDS.—Upwards of 5000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION. BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigrisias, &c., for Spring Planting. Lists on application. PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. Lists FREE ON APPLICATION. BARR and SON, 12, King Street, Covent Garden, London.

GOOD HARDY PERENNIALS.—A large quantity of strong flowering kinds of Sunflowers in variety, Trichoma Uvaria, Pyrethrum uliginosum, Marguerites, and many other good things, 4s. per doz.; extra large, 6s. and 9s. per doz. Per 100 on application. R. MARIES, Florist, Lytham, Lancashire.

WANTED, small PELARGONIUMS, for growing on. Price per 100 to—W. VAUSE, Nurseryman, Leamington Spa.

WANTED, EDWARDS' "BOTANICAL REGISTER," 1827, 1836, 1837, or a Set.—Price and particulars to E. F. WESLEY, 28, Essex Street, Strand, W.C.

WANTED, 500 young MUSSEL STOCKS, for Budding this season.—Apply, stating price, to TODDINGTON ORCHARD COMPANY, Winchcomb.

WANTED, STAPELIA GIGANTEA.—Plants or Cuttings in any quantity, large or small. Quantity and price to CONTINENTAL, Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, good BOX-EDGING. Particulars and price to—WM. PAUL and SON, Nurserymen, Waltham Cross.

WANTED, CARNATIONS, good Border varieties. Offers of surplus Stocks, stating varieties and prices, to—HERD BROS., Victoria and Castle Nurseries, Penrith.

SUTTON'S FLOWERS ARE GROWN FROM SEED.

Full descriptions, with numerous illustrations and Price List of myriads of 1,500 varieties. See SUTTON'S "AMATEUR'S GUIDE in HORTICULTURE for 1892." Price 1s., post-free; gratis to Customers ordering goods value 20s.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

STANDISH'S RHODODENDRONS.—Choicest varieties, well-budded plants, 24s., 30s., and 42s. per dozen. Well-rooted and Bushy PONTICUMS, of all sizes, Price per 100 or 1000 on application. Royal Nurseries, Ascot.

Raspberry Canes and Currant Trees. BAUMFORTH SEEDLING, 40s. per 1000; SEMPER FIDELIS, 30s. per 1000. Sample 100 of either sort, 6s. RED CURRANT TREES, 8s. per 100. Cash with order. Free on rail. Apply—R. H. BATH, Wisbech.

DOBIE'S CATALOGUE and COMPETITORS' GUIDE for 1892.—25th Annual Edition, 160 pages, illustrated. Described by one of the greatest authorities in England as "the most useful list published in the trade." Now ready, Gratis to all who apply for it and enclose 3d. to cover postage.—DOBIE and CO., Seed Growers and Florists, Rothsay, Scotland.

LARGE QUANTITIES of strong THORNS very cheap: 2-year, 2s. 6d. per 100; 3 and 4-year, 2s. 6d. per 100. Stout LINES, well-grown. POPLARS, 3 to 4 feet, and 4 to 5 feet. LAURELS, very cheap. Ground must be cleared for Building. WILLIAM TRESEDER, Nurseryman, Cardiff.

150,000.—Special Offer of Kentias. WICKETON has a large quantity of the above to offer, very reasonable, at from 47 10s. per 1000. Kentias, well-established, 410 per 1000; in 60's, well-established, at £30 per 1000. W. WICKETON, Putney, S.W.

Fruit Trees a Specialty. APPLES, PEARS, PLUMS, STRAWBERRIES, and all sorts of Small and Hardy Fruits grown in immense quantities. The best of the Old and New Varieties either to Grow for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most complete issued, 6d. Ordinary LIST free. JOHN WATKINS, Pomona Farm Nurseries, Withington, Hereford.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cuneatum, Aralias, Solanums, Cyperus, and Primulas, all in 48's, 6s. per doz. Pains and Ficus, 1s. each. Large Fern, 10 best sorts, 5s. 6d. per doz., in 48's. Cinerarias, Spiraeas, and Cyclamens, full bloom, 9s. per dozen, in 48's. Adiantum cuneatum and P. tremula, extra size, in 24-inch pots, 16s. per 100. Packed free, Cash with Order. J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

VEITCH'S BRUSSELS SPROUTS.—VEITCH'S EXHIBITION.—This grand variety is unequalled for exhibition purposes, as it is the best for War. Per packet, 1s. 6d. JAMES VEITCH and SONS, Royal Exotic Nursery, Chelsea, S.W.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty, War Office, and the Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers. King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nurserymen, Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE L. 10, Victoria Road, Putney, W.M. THOMSON and SONS, Clovenfords, Galashiels, N.E.

SALES BY AUCTION.

Wednesday and Saturday Next.

1500 Choice-named Standard, Half-Standard, Dwarf and Climbing-ROSES, including many of the leading sorts from one of the best known English growers; 250 Standard, Pyramid, and Dwarf-trained FRUIT TREES; 500 CONIFERS, EVERGREENS, and LAURELS; a large collection of BORDER PLANTS, LILiums, SPIRÆA, TUBEROSES, GLADIOLI, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY and SATURDAY NEXT, March 2 and 5, at half-past 12 o'clock precisely. On view morning of Sale, and Catalogues had.

Monday Next—Hardy Plants and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, 67 and 68, Chesapeake, London, E.C., on MONDAY NEXT, February 29, at half-past 11 o'clock, many thousands of HARDY PERENNIALS, including to name: GLADIOLI, Pearl TUBEROSES, NARCISSUS, a Collection of CARNATIONS, including a number of Continental varieties; HOLLYHOCKS, FLETCHER'S, PHLOXES, PEONIES, BEGONIAS, CYPRIPEDIUMS, PECTEN-ELLA, Imported LIMES, a fine Collection of Home-grown LILIES, BESSERA ELEGANS, TROPEOLUM TUBEROSUM, Choice Hardy BULBS, CACTUS, POMPON, and DAHLIAS, Hardy ANEMONES, and a quantity of beautiful Hardy CLIMBERS, &c.

On view morning of Sale, and Catalogues had.

TUESDAY NEXT.

By order of Messrs. F. HOR-MAN & Co.,

Five Thousands

ODONTOGLOSSUM CRISPUM,

AND ITS VARIETIES.

Collected by Mr. JOHN CARBER.

(Late partner in the Firm of SHUTTLEWORTH, CARBER & Co.) MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Chesapeake, London, E.C., on TUESDAY NEXT, March 1, at half-past 12 o'clock,

5000 ODONTOGLOSSUM CRISPUM.

Mr. CARBER is a well-known Collector of this plant, and his name has been associated with the finest forms ever imported.

On view morning of Sale, and Catalogues had.

Wednesday Next—Palms, Roses, Ferns, &c.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Chesapeake, London, E.C., on WEDNESDAY NEXT, March 2, at half-past 11 o'clock, 200 AZALEAS, GREEN-HOUSE FERNS, TEA ROSES in pots, PANCRATIUM ZE-LANICUM, 45 AGAPANTHUS UMBELLATUS, choice GLOXINIAS, 500 Single BEGONIAS, Pearl TUBEROSES, 100 lots of LILiums in variety, GLADIOLI, CARNATIONS, DAFFODILS, HERACERUS PHLOX, 250 Standard, Half-standard, and Dwarf ROSES; a quantity of BOUQUET-WIRKS, &c.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will include in their SALE on FRIDAY NEXT, March 4, the following VALUABLE ORCHIDS.

CYPRIPEDIUM INSIGNE MONTANUM.

Spreading piece, full of life and vigour; and all collected in the region from whence came C. L. Saunders and many of the other notable forms.

CYPRIPEDIUM GOLDEN YELLOW.

A few plants of a simply magnificent golden-yellow and white Cypridium insigne. The plants are in fine order.

CATTLEYA VICTORIA REGINA, THE QUEEN CATTLEYA.

A distinguished and splendid New Cattleya. A superb novelty, of the greatest merit.

TREE-GROWING, FREE AND ABUNDANT FLOWERING.

The flowers are of a rich and beautiful crimson, and as many as eight and nine are borne on a spike. Sepals and petals are of a deep rosy-red, glowing and glistening, blotched crimson and purple. The lip is crimson, with a white tube.

CATTLEYA SPECIES.

See Dried Flowers.

CYPRIPEDIUM SPECIES.

This may turn out to be simply a variety of Cypridium Wallisi but it comes from quite a different country. The extraordinary flowers have petals nearly 2 feet long, and are pure satiny-white, excepting the lip, which is rose; in C. Wallisi it is white.

DENDROBIUM DALHOUSIANUM.

In most wonderful masses, and grand order.

DENDROBIUM NOBILE.

From a remote and unexplored district in the Shan Hills. DENDROBIUM SPECIES, from Loosha, Dwarf and free-growing and free-flowering; deep purple flowers.

VANDA CERULEA, Hill variety, a fine Importation, just received.

CELOGYNE OCELLATA MAXIMA, a fine Importation. Also a very fine lot of LELIA ELEGANS, among which will doubtless be found such varieties as Turneri, striata, &c., and a fine lot of LELIA PURPURATA.

An Orchid Species from Loosha, also a grand lot of the lovely BURLINGTONIA PUBESCENS, EPIDENDRUM GODSEFIANUM, CATASETUM, &c.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT, MARCH 4.

NEW ORCHIDS.

GREAT SALE. NO RESERVE.

EXTRAORDINARY NEW LADY'S SLIPPER.

CYPRIPEDIUM CHAMBERLAINIANUM

(SANDER).

GRAND NEW SPECIES.

EVERY PLANT RECEIVED WILL BE OFFERED WITHOUT ANY RESERVE.

A magnificent and beautiful new Cypridium, which we have the privilege to offer; it is dedicated, by permission, to the Right Hon. J. Chamberlain. An altogether unique and absolutely new departure in every way from all known Cypridiums. In inflorescence, in habit, and in leaf, a perfectly marvellous novelty. Its leaves are, in some instances 4 inches across, simple, undulated, and often beautifully tessellated on the upper surface, reminding one slightly of Cypridium Morganii, but much larger and finer. It is altogether a noble plant.

This extraordinary Cypridium produces flower-spikes up to 2 feet high, bearing all along its stem its white, yellow, and purple blossoms, and we are able to show dried flower-spikes which have produced over 30 flowers. The flowers are, in fact, that the flower-seeds are not more than half an inch from each other.

The upper part of the flower is yellow, with about six rosy-purple lines, divided by the veins emerging from a profusion of tiny purple spots; these veins are much denser than at the upper half of the dorsal sepal; the whole is beautifully reticulated, and charmingly transparent towards the margins, densely covered on the border surface with white hairs; any spots or lines; the lower dorsal sepal is similar in its markings, only not so dense, and about half the size of the upper dorsal sepal, which, extraordinary enough, is as broad as it is long, being about 2 inches in diameter.

The two petals are spreading, curled and twisted at the ends like a corkscrew, and spotted in the way of Cypridium superbiens, the margins are charmingly undulated and bear a profusion of white hairs. They are spotted on both surfaces with blackish purple and chocolate spots and blotches, some purple lines also run along them; they are of a lovely shining white and creamy yellow colour. Each of them is nearly 2 inches long, the slipper, shoe or pouch, sometimes called the labellum, is also exceptionally beautiful, it is rose and white more imitated than Cypridium eximiale, and double its size, reminding one of a beautifully spotted bird's egg; so exquisite is the fine blackish purple spotting over two-thirds of its lower part; the upper part and side-lobes are of a shining porcelain white colour, this combined with a purplish black spotting leads it a hue and charm perfectly unique.

We have been asked by several gentlemen to sell the whole importation of this altogether extraordinary and clearing new Cypridium under the name of the above.

Abundant dried material will be on view.

MAGNIFICENT NEW CYPRIPEDIUM.

(CYPRIPEDIUM KIMBALLIANUM, SANDER).

QUITE NEW SPECIES.

This grand new species is now offered for the first time, and no plants have ever been sold of it. It is a grand grower and a grand novelty. Nothing like it has ever been seen, and it has been imported up to now. It is a stately species, its flowers are said by the natives to be of enormous size, and the colours are described as crimson, purple and white. In this description we have been told that it is a terrible difficulty to get plants home alive, and after all our trouble and expense, we got a few plants only. Those offered are in grand condition, and we believe that it will be absolutely impossible for us ever again to offer it. The plants will be the only time it will be on sale. An imported plant had leaves on it fully 2 feet long; the leaves are most beautiful, of elegant shape and heavily mottled and blotched.

CYPRIPEDIUM SPECIES.

This may turn out to be simply a variety of Cypridium Wallisi, but it comes from quite a different country, and are pure satiny white, excepting the lip, which is rose. In Wallisi it is white. It is one of the most stately of Cypridiums we have introduced. In fact it is quite a sensational plant. The contents of 150 cases just received from Japan in splendid condition.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from Mr. F. Sander to SELL the above VALUABLE ORCHIDS by AUCTION at their Central Sale Rooms, 67 and 68, Chesapeake, London, E.C., on FRIDAY NEXT, March 4, at half-past 12 o'clock.

On view morning of Sale and Catalogues had.

Thursday Next.

3150 LILIAM AURATUM, including 252 extra

fine bulbs.

3700 LILIAM SPECIOSUM RUBRUM.

2376 " MELPOMENE.

250 " ACRATUM MACRANTHUM.

160 " PICTUM.

160 " JAPONICUM RUBRUM COLCHESTERII.

Being the contents of 150 cases just received from Japan in splendid condition.

100 LILIAM AURATUM RUBRO VITTATUM; 200 PLATY-PHYLLUM, enormous bulbs; 100 LILIAM JAPONICUM OBORUM; CYPRIPEDIUM RUBRUM; 100 L. LANGFOLM ALBUM KRAETTERI; 2000 L. LONGIFLORUM, 500 L. KRAMERI, 100 L. LEITCHIUM, red; 300 BATEMANII, fine bulb; 500 L. CONCOLOR, TRY-LOBI, PEONIES, VALOTIAS, 100 lots of choice SEEDLING GLADIOLI, BEGONIAS, &c.; HERBACEOUS PLANTS in variety, English-grown LILIES, DAFFODILS, hardy BORDER BULBS, AZALEAS from Belgium, PEARL TUBEROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Chesapeake, London, E.C., on THURSDAY NEXT, March 3, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will include in their SALE on FRIDAY NEXT, March 4, at half-past 12 o'clock, PLANTS and BULBS from a cool part of the Cape of Good Hope, consisting of NEW HEMANTHUS, DISAS, SATYRIUMS, GLADIOLI, EUCOMIS, ALOES, various scarlet and crimson in variety, grand for conservatory decoration; various varieties of ORCHIDS, including some collected in the mountainous parts of Natal and other parts where nothing has ever been gathered and sent from previously.

Also a beautiful ODONTOGLOSSUM CRISPUM LILACINUM, now in full flower, with fine bulbs, ORCHIDS in FLOWER, &c.

On view morning of Sale, and Catalogues had.

Feltham, Middlesex. Absolutely without Reserve. TWO DAYS SALE of splendidly-grown NURSERY STOCK, by order of Messrs. C. Lee & Son.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Lee's Nurseries, Feltham, Middlesex, 10 minutes walk from the Feltham Station, on TUESDAY and WEDNESDAY NEXT, March 1 & 2, at 12 o'clock precisely, 500 splendid Specimen Golden YEWs, from 2 to 4 feet; Standard Variegated HOLLIES, thousands of beautifully-shaped Specimen CONIFERS and EVERGREENS, all recently transplanted, 2 to 8 feet; 1500 English YEWs, 1 to 4 feet; 1200 THUIA LOBBII, 2 to 7 feet; 1800 Laburnum, 1500 L. ALBA, 1500 L. PURPUREA, 2 to 4 feet; 500 CYPRIPEDIUM ERCTA VIRIDIS, 2 to 5 feet; 500 named RHODODENDRONS, 800 LIMES, 6 to 8 feet; POPLARS, PRIVET, Flowering Shrubs, and other Stock.

May be viewed. Catalogues had on the Premises, at the Old Nurseries, Feltham, and of the Auctioneers, 67 and 68, Chesapeake, London, E.C.

Cheshunt.—Expiration of Lease.—Final Portion. ABSOLUTE CLEARANCE SALE of unusually well-grown NURSERY STOCK, growing on this branch Nursery, by order of Messrs. FALLOU & SON.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Churchfield Nursery, Cheshunt, 1 mile from Cheshunt Station, on THURSDAY NEXT, March 3, at 12 o'clock, without reserve, 3000 ACACIAS, 15 to 20 feet; 500 BOXWOOD, 15 to 20 feet; 1500 PRIVET, 1500 LIMES, 2500 HORSE CHESTNUTS, POPLARS, and other STANDARD TREES, 1000 Persian, White, and other LILACS, in choice variety; thousands of RASPBERRIES, CURRANTS, and GOOSEBERRIES, a great variety of Flowering and Deciduous SHRUBS, specimen CEDRUS DEODARA, and other Stock.

May be viewed. Catalogues obtained on the Premises; at the Old Nurseries, Cheshunt; and of the Auctioneers, 67 and 68, Chesapeake, London, E.C.

Havant, Expiration of Lease.

THE THIRD and FINAL PORTION of the well-grown NURSERY STOCK on the Leasford Land, and the FIRST PORTION on the Freehold land, by order of Messrs. FALLOU & Co., who are relinquishing the business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, the Sea View Nurseries, Havant, on THURSDAY NEXT, March 3, without reserve, 5000 Border SHRUBS, in great variety; 5000 Ornamental TREES, a large portion of which are fit for Avenue or Park planting for immediate use; 5000 FRUIT TREES, consisting of Pears, Apples, Plums, Cherries, &c.; 5000 Flowering SHRUBS and Hardy CLIMBERS, a large quantity of Standard, Dwarf, and other Fruit Trees, and a large quantity of FOREST TREES, and a quantity of small Stock for growing on.

May be viewed. Catalogues had on the Premises, and of the Auctioneers, 67 and 68, Chesapeake, London, E.C.

THE FREE NURSERY STOCK, and the FIRST PORTION of the BUSINESS are for disposal. Particulars of the Auctioneers.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 12, Ball King, LONDON, E.C., every WEDNESDAY and FRIDAY, at 4.30 P.M. Sales of choice Cut Flowers. Fresh Entries invited. Account Sales and cheques daily. Empty and labels found.

Matlock Bank Nurseries.

MESSRS. ELSE AND SON are instructed to SELL by AUCTION (without Reserve), on TUESDAY, March 1, and following day (if necessary), on the above ground, an extensive and well-selected Collection of upwards of 100,000 Transplanted Rhododendrons, in sizes up to 2 feet. Also Special Lots of Cupressus, Retinosporas, &c., in sorts; Irish and Golden Yews, Privets, &c., of which Catalogue may be had from Mr. ELSE AND SON, Matlock, Derbyshire.

Preliminary Advertisement.

PUBLIC SALE.—IMPORTANT TO HORTICULTURISTS, LANDED PROPRIETORS, LANDSCAPE GARDENERS, NURSERYMEN, &c.

THE LARGER PORTION OF THE Magnificent well-known Collection of GOLDEN YEWs, ENGLISH YEWs,

Varieties of

HOLLIES, ARATUCARIAS, and CONFERE, at present growing in the Ornamental Policy of Gowenbank, one mile north from Ayrshire, near Falkirk, N.B., and planted by the late Sir JAMES GOWAN, at very great expense, will be exposed for SALE by Public Auction in MARCH, 1892, by Mr. B. LAIRD & SONS, Florists to the Queen, Edinburgh, say:—"Such a number of fine specimens are seldom met with in a private establishment. . . . We are confident, from the purchase of the property, that they will be sold with good balls, and have been frequently transplanted."

Particulars in future advertisements. MR. CHARLES S. NEILSON, AUCTIONEER, Falkirk.

WANTED, TO RENT, VINERIES and GLASSHOUSES, with House or Cottage. Would Repair, if low rent.

GARDENER, 273, Spakess Road, Herne Hill, S.E.

If you wish to ensure success and secure a constant supply of good and reliable Vegetables at your table all the year round, despatch your Order at once to us, when your wishes will receive the most prompt and careful attention. Our Stocks of Vegetable Seeds are the best and finest that the world produces, as the numerous testimonials we are constantly receiving demonstrate. We make up Collections to meet the requirements of the Cottage, the Villa, the Rectory, the Mansion, and the Palace, at the following prices:—
5s., 7s. 6d., 10s. 6d., 15s. 6d., 21s., 31s. 6d., 42s., 63s., 105s. each, and upwards.
Or, you can make your own selection from our Catalogue if preferable.

Customers will please note that all our Choice Strains of Florists' Flowers bear our Registered Trade Mark, without which none are genuine.

B. S. WILLIAMS & SON, VICTORIA & PARADISE NURSERIES, UPPER HOLLOWAY, LONDON, N.

WANTED, to RENT, near a good Town, 400 to 800 feet run of good GLASS, and about an acre of LAND. Particulars to M. J. PRANTINGHAM, Brough, East York.

FOR SALE, Small NURSERY in Hull, first-class connection. About 5000 feet of Glass. Owner retiring; greater portion of the Purchase Money can remain on Mortgage, if required. Particulars on application to—MR. ELSOM, 32, Park Road, Hull.

To Builders, Florists, and Fruit Growers.
THE FREEHOLD, PRIORY NURSERY, Acton Lane, Acton, near to four railway stations, comprising over 3 acres, having a frontage about 334 feet (11th Free, Land Tax redeemed), property well-drained. Gas and water laid on. Subsoil rich sand, of considerable value. Stabling for four horses, two Coach-houses, Potting and Packing sheds, 28 well-built Greenhouses, 45 000 feet of Glass and Woodwork, 9000 feet of Hot-water Piping, supplied by 11 Boilers, all in excellent order. Being an old-established good concern, the property will be LET on Lease, or SOLD; part of purchase money can remain on mortgage on easy terms of payment. Apply to—MR. HORNSAIL, 98, Newgate Street, City, London, E.C.

To Fruit Growers, Nurserymen, and Others.
GOOD ARABLE and MEADOW LAND to be LET or SOLD. Close to the main road at Fender's (9 miles from London). Long leases granted. Rent, £12 per acre per annum, with option to purchase the Freehold any time during the first nine years. Several large Market Nurseries are established on the Estate. Full particulars of A. and G. GUYVER, Land Agents, Fender's End.

To Nurserymen, Florists, &c.
CAPITAL NURSERY PREMISES in Turner Road, Lee, TO BE LET on LEASE, at a small annual Rent. The Premises consist of 25 Greenhouses, Dwelling-house, Stabling, &c., occupying about an acre of Land, and are situated 6 miles from Covent Garden, London.
May be viewed on application to Mr. A. RUSSELL, 33A, Turner Road, Lee, S.E.

TO BE SOLD, or LET, the LEASE of a Small, Compact NURSERY, consisting of about 8'000 feet of Glass, all well-heated, with Hot-water and Figs, together with six roomed House, on the grounds, nearly new; Stables, Coach-house, a large Barn and Loft, two Potting-sheds, &c.; and about an Acre of Flower Garden, &c., planted with Roses, &c. Well situated in a good position, 8 miles north from Covent Garden. Can be entered on with immediate possession.
Apply, J. W. WOODHALL, Oakleigh Road, Weststone, N.

FRUITERER'S BUSINESS for SALE.—First-class trade, Good neighbourhood, Main road, First-class front. Well found in every respect. Old-established. Goodwill £200, including Horse, Cart, Van, &c. Large Premises with good Stabling. Long lease.—For further particulars, apply to Mr. G. MORRO, Covent Garden Market.

THE VALUABLE Long LEASEHOLD NURSERY, together with Stock and Utensils in Trade, consisting of Five large Greenhouses, Part ditto, large Piece of Reddin, out Ground, together with a small Three-roomed Cottage, having a frontage to and adjoining the Dockyard Station, S. E. K. No reasonable offer refused.
Full particulars to be obtained of R. PECKITT, House and Estate Agent and Valuer, Al, Wellington Street, Woolwich.

PUTNEY (Surrey).—TO FLORISTS and SHROU-GROWERS. LEASE, 9 years, TO BE SOLD; 3 Glass Houses, 150 feet run Muchmore Kidin bearing, 2 Sheds, Water laid on. Stacks at option.—Address, J. TOWNSEND, Rose Acre, Barnes.

GOOD NURSERY BUSINESS.
Apply to—
POWELL and POWELL, Bath.

Williams' WORLD-RENOWNED Seeds

If you are a lover of Flowers, and anxious to have your Garden gay with blossom, we can supply your wants with beautiful and charming varieties, suitable for the Open Ground, the Greenhouse, or the Conservatory, that will gratify your taste, and prove a source of infinite pleasure to you, made up in Collections, as follows:—
1s. 6d., 3s., 5s., 7s. 6d., 10s. 6d., 15s., 21s., 31s. 6d., and 42s. each.
Or, you can make your own Selection from the Varieties enumerated in our Catalogue.
Our Flower Seeds have a world-wide reputation; they are largely grown on the Continents of Europe and America, and in the Colonies. We are constantly receiving numerous unsolicited testimonials for them.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.
Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpineries, &c., as in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by PULHAM AND SON, 50, Finsbury Square, London, E.C., and Broxbourne, Herts. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

RASPBERRY CANES.—Norwich Wonder, also Fastolf, strong and well rooted.
At 15s. per 1000, each with order. Not less than 1000 supplied.
ALBERT BATH, Vine Court, Sevenoaks, Kent.

LILUM PANCRATIUM, for SALE. Magnificent Plants. One plant, eighteen bulbs in 17-inch pot; one plant, twelve bulbs in 17-inch pot.
CHURCH, Garcelbeath, Scotland.

BIRMINGHAM PRIMULAS. Lady Churchill, The Queen, Marquis of Lorne, and all select sorts, 2s. 6d. per packet. Mixed, 2s. 6d. Usual Trade discount.
POPE AND SONS, King's Norton, Birmingham.

CHIRYSANTHEMUMS.—Many thousands of well-rooted Cuttings now ready, from 2s. per dozen. CATALOGUE, with complete Cultural Directions, 4d., returned in first order. Satisfaction guaranteed.
W. E. BOYCE, F.N.C.S., Archway Road, Highgate, N.

Seed Potatoes.
"SHARPE'S VICTORS," undoubtedly the best and earliest kidney known. True, sound, and splendid seed; 11s. per cwt.; 55s. 5 cwt.; 211s. 6d. 10 cwt.; 71s. sample, 10d.
DALCOEN AND CO., Nurserymen, Spalding

WHEELERS' NEW POTATO, "THE ALDERMAN."

For Exhibition this Potato is a model of Perfection; the eyes are shallow, the skin rough, and it is of large size, a great cropper, and of the finest possible quality, very mealy, of good colour, and excellent flavour. Being a vigorous grower it withstands disease well.

Price 6d. per pound; per peck, 6s.

"I am specially pleased with 'The Alderman' Potato, and consider it the most valuable introduction since the Magnum Bonum. It is a first-class Potato all round, strong in the haulm, a vigorous grower, tubers large and handsome, and on the table no Potato can surpass it for appearance or flavour."—J. H. FRITH.

WHEELER & SON,
Seed Growers, GLOUCESTER.

FOR ORCHIDS, and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

OLD PLANT HOUSES for SALE. Some good lights may be selected. Apply, at once, to CURATOR, Botanic Gardens, Cambridge.

STANDISH'S GARDENIAS.—Well-grown, clean and forward in Flower-bud, 21s., 30s., and 42s. per dozen.
Royal Nurseries, Ascot.

OFFERS WANTED for the "GARDENERS' CHRONICLE" from the years 1879 to 1881, and from 1889 to 1891, inclusive.
P. L., 41, Wellington Street, Strand, W.C.

Vines.
H. CANNELL and SONS solicit orders for fine Plants, with well-ripened Rods, 12 to 18 feet long, of all the best kinds. Price on application.
The Nurseries, Swanley, Kent.

KELWAY'S SEED MANUAL for 1892.
"Full of information, and profusely embellished with excellent illustrations."—*Farmer and Woodbinder*.
1s., post-free (deducted from first order) to those unknown to us.
KELWAY AND SON, Langport.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have an immense stock of

ORCHIDS,

Both Established and Semi-Established, and they are constantly receiving

IMPORTATIONS

from various parts of the world.

INSPECTION IS VERY EARNESTLY INVITED.

The Company's Prices are all fixed as low as possible, with the view of inducing liberal Orders.

PRICED and DESCRIPTIVE CATALOGUE

Post-free on Application to the Company.

THE VINEYARD AND NURSERIES,
CARSTON, NEAR LIVERPOOL.

EXHIBITIONS.

CRYSTAL PALACE.
THE ANNUAL SHOW OF SPRING FLOWERS will be held on SATURDAY, MARCH 26.

Schedules are now ready, and may be had on application to
W. G. HEAD, Superintendent, Gardens Department,
Crystal Palace, S.E.

Entries close March 19.

LOVEL'S YORKSHIRE STRAWBERRIES.

We offer for Cash, good sorts in nice plants, carriage paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample Dozen, 6d. Descriptive LIST free.

W. LOVEL AND SON, Strawberry Growers, Driffield.

FOR SALE. 500 Cuttings of MARGUERITES (PARIS DAISIES), 2s. 6d. per 100; and a few hundred Cuttings of MARGUERITES, Bijou, and Flower of Spring, 3s. 6d. per 100.

J. GARDNER, Egham Hall Gardens, Brigg.

ODONTOGLOSSUM ROSSII MAJUS.

For Sale, a limited number of splendid forms in 4½ pots, now in bloom.—For prices apply to
J. W. WILSON, Nurseryman, South Cave, Yorkshire.

LAURELS. Common, 4 to 7 feet, extra, several times transplanted, splendidly rooted; L. ROTUNDIFOLIA, very bushy, transplanted 1890, 2½ to 4 feet; PORTUGAL LAURELS, extra fine. Offered cheap to clear.

E. R. DAVIS, Yeovil Nurseries, Somerset.

BEGONIAS.—Davis's New, Rare, & Beautiful.

The Best BEGONIA CATALOGUE published. Enumerates a magnificent and un surpassed Collection, with descriptions, illustrations, and much valuable information on this now popular flower; post-free. The first grower to issue a Begonia Catalogue was E. R. DAVIS, Begonia Grower, Yeovil Nurseries, Yeovil, Somerset.

SEAKALE, most delicious vegetable; good roots, special low price to sell out, 3s. 6d. per 100, worth double. Growers and offered by
F. MILLER AND CO., 267, Fulham Road, London, S.W.; and Daffodil Farm, Spalding, Lincs.

MARGUERITE CARNATION. Clove-scented, large double flowers of brilliant colours; blooms this summer from seed sown now. 6d. and 1s. per packet. Veitch's Empress Aster, crimson or white, grandest sorts grown. Each, 6d. and 1s. per packet. Miller's knob-on-mixed seed Pans, exquisite colours, large flowers, 6d. and 1s. per packet. All post-free.—F. MILLER AND CO., 267, Fulham Road, London, S.W.; and Daffodil Farm, Spalding, Lincs.

Now is the Time to Plant

PEONIES, PYRETHRUMS, DELPHINIUMS, and GAILLARDIAS, the most showy of all Hardy, Easily grown Perennial Plants. For Priced Lists, see **KELWAY'S SEED AND PLANT MANUAL** for 1892, 1s. post-free (deducted from first order), to those unknown to us. **KELWAY'S GLADIOLI**—Now is the time to plant. Price 1 Descriptive List, free.

KELWAY AND SON, Langport, Somerset.

Many Acres of Lilies of the Valley!

T. JANNACH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time for sending out, November 1 to May 1. Prices and terms on application.

T. JANNACH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

CINERARIA, DIXON'S, SUPERB GIANT.

The Choicest Strain in the Country.

In Sealed Packets, 1s. 6d., 2s. 6d., and 5s. each.

Price to the Trade on Application.

For full Description and Illustration, see *Gardener's Chronicle*, January 3, 1892.

E. P. DIXON & SONS, HULL.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(BIDDELS & Co., Proprietors),

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete Seed Catalogue and Guide, which will be sent gratis and post free on application.

3000 Varieties catalogued, 500 Illustrations.

32 ACRES OF RHODODENDRONS, AND 170 ACRES OF OTHER NURSERY STOCK.

	Per 100;	per 1000.
RHODODENDRON Ponticum, 9 to 12 inch	12s.	10s.
" " " " 12 to 18 "	16s.	140s.
" " " " 18 to 24 "	25s.	220s.
" " " " 24 to 30 "	32s.	300s.
" " " " 30 to 36 "	40s.	360s.
" " " " 36 to 42 "	48s.	420s.
" " " " 42 to 48 "	56s.	480s.
" " " " 48 to 54 "	64s.	540s.
" " " " 54 to 60 "	72s.	600s.
" " " " 60 to 66 "	80s.	660s.
" " " " 66 to 72 "	88s.	720s.
" " " " 72 to 78 "	96s.	780s.
" " " " 78 to 84 "	104s.	840s.
" " " " 84 to 90 "	112s.	900s.
" " " " 90 to 96 "	120s.	960s.
" " " " 96 to 102 "	128s.	1020s.
" " " " 102 to 108 "	136s.	1080s.
" " " " 108 to 114 "	144s.	1140s.
" " " " 114 to 120 "	152s.	1200s.
" " " " 120 to 126 "	160s.	1260s.
" " " " 126 to 132 "	168s.	1320s.
" " " " 132 to 138 "	176s.	1380s.
" " " " 138 to 144 "	184s.	1440s.
" " " " 144 to 150 "	192s.	1500s.
" " " " 150 to 156 "	200s.	1560s.
" " " " 156 to 162 "	208s.	1620s.
" " " " 162 to 168 "	216s.	1680s.
" " " " 168 to 174 "	224s.	1740s.
" " " " 174 to 180 "	232s.	1800s.
" " " " 180 to 186 "	240s.	1860s.
" " " " 186 to 192 "	248s.	1920s.
" " " " 192 to 198 "	256s.	1980s.
" " " " 198 to 204 "	264s.	2040s.
" " " " 204 to 210 "	272s.	2100s.
" " " " 210 to 216 "	280s.	2160s.
" " " " 216 to 222 "	288s.	2220s.
" " " " 222 to 228 "	296s.	2280s.
" " " " 228 to 234 "	304s.	2340s.
" " " " 234 to 240 "	312s.	2400s.
" " " " 240 to 246 "	320s.	2460s.
" " " " 246 to 252 "	328s.	2520s.
" " " " 252 to 258 "	336s.	2580s.
" " " " 258 to 264 "	344s.	2640s.
" " " " 264 to 270 "	352s.	2700s.
" " " " 270 to 276 "	360s.	2760s.
" " " " 276 to 282 "	368s.	2820s.
" " " " 282 to 288 "	376s.	2880s.
" " " " 288 to 294 "	384s.	2940s.
" " " " 294 to 300 "	392s.	3000s.
" " " " 300 to 306 "	400s.	3060s.
" " " " 306 to 312 "	408s.	3120s.
" " " " 312 to 318 "	416s.	3180s.
" " " " 318 to 324 "	424s.	3240s.
" " " " 324 to 330 "	432s.	3300s.
" " " " 330 to 336 "	440s.	3360s.
" " " " 336 to 342 "	448s.	3420s.
" " " " 342 to 348 "	456s.	3480s.
" " " " 348 to 354 "	464s.	3540s.
" " " " 354 to 360 "	472s.	3600s.
" " " " 360 to 366 "	480s.	3660s.
" " " " 366 to 372 "	488s.	3720s.
" " " " 372 to 378 "	496s.	3780s.
" " " " 378 to 384 "	504s.	3840s.
" " " " 384 to 390 "	512s.	3900s.
" " " " 390 to 396 "	520s.	3960s.
" " " " 396 to 402 "	528s.	4020s.
" " " " 402 to 408 "	536s.	4080s.
" " " " 408 to 414 "	544s.	4140s.
" " " " 414 to 420 "	552s.	4200s.
" " " " 420 to 426 "	560s.	4260s.
" " " " 426 to 432 "	568s.	4320s.
" " " " 432 to 438 "	576s.	4380s.
" " " " 438 to 444 "	584s.	4440s.
" " " " 444 to 450 "	592s.	4500s.
" " " " 450 to 456 "	600s.	4560s.
" " " " 456 to 462 "	608s.	4620s.
" " " " 462 to 468 "	616s.	4680s.
" " " " 468 to 474 "	624s.	4740s.
" " " " 474 to 480 "	632s.	4800s.
" " " " 480 to 486 "	640s.	4860s.
" " " " 486 to 492 "	648s.	4920s.
" " " " 492 to 498 "	656s.	4980s.
" " " " 498 to 504 "	664s.	5040s.
" " " " 504 to 510 "	672s.	5100s.
" " " " 510 to 516 "	680s.	5160s.
" " " " 516 to 522 "	688s.	5220s.
" " " " 522 to 528 "	696s.	5280s.
" " " " 528 to 534 "	704s.	5340s.
" " " " 534 to 540 "	712s.	5400s.
" " " " 540 to 546 "	720s.	5460s.
" " " " 546 to 552 "	728s.	5520s.
" " " " 552 to 558 "	736s.	5580s.
" " " " 558 to 564 "	744s.	5640s.
" " " " 564 to 570 "	752s.	5700s.
" " " " 570 to 576 "	760s.	5760s.
" " " " 576 to 582 "	768s.	5820s.
" " " " 582 to 588 "	776s.	5880s.
" " " " 588 to 594 "	784s.	5940s.
" " " " 594 to 600 "	792s.	6000s.
" " " " 600 to 606 "	800s.	6060s.
" " " " 606 to 612 "	808s.	6120s.
" " " " 612 to 618 "	816s.	6180s.
" " " " 618 to 624 "	824s.	6240s.
" " " " 624 to 630 "	832s.	6300s.
" " " " 630 to 636 "	840s.	6360s.
" " " " 636 to 642 "	848s.	6420s.
" " " " 642 to 648 "	856s.	6480s.
" " " " 648 to 654 "	864s.	6540s.
" " " " 654 to 660 "	872s.	6600s.
" " " " 660 to 666 "	880s.	6660s.
" " " " 666 to 672 "	888s.	6720s.
" " " " 672 to 678 "	896s.	6780s.
" " " " 678 to 684 "	904s.	6840s.
" " " " 684 to 690 "	912s.	6900s.
" " " " 690 to 696 "	920s.	6960s.
" " " " 696 to 702 "	928s.	7020s.
" " " " 702 to 708 "	936s.	7080s.
" " " " 708 to 714 "	944s.	7140s.
" " " " 714 to 720 "	952s.	7200s.
" " " " 720 to 726 "	960s.	7260s.
" " " " 726 to 732 "	968s.	7320s.
" " " " 732 to 738 "	976s.	7380s.
" " " " 738 to 744 "	984s.	7440s.
" " " " 744 to 750 "	992s.	7500s.
" " " " 750 to 756 "	1000s.	7560s.
" " " " 756 to 762 "	1008s.	7620s.
" " " " 762 to 768 "	1016s.	7680s.
" " " " 768 to 774 "	1024s.	7740s.
" " " " 774 to 780 "	1032s.	7800s.
" " " " 780 to 786 "	1040s.	7860s.
" " " " 786 to 792 "	1048s.	7920s.
" " " " 792 to 798 "	1056s.	7980s.
" " " " 798 to 804 "	1064s.	8040s.
" " " " 804 to 810 "	1072s.	8100s.
" " " " 810 to 816 "	1080s.	8160s.
" " " " 816 to 822 "	1088s.	8220s.
" " " " 822 to 828 "	1096s.	8280s.
" " " " 828 to 834 "	1104s.	8340s.
" " " " 834 to 840 "	1112s.	8400s.
" " " " 840 to 846 "	1120s.	8460s.
" " " " 846 to 852 "	1128s.	8520s.
" " " " 852 to 858 "	1136s.	8580s.
" " " " 858 to 864 "	1144s.	8640s.
" " " " 864 to 870 "	1152s.	8700s.
" " " " 870 to 876 "	1160s.	8760s.
" " " " 876 to 882 "	1168s.	8820s.
" " " " 882 to 888 "	1176s.	8880s.
" " " " 888 to 894 "	1184s.	8940s.
" " " " 894 to 900 "	1192s.	9000s.
" " " " 900 to 906 "	1200s.	9060s.
" " " " 906 to 912 "	1208s.	9120s.
" " " " 912 to 918 "	1216s.	9180s.
" " " " 918 to 924 "	1224s.	9240s.
" " " " 924 to 930 "	1232s.	9300s.
" " " " 930 to 936 "	1240s.	9360s.
" " " " 936 to 942 "	1248s.	9420s.
" " " " 942 to 948 "	1256s.	9480s.
" " " " 948 to 954 "	1264s.	9540s.
" " " " 954 to 960 "	1272s.	9600s.
" " " " 960 to 966 "	1280s.	9660s.
" " " " 966 to 972 "	1288s.	9720s.
" " " " 972 to 978 "	1296s.	9780s.
" " " " 978 to 984 "	1304s.	9840s.
" " " " 984 to 990 "	1312s.	9900s.
" " " " 990 to 996 "	1320s.	9960s.
" " " " 996 to 1002 "	1328s.	10020s.
" " " " 1002 to 1008 "	1336s.	10080s.
" " " " 1008 to 1014 "	1344s.	10140s.
" " " " 1014 to 1020 "	1352s.	10200s.
" " " " 1020 to 1026 "	1360s.	10260s.
" " " " 1026 to 1032 "	1368s.	10320s.
" " " " 1032 to 1038 "	1376s.	10380s.
" " " " 1038 to 1044 "	1384s.	10440s.
" " " " 1044 to 1050 "	1392s.	10500s.
" " " " 1050 to 1056 "	1400s.	10560s.
" " " " 1056 to 1062 "	1408s.	10620s.
" " " " 1062 to 1068 "	1416s.	10680s.
" " " " 1068 to 1074 "	1424s.	10740s.
" " " " 1074 to 1080 "	1432s.	10800s.
" " " " 1080 to 1086 "	1440s.	10860s.
" " " " 1086 to 1092 "	1448s.	10920s.
" " " " 1092 to 1098 "	1456s.	10980s.
" " " " 1098 to 1104 "	1464s.	11040s.
" " " " 1104 to 1110 "	1472s.	11100s.
" " " " 1110 to 1116 "	1480s.	11160s.
" " " " 1116 to 1122 "	1488s.	11220s.
" " " " 1122 to 1128 "	1496s.	11280s.
" " " " 1128 to 1134 "	1504s.	11340s.
" " " " 1134 to 1140 "	1512s.	11400s.
" " " " 1140 to 1146 "	1520s.	11460s.
" " " " 1146 to 1152 "	1528s.	11520s.
" " " " 1152 to 1158 "	1536s.	11580s.
" " " " 1158 to 1164 "	1544s.	11640s.
" " " " 1164 to 1170 "	1552s.	11700s.
" " " " 1170 to 1176 "	1560s.	11760s.
" " " " 1176 to 1182 "	1568s.	11820s.
" " " " 1182 to 1188 "	1576s.	11880s.
" " " " 1188 to 1194 "	1584s.	11940s.
" " " " 1194 to 1200 "	1592s.	12000s.
" " " " 1200 to 1206 "	1600s.	12060s.
" " " " 1206 to 1212 "	1608s.	12120s.
" " " " 1212 to 1218 "	1616s.	12180s.
" " " " 1218 to 1224 "	1624s.	12240s.
" " " " 1224 to 1230 "	1632s.	12300s.
" " " " 1230 to 1236 "	1640s.	12360s.
" " " " 1236 to 1242 "	1648s.	12420s.
" " " " 1242 to 1248 "	1656s.	12480s.
" " " " 1248 to 1254 "	1664s.	12540s.
" " " " 1254 to 1260 "	1672s.	12600s.
" "		

VEITCH'S EXONIAN PEA,

A First EARLY WRINKLED MARROW,
Of Finest Flavour, and very productive.

A STERLING NOVELTY.

**ROBERT VEITCH & SON, QUEEN'S SEEDSMEN.
EXETER.**

And of the Principal Seedsmen throughout the kingdom.
2/6 per Packet (3-pint). Trade Price on Application.

S E E D S
ESTABLISHED 1793.
THE BEST
AND
THE CHEAPEST.
SEND FOR FREE TO
CATALOGUE. ALL
**JOHN K. KING, Royal Setd
GORGESHALL, ESSEX.**
S E E D S

**THE NEW
EARLY DESSERT APPLE,
COOLING'S
BEAUTY OF BATH,**

Is the handsomest and best-flavoured First
Early APPLE yet introduced, and should be
in every collection.

MAIDENS, 2s. each.
PYRAMIDS, 3s. 6d. and 5s. each.
FAN-TRAINED, 5s. and 7s. 6d. each.
STANDARDS, 3s. 6d. each.

Trade price on application.

Describe **FRUIT TREE and ROSE CATA-
LOGUE, Post-free on application.**

**GEO. COOLING & SONS,
THE NURSERIES, BATH.**



*Nurseries &
Seed Farms*

400 Acres.

**PURE & RELIABLE
GARDEN SEEDS**
CARRIAGE PAID. CATALOGUES FREE.

**LITTLE & BALLANTYNE
CARLISLE.**

ORCHIDS A SPECIALTY.

Many new, choice, and rare species and varieties
always in stock.

HARDY HERBACEOUS PLANTS.

One of the finest collections of these plants known.

CHRYSANTHEMUMS.

A grand collection, approved novelties, write
for our new Descriptive

CATALOGUES, NOW READY,

and Post-free on application to

PITCHER & MANDA,

The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

WM. PAUL AND SON respectfully invite
inspection of the following **TREES and SHRUBS,**
now on Sale. Prices (on application) very reasonable, and
quality unsurpassable as to roots, tops, and stems:—

BEECH, purple, best variety	... 12 to 18 feet.
" " " " " "	... 12 feet.
BIRCH, Silver and others	... 12 to 14 feet.
ELMS, four sorts	... 12 to 18 feet.
LARUNUMS	... 9 to 10 feet.
LIMES	... 8 to 12 feet.
MOUNTAIN ASH	... 12 to 16 feet.
NORWAY MAPLES	... 12 to 18 feet.
PLAINS	... 12 to 18 feet.
POPLARS, six sorts	... 12 to 18 feet.
SYCAMORE	... 12 to 18 feet.
THORNs, Paul's Double Scarlet	... 12 to 14 feet.
" " " " " "	... 12 to 14 feet.
FLOWERING SHRUBS, various	... 4 to 5 feet.

ARBOR-VITÆ, American	... 5 feet.
ACUAS	... 3 to 4 feet.
BOX, of sorts	... 3 to 5 feet.
CEDRUS ATLANTICA	... 5 to 10 feet.
" " " " " "	... 8 to 12 feet.
CUPRESSUS LAWSONIANA	... 6 to 7 feet.
HOLLY, Variegated	... 6 to 12 feet.
" " " " " "	... 6 to 12 feet.
FIR, Scotch	... 6 to 9 feet.
" " " " " "	... 3 to 8 feet.
LAURELS	... 3 to 7 feet.
OSMANTHUS	... 2 to 4 feet.
PICEA PINSAPO	... 6 to 8 feet.
RHODODENDRON PONTICUM, ch	... 2 to 4 feet.
" " " " " "	... 2 to 4 feet.
" " " " " "	... 2 to 4 feet.
YEWs, Common, and others	... 3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and

APPLES and PEARS, Horizontal-trained.]

CHERRIES and PLUMS, Fan-trained.

ASPARAGUS for Forcing.

PAULS' NURSERIES, WALTHAM CROSS.

South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station;
Great Eastern Railway.

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on
FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best
Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums,
Fuchsias, Paeonies, Pansies, Violets, Pelargoniums, Petste-
mums, Petunias, Phloxes, Pinks, Potentillas, Primulas, Pyre-
thrums, Verbenas, Herbaceous Plants, &c.; also of my true
and reliable strain of

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now justly celebrated
all the world over. In 3 distinct sorts, crimson purple,
scarlet, white, and Wallflower-leaved white, each sort, 1s.,
2s. 6d., and 5s. per packet.

It is an indispensable Reference-Book on all sections of
Florists' Flowers, and should be carefully perused by all buyers
of flowers.

Free on application.

JOHN FORBES, Nurseryman, Hawick, Scotland.

SPECIAL CULTURE OF

FRUIT TREES and ROSES.

**A LARGE and SELECT STOCK is NOW
OFFERED FOR SALE.**

The Illustrated and Descriptive Catalogue of
Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

**THOMAS RIVERS & SON,
THE NURSERIES,
SAWBRIDGEWORTH, HERTS.**

LAXTON'S STRAWBERRIES.

SCARLET QUEEN, a new, bright-coloured,
high quality, large, early seedling, from Noble,
and with **WHITE KNIGHT**, a distinct, and
richly-flavoured, new main sort, Certificated at
the Fruit Conference, 1891. **COMPETITOR**,
CARDINAL, **LATEST OF ALL**, **JOHN RUS-
KIN**, **NOBLE**, and all best new standard sorts can
now be supplied in good runners, true to name.

LISTS FREE.

T. LAXTON, Seed Grower, BEDFORD.

SEEDS! SEEDS!! SEEDS!!!

VEGETABLE and FLOWER SEEDS saved
from CHOICE SELECTED STOCKS. Everyone with a
garden and every market gardener should send for a Catalogue
before purchasing elsewhere. Special Low Quotations to large
buyers.

**B. L. COLEMAN, Seed Merchant and
Grower, SANDWICH, KENT.**

GEORGE JACKMAN & SON,

WOKING NURSERY, SURREY,

INVITE INSPECTION OF THE FOLLOWING WELL-GROWN
STUFF:—

FRUIT TREES.—A fine stock of Apples, Pears,
Plums, and Damsons, in Standard, Pyramid, and Dwarf-
trained trees; also Dwarf-trained Apricots, Peaches, and
Nectarines.

ROSES.—A large Collection of Dwarf and
Standard Hybrid Perpetual and Tea Roses, in all the lead-
ing varieties; also Tea Roses, in pots, for forcing.

RHODODENDRONS.—Choice named varieties
set with flower-buds; also Hybrid Seedlings and Ponticums.

CONIFERS.—Fine stuff, in various Sorts, for
Lawn and Shrubbery planting.

SHRUBS.—Ornamental and Flowering, adapted
for Belts, Shrubberies, Screens, &c.

CLIMBERS.—Including their celebrated Cle-
matis, suitable for Walls, Trellis-work, Rockwork, &c.

ORNAMENTAL TREES.—For Parks,
Avenues, Streets, and Private Gardens.

FOREST TREES.—In large quantities, for
Coverts, Woods, &c.

CATALOGUES FREE ON APPLICATION.

LANDSCAPE GARDENING.—A leading
Feature. Plans designed, and Advice given as to Laying-
out, Planting, or Renovating Parks, Cemeteries, Recrea-
tion Grounds, and Private Gardens.

PLANTING SEASON.

**HARDILY-GROWN
FOREST, FRUIT,**

& ALL OTHER

**TREES & PLANTS,
EVERGREENS, ROSES, &c.**

NURSERIES 400 ACRES:

**VERY EXTENSIVE STOCK. Inspection invited.
Priced Catalogues Gratis & Post Free.**

**DICKSONS THE
NURSERIES
(LIMITED) CHESTER.**

For **PLEASURE and PROFIT.**

FRUIT. Nothing so Profitable
and Easy to Grow.

74 ACRES IN STOCK.
See CATALOGUE for Simple Instructions, and kinds of Tree
to suit all Soils.

ROSES. Hundreds of
Thousands.

BUSHES. Packing and Carriage Free
8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.

**ORNAMENTAL TREES, 91 ACRES.
4 ACRES of GLASS.**

CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS { **VEGETABLE, FLOWER,
and FARM.**
DESCRIPTIVE LIST, FREE.

RICHARD SMITH & CO., WORCESTER.

R O S E S.

STANDARDS, from 21s. per dozen.

DWARFS, from 6s. per dozen.

CATALOGUES, post-free.

**FRANK CANT, BRAISWICK NURSERY,
COLCHESTER.**

THE BEST SCARLET FLESH MELON.

CARTERS' BLENHEIM ORANGE.



"I have grown some hundreds of Melons in my time, but have never had a better than Carters' Blenheim Orange."—R. INGLEBY, Esq., Slough.

"Carters' Blenheim Orange is distinct in flavour and appearance, and superior in quality to any Melon now before the public."—Mr. J. MUIR, Margam.

Price, in Sealed Packets, 1/6, 2/6, and 3/6, post-free.

CARTERS'

(Royal Seedsmen by Sealed Warrant),

237 HIGH HOLBORN, LONDON

DAHLIAS.—Pot Roots to include Double, Single, Pompon, and Cactus, best named varieties, 2s. 3d. per dozen; 10s. per 100, my selection only, cash with order.—S. HOWARD, Cambridge Nursery, Walthamstow.

WANTED, MAIDENHAIR FERN, ROSES, ORCHIDS, CARNATIONS, LILUM HARRISII, and other CHOICE FLOWERS, to SELL on COMMISSION. Boxes and labels supplied. Established 1870. Telephone No. 933. R. END, Wholesale Florist, 25, Wellington Street, Covent Garden, W.C., and Crystal Palace, S. denham.

CHRYSA nth EMUMS, PELARGONIUMS, DAHLIAS, REGONIAS, CANNAS, &c.—Our CATALOGUES will be sent free on application. 15 First Prizes (10 this year). 5 Gold Medals. REID AND BORNEMANN, Sydenham, London, S.E.

FERNs.—*Pteris tremula* and *Pteris cretica cristata*, two best market Ferns, good a uff in large tubs, quite ready, for 45-pots, 12s. per 100. Packing free for cash with order.—GOWERS AND EMBERSON, Comely Bank Nursery, Walthamstow, E.

THE OLD BROWN QUARRY EARLY POTATO.

The Oldest Existing Sort in Ireland. In existence here for 150 years; certainly, when I was a child, prior to the famine period. There was no other sort grown for harvest purposes when men worked with a sickle. I am enabled to offer it for redistribution—it never having made its way to England—from a stock preserved for years on peat land, resting on limestone, in a remote part of county Cork. There must be something in the soil that preserved it for years. It is a first-class early June variety, of great substance, 7-lb. bag and postage for 2s. 9d. W.M. BAYLOR HARTLAND, F.R.H.S., Old Established Seed Warehouse, Cork, Ireland.

L'HORTICULTURE INTERNATIONALE

(Orchid Emporium), Leopold Park, Brussels.

THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

CHRYSA nth EMUMS.

See our New DESCRIPTIVE CATALOGUE for all Novelties of the present Season, and all the best varieties in cultivation, post-free, on application to

PITCHER & MANDA,

The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

PAUL & SON'S CANNAS AND AMARYLLIS.

PAUL & SON'S AMARYLLIS,

Special Exhibition of these in Flower from now (Feb.), ending May.

PLANTS showing Flower-buds can be now Supplied at the following Prices:—

Nice Coloured Seedlings, at 40s. per dozen; Specially Selected do., 60s. per dozen; Numbered Seedlings, with description, 160s. per dozen. These can be Named by Purchasers. Seed saved from the best varieties, 2s. 6d. per Packet.

CANNAS.

New Dwarf Gladiolus-Flowered. Splendid for Winter Flowering.

Three best New Varieties of 1891, 5s. each, including ALPHONSE BOUVIER, Award of Merit, Royal Horticultural Society, January, 1892.

New Varieties of 1890—MADAME CROZY, 5s. each, First-class Certificate, R.H.S.

And 8 best other varieties, at 30s. per dozen.

THE OLD NURSERIES, CHESHUNT.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS for GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, Etc.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London." Telephone No. 4763.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

GARDEN FRAMES in great VARIETY.



No. 60.
PORTABLE PLANT PRESERVER.

CASH PRICES.
CARRIAGE PAID.
6 ft. by 3 ft. ... £2 0 0
12 ft. by 3 ft. ... 3 2 0
6 ft. by 4 ft. ... £2 5 0
12 ft. by 4 ft. ... 3 15 0

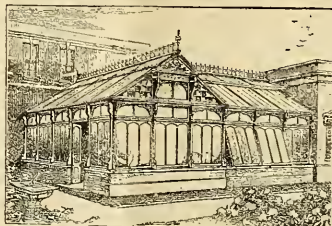
No. 73.
NEW SPAN-ROOF GARDEN FRAME.



CASH PRICES.
CARRIAGE PAID.
4 ft. by 6 ft. ... £2 14 0
8 ft. by 6 ft. ... 4 4 0
12 ft. by 6 ft. ... 7 4 0
16 ft. by 6 ft. ... 10 10 0
All Frames made of Selected Red Deal, painted three times, and Lights glazed with 21-oz. sheet glass.
Carriage paid on all Orders of 40s. value.

BOILERS

Of all makes and sizes supplied at the cheapest rates. VALVES, PIPES, and FITTINGS always in Stock.



Estimates on Application.

GARDEN FRAMES in great VARIETY.

No. 74.
THREE-QUARTER SPAN GARDEN FRAME.

CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0
8 ft. by 6 ft. ... 4 5 6
12 ft. by 6 ft. ... £5 17 0
16 ft. by 6 ft. ... 7 8 6



No. 75.
MELON AND CUCUMBER FRAME.

CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 0 0
8 ft. by 6 ft. ... 3 0 0
12 ft. by 6 ft. ... £4 3 0
16 ft. by 6 ft. ... 5 6 0

CUCUMBER-FRAME LIGHTS.

6 feet by 4 feet, painted and glazed ... 14s. 6d. each.
6 feet by 4 feet, unpainted and unglazed ... 5s. 6d. each.
Catalogue of all our Manufactures, post-free on application.

BEGONIA A SPECIALTY.—Awarded Four Gold Medals, and Gold Cup, and all First Prizes. Seed saved from Prize plants. Our Begonia Seed and Bulbs eclipse all previous years. Choicest mixed, single or double varieties, 1s., 2s., 6d., and 5s. per packet. Collections (Seed)—single, 12 named varieties, separate, 5s., 6d.; 6 ditto, 3s. Tubers, named singles, from 12s. to 42s. per dozen; unnamed seedlings, 12s. to 21s. per dozen; bedding, choicest, 4s., 5s., 6s., and 8s. per dozen; choicest named doubles, from 42s. per dozen; unnamed, choicest, 18s. to 30s. per dozen; choicest mixed, for bedding, 9s. and 12s. per dozen. Catalogues gratis.

JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill, London.

BROAD BEAN, BIDDLES' MONSTER
LONGPOD.—Extra long, fine quality. Per quart, 6d.
CARROT, BIDDLES' SCARLET PRIZETAKER, Intermediate, the finest exhibition Carrot grown. Per oz., 1s.
ONION, BIDDLES' GIANT SPRING.—Too well known as a prize-winner to need further recommendation. Per oz., 1s.
BIDDLES AND CO., THE PENNY PACKET SEED CO., Loughborough, Leicestershire.

WILLIAM BARRON AND SON offer the following well-grown and finely-rooted, which they offer at very low prices:—

ABIES, in variety, 3 to 6 feet.
CEIDUS ATLANTICA and **DEODARA**, 2 to 7 feet.
CUPRESSUS LAWSONIANA, in great variety, 2 to 8 feet.
NUTKAENSIS, in variety, 2 to 8 feet.
PICEA NOBILIS, very fine, 1½ to 2½ feet, 65s. per 100, in variety, 2 to 10 feet.
PINUS AUSTRIACA, over 100,000, 1 to 8 feet.
Forest tree sizes, very cheap, grand specimens, 6 to 8 feet.
PINUS, in variety, 1 to 8 feet.
RETINOSPORAs, in variety, 1 to 8 feet.
THUYA OCCIDENTALIS, for hedges, 6 to 6 feet, 45s. per 100, in variety, 2 to 8 feet.
YEWs, Common, many thousands, 1½ to 2½ feet.
Golden, grand specimens, up to 12 feet.
HOLLIES, in great quantity and variety, 1 to 10 feet.
Golden Queen Specimens, 4 to 7 feet, very fine.
AUCUBA, green and variegated, 1½ to 2½ feet.

AVENUE TREES.
ANGEL SCHWEDLERII (scarlet-leaved Maple), 10 to 14 feet.
NORWAY MAPLE, 10 to 14 feet.
SYCAMORE, from 12 to 14 feet.
HORSE CHESTNUTS, very stout, 10 to 12 feet.
POPLARS, in variety, 10 to 12 feet.
PURPLE BEECH, from 10 to 14 feet.
OAKS, Scarlet and white, 10 to 12 feet.
ELMS, fine variety, 10 to 14 feet.
THORNs, Scarlet, Pink, and White, fine standards.
LARCH, very fine, from 2 to 3 feet.
TROEN (Quick), strong, 15s. per 1000.
very strong, 20s. to 25s. per 1000.
FRUIT TREES, all kinds.
APPLES and **ELMS** especially fine.
A visit from intending planters is respectfully invited. Elvaston Nurseries, Borrowash, Derby, only three minutes walk from Borrowash Station, Nottingham and Derby, Midland Line.

A GOOD INVESTMENT.

Last season I sowed a small quantity of Chrysanthemum seed, from which I obtained twenty varieties that I would not sell for one hundred pounds. I have again obtained seed from the same source, and have a small quantity to spare at 1s., 2s., and 6d. per packet. I shall be pleased to purchase at a fair price any good varieties raised from this seed.—H. J. JONES, Ryecroft Nursery, Lewisham.

The best book on the Chrysanthemum is *Chrysanthemums, and How to Grow Them*. Now ready, post-free, 9 stamps, of H. J. JONES, Ryecroft Nursery, Lewisham, S.E.



NOW READY.

SHARPE'S TRADE CATALOGUE

OF
GARDEN AND FARM SEEDS
for 1892.

Post-free on application to

CHARLES SHARPE & CO.,
Seed Farmers and Merchants, SLEAFORD.



CANNELL'S CINERARIAS.

Nearly all the greatest critics say CANNELL'S CINERARIAS are certainly very much the finest they have ever seen, or ever expect to see.

200 ACRES.

Send for a CATALOGUE.

"FORGET-ME-NOT," Trade Mark.

SWANLEY, KENT.

A SAMPLE OF UNSOLICITED TESTIMONIALS

We are Constantly Receiving.

"January 4, 1892.
"I should like to say I have not found any Manure like your LE FRUITIER for Grapes, especially for Gros Colmar. My Vines carried a fine crop with both large bunches and berries, and well-coloured, for such a season as 1891.

"J. EGGLETON, Eagle House Gardens, "Downham Market."

"February 15, 1892.
"I should very much like to try your Manure—LE FRUITIER—having seen some extraordinary results from its use.
"S. T. WRIGHT, Gileston Court "Gardens, Ross, Hereford."

W. WOOD & SON, F.R.H.S. (ESTAB. 1850),
WOOD GREEN, LONDON, N.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

Field Crawley, Sussex, Sept. 14, 1891.
"The effect of this manure is most noticeable in the development, ripening, and colouring of the fruit. In consequence of the wet and sunless weather, I could not get my Tomatoes growing in an unheated and rather damp house to ripen; but within three days of applying your Manure they began to colour, and I have been gathering splendid fruit almost daily since."
(Signed), B. C. RAVENSCROFT.

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

WINNES' FERTILISERS.—THE VINE AND PLANT FOOD.—Of all Nurseries and Seedsmen, or direct, 15s. per cwt., carriage paid to all Stations. References and testimonials of the Sole Makers—
W. WINNES AND CO., Sunny Hill Vineery, Littleover, Derby.

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent Carriage Paid to any Station in England on receipt of P.O. for 6s. Extracts from 14th Annual Collection of Reports—

NATIVE GUANO, FOR POTATOES, VEGETABLES, &c.
H. BRINKWORTH, Potato Grower, Reading, used for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne,—"Used for Potatoes, Celery, and other Market Garden Crops, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOES, &c.
J. PEEK & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. FITCH, Orrell Gardens,—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market."
Price to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

THE "CLIMAX" INSECTICIDE.

The Cheapest and Best of all Insecticides.

As a Wash for Plants for destroying all kinds of Insects and Parasites, which infest the foliage and roots, such as Green and Black Fly, Mealy Bug, Scale and Thrip, Red Spider, American Blight, Woolly Aphis, Caterpillar, Wood Lice, &c.

Price in tins—½ Pint, 1s.; 1 Pint, 1s. 9d.; 1 Quart, 3s.; ½ Gallon, 5s.; 1 Gallon, 8s.; 5 and 10-Gallon Drums, 8s. per Gallon. Carriage Paid.

Testimonials and Particulars sent free on application.

PREPARED SOLELY BY

THE BOUNDARY CHEMICAL CO., LTD.,
LUTON STREET, LIVERPOOL.



TRADE MARK.



TRADE MARK.

THESE WELL-KNOWN MANURES

ARE USED BY THE

Leading Growers,
Royal Botanic Society,
Royal Horticultural Society,
Royal Parks,
London County Council,
Throughout the United Kingdom,
And in Every Quarter of the Globe.

Sold by SEEDSMEN, FLORISTS, and NURSERYMEN.
in 6d. and 1s. Packets, and SEALED BAGS:—
7 lb. 14 lb. 28 lb. 56 lb. 112 lb.
2s. 6d. 4s. 6d. 7s. 6d. 12s. 6d. 20s.

Or direct from the Works in 1s. Packets, post free, or Bags of either size, Carriage Paid (as sample), in the United Kingdom, for Cash with order as above.

The respective Trade Mark is printed on every Packet and Bag, and also impressed on the Lead Seal attached to the mouth of each Bag. The only Guarantee of Genuine.

PRICES OF CRUSHED BONES IN VARIOUS SIZES
ON APPLICATION.

CLAY & SON,

Manufacturers and Bone Crushers,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

IMPORTANT
TO GARDENERS, AMATEURS,
AND OTHERS, WHO FUMIGATE HOUSES
TO KILL "FLY," OR "THRIP."

You will shortly be ordering your Spring Supply of Fumigating Material. Why lay in a heavy stock of tobacco paper, uncertain in quality, often disappointing, and very unpleasant to use, when you can have a SAFE, RELIABLE article, and one that is pleasant to use?

THE FIRST
OF ITS
CLASS,
AND STILL
THE ONLY
ONE



PRICES:—

For houses with 1000 cubic ft., No. 3 Roll, 1½ each (Post a capacity of 1000 " " 4 " 19 " Free.
The Rolls may be cut into half the smaller capacity, or to make up required quantities for larger houses.

LEMON OIL INSECTICIDE.—The safest and most effective Liquid Insecticide for dipping or syringing.
Prices, post free—Pints, 1s. 10d.; quarts, 3s. 3d.; half gallons, 8s.

CLIBRAN'S EUCALYPTUS MITE KILLER.—A truly valuable remedy, has saved thousands of bulbs.
Prices, post free—Half-pints, 1s. 9d.; pints, 2s. 9d.; quarts, 4s. 9d.; half-gallons, 8s.

OR FROM THE SEEDSMAN.
CLIBRAN'S OLD-FIELD NURSERIES, ALTRINCHAM;
10 & 12 MARKET STREET, MANCHESTER;
And Principality Nurseries, Dewgway, Llandudno.

THE "STOTT" SPECIALTIES

For Destruction of Insect Pests.

Patent Distributor, Patent Syringe, Patent Sprayers.

KILLMIGHT,

2-oz. Sample posted free on application.

Testimonials and Price Lists on application. Retail from Ironmongers and Seedsmen. Wholesale and Retail from the Stott Distributor Co., Ltd., Barton House, Manchester

LOOK TO YOUR BOILERS,

And replace INEFFICIENT and DEFECTIVE ONES by

WEEKS'S PATENT DUPLEX UPRIGHT TUBULAR, THE CHAMPION BOILER OF THE AGE.

*It is unparalleled for POWER, ECONOMY, and DURABILITY, the
WATER-BARS alone being equal to many Boilers.*

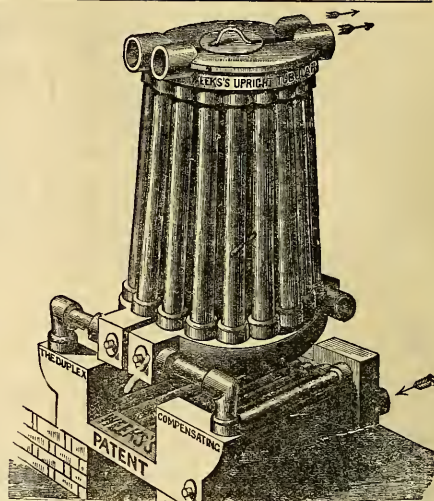
A TEN YEARS' GUARANTEE given with all Duplex Boilers (subject to printed conditions) when fixed by the Patentees.

FULL PARTICULARS AND PRICES ON APPLICATION TO

J. WEEKS & CO.,

Horticultural Builders, Hot-water Apparatus Manufacturers and Patentees,

KING'S ROAD, CHELSEA, LONDON, S.W.



GAME COVERTS.

ARBOR-VITÆ, American,	2½ to 3 feet, 28s. per 100.
Do.	3 to 4 feet, 35s. per 100.
CUPRESSUS LAWSONIANA,	2 to 2½ feet, 30s. per 100.
Do.	2½ to 3 feet, 50s. per 100.
Do.	3 to 4 feet, 75s. per 100.
COTONEASTER SIMMONSII,	2 to 3 feet, 20s. per 100.
HOLLIES, Green,	1½ to 2 feet, 40s. per 100.
Do.	2 to 2½ feet, 60s. per 100.
MAHONIA AQUIFOLIA,	1½ to 2 feet, 20s. per 100.
YEW, English	1½ to 2 feet, 35s. per 100.
Do.	2 to 2½ feet, 60s. per 100.

The above are all bushy and well rooted.

JNO. JEFFERIES & SON,
ROYAL NURSERIES, CIRENCESTER.

AMERICAN SPECIALTIES.

CHRYSANTHEMUM SEED,

Carefully hand-hybridised, and saved from all the newest and best varieties known, at our

SHORTHILL NURSERIES (U.S.A.).

Price, 3s. 6d. per Packet: 5 Packets for 15s.

25s. offered in three Special Prizes at the Royal Aquarium Show for the three best new varieties raised from this Seed. For particulars, write for our

NEW DESCRIPTIVE CATALOGUE,
Now ready, Post-free on application to—

PITCHER & MANDA,

THE UNITED STATES NURSERIES,
HEXTABLE, SWANLEY, KENT.

FERNS

If you wish to have a CHOICE, VARIED & BEAUTIFUL COLLECTION OF FERNS different from those commonly seen you can obtain such from

W & J. BIRKENHEAD.

FERN NURSERIES SALE, MANCHESTER
Who have 1400 DIFFERENT KINDS TO SELECT FROM. CATALOGUE ON APPLICATION.

**VEITCH'S
NEW CARROTS,**
'MATCHLESS' & 'MODEL'.
THE BEST FOR EXHIBITION,
TABLE USE, and PROFIT.

VEITCH'S MATCHLESS SCARLET CARROT.

A splendid strain of the intermediate type, but heavier cropping, earlier, and far superior in quality and shape to the old variety. The roots are of medium size, symmetrical form, and handsome appearance, with skin of a glowing scarlet colour. Per ounce, 1s. 3d.

VEITCH'S SCARLET MODEL CARROT.

The finest and most perfect type of the Stump-rooted class. It is of vigorous growth and remarkably early, regular and symmetrical in shape, and of a bright glossy scarlet colour. Splendid quality. Per ounce, 1s. 3d.

For full descriptions of the above and other Choice Novelties, see **SEED CATALOGUE** for 1892, forwarded Post-free on application.

JAMES VEITCH & SONS
ROYAL EXOTIC NURSERY,
CHELSEA, S.W.

Select **VEGETABLE**,
Choice **FLOWER**,
The best qualities at
Moderate Prices.

SEEDS

Delivered Free by Rail or Parcel Post.

The Best **SEED** **POTATOS**,
Garden Tools,
Sundries, &c., &c.

Illustrated
Descriptive Catalogue, No. 403
POST FREE ON APPLICATION.

Dicksons Seed Growers, Chester.
(Limited)

TRADE OFFER OF PALMS.

COCOS Weddelians, in thumbs ...	at 20s. per 100.
" " " in 60's, ...	at 55s. per 100.
KENTIA Fosteriana and Belmurensis, in thumbs, at 20s. per 100.	
" " " in 60's, ...	at 60s. per 100.
" " " in 48's, ...	at 24s. per doz.
" " " in 32's, ...	at 48s. per doz.
" " " in 60's, ...	at 32s. per 100.
" " " in 48's, ...	at 25 per 100.

W. Veitch has a fine Stock of *Asparagus plumosus nanus*, in 48's and 60's; *Pandanus Veitchii*, *Dacrydium Lindenii*, and *Ficus elastica*.—W. ICETON, Putney, S.W.

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.



PRESIDENT MELON.

2s. 6d. per packet, post-free.

The result of a cross between Hero of Lockinge and Hendre Seedling. The fruit, which is oval in shape and large in size, is of a brilliant yellow colour, and handsomely netted. The flesh is white, firm, and luscious.

WEBB & SONS, WORDSLEY, STOURBRIDGE

March 4th next.

NEW ORCHIDS.

GREAT SALE.—NO RESERVE.

Extraordinary New Lady's Slipper,

CYPRIPEDIUM CHAMBERLAINIANUM (SANDER).

GRAND NEW SPECIES.

EVERY PLANT RECEIVED WILL BE OFFERED
WITHOUT ANY RESERVE.

A magnificent and beautiful new *Cypripedium* which we have the privilege to offer. It is dedicated by permission to the Right Hon. Joseph Chamberlain, M.P.

An altogether unique and absolute new departure in every way from all known *Cypripediums*, in inflorescence, in habit, and in leaf, a perfectly marvellous novelty. Its leaves in some instances are 4 inches across, ample, undulated, and often beautifully tessellated on the upper surface, reminding one slightly of *C. Morganæ*, but much larger and finer; it is altogether a noble plant.

This extraordinary *Cypripedium* produces flower spikes up to 2 feet high, bearing all along its stem its white, yellow, and purple blossoms, and we are able to show dried flower spikes which have produced over thirty flowers. Another remarkable feature is, that the flower seats are not more than half an inch from each other.

The upper part of the flower is yellow with about six rosy-purple lines, divided by the midrib, emerging from a profusion of rosy-purple spots; those at the lower part are much denser than at the upper half of the dorsal sepal; the whole is beautifully reticulated and charmingly transparent towards the margins, densely covered on the outer surface with white hairs. The upper half of the dorsal sepal is clear and pure, without any spots or lines; the lower dorsal sepal is similar in its markings, only not so dense, and about half the size of the upper dorsal sepal, which extraordinarily enough is as broad as it is long, being about 2 inches in diameter.

The two petals are spreading, curled and twisted at the ends like a corkcrew, and spotted in the way of *C. superbiens*; the margins are charmingly undulated, and bear a profusion of white hairs. They are spotted on both surfaces with blackish-purple and chocolate spots and blotches; some purple lines also run along them. They are of a lovely shining white and creamy-yellow colour, highly ornate, each of them over 2 inches long. The slipper, shoe, or pouch, sometimes called the labellum, is also exceptionally beautiful; it is rose and white, more inflated than *C. cardinale*, and double its size, reminding one of a beautifully-spotted bird's egg, so exquisite is the fine blackish-purple spotting over two-thirds of its lower part. The upper part and side-lobes are of a shining porcelain white colour; this combined with the purplish-black spotting lends it a hue and charm perfectly unique.

We have been asked by several Gentlemen to Sell the whole Importation of this altogether extraordinary and charming new *Cypripedium*, without reserve, and we will do so.

Cypripediums are most difficult to introduce, and without the right moment is caught, all arrive dead. *CYPRIPEDIUM CHAMBERLAINIANUM* has come home in altogether exceptional order and condition, and the Sale will contain the whole Importation of about 700 Plants.

Abundant dried material will be on view.

MESSRS. PROTHEROE & MORRIS

Have received Instructions from Mr. F. SANDER to SELL, at their Great Rooms,
67 and 68, CHEAPSIDE, LONDON, E.C.,

A Grand Lot of the above New *Cypripediums*, &c.,
ON FRIDAY, MARCH 4.

March 4th next.

NEW ORCHIDS.

NO RESERVE.

CATTLEYA VICTORIA REGINA

(SANDER),

A distinguished and excellent new *Cattleya*. From one of my oldest exploring collectors, and a superb novelty of greatest merit in every way. Free growing, free and abundant flowering. The flowers are, individually, 5 inches across, and as many as eight or nine are borne on a spike. The flower is very compact, and of great substance. The sepals and petals are of a deep rosy-red, glowing and glistening, blotched crimson and purple, the margin lighter, and undulate. The lip is crimson, with a white tube. The importation is in magnificent condition.

CATTLEYA SPECIES.

A beautiful *Cattleya*. See dried flowers on view day of sale.

CYPRIPEDIUM

(GOLDEN YELLOW).

When the beautiful *Cypripedium insigne* Sander was flowered, a few years ago, we instructed our collector to search for it, and are pleased to be able to offer now a few plants of a simply magnificent golden-yellow and white *C. insigne*. The plants are in fine order.

MAGNIFICENT NEW CYPRIPEDIUM.

CYPRIPEDIUM

KIMBALLIANUM

(SANDER),

QUITE NEW SPECIES.

This grand new species is now offered for the first time, and no plants of it have ever been sold. It is a grand grower, and a grand novelty. Nothing similar to it, or in any way like it, has ever been imported up to now. It is a stately species. Its flowers are said by the natives to be of enormous size, and the colours are described as crimson, purple, and white in this description, we believe. It has been a terrible difficulty to get plants home alive; and after all our trouble and expense, we only got a few plants. Those offered are in grand condition, and we believe that it will be absolutely impossible for us to ever again offer it, and that this will be the only time it will be on sale. An imported plant had leaves on it fully 2 feet long. The leaves are most beautiful, of elegant shape, and heavily mottled and blotched.

CYPRIPEDIUM SPECIES.

This may turn out to be simply a variety of *Cypripedium Wallisii*, but it comes from quite a different country, the extraordinary flowers have petals nearly 2 feet long and are pure satiny white, excepting the lip—which is rose. In *Wallisii* it is white. It is one of the most stately of *Cypripediums* we have introduced. In fact, it is quite a sensational plant. The consignment is in fine condition.



THE

Gardeners' Chronicle.

SATURDAY, FEBRUARY 27, 1892.

WINTER RAMBLES ROUND CANNES.

THE towns of the Western Riviera are backed by hills of various heights; those behind the *Hôtel Métropole*, which is a mile or more away to the east of Cannes, rise to about 320 feet. A glance at a map of the world will show that, starting from the west end of the Pyrenees, the great mountain chain continues more or less continuously, till it sinks and disappears in the island of Formosa, off China. The Pyrenees are linked to the Maritime Alps by the *Estérel* Mountains, and these hills, which form the link to the higher mountains of Switzerland. The *Estérel* on the west, and the snow-capped *Maritime Alps* on the east, bound the view on either side. That these hills must have been much higher formerly, is clear, from the enormous amount of denudation they have undergone, as the most abundant rock or "gneiss" is exposed all round Cannes. It is a buff-coloured, easily disintegrated, and aqueo-igneous rock, which forms a poor, hungry soil for the Pines, Heaths, &c., which clothe the entire slope, except where it has been cleared for villas and their gardens, hotels and their grounds, and the winding zigzag roads through and over the hills.

Geologically, it is difficult to say what the gneiss, a sort of streaky granite, represents. The strata immediately upon it, when present, are "triassic" with little patches (outliers) of lias, the oolitic or jurassic limestone; being on the high ground to the east, so that the gneiss may represent anything below the trias. The famous Vallauris pottery manufactory is close by, the clay being supplied by some of the triassic beds, and are of various colours—blue, red, black, and grey. These beds overlook the little bay (in which about ten of the French ironclads are now reposing), known as *Golfe-Juan*. The railway runs along the coast, and about opposite the middle of the bay is the station, and in front of it is a column marking the spot where Napoleon I. bivouacked after his arrival from Elba on March 1, 1815, Corsica being within sight if the atmosphere be favourable.

The slopes of these hills carry a poor vegetation, known as the *Mauvarre Pine Forest*, supplemented by Gum trees (*Eucalypts*), which flourish well. The following form the main bulk of the trees and shrubs. First is *Pinus Pinaster*, familiar to residents of Bournemouth, which furnishes an abundance of cones for lighting the wood fires, as coal is a thing unknown here. The boughs support innumerable bags made of web full of tawny caterpillars, which do great harm in destroying the foliage.

Of other trees there are the Cork Oak, the evergreen Oak, and the common Oak. Of the large Cork trees, the bark has been stripped from

the trunks, whether artificially or not I could not tell, but a new growth has taken its place. This, like the *Quercus Ilex*, is evergreen. Nothing else can be really called a tree. Of bushes, there are fine specimens of *Juniperus oxycedrus*, abounding with large green berries; smaller bushes of *Pistacia Lentiscus*, Bay Laurel (*Laurus nobilis*), Myrtle (*Myrtus communis*), *Phyllirea angustifolia*, two species of *Cistus*, the commonest shrub being the shiny yellow-flowered *Calycotome spinosa*, resembling a *Genista* (of which there is a male species, *G. humifusa*), only the calyx splits in half, the top being pushed off like a cap by the corolla, hence its generic name. *Lavandula stachas*, just pushing forth its quadrilateral spikes, and occasionally *Smilax aspera* scrambles about.

Of the Heath family there is the Strawberry tree, *Arbutus unedo*, *Erica scoparia*, and *E. arborea*, now covered with minute pinky-white bells. This is the *bruyère* of the French, the wood of which is made into "briar" pipes, this name being, of course, a corruption from *bruyère*, and has nothing to do with briars proper. Two other British species, *E. vagans*, the Cornish Heath, and *E. mediterranea*, are recorded as growing in the south of France, but I have not seen them. Now, it is interesting to remember that these last are found in Mayo and Galway, while *Arbutus* occurs in Killarney, Muckross, and Bantry. These plants represent the time when Ireland and Spain were united. Two other members of this Spanish-Irish flora which occur in the west and south-west of Ireland, viz., the two *Saxifragas*, *S. umbrosa*, London Pride, and *S. Geum*, found on the mountains of Kerry and Cork, are also found on the Pyrenees, but do not extend further east. Another glance at the map will show that the west coast of Ireland is on the same meridian as that of Spain; and, apart from geological evidences, the old legends of Ireland record that, "once upon a time," only a river separated Spain from Ireland. This was probably quite true, as an elevation of 600 feet would cause the British Isles to be united with the Continent. When such was the case, the Spanish mountains would be united by land with those of the west of Ireland, while a common flora spread over them both. Thus it is we can account for our own Strawberry tree and Heaths being found near Cannes.

Of weeds of cultivation the following ubiquitous plants abound:—Shepherd's Purse, *Cardamine hirsuta*, *Geranium molle*, Chickweed, *Oxalis corniculata*, Fumitory (*F. parviflora*), Groundsell, Sowthistle, *Lamium amplexicaule* (cleistogamous form), *Veronica agrestis*, *Euphorbia peplus*, and *Poa annua*. Now this list is precisely the same as may be drawn up from the gardens at Cairo, and some of these, such as Shepherd's Purse, *Cardamine hirsuta*, *Poa annua*, and a Dock are the very ones Sir J. D. Hooker unexpectedly met with in the highlands of Sikkim. We now "know the reason why." They are all self or wind-fertilised. Not being dependent on insect aid, they are cosmopolitan in their range, and have long since proved themselves the "best fitted to survive."

In addition are the following English friends, which still put in an appearance in winter:—*Parietaria officinalis*, *Rubia peregrina*, Honey-suckle, which is evergreen, as also in Malta; *Cotyledon umbilicus*, *Plantago media*, *Rubus fruticosus*, and Primroses. There are doubtless plenty more, but they are at present invisible. Of natives may be added *Veronica cymbalaria*, with white flowers; *V. didyma*, *Calendula arvensis*, common in Malta, but replaced in Egypt by

C. egyptiaca, apparently a variety, if it differ at all; occasional tufts of honey-scented *Alyssum maritimum*, a plant common all over the rocks of Malta, and grown as a garden plant in Cairo.

Now for gardens. Australian *Acacias*, almost all phyllode-bearing, excepting *A. dealbata*, with bipinnate leaves, which is always called *Mimosa*, are innumerable; several species of Gum trees, a few *Hakeas*, and a *Banksia*, with four large spikes of flowers upon it; all the preceding being now in bloom. *Agaves* and *Aloes ad lib.*, the latter lately described by Mr. Baker in the January number of the *Kew Bulletin*. Several *Agaves* have flowered, their tall candelabra-like inflorescences still standing; *Dracenas* with branching heads; *Palms* of many species; *Dates* ripen, but produce a poor fruit; *Opuntias* of two or three species; large bushes of *Abutilons*, 15 feet high; also of *Polygala chamaebuxus*; a bushy *Senecio*, *S. angustifolia*; *Castor-oil* plants, and, of course, *Orange* trees in abundance, chiefly grown for their flowers, as the fruit is not first-rate. A species of *Mesembryanthemum* with triquetrous leaves is in every garden, crawls over every wall and rock, and creeps along the roadsides.

With regard to the florist's gardens, which abound, one is somewhat disappointed, as they contain—at this season, at all events—nothing but *Roses*, mostly *Tea*, with a few common climbing red ones; *Marguerites*, yellow and white; *Carnations* to any extent; *Narcissus tazetta* and vars.; white *Stocks*—these latter are all grown in long beds, with a framework round them to support matting, which is laid over them to avoid the ill-effects of radiation. Some florists adopt the barbarous practice of dyeing their white *Carnations* of a greenish-blue colour! *Violets* bear enormous flowers. Such, with *Mignonette*, and sprays of "*Mimosa*," constitute the contents of the baskets sent over in quantities to England. *George Henslow*.

NEW OR NOTEWORTHY PLANTS.

DENDROBIUM O'BRIENIANUM.*

HERE we have a very peculiar new *Dendrobe*. The general view of it promises not very much, but the plant when in flower is quite unlike any other species known as yet. The many-flowering drooping racemes of yellowish-green flowers are, in spite of the moderate colours, very nice; and as contrasts are always pleasant, even the contrast with the rose or purplish, or yellow-flowering *Dendrobes*, gives a good effect. The lateral sepals are produced into a long, so-called spur, which in its middle makes suddenly a very obtuse angle like a knee. The plant was gathered by Mr. F. Sander's most successful collector, Mr. Micholiz, in the Philippine Islands, and flowered in the autumn of last year at St. Albans.

* *Dendrobium O'Brienianum*.—Sepalo dorsali ovato-oblongo obtuso, lateralibus multoties longioribus, obliquis, parte superiore libera dorsali subaequilongius triangulari obtusius deinde in pseudocalcar tubiforme longissimum infra subapicatum genuflexum demum acutatum producti; petalis lateralibus sepalis fere aequalilongis oblongis obtusis; labello e pedo longissimo fere lineari sensim dilatato, oblongo lanceolato integro margine serrulato disco lineis 3 elevatis apicem fere longe decurrentibus instructo; gynostemio brevissimo crasso; anthera obtusa plana adnatae rectangulariter abscesse marginibus sub-barbata, androclivio utrinque dente recurvo instructo. Radices crebri crassiusculi albi. Bulbi caulescentes 15–20 poll. longi, 1 cm. v. plus diametro, vetusti cinerei. Folia oblongo lanceolata acuminata papyracea (10–12 cm.), 4–5 poll. longa, 1–1 poll. lata. Racemi pedunculati ad 8 poll. (20 cm.) longi, vel paucum longiores, 30 flori. Bractee minutissimae triangulae acutae. Pedicelli et ovaria 1 poll. (2.5 cm.) longa, sepalis 5 lin. (1 cm.) longa; lateralium partitio superior libera vix 5 lin. (1 cm.) longa, partitio inferior producta 20 lin. (2 cm.) longa; petalis sepalis paucum brevioribus, labello fere 10 lin. longum, partitio antice propria 5 lin. longa. Totus flos viridi laetum sepalis petalisque infra albidis. —*Krönzlin*.

LYCASTE SKINNERI VAR. MRS. F. L. AMES, new var.

Considering the great variability of *Lycaste Skinneri*, and the thousands of it which have been imported, it is surprising how few may honestly be selected as good and distinct; but on that question, in relation to the one now recorded, and to the accompanying record, we are relieved of all difficulty. The sepals are white, tinted with salmon colour; the petals salmon-colour, with an orange tint at the base; the lip at the base, and on the callus and side-lobes, Indian-yellow, and its front lobe is creamy-white, freckled with yellow—extraordinary colours for *L. Skinneri*. The flower is also large and well-shaped. It flowered with Messrs. F. Sander & Co. at St. Albans.

CROSSES AND CROSSING OF PLANTS.

(Continued from p. 236.)

NEW CHARACTERS FITTED TO NEW CONDITIONS.

Almost every farmer and gardener at the present day feels that an occasional change of seed results in better crops. Much of the rapid improvement in fruits and vegetables in recent years is due to the practice of buying plants and seeds so largely of dealers, by means of which the stock is often changed. Even a slight change, as between farms or neighbouring villages, sometimes produces more vigorous plants, and often more fruitful ones. In the cross, a new combination of characters or a new power fits it to live better than its parents in the conditions under which they lived. In the case of change of stock we find just the reverse, which, however, amounts to the same thing, that the new characters or powers fit the plant to live better in conditions new to it than plants which have long lived in those conditions. In either case, the good comes from the fitting together of new characters or powers, and new environments.

Crossing within the variety, and change of stock within ordinary bounds, are therefore beneficial, and the results in the two cases seem to flow from essentially the same causes, and crossing and change of stock combined give much better results than either one alone. These processes are much more important than any mere groping after new varieties, not only because they are surer, but because they are universal and a necessary means of maintaining and improving both wild and cultivated plants. Upon this point Darwin expressed himself as follows: "It is a common practice with horticulturists to obtain seeds from another place having a very different soil, so as to avoid raising plants for a long succession of generations under the same conditions; but with all the species which freely intercross by the aid of insects or the wind, it would be an incomparably better plan to obtain seeds of the required variety which had been raised for some generations under as different conditions as possible, and sow them in alternate rows with seeds matured in the old garden. The two stocks would then intercross with a thorough blending of their whole organizations, and with no loss of purity to the variety; and this would yield far more favourable results than a mere change of seeds."

PRODUCING NEW PLANTS.

The second result of crossing, the summary production of new varieties, is the subject which is almost universally associated with crossing in the popular mind, and even among horticulturists themselves. It is the commonest notion that the desirable characters of given parents can be definitely combined in a pronounced cross or hybrid. There are two or three philosophical reasons which somewhat oppose this doctrine, and which we will do well to consider at the outset. In the first place, Nature is opposed to hybrids, for species have been bred away from each other in the ability to cross. If, therefore, there is no advantage for Nature to hybridise, we may suppose that there would be none for man; and there would be no advantage for man did he not place the plant under conditions different from Nature

or desire a different set of characters. We can overcome the refusal to cross in many cases by bringing the plant under cultivation where new conditions overpower its former antipathies. Yet it is doubtful if such a plant will ever acquire a complete willingness to cross. In like manner, we can overcome in a measure the comparative seedlessness of hybrids, but it is very doubtful if we can ever make such hybrids completely fruitful. It would appear, therefore, that with plants in which fruits or seeds are the parts sought, no good can be expected, as a rule, from hybridisation, and this seems to be affirmed by facts. It is evident that species which have been bred away from each other in a given locality, will

other regions much like each other. Now it follows that if representative species are less opposed than others, they are more likely to hybridise with good results; and this fact is well illustrated in the Kieffer and allied Pears, which are hybrids between representative species of Europe and Japan. We will also recall that the hybrid Grapes which have so far proved most valuable are those obtained by Rogers between the American *Vitis labrusca* and the European Wine Grape, and that the attempts of Haskell and others to hybridise associated species of native Grapes have given, at best, only indifferent results.

(To be continued.)

Dr. Roland Thaxter, Mycologist of the Connecticut Agricultural Station, says, "There is no longer room for doubt that the cause of the disease is a bacterioid fungus, and that, whenever he has examined the disease out-of-doors, it has invariably been found to be visibly accompanied by the growth of an undetermined fungus, at least in its earlier stages; and that this fungus, when cultivated in an absolutely pure condition on nutrient substances, and thence transferred to growing Potato tubers, with the necessary precautions, reproduces in them the disease called scab, from which it was originally obtained, the observations and experiments so far being convincing to the author that the two are directly associated as cause and effect.

Among the many causes of an inorganic nature which have been said to produce the disease, may be mentioned:—

Excessive moisture in the soil, supposed to affect the lenticels, which constitute the small rough dots scattered over the surface of normal tubers, producing an abnormal growth of corky tissue at such points, which may extend to the adjacent superficial tissue, and be associated with more or less decay.

Mechanical irritation, induced through foreign substances in the soil, which may act as a direct irritant to the surface of the tubers; the "scab" being the result of an attempt to repair the injury through an abnormal corky growth at such points, also accompanied or followed by decay.

Chemical action, due to the presence of certain substances in the soil, such as lime, or oxide of iron, which, through an irritant action, might lead to similar results.

Manuring, especially by stable-dung, which has been definitely observed to influence the prevalence of the disease; a fact which has been explained on the supposition that it may furnish conditions favourable for the action of one or more of the supposed causes already enumerated.

Turning to the theories which connect the "scab" with the action of some organism, vegetable or animal, the "insect" theory is one very commonly entertained, especially by horticulturists, "insects" including earth-worms! This idea is based upon the fact that scab spots form an attractive feeding-ground for a variety of insects, especially wire-worms, millipedes, and mites, the common occurrence of which, especially in the deeper scab spots, has led to the belief that the two were directly associated. That this is not the case has been shown by careful observation, the only connection between the two resting on the fact that the injury already existing from a quite different cause is often extended by them very considerably.

The simple fact that scab occurs very commonly on light dry land, entirely free from extraneous material which could produce external irritation, and regardless of lime or other chemical substances in the soil; also that farm-yard manure, not infrequently, at least, yields a clean crop, is sufficient to show clearly that none of these supposed causes is in itself sufficient to account for the phenomenon. The best that can be said of them is, that in some cases they may involve conditions favouring the prevalence of the disease; but the question of its cause they leave untouched. *J. J. Willis, Harpenden.*



FIG. 37.—*CYMBIDIUM GRANDIFLORUM*: COLOUR GREENISH, LIP RICH CRIMSON; FLOWER REAL SIZE, RACEME REDUCED TWO-THIRDS.

have more opposed qualities than similar species which have arisen quite independently in places remote from each other. In the one case, the species have struggled with each other until each has attained to a degree of divergence which allows it to persist; while in the other case, there has been no struggle between the species, but similar conditions have brought about similar results. These similar species, which appear independently of each other in different places, are called representative species. Islands remote from each other, but similarly situated with reference to climate, very often contain such species, and the same may be said of

POTATO SCAB.

It is a well-known fact that the theories and explanations which have been advanced to account for certain diseased conditions of the surface of Potato tubers, generally known as "scab," are nearly as numerous as the experimenters who have studied the disease, but until quite recently no satisfactory demonstration of what the active agent really is which gives rise to the condition has been advanced, although the subject has occupied scientific investigators from time to time for upwards of half a century.

CYMBIDIUM GRANDIFLORUM.*

THIS very striking species, better known as *C. Hookerianum*, excited much attention at the last meeting of the Royal Horticultural Society, when

* *Cymbidium grandiflorum*, Griffith, *Not.*, iii., 312; *Jc. Plant. Asiat.*, t. 321.—Leaves 8 to 24 by $\frac{3}{8}$ to 1 inch; scape very robust, decurved, sheaths lax; raceme six to twelve flowered; flowers 3 to 4 inches in diameter; sepals and petals oblong-lanceolate acute, green; lip yellowish, pubescent, and ciliate; mid-lobe large, suborbicular, waved, and crenate, blotched or speckled with red.

C. Hookerianum, Rehb. i., in *Gard. Chron.*, 1866, p. 7; *Bateau*, in *Bot. Mag.*, t. 5574.

Eastern Himalaya, East Nepal, Sikkim, Bhutan—alt. 5000 to 7500 feet.—*J. D. Hooker in Flora, British India*, Vol. 5.

it was shown by Mr. Ross. It was described by Professor Reichenbach in our columns in 1886, p. 7, but, as will be seen from the appended note, had been previously registered by Griffith. The flowers are greenish, but the lip is of a rich crimson, and crenulate at the margin, as shown in the illustration.

CEYLON.

(Concluded from p. 234.)

PERADENYA.—The gardens are four miles from Kandy, and about eighty from Colombo. The railroad passes through lowlands and Rice-fields, past native villages surrounded by Plantains and Cocoanuts, and through occasional jungles, until it reaches higher ground. The scenery changes rapidly, forests now and then appearing in the foreground, with occasional views of distant castellated mountains. As the mountains rise out of the terraced Rice-fields and from the shrubs of the jungles, the eye catches on every hand glimpses of groups of bent Cocoa-nut Palms and straight Arecas. It is difficult to realise that these Palms mean, perhaps without exception, human habitations at their feet. Through these scenes of enchanting beauty the railroad has made its way, demanding here and there very skilful engineering. The track is lined with Lantana, which is slowly giving way before the encroachments of a still stronger invader, a Composite from Mexico.* *Mimosa pudica* is also widely spread as a strong weed.

The drive from Kandy to the great garden is through a well-shaded street, lined with native houses. These are gathered at short intervals into villages. My first visits to this garden were made, as were those in every other instance save one on the whole tour, without reporting to the Director. In this way a student can take things very leisurely, and look up matters of detail which it is not right or courteous to trouble the chiefs with; later, all special points of interest which have escaped notice are likely to be brought out by a walk with the Director. The establishment at Peradeniya consists—(1) of 150 acres of garden proper and of arboretum;—(2) of a museum and herbarium, with library attached. The Director, Dr. Henry Trimen, widely known as an author and editor, controls not only these, but the branch gardens as well, making his head-quarters at Peradeniya.

Once for all, it may be said, that botanists are made welcome in every way, finding every facility for carrying on systematic work. The climate is healthful, provided one takes ordinary and reasonable precautions against exposure to the direct rays of the sun in the hottest part of the day.

It is impossible to describe the wealth of material placed at the service of every visitor to the two great gardens of the equatorial belt, that under present review, and the one at Buitenzorg to be considered in a subsequent note. It is equally impossible to institute a comparison between the two.

In both these vast establishments the student finds magnificent specimens of all, or very nearly all, the useful plants belonging to hot moist climates. Many years ago the writer had the privilege of seeing tropical plants at the isthmus of Panama; but even the delightful impressions received on that occasion, which had perhaps become deepened with the lapse of time, were forgotten in the presence of the abounding luxuriance of these Palms, Bamboos, glossy-leaved evergreens, and tangled climbers.

At Peradeniya, the most characteristic plants are so placed as to be seen to good advantage. This was frequently observed when in search for points of view for photographing individual specimens. Moreover, the system of labelling is about perfect; Dr. Trimen makes use of a large staff formed out of baked clay, shaped so as to give an inclined surface, on which the name is plainly painted. These brick-red labels with their painted disk are not unattractive; at any rate, they do not detract from the general effect of the broad lawns bordered by gigantic trees.

The most remarkable single tree in the garden is the Seychelles Palm or double Cocoa-nut, now almost fifty years old. The giant and other Bamboos, the grove of India-rubber trees near the main entrance, and the avenue of *Oreodoxa*, are only a few examples of the finer groups of single species. The most imposing group of different species is that of the Palms not far from the gate. The classified arboretum is rich in fine specimens, the principal orders being represented on a generous scale.

The nurseries, kitchen garden, rockery for succulents, ferneries, and clusters of economic plants are on a scale commensurate with the arboretum. As might be expected, the Orchids are by no means so fine as the collections one sees in large private establishments in England and on the Continent; it is not possible to command the conditions of growth for all the finer species with the same degree of certainty as in colder regions, where a stove means something.

At the time of my visit, *Amberstia nobilis* and the great Grape Myrtle were in full flower, and a large Talipot Palm in bloom was one of the most conspicuous objects. I was a little too early in Ceylon for some of the tropical fruits, and too late for a few others, but fortunately was able to remedy this lack further on in Queensland and Java.

Among the finest of the photographic views of the gardens in Peradeniya are the following:—(1) the main entrance, with the long lines of Assam-rubber trees, and the cluster of different Palms; (2) the avenue of royal Palms; (3) the different Bamboos at the ponds; (4) the distant view of the Satinwood bridge. The view from the Herbarium is also one of great beauty.

Visitors to the gardens are greatly assisted by the intelligent native servants detailed to act as guides. They have a fair knowledge of the whereabouts of almost all the important plants, and seldom go wrong with regard to names. It should be stated also that the natives employed in widely different stations in the establishment prove, according to the Director and the Superintendent, generally efficient.

The Herbarium is rich in certain directions, and can be consulted by students under proper restrictions. The Museum is as yet small.

It remains to be said that plants and seeds are for sale at the garden, at moderate prices. A Wardian case, packed with forty assorted plants, is shipped for 40 rupees, say, from 16 to 20 dols.

The influence for good which has been exerted in Ceylon by the garden and its branches is incalculable. The establishment has proved a centre of scientific activity and high economic value. *G. L. Goodale.*

THE AMATEUR'S GARDEN.

POT-HERBS AND FLAVOURINGS.

(Continued from p. 245.)

THE amateur should always look well after his pot-herbs, and above all select a nice, deep, well-drained sunny spot for the Parsley bed. Gardeners with acres of land may sow Parsley by the hundreds of yards by the side of the walks, and admire its beautiful green appearance in summer, but they are often in difficulties with the cook about the Parsley supply in midwinter; therefore, we advise our readers to grow theirs in beds of such a width that they can cover them in winter with frames, which should be banked up with soil to keep out frost; and then with a few armfuls of litter all can be made quite safe, and you may perchance have some to spare for the "professional" in his time of scarcity.

The other pot-herbs, as Borage, which usually looks after itself, turning up everywhere after it has once come into the garden, and which if there are bees, no good apianian, or anyone else, thinks of destroying. Spear-mint, of which it may be said, that once planted, always present, and at times unpleasantly so; generally, it will be sufficient to give it a top-dressing of rotted manure, or rich, or even merely fresh soil, after carefully forking up all roots that have strayed beyond

the allotted space, and burning them. Sage will be much browned by the winter's wind, and hard weather, and had better be cut hard back; slips may be put in of side-shoots. Sweet Marjoram, any of the Thymes, and Tarragon, may be cut over like Sage; or if more plants be wanted, they may be taken up, divided, and replanted. Chives may be similarly treated as regards division of the roots; these are useful flavouring materials at all seasons, and more especially for salads, when they can be had young and tender, as when slightly forced say in a hothouse, or even the kitchen window.

Potato-Onions should be much in request this season, owing to the bad Onion seed harvest of 1891. In northern England, these useful bulbs were, and may still be, much grown. There are several varieties, some round, others pear-shaped, some strong, others mild-flavoured. They are propagated by separation of the sections of the bulbs in March, as are Shallots. These latter should soon be got into the soil, or rather, laid on it, in shallow drills, made with a small hoe, and kept in position, after giving them a squeeze into the soil, by filling the drill with fine coal ashes.

If the amateur have a warm pit or a hothouse, he may sow some Sweet Basil and Pot Marjoram; a painful case of an early Cabbage, another of an early Cauliflower, one or two of Lettuces of both kinds, and one or two of Onions if he wants very big bulbs; and supposing that Celery and Leeks are required in August and September, a small pinch of seed of each may be sown. Choose light soil, shallow pans or boxes well drained for these seeds, and as soon as germination has taken place, put them within 6 inches of the roof-glass, and never let the soil get very dry. Even a sheet of tissue paper laid over them would be permissible when the sun is very hot about midday. Pricking-out must be done when the plants touch each other.

FRUITS.

The Gooseberry bushes, were left unpruned for fear the tomtits would steal the leading buds, and the red, white, and black Currants, should be pruned. The first-named should have the heads kept hollow-basin-shaped; but as Gooseberries differ much in habit, that must be studied. Do not cut back the leading shoots of last year's growth, unless they already touch the soil, and the side shoots which are removed should have only half an inch left at the base. Old spurs which have grown very long may be removed; they will not be missed, and, moreover, the younger ones and the young shoots carry the finest fruits. If the saw-fly caterpillar was troublesome last year, scrape away the soil under the bushes, and bury it deeply somewhere else, putting some clean soil from the vegetable quarter in its place. Red and white Currants may be treated like the Gooseberry. Black Currants should have their shoots thinned, as well as some of the oldest branches; but do not cut back the annual shoots, like the Gooseberry. Strawberry beds should be cleared of decaying leaves, and young plantations should be well trodden, especially close up to the plants. The frost will have thrown them almost out of the soil, and the plant hates a loose soil. Having hoed the land, and raked off the rubbish on beds of more than one year old, apply some kind of much leaf-mould, or decayed stable dung, and let it lay; by and by, it will be covered with litter. Strawberry plants may be bought, and planted, but no fruit can be expected before 1893.

The pruning and nailing of wall fruits should now be finished, for the manipulation of which we would refer our readers to some recent calendarial articles in the *Gardeners' Chronicle*, which are quite applicable in their case.

NEW GUINEA.

IN connection with the remarkable *Cypripedium* figured in our last issue—an earnest of what may be expected in future from that vast region—we print

* The "Californian Daisy," really a perennial Sunflower, is referred to.

the following communication which has just reached us from Baron Sir Ferdinand von Mueller:—

"The latest expeditions of Sir William Macgregor have again afforded material for augmenting our knowledge of the native vegetation of British New Guinea, not only in reference to further systematic records of the flora, but also as regards prospects

Islands, to institute the needful methodic observations in the Papuan forests, guided by special previous experiences. As another instance of trying to turn soon to practical account the scientific information gained, might be mentioned the rubber industry. It seems quite within reach of possibility to find also among the numerous species of

tive value. As gradually so many Urticaceæ trees and shrubs have come under notice from the Possession, new sources for fibre may also become opened up for large actual industries and commerce. Of the genus *Vitis*, now thirteen species are known from British New Guinea, with the possible prospects of some showing cultural capabilities as Grape vines. A *Spondias* there is closely akin to the famous *S. cytherea*. The great variety of timber trees, now already demonstrated to exist, must sooner or later call forth special efforts of timber merchants to closely investigate the wood resources there beyond what is already shipped to our harbours, such as the Red Cedar. The Ebenaceæ are represented, as we now learn, by several kinds in British New Guinea, and thus, perhaps, superior ebony wood could be added to the exports. Some new resin plants may also become accessible, as from specimens with young fruit secured by Sir William Macgregor, a third species of Papuan *Araucaria* seems to exist, but in the highlands only, although Kauri Pines have not yet been found. Of special phyto-geographic interest is the fact, that to the many alpine plants recorded in a former report, now also a species of the New Zealandian and East Australian genus *Quintinia* (*Q. Macgregorii*), as well as *Coprosma repens*, *Geranium pilosum*, and an *Hydrocotyle*, with almost *Azorella* habit, may be added, the two former showing further the extensive alliance of the Papuan highlands flora to that of our most elevated far southern regions. To these Australian types should further be added a new very tall *Grevillea* from lower mountains. The rare *Rhododendron Macgregorie* has, with the new *Aristotelia gaultheriæ* and *Ternstroemia Britteniana*, been described some months ago in *Britten's London Journal of Botany* as got at the summit of Mount Yule, where the vegetation, particularly as regards the numerous Ericaceæ, simulates that of the Owen Stanley ranges in their higher though not in their highest parts, a new *Begonia* from the cool heights being among the novelties from there, so an additional *Quercus* from the middle region.

"As might have been expected, Sir William Macgregor's collections are likewise particularly rich in Gesneriaceæ, Acanthaceæ, Scitamineæ, Orchideæ, and Ferns (one *Monogramme* new) mostly of Sundaic affinities; but it is beyond the scope of this brief document to enter into detail on remarks concerning any of these showy plants, although they comprise many hitherto unknown treasures for future horticulture in any part of the world. *Ferd. von Mueller.*"

NURSERY NOTES

ORCHIDS AT MESSRS. B. S. WILLIAMS AND SON.

WITH the ground outside covered with snow (February 16), the bright effect of the well-displayed showy Orchids in bloom in most of the houses at the Victoria and Paradise Nurseries, Upper Holloway, was all the more marked, and seldom have we seen a better display there, or a more marked appearance of vigour in the specimens of the large house of *Vandas*, and that devoted to the *Lælias* and *Cattleyas*, or, indeed, the whole stock, than at the present time.

The large East Indian-house had a very effective arrangement made up of specimen *Dendrobium Wardianum*, *D. nobile nobiliss.*, and the handsomely-mottled *D. n. Backhousianum*, together with a profusion of *Calanthe Regnierii*, *C. Stevensii*, *C. nivalis*, a charming pure white *C. Sandhurstiana* ×, one of the richest-coloured of the home hybrids, and large specimens of *Cypripedium calceolus*, *C. Sedeni candidulum*, *C. Sallierii* ×, *C. Boxalli atratum*, *Dendrobium endocharis* ×, *D. Jamesianum*, *D. luteolum*, with *Cœlogyne Massangeana*, and a large quantity of other species in bud, and some of the noble specimens, *Vanda tricolor* and *V. suavis*, still in bloom. In the large Intermediate-house was a fine display of selected varieties of *Cattleya Trianae*, *Lælia anceps alba*, and *L. a. Williamsii*, some grand masses of the orange-scarlet *L. harpophylla*, a fine specimen of the



FIG. 38.—*RUBUS PHENICOLASIVS*. (SEE P. 282.)

for new utilitarian resources. We learn from the collections gathered that several Sapotaceæ trees exist in British New Guinea, and therefore the question arises whether special searches for new kinds of Gutta-percha trees could be instituted, all of them belonging to the Sapotaceæ. This might, perhaps, best be accomplished if the services of some one of the many experts were secured who are engaged in tapping and preparing the sap of the various Gutta-percha trees in the Malay Peninsula, or the Sunda

Papuan Fig trees one or more to provide rubber, but it may need an accustomed Caoutchouc gatherer from Assam or some other Indian locality to enter on the search and tests in New Guinea, the sap of the particular Fig trees needing carefully correct treatment for converting it into the mercantile and industrial product. The number of kinds of grasses indigenous in New Guinea proves also much greater than anticipated, some of them, such as the *Panicums*, evidently of tender foliage and great nutri-

rare *Odontoglossum Rossii* albens, a large batch of *Coclogyne cristata* alba, with a profusion of its large snow-white blossoms; *Cymbidium eburneum*, *Brassavola glauca*, which has such a delightful odour, especially at night; *Oncidium Cavendishianum*, *Cymbidium Lowianum*, with six long spikes in bud; *Lycaste Youngii*, and various *Oncidiums* and *Odontoglossums*. In the next house the *Cattleyas* and *Laellias*, and especially the well-sheathed *L. purpurata*, were in splendid condition; and here the show was made up principally of varieties of *Cattleya Percivaliana*, fine varieties of *Oncidium splendium*, *Cypripediums*, *Calanthes*, &c.; and here is one of the finest specimens we have seen of *Oncidium sarodes*, with two fine spikes not yet in bloom.

In the cool houses in bloom were the pretty scarlet *Cochlidium Noezliana*, *C. vulcanica*, *C. rosea*, some bright scarlet *Sophranitis grandiflora*, some good *Odontoglossum crispum*, *O. cirrosum*, *O. maculatum*, *O. Rossii* mejus, and *O. blandum*, *Ada aurantiaca*, *Oncidium Forbesii*, *Madevalia Chelsoni* ×, *M. triangularis*, *M. melanopus*, and other species of *Madevalia*.

In the smaller warm houses we came to, in the first were some showy *Phalaenopsis Schilleriana*, *P. Manni*, *Angraecum hylaeoides*, *A. citratum*, *A. Pandurarium*, *Ornithocephalus grandiflorus*, &c., and here the *Diacrium bicornutum* were freely sending up spikes, and the species of *Utricularia* were flourishing. In the second in flower were *Dendrobium chloropis*, *D. superbieus*, and various other *Dendrobies*.

The next house had a fine collection of *Sarracenias*, and a good show of varieties of *Dendrobium Ainsworthii* × and *D. Leechianum* ×, with some brightly-flowered plants of *D. Dominianum*; and the *Cypripedium-house*, whose supply of flowers never fails, had a good show of *C. Williamsii* ×, *C. Amesianum* ×, *C. Morganii* ×, *C. Lathamianum* ×, *C. Io grande*, *C. gemmiferum* ×, *C. Meirax*, *C. politum*, *C. Dauthierii marmoratum*, *C. reticulatum*, *C. Laforcadei* ×, *C. Fytchianum* ×, *C. Harrisianum vivicans* ×, &c.

Other notable things in the vast and well-grown stock were the splendid *Gleichenias*, the extensive collection of *Nepenthes*, a good lot of *Anacrotichilus*, some plants of the fine blue-flowered *Tillandsia Lindeni*, houses full of green and coloured *Dracenas* and *Crotone*s, and other ornamental plants, some fine fragrant *Daphnes*, a fine show of *Williams' strain* of *Cyclamen*, and a bright display of the ordinary spring flowers.

THE WEEK'S WORK.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

PLANTS THAT MAY BE RAISED FROM SEED.—A stock of young plants of the *Antirrhinum*, *Delphinium*, *Dahlia*, *Pentstemon*, *Verbeena*, single-flowered *Petunia*, *Viola*, including *Pansies*, and *Lobelia*, may be readily raised from seed sown now in gentle warmth, and pricked off into pans or boxes when large enough, growing them for a short time in an intermediate temperature, and tiring them by degrees to cool-frame treatment.

PROPAGATING.—The required number of cuttings of *Verbena*s, *Ageratum*s, *Lobelia*s, *Lantana*s, &c., should now be taken off the stock plants and dibbled into 48's, with one big crock at the bottom, a handful of half-decayed leaves for drainage, and filled with light mould, and a surfacing of sand. Plunge the pots when watered and become dried a little in bottom heat, and shade them from strong sunshine until rooted, which, with a brisk bottom-heat and the frame kept close and well-covered at night, will be in about one week. They should then be potted off, putting two plants in a 60-sized pot, using a compost of sifted soil and leaf-mould in the proportion of three parts of the former to one of the latter, with a little sand added, returned to heat, watered, and shaded from sunshine for a few days, after which the shading should be dispensed with, and the young plants be afterwards attended to in the way of stopping, watering, and ventilating, gradually hardening them off by the middle of May next.

TUBEROUS-ROOTED BEGONIAS—Tubers should

now be put into a warm *Pesch-house*, vinery, or other forcing-house, to start into growth. Where large quantities of *Begonia* are grown, it would be better to place the tubers a couple of inches asunder, on a layer of light compost, in frames placed on a gentle hot-bed of leaves. They may then be transplanted direct to the flower-beds towards the end of May or early in June.

PRICKING OUT SEEDLINGS.—Young plants resulting from seed sown as recommended in a previous Calendar, will now be ready for pricking out a couple of inches apart in pans and shallow boxes, and filled with a light compost. Return the seedlings to heat, water to settle the soil, and shade from sunshine for a few days.

SOILING SEED.—Seeds of the under-mentioned plants should now be sown:—*Cannabis gigantea*, *Japanese Maize*, *Nicotiana atropurpurea grandiflora*, *N. macrophylla gigantea*, *Ricinus hybridus*, *R. Gibsoni*, *R. glaucus*, *R. Duchess of Edinburgh*, *R. Cambodensis*, *R. sanguineus tricolor*, and *R. macrocarpus*. All the above-mentioned plants are sub-tropical subjects. Seed of *Carter's Little Gem* (mixed), *Antirrhinum* and *Pentstemon* (choice mixed), should also be sown, and the plants being treated as described for other seedlings.

GENERAL WORK.—Stir the soil between spring-flowering plants with the Dutch hoe as soon as it gets a little dry. Prune and train climbers where not already done. Roses on south and west walls also prune. Level and prepare ground for sowing lawn-grass seeds towards the middle or end of March.

THE APIARY.

By EXPERT.

PRESENT MANAGEMENT.—The temptation to overhaul stocks when sunny days make their appearance at this early time of year is very great. Such a proceeding, however, cannot be too strongly deprecated, and anything approaching disturbance of any kind should be avoided for another month to come. If it is thought that any stocks are likely to be short of stores, which is the only excuse at present for an examination being made, it can be ascertained by quietly turning up the quilt at the ends of the frames, so that the eye can be quickly run along the tops of the combs. If sealed stores cannot then be seen in any quantity, a cake of candy should be given. Make it by putting three-quarters of a pint of water into a saucepan and when it boils, gradually stir in 6 lb. of best white loaf sugar. Keep it well stirred to prevent burning until it has boiled for a few minutes. If a drop of fell on to a cold plate and it sets, it will be done. Take it off the fire, and keep on stirring till it begins to thicken, then pour into cardboard boxes holding about 2 lb. each, or into a soap plate or basin, into which a piece of paper has been previously placed. When cool it can be placed over the feed-hole in the centre of the quilt. So little attention being required outside, it is a good time to go carefully through the various articles of bee furniture in the store-room, and get everything in readiness for the busy time coming. Frames bought in the flat can be nailed together and fitted up with full sheets of broad foundation, there being nothing better for the former purpose than oval wire nails, which can be used without the aid of a Bradawl, and with no fear of splitting the wood. A good supply of frames ready for use should always be kept in reserve. Sections are sure to be required in quantity later on, and these can be got ready now by folding them and inserting foundation. The crates can then be filled, but should be kept covered over to prevent the sections getting soiled with dirt or dust. It is necessary to have two section crates in readiness for each hive intended to be worked for comb honey.

SKIPS.—The writer has a straw skip in his possession from which he hopes to get a good return in comb honey during the next season, in order to demonstrate the possibility of profitably working a hive of this description. For the benefit of those who have a preference for skips, the following is a description of it. It is a large skip with a flat wooden top let into the straw, through which a circular hole about 9 inches in diameter has been cut. This is covered with queen-excluding zinc. A swarm was put in last year which has attached its combs to the zinc. When the proper time arrives, a flat board with a hole in centre will be placed on the skip, and on this will stand an ordinary crate of twenty-one sections. The reason of the difficulty generally experienced in getting bees to take to

sections placed on skips is owing to their not being closely enough connected with the brood nest, which prevents the bees being able to maintain the necessary temperature for comb building.

FRUITS UNDER GLASS

By J. RIDDELL, Gardener, Castle Howard, York.

MUSAS (BANANAS).—Where an increase of stock of *Bananas* is desired, those suckers that have been allowed to develop on fruiting plants will root freely if detached and placed in Oak or Beech sawdust, cocoanut fibre refuse, or sandy soil, if afforded a brisk bottom and top heat, kept moist, and shaded from the noonday sun. A sandier soil, however, will be required in potting those that have been rooted in sawdust than will be necessary when any of the other materials are employed for the purpose. Strong plants may at this period have their final shift, and as *Musas* are cross-feeding plants, some rotted manure and leaf-mould in equal parts should form one-half of the compost used, the other half being good friable loam. *Musa Cavendishi* may be grown in borders or in tubs of wood or slate, which latter should not have a least capacity than 8 cubic feet. These should be well-drained, and be supplied with at least five outlets for water. After tubbing the plants, they should be afforded bottom heat, not exceeding 80°. The soil should not be made very firm, the roots are soft and easily injured, and, moreover, the plants requiring a large supply of moisture; a soil that is loose more readily supplies it. The night temperature of the house in which these newly-tubbed plants stand should be 70° to 75°, a rise in bright weather of 20° or even more being permitted, and damp down the house frequently, so as to maintain humidity, syringing the plants in the morning and at shutting-up time. Plants showing signs of fruiting, that is, when the third or fourth smaller leaf makes its appearance, should not be syringed overhead until flowering is past. Liquid manure may be employed at every watering to all plants in tubs or large pots after their roots have permeated the soil, and its strength increased with the age of the plants, until the fruits show signs of ripening.

THE ORCHARD-HOUSE.—With increase of sun-heat, the occupants of the orchard-house will show some signs of renewed activity, and fresh air must be admitted freely in mild weather, affording the trees an occasional dewing over by means of the syringe. When the roots are allowed the run of a border, the latter should be kept in a moist state.

The flower buds of *Cherries* may be thinned before they expand, and when the blooms are open, they should be artificially fertilised, so as to make sure of a crop. After a sunless summer like that of last year, it may not be desirable to thin the flower buds on *Cherries* to the same extent as may be done when the wood is well matured; but where *Apples* and *Pears* are crowded with bloom buds, a few may be removed so as to lessen the strain on the vitality of the trees. Plants in perforated pots must be kept fairly moist at the roots, as also the soil in which the pots are plunged, but no manure water should as yet be used. Should green or black fly make its appearance in the house, fumigate it on two consecutive nights, following the fumigations with a syringing in the morning.

THE ORCHID HOUSES.

By H. A. BURNEY, Orchid Grower, Highbury, Birmingham.

THE EAST INDIA-HOUSE.—Plants of *Angraecum citratum* succeed best in this house when suspended from the roof in small pans, and the leaves frequently sponged to clear them of red-spider; and so freely does it flower in this position, that it is advisable to remove some of the spikes to prevent exhaustion. *Saccolabium bellinum* is a valuable addition to the genus, and deserves a place in every collection; the flowers are exceedingly pretty. *Phaius tuberosus*, now in bloom, is another very beautiful flower, though it is rather difficult to manage; I have tried it in various structures, and find that it grows best, with me, in a very shady and moist part of the warmest house, and whilst growing it should be afforded a syringing overhead twice daily. The habit of growth is straggling, and the plant should therefore be grown in rather large baskets, with nothing more than a layer of sphagnum moss placed over the crocks.

ORCHIDS IN FLOWER.—The most noteworthy among these are the various varieties of *Dendrobium nobile*. *D. Cassiope* (hybrid) is very attractive and free-growing, promising to become a very useful plant. *D. Schneiderianum* (hybrid) is very pretty, and retains the sweet odour of its parent, *D. aureum*. This house is made bright just now with the very

unusual colours of *Lælia flava*, *L. cinnabarina*, and *L. harpophylla*. Flowering is a very weakening process for Orchids, and this is not surprising when we consider how helpless we are, even by the most approved artificial means, to imitate conditions prevailing in a state of Nature. *Cattleyas*, *Phalætopsis*, and *Odontoglossums*, if not very robust, are plants much exhausted if the flowers are allowed to remain hanging on the plants for too long a time. Mr. Outram's Orchid-holders are useful little vessels to place the stalks of Orchids in, and they are readily disposed about a plant, so that the flowers appear as if still remaining attached to it.

POTTING.—As previously advised, the roots of Orchids should not be often or unduly disturbed, and if the plants are well-potted and in good materials, many of them may remain for two years, and in some cases three, without disturbance; top-dressing and the renewal of the supporting sticks being all that is required in the interval. The proper time for re-potting can hardly be disregarded, if it is the rule to do all that is requisite in this direction immediately after the season of flowering. There are a few exceptions, however, and these are the autumn-flowering *Oncidiums* and *Vandas*, *Odontoglossum grande*, and allied varieties. All autumn-flowering *Cattleyas* excepting *C. gigas*, *C. aurea*, and *C. Warneri*, are best attended to in spring; *Calanthes*, *Pleioneis*, and *Thunias* are also exceptions to the rule. The cool-house *Odontoglossum* I prefer to repot in the month of September. When repotting has become necessary, it should be thoroughly done, all of the old materials cleaned off the roots, and the latter carefully replaced on sphagnum moss and light fibry peat in clean well-drained pots. The materials should be firmly and carefully packed up to the leading growths, so that the young roots may enter it directly they push forth. If the plant is unsteady, make it steady by the aid of some neat sticks thrust into the peat, &c. In repotting, care should be taken, as with newly-imported Orchids, to make neat well-shaped masses, all useless material cut away, and the roots well washed. If a plant is ill-shapen, it may be parted into two, and the growths so placed that they will grow towards the centre of the pot, and form one compact mass, when the plants will grow better, be more self-supporting, need fewer sticks, and occupy less space than would be the case if the growths were wide apart.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, Gardener, Barkham Court, Maidstone.

STRAWBERRIES.—Consequent upon the severe frosts we have been experiencing, it will be very necessary that young plantations should be carefully examined, as some of the plants will be found to be partially lifted out of the ground. As soon as the ground is dry enough to walk upon, these loosened plants should be made firm again by trampling it evenly and regularly round about them. Sickly-looking plants should be replaced with healthy ones, and vacancies in the lines planted up; and in the case of old stools, a few spadefuls of the soil should be taken out round each, and replaced with fresh rich soil made very firm. Dead and decaying leaves for appearance sake, should be cut off, and buried or burned, the hoe lightly used on the beds, and the weeds raked off. The beds should then be covered with a layer, an inch or two thick, of stable-dung, working it well beneath the leaves and up to the crowns, this being important in the case of old plants. Upon light and very dry soils, cow-manure is preferable to horse-dung. See that the crown is not covered with manure or earth.

MISCELLANEOUS DIRECTIONS.—The fruit-room should now get attention almost daily, and any fruit that is showing the least sign of decay should be set aside for early use, and what is too far gone, thrown to the fowls. The best Apples at the present time are Cox's Orange and Royal d'Angleterre; this latter is one of the best late Apples we have for dessert, it is of delicious flavour, yellowish flesh, firm, and as crisp as if only just gathered from the tree. In appearance, it resembles Newtown Pippin, but is a little more conical, and the skin is greener, and very thick. Specimens of Lord Derby are perfectly sound, and of a bright yellow colour; Belle Dubois is here a very large fruit; Brabant Bellefleur, Lane's Prince Albert, which is a splendid acquisition for late use, growing and cropping well where the Wellington fails, and well repaying good cultivation; Lincoln Pippin; Sandringham, a splendid fruit, but a shy bearer here; Kentish Filbasket, Cockle Pippin, Cal-

villle Malingre, a high-coloured Apple, which makes a nice tree, and is a good cropper; and Mère de Moage, which is best grown as a standard. The Pears in use at the present time are Easter Beurré, which in most places requires a wall; Olivier de Serres, the best late Pear; Doyenné d'Alençon, Beurré Rance, and Glout Moreau. So far as my observation goes, Apples and Pears gathered from trees, the branches of which are kept thin so as to allow the sunshine to reach them, produce firm fruits, which, in consequence, keep in good condition to a late period.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Penrice Gardens, Swansea.

CONSERVATORY AND GREENHOUSE CLIMBERS.—At this season, these plants should have all surplus shoots thinned out, and those retained must have the necessary amount of tying, so as to keep them in position. As most of these plants have already started into growth, it will be advisable to examine the border in which they are growing, and, if dry, apply sufficient tepid water to thoroughly moisten the soil. In cases where the border has become impoverished, a portion of the surface-soil should be taken off, but not too deep to injure the roots of the plants, afterwards top-dressing with a good compost, according to the requirements of the different subjects. Should any of the plants be infected with scale, thrips, or mealy-bug, steps should be taken to have them eradicated as far as possible.

FERNS.—Although too early to divide or repot any large specimens, there are generally a number of young plants in small pots which have commenced to make fresh growths ere this, and require a shift into a larger size. The pots which they are to occupy should be perfectly clean, and filled to one-third of their depth with drainage. Two parts good fibrous loam, one of leaf-mould or peat, and one of sharp sand to ensure porosity, will be found a suitable compost for them. The plants should be examined previous to potting, and if affected with scale, should be thoroughly cleaned, all decayed fronds, &c., being taken off. A suitable structure in which to grow these plants is a low pit, where they can be kept well up to the light, and where the night temperature ranges between 50° and 55°. Keep them rather close for a few weeks, until the young roots have penetrated to the sides of the pots, when air should be given more freely so as to induce a sturdy growth.

IXORAS.—Early spring is the best time to propagate *Ixoras*. When taking the cuttings, preference should be given to the tops of the stronger shoots, which are thrown from the collar of the plant. Insert the cuttings singly in small pots in a compost of half peat and sand, or in pure clear sand, then water to settle the compost, and plunge the pots in a bottom-heat of 80°, and where the night temperature of the structure does not fall below 75°. Young plants, if not already moved, should have a shift into larger sized pots. Plants in vigorous health, and growing in 6 or 7-inch pots, may be moved into 10 or 11-inch, potting them moderately firm. Keep the plants well up to the light. In favourable weather syringe freely overhead about 2 p.m. *Ixora coccinea*, *I. Colei*, *I. Williamsii*, and *I. Pilgrimii* are amongst the best varieties.

GLORIOSAS.—Bulbs of these which have been wintered in sand should now be potted. A good compost for them is a rich loam two parts, one of leaf-mould, one of decayed manure, and sand in sufficient quantity to keep the whole porous. If strong, plant the bulbs in the pots, in which they are intended to bloom, which may be from 12 to 15 inches in diameter. Otherwise pot them into smaller size, re-potting as the plants gain strength. If possible, grow them under the roof of the stove.

GESNERAS.—Roots of these should be brought from their winter quarters. Place them in a stove temperature, and moisten the soil, which during the time they have been at rest will have become dry.

POINSETTIAS.—The latest plants of this will, ere this, have done flowering, and should be dried off. Store them away in an intermediate-house. If kept in a too low temperature the plants are liable to suffer, and probably die.

FORCING PITS, ETC.—Continue to bring in fresh supplies of such plants as *Staphylea colchica*, *Spiræa japonica*, and *Abutilons*, *Lilac Charles X.*, *Lily of the Valley*, *Lilium Harrisii*, *Freesia refracta alba*, *Indian Azaleas*, *Deutzia gracilis*, *Rosa Tores*, *Tulips*, *Hyacinths*, &c. Plants of *Deutzia gracilis* which have done blooming should be placed in an intermediate-house. Apply weak manure-water occa-

sionally, and syringe overhead with tepid water, so as to encourage the plants to complete their growth. The same remarks apply to *Staphylea colchica*, *Lilacs*, and similar plants.

PROPAGATING FRAME.—Cuttings of *Fraxinea calycina*, *P. c. grandiflora*, *Eranthum Andersonii*, *E. pulchellum*, *Eschynanthus splendens*, and *E. fulgens* may now be inserted; the last-named make most useful plants for growing in hanging baskets. The plants do best in a compost of equal parts of fibrous peat and loam, with sufficient sand to ensure porosity. Also insert cuttings of *Justicia speciosa*, *J. coccinea*, *Libonia floribunda*, *Plumbago rosea*, *Gardenias*, *Viccas*, &c.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

SOWING CELERY.—It is necessary to sow seed now to obtain early supplies of Celery. Sow very thinly in boxes, and place in gentle heat to germinate; much mischief is caused by thick sowing. Dryness at the root or extreme temperatures must be avoided, and when the seedlings appear, give them a place near the glass, with a free circulation of air in mild weather. At this date the boxes can be placed near the front of a house, or in a warm frame. For late supplies, I do not think there is a better plan than sowing the seed in a frame, placed on a warm bed of leaves and litter. If sown thin, the seedlings may be lifted with good balls, and planted directly into the trenches. For early work the white varieties are best, and if only two kinds are grown, Veitch's Superb White and Sandringham Dwarf White will be found useful. To succeed these, Veitch's Early Rose, Colonel Clarke's Red, and Standard-bearer, are good, and will give a long succession; the last-named will keep good till May if lifted out of the trenches and heeled in, in a north border.

CAULIFLOWERS.—There has been less difficulty in keeping the autumn-sown plants this season, especially where they were well hardened, but some have not facilities for keeping them, and are therefore obliged to resort to sowing early in the year. For this purpose, Extra Early Forcig or Snowball are much used, the heads being of a convenient size, and good flavour. If sown thinly in boxes or frames now, good plants will be ready in a few weeks. Take care to water sparingly in dull weather, and avoid cold draughts; and keep close to the light.

CABBAGES.—Should a deficiency in the spring Cabbages be apparent, now is the time to make good the loss, by sowing seeds of some approved early kinds in a box placed in a gentle heat. Ellam's Dwarf Early Spring is good for this purpose, and a rapid grower.

FRENCH BEANS.—Another sowing of Beans in pots should now be made, or the seed may be sown in a warm bed in a house. This latter is the best plan where there is a good command of heat, and the plants can be kept near the light. Ne Plus Ultra and Syon House are good for this work. When pots are used, 8-inch is a useful size, only filling them three parts full of compost, adding the remainder when the plants are a few inches high. No water should be given if the soil is moist till the seeds have germinated.

VEGETABLE MARROWS.—Though seldom grown in frames, I would advise growing a dwarf kind thus when a frame can be spared. Seed should be sown now. I prefer sowing three seeds in a 45-pot, and to plant out at the beginning of April in a good loam on a warm bed—a bed that has been used for raising early seed of any kind answers well. The best Marrow for this purpose is Pen-y-Byd.

TOMATO seed should also be sown to get large plants set with fruit, sowing thinly in pans in a warm house. Prick the seedlings off when in the rough leaf, and replace in the warm bed; repot as they increase in size, and grow in a cooler house.

CUTTINGS OF ROSES.—To be successful in striking these in the open air, the cuttings should be examined at short intervals during the winter, and made thoroughly firm in the soil by trampling it after frosts. Cuttings put in, in October or November, with their bases resting on a firm bottom on a snug border, if kept well fastened in the soil, root with much certainty, half-ripped wood taken up with a heel being the best. In this way, by putting in some cuttings annually, a good stock of healthy plants on their own roots may be kept up. H. Markham.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, MAR. 3.—Linnean.
 FRIDAY, MAR. 4.—{Dundee Horticultural Association.
 Wakenfield Paxton Society Annual Meeting.

SALES.

MONDAY, FEB. 29.—{Hardy Perennials, Peonies, Phlox,
 Carnations, &c., at Protheroe & Morris' Rooms.
 TUESDAY, MAR. 1.—{Sale of 5000 *Odontoglossum crispum*
 and other Orchids at Protheroe & Morris' Rooms.
 {Sale of Nursery Stock, at Lee's
 Nursery, Feltham, by Protheroe & Morris (two days).
 WEDNESDAY, MAR. 2.—{Azaleas, Palms, Greenhouse Ferns,
 Roses, &c., at Protheroe & Morris' Rooms.
 {1500 Roses, Fruit Trees, Lilliums,
 &c., at Stevens' Rooms.
 {Lilium auratum and various other
 Lilies, &c., from Japan at Protheroe & Morris' Rooms.
 {Sale of Nursery Stock at Sea-View
 Nurseries, Havant, by Protheroe & Morris.
 THURSDAY, MAR. 3.—{Nursery Stock Sale at the Church
 Fields Nursery, Chesshant, by Protheroe & Morris.
 {Great Sale of new and other
 Orchids, at Protheroe & Morris' Rooms.
 FRIDAY, MAR. 4.—{Border Plants, Lilliums, Bulbs,
 Fruit Trees, &c., at Stevens' Rooms.
 SATURDAY, MAR. 5.—

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°·8.

Feeding
 London.

How enormous is the task involved in provisioning a city was never perhaps, in modern times, better appreciated than in the days when the German legions thundered at the gates of Paris during the Franco-German War. Notwithstanding the lesson then read to municipal authorities all over the world, we question very much if the art of provisioning a city has been advanced to any extent. Londoners have certainly learnt but little, though they have expressed the determination to learn a great deal—and to practise what they learn. The London County Council has been established to grapple with the subject of "provisioning," gas, water, markets, &c. All sorts of vested interests are set on end in the way of the new municipal body; and it is only thus that it learns how vast is the task it has set itself to accomplish. Only with markets have we here to do, and the London County Council are shut out from interfering with the markets, the property of the Corporation of London; though this is not perhaps an unmixt evil. In the fight before Parliament for power over the provisioning or the feeding of London, way had to be made for the City authorities, and the County Council remains pretty much where it was twelvemonths since—still weak at home; the vestries being, well, not in favour of the new body, and the work of making all things new in the market line can never be properly accomplished until Bumble has been dethroned.

The feeding of London is a mighty concern—even when we take note of fruit, roots, and vegetables only. Five millions of people, to put it roughly, daily appeal to the grower, and he is handicapped in every possible way—very much indeed in the item of market accommodation. As has been often noted in these pages, the grower suffers at the hands of landlord, railway company, and weather; sometimes all three combine to upset his arrangements, though not always does the purchaser in shop or at stall suffer in like proportion. Let us consider for a moment how the work of distribution proceeds from the field or orchard to the stall or household. We take it that there are a million families to be provided with green-stuff, &c.; and there are five great centres of distribution,

Covent Garden being far and away the greatest in every respect—and private property! There are some 1500 greengrocer's shops, 600 fruit and vegetable vendors, nearly 150 fruit salesmen and merchants, or a total of, say, 2300 shops at which the thrifty housewife daily purchases her supplies. In addition to all this, there are some 120 what may be termed "coster" markets, averaging thirty stalls each, adding 3600 to the already enumerated 2300 shops—say, for the sake of even numbers, 6000 vendors in London of vegetables, fruits, and roots. It is a simple matter to reckon how many families each of these vendors cater for, on the average. It may also be readily understood how much friction there is in the great centres of distribution—how much unnecessary expenditure of time, labour, and expense in simply placing before the purchaser those provisions which day by day enter into his bill of fare, whether humble or elaborate. Surely, then, the centres of distribution might with advantage be doubled in number, not separating the goods sold, such as this a fruit and that a vegetable market, but all alike, and so relieving any particular market of pressure, and giving all that chance of success they certainly will not otherwise be found to possess. Thus it is said of Farringdon Market that it is only a one-horse affair, for the vendor has to call in at Covent Garden or elsewhere to make up his full tale. And we do not hesitate to express the opinion that the new structure now rising near the great Central Meat Market will never be worthy of the City of London until it expands its borders very much, and flowers and fruits are covered by its ridge-and-furrow roof. But of this more anon.

The further a greengrocer has to travel for his wares, the less frequent will be his journeys—the less fresh his goods as the week goes on; and here the coster enters into successful competition with him—successful, because he has neither rates nor taxes (save his licence) to pay, only the rent of his barrow. True, the coster very often has the weather against him, but he counts the cost here also. The London County Council, through a sub-committee, are looking over the matter of coster's markets, only, we believe, with the idea of improving them; they will best succeed in doing this when district councils take the place of vestries, &c., and they would do well so to regulate these markets of slow growth as that they will become, not nuisances, but decided acquisitions. A coster's market is a wonderful concern—it contains nearly everything in and out of season, from ginger-beer up to old iron and pickled herrings. Out of 160 barrows counted the other day in one market, only sixty were devoted to vegetables; and such a collection of odds and ends is a wonderful institution in a poor district. It would be a fatal blunder to break up such a concern as this. It is astonishing how enterprising the London coster is, and the number of miles he or she travels every day in pursuit of a livelihood.

It is said that markets grow up and cannot be forced, according to formal outlines. Some markets are very slow of growth—their rate of progress being almost imperceptible. Take Farringdon Market, for instance, to which attention was called in these pages on August 22 last. It was originally the Fleet Market, in Farringdon Street, which was removed to allow of the widening of that thoroughfare, and is once more removed in the hope of bettering its condition all round. But here we may with advantage draw upon the pages of *Old and New London*, by WALTER THORNBURY (CASSELL, PETER & GALPIN,

vol. 2), where we read that in 1829 it was found necessary to widen the thoroughfare from Holborn to Blackfriars Bridge; so Fleet Market was removed from Farringdon Street, and Farringdon Market in the immediate vicinity, but off the line of the street, was opened in its stead. The site of the comparatively neglected mart covered an acre and a half of ground, and was built by WILLIAM MONTAGUE, the City architect at a cost of £250,000. But careful building and liberal outlay, says Mr. THORNBURY, seems only thrown away. At a meeting of the Court of Common Council held on June 29, 1874, to consider the advisability of reconstructing the market, it was stated that the receipts during the previous five years had only averaged £225. No wonder, then, that the Court exhibited very little inclination to expend more money on a site which, exceedingly valuable as it would prove for other purposes, seems little suited for that of a market. Many persons, said a writer at the time, are of opinion that it is desirable to maintain the old Farringdon Market; in fact, the Corporation wanted designs for its improvement, and actually awarded prizes for the best. But it was then, as now, quite evident that the Market was in the wrong place, and in most things quite behind the times. The trade done in it was a fairish middle-class one, and rarely rose above the modest Onion and the plebeian Cabbage, and barely respectable Cauliflower, the homely Apple, and other unpretending fruits and vegetables. Pineapples and hothouse Grapes are unknown to its dingy sheds, and as a sorrowing tradesman remarked, "We never see such things as Pears at 5s. a dozen." The building now rising at the corner of Charterhouse Street and Farringdon Road is chiefly remarkable as being quite unlike the concern it is intended to supplant, and will cover an area of about 170 by 170 feet, built principally of glass and iron, with a ridge-and-furrow roof. But this is not growth or expansion—it is only repetition, which can only mean failure. The aspiring Company of Fruiterers might surely step in here, and suggest better things to the Corporation, if only an imitation of Covent Garden. There is plenty of vacant ground at hand, and a floor could easily be added at any time—at least, we were so informed.

No better illustration of the way in which London is misgoverned could be given than the markets—two are private property, one is carried on by a trust—all are in an unsatisfactory condition; often the tolls are exorbitant. More than 200 provincial markets have of recent years been taken over by an equal number of municipal bodies, to the profit and convenience of all concerned; only the inhabitants of the greatest city in the world remain out in the cold, the remedy being entirely in the hands of those who support—who are compelled to support—the existing monopolies.

VANDA CERULEA (see Supplementary Illustration).—This species is of easy culture, and succeeds with a good supply of heat and moisture in its season of growth, i.e., from March to October, when the day temperature may range from 70° to 75°, with a rise of 10° during warm sunshine, provided the house is shaded. In March and April the night temperature may range from 65° to 70°, and afterwards be increased gradually till it reaches 75°. In the winter, 60° to 63° by night, and a little more by day will be sufficient. Much potting material is not required, but plenty of clean crocks on which to stand the plant, and a small quantity of sphagnum moss. The supply of water during growth must be abundant, and in winter the materials about the



IND. PHOTO. SOPRAN. & CO. 4 & 5 EAST MARK LANE, STREET, LONDON, E.C. 1.

VANDA CORULEA, GROWN IN LORD ROTHSCHILD'S GARDEN.

roots must not be allowed to get dry, although care must be taken that water does not lodge in the axils of the leaves. The flowers appear in the autumn, and last in perfection for five or six weeks. The plant figured in our Supplement this week was grown by Mr. HILL, Lord Rothschild's gardener at Tring Park, and it had, when it flowered in 1891, seventeen spikes, and more than 200 flowers. At the meeting of the Royal Horticultural Society on November 10, 1891, a photograph of this plant was shown in lieu of the plant, and a special vote of thanks was accorded Mr. Hill. It may interest our readers to cite what Sir JOSEPH HOOKER said of this plant in his fascinating *Himalayan Journals*. As we have already said, this is a book which should be in every garden library, and the recent publication of a low-priced edition will now enable this to be done at slight cost:—"Near the village of Lerna, Oak woods are passed in which *Vanda cerulea* grows in profusion, waving its panicles of azure flowers in the wind. As this beautiful Orchid is at present attracting great attention, from its high price, beauty, and difficulty of culture, I shall point out how totally at variance with its native habits is the cultivation thought necessary for it in England.* We collected seven men's loads of this superb plant for the Royal Gardens at Kew, but owing to unavoidable accidents and difficulties, few specimens reached England alive. A gentleman who sent his gardener with us, to be shown the locality, was more successful. He sent one man's load to England on commission, and though it arrived in a very poor state, it sold for £300, the individual plants fetching prices varying from £3 to £10. Had all arrived alive, they would have cleared £1000. An active collector, with the facilities I possessed, might easily clear from £2000 to £3000 in one season by the sale of *Khasia* Orchids. The dry grassy hills which it inhabits are elevated 3000 to 4000 feet. The trees are small, gnarled, and very sparingly leaved, so that the *Vanda* which grows on their limbs is fully exposed to sun, rain, and wind. There is no moss or lichen on the branches with the *Vanda*, whose roots sprawl over the dry rough bark. The atmosphere is on the whole humid, and extremely so during the rains; but there is no damp heat, or stagnation of the air, and at the flowering season the temperature ranges between 60° and 80°. There is much sunshine, and both air and bark are dry during the day. In July and August, during the rains, the temperature is a little higher than that given above, but in winter it falls much lower, and hoar frost forms on the ground. Now this winter's cold, summer's heat, and autumn's drought, and, above all, this constant free exposure to fresh air and the winds of heaven, are what, of all things, we avoid exposing our Orchids to in England. It is under these conditions, however, that all the finest Indian Orchids grow, of which we found *Dendrobium* Farmeri, *D. Dalhousianum*, *D. Devonianum*, &c., with *Vanda cerulea*; whilst the most beautiful species of *Coleogyne*, *Cymbidium*, *Bulbophyllum*, and *Cypripedium* inhabit cool climates at elevations above 4000 feet in *Khasia*, and as high as 6000 to 7000 in *Sikkim*."

COVENT GARDEN LIFEBOAT.—For more than a quarter of a century a handsome sum has been contributed yearly to the Royal National Lifeboat Institution by means of concerts and entertainments, supplemented by a few annual subscriptions, for the support of the "Covent Garden" lifeboat, stationed originally at St. Ives, and for the past thirteen years at Caister, one of the most dangerous parts of the east coast, where it has been instrumental in saving nearly 300 lives, besides rescuing eighteen vessels from destruction. Owing to the interest in the annual entertainments having somewhat flagged, and the profit upon them being quite out of proportion to the outlay, the stewards were reluctantly compelled to abandon them, and were consequently unable to make the usual contribution last year. They think it would be a great discredit, in face of the grand work which has been going on for so long,

if the Fund were allowed to collapse, and therefore earnestly appeal to its supporters and friends to come to the rescue, either by an annual subscription or donation, feeling confident that an appeal made in the interest of such a good and truly national cause will not be made in vain. Mr. J. WEBBER, of Covent Garden Market, is Hon. Secretary.

METROPOLITAN PUBLIC GARDENS ASSOCIATION.—A greenish-coloured map, thickly sprinkled with red spots, is before us. The red spots indicate places in which the Association above-named has carried on its beneficent work. Apart from questions of amenity, the sanitary importance of open spaces in the densely populated parts of London is a matter of urgent importance. London is fairly well off for large parks and wide commons in the suburbs, but the central districts sadly need increased light and air. It is consistent with our way of doing things, that the work of providing and embellishing these minor spaces should be left to a private Society rather than to the Government. In any case good work is done, and the annual report of the Association shows it. The undertakings which have been successfully carried through during the past year may be divided roughly into the following groups:—1. The laying-out of five recreation-grounds. 2. Grants of seats made for the thoroughfares in three districts, and for five open spaces. 3. The temporary opening of two gardens. 4. Drinking fountains erected in two open spaces. 5. The promotion of gymnastic and physical instruction. 6. Successful opposition to two Bills in Parliament. 7. The acquisition for the public use of seven open spaces. 8. Trees placed in boxes on one site, and planted in thoroughfares in eight districts. The Report goes into detail upon these points, and also upon the past work of the Association. In looking over this honourable record, we are tempted to suggest that more care should be expended upon the management and well-doing of the trees when planted than is now the case, and that a better selection of trees and shrubs for planting in tubs and boxes might be made than we now see.

NATIONAL CARNATION AND PICOTEE SOCIETY (Southern Section).—The Committee of this Society is appealing for support in their endeavours to popularise the cultivation of the Carnation and Picotee. Up to the present time the Society has been crippled for want of funds, and all that the Committee have been hitherto able to do was to offer at their annual show a somewhat limited list of prizes. This was last year supplemented by a series of special prizes for border varieties, which attracted considerable attention, and it is hoped that these prizes, which will be continued for some years, will assist in bringing the Carnation into more favour as a border plant. It is the intention of the Society to issue shortly a little manual upon the cultivation of the plant, with information upon the subjects of sowing, propagation by layers and cuttings, pot culture, growing in the open border, crossing, seeding, &c., together with lists of the best varieties of Perpetual or "Tree" Carnations, also florist and border varieties.

INTERNATIONAL FRUIT SHOW.—The promoters of this exhibition, which it is intended shall be held at the end of September or early in October next, went in deputation to the Court of Common Council of the City of London on the 15th inst., to petition the Court to grant them, for the space of four weeks, the use of a plot of ground on the Thames Embankment, within the precincts of the City. The deputation was introduced by Alderman Sir JAMES WHITEHEAD, Bart., the Chairman of the Provisional Committee; and among those forming it were—Messrs. H. R. Williams, T. B. Haywood, F. Crowley, Geo. Paul, J. Laing, F. Q. Lane, H. Herbst, R. Balandine, Geo. Gordon, L. Castle, J. Assbee, B. Wynne, J. Halse, J. Graham, R. Dean (Secretary, *pro tem*), &c. The prayer of the petition was immediately granted by acclamation, and the Provisional Committee will at once proceed to the elaboration of their scheme, making a report in reference to the

same, and ask for the appointment of an Executive Committee to carry out the same.

SEED ORDERS.—A large firm of London seedsmen, writing to us of their experience as seedsmen, deplore, together with, as they believe, the whole trade, the withholding of orders for seeds, &c., when periods of wintery weather like that lately experienced occur, with the result that the large staff provided to meet the expected large amount of business are for the time only partially employed. Then the weather changes, and with the first appearance of sunshine the seedsmen are overwhelmed with orders, and the employes are enforced to work very hard, and for a greater number of hours than would be desired either by the employer or the purchaser, and which we feel sure, if it were brought to the notice of the latter, they would desire most carefully to avoid by sending their various orders as early in the year as possible, without paying heed to the weather then prevailing.

LINNEAN SOCIETY.—At the evening meeting to be held on Thursday, March 3, at 8 p.m., the following papers will be read:—1. "Variations in the Internal Anatomy of the Gametophyte," by A. D. MICHAEL, F.L.S.; 2. "On Vitality of Spores of *Bacillus*," by ALLAN SWAN, F.L.S.

ST. ANDREWS.—This, the most ancient of Scottish Universities, is about to confer the honorary degree of LL.D. upon Professor MICHAEL FOSTER and Dr. HUGO MÜLLER, both well known in the horticultural world, and members of the Scientific Committee of the Royal Horticultural Society.

DUBLIN.—The tercentenary anniversary of Trinity College, Dublin, will be held from July 5 to July 8. This is the University which has claims on the sympathies of horticulturists by its conferment of a honorary degree on a representative horticulturist.

CHISLEHURST GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—This Association, which was formed in October last, has members at the present numbering seventy-one. The members meet each Tuesday evening, and papers are read, and discussion invited, on practical gardening; hitherto there has been no lack of papers, and the association appears likely to meet with success.

THE SURVEYORS' INSTITUTION.—The next ordinary general meeting will be held on Monday, February 29, when the adjourned discussion on the paper read by Mr. J. W. GROVER, C.E. (Associate), at the last meeting, entitled "An Explanation of the London Water Question," will be resumed. The chair to be taken at 8 o'clock.

HYACINTH MONSIEUR KRELAGE.—On January 8 last a Hyacinth was shown at a meeting of the Gartenflora in Berlin by Mr. G. A. SCHULTZ, of Eckhartsberg. It is of a deep rose colour, with large bells, remains for a long time in perfection, and is said to be excellent for early forcing, and that it will certainly displace the old variety, *Homer*, for this kind of work. The fragrance of the bloom is not strong, but it is distinctly that of the Hyacinth.

DEVON AND EXETER GARDENERS' ASSOCIATION.—At a meeting of this Association on Wednesday evening, February 17, Mr. EBBUTT, gardener to the Rev. A. W. HAMILTON-GRELL, at Winslade, provided an excellent cultural paper on "The Violet," which, in the absence of the writer through illness, was read by Mr. P. C. M. VETICH, who also presided.

THE ISLES OF SCILLY FLOWER-TRADE.—In order to meet the requirements of the growing flower trade of the islands, the West Cornwall Steamship Company, says the *Western Daily Mercury*, have been running their new steamer *Lyonesse* three times weekly instead of twice weekly, as required at this season of the year by the Post-office contract.

"PFLANZEN BIOLOGISCHE SCHILDERUNGEN."—Under this title, Professor GOSSET, of Munich, has published a series of descriptive sketches on the

* *Himalayan Journals*, Sir J. D. Hooker, new edition, 1891 (Messrs. Ward Lock & Co.), pp. 319, 320.

natural history of particular plants. The first article is a descriptive account of the "Paramos of Venezuela and their Vegetation." Various adaptations of structure to climatal conditions are described, such as the presence of a dense covering of hair, or a leathery epidermis, or a rolling round of the margin of the leaves, a diminished size of the leaves, contracted growth, and other modifications, which have the effect of diminishing transpiration. A second chapter is devoted to the consideration of insectivorous plants. Numerous illustrations are given. We hope to revert to this interesting treatise on another occasion.

SMALL HOLDINGS.—Should Mr. CHAPLIN'S measure pass into law and a class of small cultivators and yeomen be once more established, the utility of practical demonstrations and lectures will be much enhanced. If the cultivation of small areas is to be commercially successful, it must be by the methods employed by horticulturists rather than by farmers, and the mere routine knowledge possessed by the latter will not suffice to permit the cultivator to make the best of his land, or to meet adverse circumstances, as the recent state of the agricultural industry has clearly demonstrated.

ACREAGE OF NURSERY GROUNDS, AS RETURNED IN THE YEARS 1891 AND 1890, IN EACH COUNTY OF GREAT BRITAIN, IN THE ISLE OF MAN, AND IN THE CHANNEL ISLANDS.—We take the following details from a recently published report of the statistical department of the Board of Agriculture:—

Counties,	Land used by Nurserymen for Growing Trees, Shrubs, &c.	
	1891.	1890.
ENGLAND.		
	Acres.	Acres.
Bedford	42	31
Berks	113	151
Buckingham	141	144
Cambridge	113	118
Chester	572	583
Cornwall	57	48
Cumberland	217	221
Derby	437	427
Devon	362	334
Dorset	119	95
Durham	44	43
Essex	332	416
Gloucester	210	155
Hants	201	203
Hereford	144	118
Hertford	489	490
Huntingdon	53	51
Kent	653	663
Lancashire	399	357
Leicestershire	149	146
Lincoln	364	418
Middlesex	623	653
Moumouth	32	31
Norfolk	129	129
Northampton	184	178
Northumberland	107	108
Notts	319	350
Oxford	62	69
Rutland ... ..	...	...
Salop	121	119
Somerset	261	217
Stafford	216	218
Suffolk	76	91
Surrey	1612	1653
Sussex	578	554
Warwick	119	126
Westmorland	17	13
Wilts	119	90
Worcester	312	322
York, East Riding	61	67
" North Riding	172	148
" West Riding	761	777
Total for England	11,253	11,223

Acreage of Nursery Grounds—continued.

Counties,	Land used by Nurserymen for Growing Trees, Shrubs, &c.	
	1891.	1890.
WALES.		
	Acres.	Acres.
Anglesey ... ..	...	...
Brecon	8	9
Cardigan	14	20
Carmarthen	45	38
Carearvon	35	29
Denbigh	23	16
Flint	2	...
Glamorgan	57	56
Merioneth	18	18
Montgomery	21	27
Pembroke	5	1
Radnor	2	2
Total for Wales	230	225
SCOTLAND.		
Aberdeen	136	113
Argyll	4	3
Ayr	97	95
Banff	11	7
Berwick	39	39
Bute	15	13
Caithness ... ..	...	...
Clackmannan	1	1
Dumharton	8	11
Dumfries	157	111
Edinburgh	365	365
Elgin, or Moray	53	55
Fife	36	34
Forfar	78	83
Haddington	2	2
Inverness	37	31
Kincardine	6	3
Kinross ... ..	...	...
Kirkcudbright	56	36
Lanark	30	29
Linlithgow ... ..	...	7
Nairn	3	2
Orkney ... ..	...	...
Peebles	5	5
Perth	88	91
Renfrew	63	65
Ross and Cromarty	2	3
Roxburgh	36	37
Selkirk	3	3
Shetland ... ..	...	...
Stirling	43	41
Sutherland	1	...
Wigtown	45	41
Total for Scotland	1,460	1,382
Total for Great Britain	12,853	12,811
Isle of Man	3	3
Jersey	28	21
Guernsey, &c.	46	32

FOREIGN OPINION OF SOME NEW CHRYS-ANTHEMUMS.—The overlanded pure white, hairy-petalled Mrs. Alpha Hardy brought generally disappointment to those who have procured it; but, on the contrary, everyone is pleased with Louis Bœhmer, which has fulfilled everyone's expectations, says *Müller's Deutsche Gärtner Zeitung*. The quilled-petalled varieties, in the way of Gloire Rayonnante, are enriched by the valuable Lilian B. Bird. The colour is lighter than that of Gloire Rayonnante, the blooms attain an extraordinary size, and form an almost complete sphere. It is better for the amateur and the cut-flower trade than for the market grower, owing to the great height to which it grows. The same is true of Volunteer, a magnificent blossom of salmon-rose. Chrysanthemum Superba Flora is, on the contrary, a variety good for every purpose, and especially for cut blooms. The flower is of a regular star shape, of deep rose colour, the habit is vigorous, and

the height medium. A beautiful companion variety to C. Ed. Audigier is Cesar Costa, with the same style of growth, and fresh green luxuriant foliage. The form of the bloom differs from that one in having recurring florets, which shows their broad spoon-shaped form to great advantage. The colour is a shade of purple-brown, with a velvety texture. To grow it well it, like E. Audigier, requires particular attention, but in spite of that it is a grand variety, of which no one could well have too many. Countess of Lytton is a flower of a tender sulphur-yellow colour and a late flowerer, otherwise it does not differ from Ralph Brocklebank, a novelty of 1888. Eynsford White is one of the handsomest novelties of 1891, and by most persons it will be preferred to Avalanche, as with equally beautiful, pure white, loosely-formed flowers it is decidedly more floriferous, is of lower stature, and better for pot culture and cut bloom, which cannot be said of Avalanche. Bouquet de Dame and Belle Poitevine are likewise of value; the first is of the size and form of the good well-known Maiden's Blush, but less tall growing, and better in having a finer habit of growth, and more numerous and better-formed flowers.

THE DEPRECIATION OF MANURE BY EXPOSURE TO WET AND FERMENTATION.—We suppose no sensible gardener needs to be told that every day that his manure-heap is exposed to wet weather he is losing money. But in case he should not attach sufficient significance to this fact, and in case, too, that he should not know that fermentation will rob his pocket, we give the results of some recent experiments by Ronsats and Wino, which are to be found in a paper by them in *Biedermann's Centralblatt*, 1891, pp. 437, 438. Horae stable-manure was exposed to the weather in a box which was placed in a manure-heap, and at the end of the year was subject to chemical examination. It was observed that there was an increase in water, a loss of total weight, and a serious decrease in the percentage of matter valuable in cultivation. When horse and cow manures were treated under similar conditions, but the drainage collected, there was found to be a loss of the nitrogen to the extent of 3.2 per cent., of the phosphoric acid 4.7 per cent., and of the potash 35 per cent. After these results have been duly appreciated, who dare let his manure-heap waste by exposure to the weather and fermentation!

THE WOLVERHAMPTON FLORAL FETE.—The schedule of prizes for the next exhibition, July 12, 13, and 14, is now issued, and throughout the prizes are heavy, and should ensure a fair display. The Rose and fruit classes are extended, and good prizes are offered, and in both classes of the exhibition a large display of exhibits may be expected. The sums of £20, £15, and £10 are offered for sixteen stove and greenhouse and ornamental plants, and the other plant classes are liberally provided for. In the open classes for Roses prizes, to the amount of nearly £70 are offered; and for a collection of fruit, open to all, £7 10s., £5, £3, and £1 10s. are offered. There are also liberal prizes for other fruits and for cut flowers. Several classes are reserved for gentlemen gardeners, open to the four immediate counties, for fruits, plants, cut flowers, and vegetables. The amateurs who do not keep a gardener and reside within 10 miles of Wolverhampton, have several classes with good prizes devoted to them, and cottagers also are liberally provided for.

BIRMINGHAM GARDENERS' ASSOCIATION.—At a meeting, February 17, Mr. A. OUTRAM, of the Holloway Nurseries, London, read a paper on "The Progress of Horticulture in the United States," and he spoke with the experience of an annual visitor for sixteen years past. Allusion was made to the immense progress made during that period of time in plant culture, and of the large number of very fine collections of Orchids and other rare plants which are now so general in the States, and of their high-class cultivation. He referred also to the cut flower trade, which is being carried on to an enormous extent, and the produce generally commanding remunerative prices. Fruit culture is also greatly

extended. Asked about the chances for young gardeners in the States, Mr. OUTRAM replied that there was a good chance for respectable intelligent young gardeners who were prepared to do rough hard work if required, until they could obtain such a situation as they wanted. A very hearty vote of thanks was accorded Mr. OUTRAM for his interesting paper.

THE WEATHER.—In most parts of England and Scotland severe frosts prevailed during the week ending February 20, and in some districts snow fell

gate degrees of frost for the last three months were as follows:— November, 65°, December, 214°, January, 228° or a total of 507°.

Loughborough, Leicestershire.—Last Tuesday night, the 16th inst., the mercury descended below zero $\frac{1}{2}$ °, and at 8 A.M. there were 30° of frost. Such hard frosts have not been known here for more than forty years.

Mid-Durham.—As showing the severe character of the weather in this part of England on the night of the 16th, there were 24° of frost, and it snowed continually. On Thursday, February 17, at night, no

very decided "fresh." Last week's frost seems to have been phenomenal on Decside; at Ballater, on Friday night, the thermometer registered 3° below zero (35° of frost); at Braemar the thermometer sank to within half a degree of zero (31½° of frost), which almost justifies the description applied to the weather as being of "the really rigid Siberian." Serious apprehensions are entertained in the north as to another block on the railway lines, while considerable anxiety is felt by flockmasters."

PUBLICATIONS RECEIVED.—*Bulletin of the Botanical Department, Jamaica, Bulletin of Botanic Garden, Demerara.*—*Mercantile Almanack* (Sir Joseph Causton & Sons).

TECOMA CAPENSIS.

This is an old-fashioned climber, hardy in very favoured localities, but elsewhere requiring cool greenhouse treatment. It is a native of the Cape of Good Hope, and has compound pinnate leaves with ovate leaflets, and tufts of orange-scarlet flowers, whose appearance is indicated in Mr. WEATHER'S drawing. The plant does not flower freely, unless the wood is well ripened by bright light and fresh air.

NOTICES OF BOOKS.

THE BOOK OF CHOICE FERNS FOR THE GARDEN, CONSERVATORY, AND GREENHOUSE.
By George Schneider. Parts I. to XI. (L. Upcott Gill & Co., London.)

This is a fine work, profusely illustrated with engravings, and faithfully prepared coloured plates, and one in which the author gives evidence of his knowledge of the subject in hand, and of his patience, extending over many years, in preparing so complete a work as that which has so far been brought before the public. It is designed to complete the work in twenty-one numbers, of which the first eleven are before us.

In the introduction, the author says:—"The work will deal with the great Fern family in its entirety, retaining all that is essential in the original botanical description, but purposely avoiding technical terms whenever expressions sufficiently significant, but of a more popular nature, and therefore more readily understood by the great mass of readers, for whom this publication is intended, can be used. On account of the popular principle of the work, descriptions of purely botanical species will be carefully omitted, while every effort will be made to bring together all the species and varieties which possess particular interest, either as decorative plants or as subjects partaking of characters sufficiently striking to render them of some importance in a well-ordered collection.

This statement embodies the essential elements for a popular and much-needed work on Ferns, and well has the author redeemed his promise. The earlier numbers deal with the general question in chapters under separate headings, and in them each subject is fully and clearly treated of. In the commencement we have, "Classification for Decorative Purposes," then, chapters on "Tree Ferns," on "Gigantic non-arborescent Ferns," on "Small-growing Ferns," on "Ferns with Coloured or Tinted Fronds," on "Variegated and Crested Ferns," on "Gold and Silver Ferns," on "Climbing, Trailing, and Drooping Ferns," on "Filmy and Transparent Ferns," and on "Fern Fosses, British and Exotic," and on all these subjects the author has much to say that will be new to most people; and what he has to say on these, as well as other and better-known subjects, he says clearly and pleasantly.

Then commences the enumeration and description of the genera and species, alphabetically arranged, and among which Fern-lovers will find many either described, or described and illustrated, whose



FIG. 39.—TECOMA CAPENSIS; FLOWERS, ORANGE SCARLET.

in considerable quantities. Scotland, contrariwise to the experience of last winter, had very low temperatures generally; and in the Hawick district, on the morning of February 19, our correspondent states that the thermometer fell to zero.

Fineshade Abbey Gardens, Stamford.—The frost has done much damage here. There was on the 15th inst. a terrific snowstorm, with 25° of frost, and high wind blowing from the east. The snow lay to a depth of 13 inches. On the 16th inst. there were 14° of frost at 6 A.M.; on the 17th, from 6 A.M. to 8 A.M., 10° below zero, or 42° of frost, were registered by the thermometer, which stands 4 feet from the ground, facing north-east, on the north side of a lake, and another thermometer, standing on the south side at 1 foot from the ground, registered 38°; on the 19th, at 10 P.M., there were 32°. All Tea Roses on walls facing west have suffered, and I fear, says Mr. Turner, a great many of them will not recover. The aggre-

less than 36° of frost, or 6° below zero, were noted; and on the 19th, 22°.

South Devon.—Snow fell in great quantities in South Devon on the night of the 18th inst. In places where it had drifted it lay several feet deep, but the average depth was about 1 foot. Numbers of trees have been overthrown. The storm was accompanied with terrific thunder and lightning. Our correspondent states that the snow is fast disappearing. A few days before the snow fell, 17° of frost were noted.

In the North.—Our Aberdeenshire correspondent, writing on Monday afternoon, February 22, says:—"A renewal of the snowstorm occurred on Saturday night, and yesterday forenoon a heavy snow-storm raged, not alone in Aberdeenshire, but apparently over the greater part of the north of Scotland, and the south of Scotland as well. In Aberdeenshire, yesterday's snow-storm was succeeded by rain, and a

acquaintance they here make for the first time, but which may any day come within their reach, for incorporating in their collections. *Adiantum*, *Asplenium*, *Cheilanthes*, *Acrostichum*, *Dicksonia*, and all the other genera, up to *Doodia* and *Drymoglossum*, with which Part II finishes, have here been dealt with, and when the whole have been so treated, the work will be a handsome and useful one. Not the least of its attractions are the fine plates of celebrated Fern rockeries in various parts of the country, and from which many hints can be obtained by those who wish to furnish back walls or construct rockeries either indoors or in the open garden.

THE FORMAL GARDEN IN ENGLAND. By Reginald Blomfield and F. Inigo Thomas. 1 vol. (Macmillan & Co., 1892.)

This book—it is not a very big one—is, as might be expected from Mr. Reginald Blomfield, ably written; and the illustrations by Mr. F. Inigo Thomas are plentiful, artistically drawn, and numerous. They are very interesting, but the essay is of so partisan a character, as to narrow its usefulness, and the attack on what Mr. Blomfield understands as “landscape gardening,” is so heedlessly made, that the old feud between the architect and those who uphold what has been termed by some the “natural system,” is unhappily emphasised. Like all partisans, pure and simple, the assertions of Mr. Blomfield are frequently unjust, and often betray, not only error in judgment, but of obscured judgment. We have said advisedly “what Mr. Blomfield understands as landscape gardening,” because that is peculiar, to judge from his book. He states that “deception” is a primary object in it; he supposes that its practice is to endeavour to show love of Nature by trying to produce the effects of wild nature on a small scale in a garden; he ignores the fact that “formal gardening” is part of the practice of the landscape gardener; he speaks of a garden laid out by those whom he makes his opponents, “with a strenuous avoidance of all order, all balance of definite lines,” and so on. One fault of the book, however, is superabundant quotation, and we must not imitate it.

What sort of landscape gardening Mr. Blomfield appreciates does not clearly appear, as his one-sided attack on the art seems to blind his judgment not a little, and he misrepresents roughly what he does not wish to acknowledge, and lets his partisanship twist his judgment, or obscure his perceptions. He strenuously advocates the formal system, and the supremacy of the architect, failing to see the use made of formal features by an artistic gardener. He waxes eloquent over descriptions of the old gardens, and their associations—the names of flowers preserved by the past—Gillyflowers, Daffodils, Columbines, Cowslips, Primroses, and all the pretty old plants that our Elizabethan mothers knew, set in their prim square beds, in the formal gardens they then decorated; he would let his associations, his artistic architectural fads end in formulating a law that the garden attached to a house should only be an appendage of the architecture, a walled or edged-in space, with formally treated beds, wherein Nature may expend herself in the beauty of such blossom as is allowed in simplest antique fashion. Does the author seriously maintain that modern needs and modern facts are to be crushed to that theory? He almost ignores horticulture, the immense development of our resources by the introduction of foreign plants; the long acclimatisation of some, and the cultivation that science has given them; and he would apparently seriously advocate retrogression to the restricted means of our ancestors, and even the form of their gardens, with their boundary walls—a remainder of their fortified condition in turbulent times—their vegetable sculpture, and the rest of it. Really the advocacy, as Mr. Blomfield puts it, is misplaced.

A proper estimation and use of the formal style, and particularly a reverent preservation of its old examples, is correct. When we contemplate an

avenue of “immemorial Elms,” it is the natural development of the foliage that we admire. It is age and consequent growth of the leafage that compel our admiration, and we should not have felt like sensations if we contemplated the trees newly planted. Nature, not art, is the mistress. When we are delighted with the quaint monuments, vases, sundials, terrace lines, and the like, in some venerable garden, it is the age that has made them grey, and the Lichen seizing on them that give us the ripe associations we enjoy. We might not have admired their features when they were newly placed, or have appreciated in like degree their cumbrous appearance, or the trickiness of the concealed squirrels, that are now objects of such curiosity, at all events, in their artistic presentment. To estimate such things now is to do so with an advantage due to time and Nature. To propose to return through the years, and to create such things afresh is hardly what will be done, excepting so far as the art spirit of some of the works can be adapted, as it is adapted by worthy landscape gardeners, in the instances of terraces, balustrades, stately steps, and other such features. There are some points in this connection that may be referred to; clipped Yew trees have not been entirely discarded by the landscape gardener, although he maintains that they must be appropriately placed.

What is meant by one brilliant and taking passage, about the chastisement by landscape gardeners of the beautiful Apple tree with its delicious blossom and fruit? It is not banished, but is cared for in the orchard, where its fruit can best be cultured, but the beauty of its abundant bloom is used amongst the delicious spring flowering shrubs, the *Malus floribunda*, the Siberian Crab, *M. baccata*, *Pyrus spectabilis*, the Chinese Crab, the Double Cherry, and replacing with much advantage the ordinary sorts. As to the orchard, old Lawson (1618) wrote of that division in the old formal garden, “What can your eye desire to see, your ear to hear, your mouth to taste, or your nose to smell, that is not to be had in an orchard with abundance and beauty.” It is sheer mis-statement to say that the landscape gardener curves his path, &c., because Nature does not make a straight line. The resources of horticulture have so much developed of late years, that it is only prejudice to ignore them. We cannot have a waste for six months of the year, relying on the Sunflower, Love-lies-bleeding, &c., and other poetical plants of Shakespeare's time to fill them in the remainder. Such love of the old is amiable for an artistic faddist, but hardly practical in modern conditions.

Mr. Blomfield's summary of garden literature is very good, but it does not support his hasty dicta; it rather emphasises the case against him, and isolates the position he assumes. He indulges in an unjust sneer at Kent in writing “no doubt he had to make his living.” As to the artistic question, we may quote one of Mr. Blomfield's sentences, “In matters of taste, there is no arguing with a man.”

DISEASE IN CATTLEYAS.

I NOTICE the answer given to “W. L.” in “Notices to Correspondents,” in reference to a disease having shown itself among *Cattleyas* in various parts of the country, and it is a satisfaction to learn that the matter is to be re-investigated. I hope no delay will occur. It was my opinion at one time that *Orchids* when attacked by disease had been subjected to some kind of check; but, however this may be, the disease in question has revealed itself in a most remarkable manner.

So far, very few of the *Cattleyas* or *Lælias* at this place have been infected, but the fact of a few elsewhere having been victims is a sufficient reason for wariness. Had these been confined to a few weakly specimens, purchased from a collection last summer, no notice would be taken; but within the past year we have had one each of *Cattleya Bowringiana* and *Lælia elegans*, and two plants of *Cattleya gigas*, all vigorous, and in the pink of condition, suddenly fall victims without any apparent reason. It has just

occurred with one of the latter. The facts are these: In a batch of healthy specimens occupying one side of a house in the best possible position that could be found for them during the winter, and judging from their appearance, they were properly placed, one in the centre of the batch appeared to be dying; indeed, so rapid was the progress of the malady, that before anything wrong was noticed, the disease had infected the plant throughout, giving it the appearance of having been frozen, and the pseudobulbs and leaves soon changed from green to yellow and black. Now, why should this particular plant be stricken, and the remainder continue healthy? Certainly, the gardener is not answerable in such a case, and if the cause cannot be traced to some known species of fungus, it is indeed a matter that stands in need of investigation.

The question will naturally arise, Is it communicable to other *Orchids*? This cannot be answered off-hand, and my idea is, that it is not; yet, for safety's sake, I would recommend the isolation of infected specimens, and my idea is based on the fact that if the rhizome is cut through, as in making two or more plants in one pot, one portion only is attacked, while the other remains unaffected.

The other *Cattleya gigas* mentioned was attacked immediately after it flowered last autumn, but it was noticed in time to save the plant. This was probably due to the fact that it is an extraordinarily fine variety, and as such, was placed in a prominent position in the house, and under observation often during the day. Dark lines and blotches showed themselves on the leaves, which were at once cut with a sharp knife on the dark places, one-eighth of an inch deep, with the result that the disease extended no further; and nothing was rubbed into the incisions.

In the case of the *Lælia elegans*, which had become rather severely affected before it was observed, the pseudobulbs and leaves were opened at intervals, and slacked lime well rubbed into the incisions, with the result that most of the leaves dropped off, but the disease seemed to be arrested, so far as the pseudobulbs were concerned, the leading ones breaking in due season, and forming two new pseudobulbs, short, but plump, and to all appearance healthy. *W. Burberry, Orchid Grower, Highbury, Birmingham.* [The diseased portion might be cut out and the wound washed with Condy's fluid or carbolic acid, taking care that the caustic was confined to the diseased portion. We should be pleased if some grower would try this plan and report results. Ed.]

THE ROSERY.

PRUNING ROSES.

OWING to the mild weather of late, Roses had commenced to push into growth. This fact naturally brings us to considering when and how to prune these plants. As so much depends upon this operation being done in a proper and more rational manner than is often the case, I feel no apology is needed for these few words.

It is of no service to grow *Rose* plants well if the system of pruning is faulty. As a rule, too many gardeners prune them all alike, and consequently some varieties are disappointing, and they are inclined to think that the descriptions given to such sorts are exaggerated and misleading. Experience and a little consideration are necessary before one can prune a variety of *Roses* in the most successful way. It is of no use to grow such kinds as *Madame Bérard*, *William Allen Richardson*, and *Henriette de Beaulieu* into grand plants of vigorous growth, and then to act so unreasonably as to cut these long shoots back to within a few eyes of where they broke from. These varieties, and those of similarly strong growth, must be grown and pruned on what may be styled the long-rod system. If treated thus, they will flower very profusely, and scarcely any other class of *Roses* is more satisfactory. The method is to remove the side and weakly growths, and when the crop of flowers is secure these must also be cut away as much as is possible without removing any of the extra strong breaks from towards

their base. These shoots will grow away very rampantly if the plants are generously treated, and will form the flowering wood for the next season. Scotch Roses, Fairy, and China Roses do not require any but very slight pruning, simply removing the dead growth and any superfluous shoots being quite sufficient for these classes. Dwarfing-growing Teas and Noisettes, such as Anna Olivier, Souvenir d'un Ami, and Madame Lambert may be pruned not quite so hard as the medium growers of the Hybrid Perpetuals. More weakly growers of the Teas, such as Princess of Wales, Comtesse de Nadaillac, and others are better if somewhat hardly pruned. These varieties seem unable to support many flowers at once, and, like the weaker-growing Hybrid Perpetuals of the same type as Edienne Levet, Monsieur Noman, and Lady M. Fitzwilliam, are much better when pruned rather severely. Such Hybrid Perpetuals as Mrs. John Laing, Ulrich Brunner, Gabrielle Luizet, &c., are, however, best treated similar to the climbing Teas and Noisettes. These varieties do not flower freely if hard pruned, and such treatment simply results in more strong growths that are often styled blind and useless by the inexperienced amateur. The contrary is the case, for these shoots will flower very freely indeed, if they are left some two-thirds of their length, and pegged down to a horizontal position. Under such treatment, flowers are produced from almost every eye, and the plants will make more vigorous shoots from the base; these should be pegged down the following spring, and the bulk of the older growth removed. The time for

moist air, as in this case, than to heat a large body of water.

For heating small greenhouses, such as are generally found in amateurs' gardens, the system under notice appears to be well adapted. When gas is used as fuel, but very little attention is required; and, moreover, so far as we could see, there appeared to be no danger of back draught—a too common occurrence with gas and oil-heating apparatus. In the case of larger structures, too, the system could be adopted; it would be merely a matter of increasing the size and power of the generator. As we have already said, this system of heating, from a cursory glance, seems to possess a certain advantage over other methods, but at the same time, to give the matter a thorough trial, it would be necessary to fix an apparatus in a plant structure, and there, during an average winter, test its heating powers. Meanwhile, it remains in the hands of Messrs. Fenlon & Sons, Tudor Street, E.C.

BASKETS FOR ODONTOGLOSSUMS.

My system of planting *Odontoglossums*, described formerly in the *Gardeners' Chronicle*, proves very advantageous, as my plants continue to grow and flower very nicely. Many *O. Alexandræ* and *Pescatorei* produce two shoots from a bulb, and some *Alexandræ* shoots have side-shoots like *Pescatorei*. As I always had great confidence in this system of shallow planting, I tried some years ago to

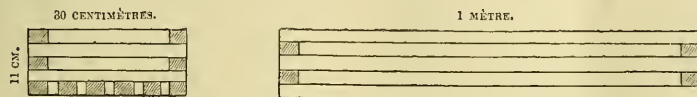


FIG. 40.—MR. O. FORSTER'S ODONTOGLOSSUM BASKETS.

pruning depends very much upon whether your plants are in a warm or cold district, and whether they are sheltered or exposed. No rule can be laid down, but I would caution all against doing this too early. A. P.

HEATING BY HOT-AIR.

We have had an opportunity to see the hot-air heating apparatus, described and illustrated in the *Gardeners' Chronicle* for December 26, 1891, in working order, and, to all appearances, it is likely to prove a useful invention. As was shown in the illustration alluded to, the primary portions of the apparatus are a generator, which is provided with air chambers, a small boiler fitted with tubes for generating heat, and pipes of suitable dimensions, according to the heat required.

The apparatus we saw consisted of a generator 18 inches or so in height, and 9 inches in diameter, a small boiler containing about a quart of water, and some 30 feet of 3 inch pipe, temporarily fixed. The apparatus was heated by one gas burner, which was calculated to consume 8 or 10 feet of gas per hour. About a quarter of an hour after lighting the gas, both top and bottom pipes were quite hot, proving conclusively that the circulation was good; and, further, that it would be possible to raise the temperature inside a structure, heated by this system, in a very limited time.

Not the least important point the inventor claims for this apparatus is economy. It is computed that a very small quantity of fuel is required to generate a suitable heat. As before stated, the fuel may be gas, oil, or, for large apparatus, coke or coal. It is estimated, too, that but little more than a third of the amount of fuel usually consumed in heating by hot-water will be needed by this apparatus. That, of course, remains to be proved; but meanwhile any intelligent reader will see that it is a much easier matter to charge the pipes with hot

make use of it for some unhealthy plants. In order to save room, I had baskets of the following form and dimensions constructed (see fig. 40). In these baskets the plants grew wonderfully, so that some unhealthy plants of *O. Pescatorei*, with small bulbs, $1\frac{1}{2}$ inch broad, produced this year bulbs 4 and even 5 centimetres broad, deep green, and glossy. The roots, well spread out, are sometimes 40 and 50 centimetres long, white and healthy, although weak manure-water is continually made use of. *Otto Forster, Lehenhof.*

HOME CORRESPONDENCE.

LECTURES ON HORTICULTURE.—The exceedingly interesting correspondence upon this subject contains much that is encouraging, and at the same time much that is discouraging, to those who are striving to advance the cause of technical education in rural districts. The fact that the movement is receiving the hearty support of so many practical men, whose long experience and solid achievements in the horticultural art give special weight to their opinion, goes far to dissipate the "damp" from Kew. On the other hand, it is disheartening to note the absurd prejudice—I had almost said childish petulance—which still exists in some minds against anything that savours, to however slight a degree, of scientific or theoretical teaching. Your correspondent, "Under Gardener," appears to be an admirable exponent of the views of this class of persons, although the literary excellence of his letter would lead one to expect better things. He appears to have completely lost sight of the fact that no one more strongly insists upon the absolute necessity of practical experience as a factor in the education of the horticulturist or agriculturist than the so-called "theoretical man" himself. The creed of the advocate of technical education is not "Theory instead of Practice," but "Practice with, and aided by, Theory." "Under Gardener" and his friends are, doubtless, to be commiserated on account of residing in a district where "free lectures" (which, it is presumed, they

are also "free" to attend or not, according to choice) are given on such out-of-the-way and "far-fetched" subjects as the "Fertilisation of Flowers," or "The Manure Heap." Nevertheless, I would venture to suggest, that it is just within the bounds of possibility that something of utility might be learnt by the "practical man," even from an unfortunate lecturer who, perhaps, possessed less practical knowledge than his hearers. A chemist may not be able to crock pots with neatness and despatch, or put up a batch of Ericas in good nursery style, or plough a straight furrow; yet he may, I think, be able to offer some few crumbs of knowledge connected with his special study which can be applied with advantage to the operations of the garden or the farm. Anyone who has seen the irrational and wasteful treatment of farmyard manure (the rich brown liquid running away by gullions, and the air redolent far and wide with ammonium carbonate) by men of many years experience, will, I am sure, agree with me that a plain talk on the "far-fetched" subject of "The Manure Heap" would not be altogether out of place in some districts. A market hand of the writer's acquaintance—the possessor of a quarter of a century's experience and a budget of testimonials as bulky as Mrs. Epton's *Cookery Book*—conceived the brilliant idea of copiously syringing a house of Tomatos in which the disease had appeared, an idea which he carried into execution with results that may be guessed. Would not a little information (if only "semi-scientific") about the Phytophthora have been an advantage here? Actual instances of serious errors in practice resulting from crass ignorance of the scientific principles involved might be multiplied almost indefinitely, but enough has been said, I hope, to show the puerility of those who scornfully reject the teachings of science. The student is content to learn the chemistry of the pigments he uses from one who perhaps cannot draw a straight line; just so, one would imagine that the horticulturist, whose work brings him into continual contact with the complex and marvellous phenomena of plant life, would be eager to draw upon the funds of knowledge placed at his disposal by the botanist or the chemist, who had perhaps spent the best years of his life in mastering his science and applying it to the practical art of culture—a course which the manual worker has neither the time, means, nor inclination to pursue. *Science with Practice.*

WATERING COKE.—My experience differs greatly from that of others which have appeared in the *Gardeners' Chronicle* on the above subject. I have always found damp coke to burn much better than dry, it gets the heat up quicker, and makes a much cleaner fire than dry. When coke comes from the gas-house it is full of moisture, and does not want watering, neither does it when kept outside in damp weather; but if kept in a shed, or in a dry stovehole, and it gets thoroughly dry, I have always found a pot of water improve its burning in every way. What have the under-gardeners or regular stokers got to say about it? *Practice.*

WINTER WEATHER.—On February 15 we had 8 inches of snow, which fell between 9 A.M. and 2 P.M., and, when melted it equalled 70 inch of rain; 94 inch melted as it fell, and the total fall that day equalled 85 inch of rain. The snow was very wet when it fell, and broke down several of our trees and shrubs. Early on the morning of the 17th, the minimum temperature was 0°, and remained at that until 8 A.M.; and again about midnight on the 18th, and early on the morning of the 19th, the minimum temperature was 0°. As doubts are sometimes expressed, and rightly so, as to the trustworthiness of thermometers, I may add that our instruments were tested a short time ago by an officer of the Meteorological Society, and were found to be correct. *W. H. Divers, Ketton Hall Gardens, Stamford.*

TREE CARNATION "WINTER CHEER."—This proves to be one of the most satisfactory kinds I have ever met with. I first saw it in Messrs. Veitch's at Chelsea, last September, where some plants struck from cuttings the previous February were growing in the beds outside and flowering profusely. I was so favourably impressed with it, that I at once procured some plants, and these were in flower when they arrived here a few days afterwards, and they have continued to flower up to the present time, and still have a number of buds to open; the flower is larger than Miss Joliffe, of good form, of a dark scarlet colour; and the habit of growth all that could be desired. From its sturdiness and compactness, it will make a valuable addition to outdoor Carnations also, when it becomes plentiful enough,

even if it has to be protected during the winter, but judging from its robust habit it seems likely to be hardy enough to survive an ordinary winter. *W. H. Divers, Kelton Hall Gardens, Stamford.*

MUSHROOM CULTURE.—It may interest those of your readers, who, while desiring to grow these toothsome esculents, are deterred from the attempt by the prevailing notion that not less than 1 foot in depth of manure is essential to success, to know that Mr. Reid, the gardener at Woodcote Hall, Newport, Salop, not only succeeds well with, but considers 8 inches of manure and soil combined ample depth, and certainly the appearance of his long beds when I saw them a few days ago well justified his conclusions and practice, for their entire surface was studded over with excellent Mushrooms in all stages of development. I need scarcely say that the house is well-heated. *W. R.*

APPLE CROP.—I must beg leave to differ from your correspondent, Mr. Wright, on p. 245 of last week's *Gardeners' Chronicle*, as to all the best home-grown fruit being sold last autumn (in this district at least). I know, at the present time, where large quantities of late fruit is being held back by fruit farms simply on account of the unremunerative price at present offered by buyers for home-grown fruit—and splendid fruit too, highly coloured. When offering home-grown fruit, the answer you get in the Cardiff, Newport, and Pontypool markets is, "We can buy these American Apples and sell them retail at 2d. per lb.; we can do without yours, unless you like to take 1d. per lb. for them. Only wait until the Americans are all gone, then we will buy yours at a better price." Moral: Plant early and late-keeping fruit for sale, and let the mid-season Apples be relegated to private gardens. Mr. Wright was lucky in disposing of his produce so easily, and at good prices. I know his district; also that his fruit is large, of excellent quality and pure colour; and he is well situated with regard to the Midland and Northern markets; but he would never get the price he once named for Peasgood's Nonsuch in this district. Unfortunately, the excessive railway rates prevent people in this district sending fruit northwards. His remarks with respect to Apple-growing being remunerative or otherwise, according to the attention bestowed upon it, also as to sorting and packing, is good advice. We all know that care is required in all those matters, but it will not put aside the yearning kindled in the hearts of the small growers and farmers for some kind of protection when they see their fruit set aside in favour of American. What we want is men of the stamp of the late Mr. Grant, the Technical Instructor of the Monmouthshire county council who preached the consumption of home-grown fruit, and who advised his hearers to plant good sorts; at the same time advising, by all means, to thoroughly drain the land, and not plant on a "pan" of earth, as many have done. I write these remarks from experience, having been a sort of local adviser on fruit tree planting about here, also a large planter myself for private use and experimental purposes. *John Chinnery.*

WIREWORMS.—I read with interest, at p. 240, your article on the various means tried for the destruction of the wireworm, and the utter failure of the same. When the new Royal gardens were formed at Frognor, I think in 1845, there was, if I remember rightly, a good deal of turf-soil used in the formation of the fruit borders, &c., but for some time the wireworm was a sad hindrance to the cultivation of the various crops, when a number of moles were turned into the garden, and the experiment was a success, for they cleared off the wireworm. At that same time a minister in the north of Scotland used to frequently write in the *Gardeners' Chronicle*, and claim protection for the mole from all interested in the cultivation of the soil, offering at the same time to turn out as many on his glebe as they liked to send him, remarking at the same time that they would not stay after their favourite food was finished. I write all this from memory, but believe it is substantially correct. I have been led into this subject, seeing that just lately we have been visited with a snow-storm, and all around the meadows have been dotted over with fresh mole-hills, standing out quite prominently in the snow in hundreds and thousands; and who can estimate the good that these little creatures do in destroying wireworm and other noxious things, in making channels to drain the land, and producing a top-dressing for the ground, which it is not a very laborious job to spread about, and which might be done by schoolboys on the Saturday holidays, or by

aged and infirm labourers. I know it is urged that the hills are an impediment to the mowers, but then the hills are principally formed in the spring, when they can be observed. Again, one often sees moles caught in woods, where surely no harm but good is done. Seeing, as I do occasionally, large sums spent on mole-catchers, I always think it is money mispent, and that is why intellectual farmers do not object to a certain number of partridges and pheasants about their farms, viz., the destruction of insects. *J. Rust, Bridge Castle.* [Our country folk err chiefly through ignorance. Some day before long, it will be thought a disgrace in anyone to do what is now contemned, and those who are acquainted with country life know that no persons need more instruction concerning this overmuch tampering with the balance of Nature than our gamekeepers and their employers. En.]

GARDENERS' TRAINING.—The sensible observations by "Semper paratus" at p. 212, display the whole matter, root and branch. To preach, however, is one thing, to practice, another, and in practice you may depend upon it that employers will, as heretofore, reserve the right of employing whom they like; consequently, the prepossessing and pleasant-spoken will continue to enjoy a prestige over those less gifted, and the clumsy, and those with a disagreeable manner. Hence, ordinary skill with nice deportment will influence employers beyond mere skill when it is combined with rudeness and vulgarity. But it is of the training I wish to speak. "Semper paratus" says, "There is nothing like a nursery for training." This is, I think, wrong, for nursery-bred gardeners generally prove failures in the management of private gardens, and this arises from their lack of experience as cultivators of vegetables and fruits. Such men may excel, however, as specialists, and many of them rank amongst our men of mark. But intelligent boys who wish to become good all-round gardeners should start as garden boys in some well-appointed private garden, and before they become full-fledged gardeners the sharpest among them will have gained the varied experiences only to be learned in private gardens, and those who have spent the last year or so in high-class nursery gardens will know the most, and be the best qualified as gardeners. This is the good old-fashioned way of training gentlemen's gardeners, and with the careful study of good books there can be no better one. *W. Napper, Chelsea.* [We must decline for the present to print any more letters on the above subject. En.]

VARIETIES OF CELERY.—Cases have this season come to my knowledge that Celery has kept badly, and that it is diseased in the heart. This is a great vexation to a gardener who has to keep up with the demand for Celery. I have found that while nearly all varieties may be of good quality in mid-season, there are some which keep in good condition much better than others. Where the late crops have failed, that in some cases may have been that the seed was sown too early. Other instances may be seen that the crops were carried up when in an unfit condition, or it may be the operation was carelessly performed, late Celery requiring more care than what has preceded it, and it should be done in dry weather, and trustworthy varieties planted. For early work, say end of August, as this is as a general rule early enough, and as early as it can be got in anything like good condition, I use Sandringham White and Sutton's Gem. The latter variety I consider is a good type of what early Celery should be, and I have rarely known it to bolt. If the crop be supplied with water at the right time, there is then little fear of either variety bolting. Sulham Prize and Colonel Clark's Red and Giant White may follow, but if one variety alone be wanted, I should choose Colonel Clark's Red, which is always to be relied on; and for the latest crop, there is nothing to beat Standard-bearer, which this winter, in spite of the wet autumn and sudden severe frost, is in better condition than any other. It is sweet, crisp, and blanches readily. *W. A. Cook, Compton Bassett.*

PEA CRITERION.—I can fully endorse all that Mr. Coomber said in praise of Criterion Pea. During the hot, dry season of 1887, it proved itself by far the best Pea that I had that year, and since that time I have grown it for my main crop supply. It is an enormous cropper, the peas of delicious flavour, and of a nice green colour when cooked. In growth it is rather too tall to become generally grown, but to gardeners who, like myself, have a good supply of peacocks at command, I can recommend it. Autocrat is another fine main-crop variety, of strong, robust

habit, growing about 4 feet in height, a heavy cropper, and of excellent flavour. The Peas are of a deep green colour. I am sure Mr. Coomber ought to convert his trio into a quartette by the inclusion of this splendid Pea. *J. V. Smith, Arley Hall Gardens.*

VIOLAS AND PANSIES.—If these are struck from cuttings they are apt to be loosened by frost, and then failures are certain to come if they be not made firm in the soil after a spell of frost. For massing, I find Cannell's Blue Belle and Yellow Boy good and useful varieties, which can be well relied upon during the summer months, and do better on hot light soils than any others that I have hitherto grown. To be successful with Violas in the flower beds, young healthy plants, early and moderately deep planting, and a deeply-worked soil, with plenty of rotted manure, are essential. Some root incorporated with the soil, will also have a beneficial effect in keeping millepedes away, which in some gardens play great havoc with these plants. *H. Markham, Mereworth Castle.*

SEVERE FROST IN NORFOLK.—A severe frost was experienced at Thornham Hall Gardens on Thursday evening and Friday morning, the 18th and 19th. On the 18th there were 25° registered at 8 p.m., and from 1.15 to 2.15 a.m. on the 19th there were 35° or 3° below zero; and at 6.30 a.m. there were 25° of frost. The 35° reminded one of the terrible frost that was experienced on Christmas morning, 1860, when we had 38½° of frost, or 6½° below zero. *John Perkins.*

HARDINESS OF HERBACEOUS CALCEOLARIAS.—I was glad "J. S." at p. 247, called attention to the above, as I am sure many of these plants are ruined by too much heat. I used to exhibit herbaceous Calceolarias in the South, and from the time of sowing the seed till the final plants never had any heat whatever. It is the weak sickly plants that succumb to severe weather. This season our plants have been in an ordinary frame close to the glass, and the leaves covered with ice, the only precaution taken being to prevent the sun thawing them. When grown thus, it is necessary to sow the seed in good time, so as to get robust plants by winter. I like to get them potted into 48 and 36-size pots early in November. By the beginning of March they are ready for shifts. When grown in a warm dry house it is almost impossible to keep them clean; they also grow spindly. But in cold frames near the light they have thick leathery foliage, and are not troubled with green-fly. When in flower, mildew is their worst enemy; but this is easily got rid of by dusting over with sulphur. It is also a preventive to dust occasionally with dry wood-ashes over the floor. This also gets rid of slugs, these latter being very partial to the tender foliage. When grown in cold frames, the plants require to be watered sparingly through the winter months. *G. W. S.*

FUELS AND STOKING.—I would like to say to Mr. H. J. Southgate (p. 180), that if pulling out the fire two or three times a week was an essential part in the successful heating with anthracite coal, it would alone constitute a most serious drawback to its use in any heating apparatus, as such an operation could not be performed without materially checking the heat. Mr. Southgate agrees that it is "smokeless," yet recommends cleaning the flues as often as though he were burning the dirtiest of common coal. It may, however, interest your correspondent to know, that during the whole of last winter I never once drew my fire, nor should I, had the frost continued double the time, while the flues were cleaned once a month. The best system of ensuring clean fire-bars is that recommended by Mr. Stephen Castle, viz., by daily pushing the clear fire towards the back of the boiler; this not only affords means for thoroughly clearing the bars, but provides material for maintaining the heat till the fresh fuel is well alight, and by making this a part of the daily routine, a boiler may be worked for an indefinite period without any need for "pulling out the fire." I always adopt it, no matter what fuel I am using, and find it the only sure way to keep the fire-box clear. In the case of saddle-boilers having a dead plate at back, an iron hoe should be employed to clear it of ash. So far as coal for heat-producing is concerned, I never tried anything to approach "hard steam," by which I mean that employed usually for traction-engines. During the winter of 1890–91, I ran short of anthracite, and knowing my boilers to be heavily handicapped, had grave doubts of maintaining sufficient heat, so I

had recourse to "hard steam," of which I had abundant experience domestically in my kitchen-range. Knowing its fierce nature, I charged my stoker to not more than half-fill the fire-box, and I would give it my personal attention. In less than two hours, and with the usual draught when burning anthracite, the water was boiling madly, a thing unthought of at so severe a time. To check the draught at both points was the work of a moment, and by fully opening the valves in a house from which we were only excluding frost from the pipes, things soon quieted down. On taking the heat I was surprised to find an increase of 5° to 8° over anthracite in several houses, and while using this coal I was certain of a higher heat by several degrees than with anthracite, and this with the damper all but closed, and the ash-pit door quite so during the night. My only objection to it is the smoke and black consequent upon its use, the flues requiring to be cleaned at least once a week. As a heat-producing coal it eclipses all I have tried, and is very enduring, at the same time requiring very careful management. *E. Jenkins.*

VANDA AMESIANA AND V. KIMBALLIANA.—I send you herewith a photograph I have taken of one of our *V. Amesiana*. This, with its near neighbour, *V. Kimballiana*, I consider two of the prettiest of recent introductions. Their culture is of the easiest possible nature; they are quite at home in the Mexican-house, and the same style of potting, I find, suits these as well as the rest of the genus. They grow as freely in a basket on the roof as in a pot or pan on the stage, and flowering, as they do, in the short days, especially where fogs are unknown, as with us, makes them even more valuable. You can judge, Mr. Editor, from accompanying photograph, what the plant was like at the end of November last; its powerful scent pervaded the whole house. *Jas. Brown, Ardarauch, Garloch Head, N.B.* [The photograph is hardly clear enough for reproduction, but it amply bears out our correspondent's remarks. Ed.]

CATTLEYA AND LÆLIA DISEASE.—Your correspondent, "W. L." p. 210, I noticed, has been enquiring about a disease among his *Cattleyas* and *Lælias*. I can sympathise with him, for the same thing has cost me many an anxious hour, and I am almost as much at a loss to account for it as the first time I saw it. With us it is almost confined to one house; in one adjoining, where the treatment accorded is in every way similar, it very seldom appears. It is no respecter of varieties, as far as *Cattleyas* are concerned; but it has not so far attacked the short bulb *Lælia* here of *L. anceps* and *L. autumnalis* type. A *Cattleya Dowiana* resting on the roof is just as liable to an attack as a *Lælia purpurata* in an active state, and old bulbs appear as vulnerable as new growths. So far, I have found flowers-of-sulphur the best thing for checking its ravages. A fine variety of *Lælia elegans* had its leading bulb attacked near the top. I at once cut off the bulb near the break, and dusted the wound with sulphur; this had the desired effect, and the plant is breaking strongly again. This is what I have done for it as soon as it appeared, and I would recommend "W. L." to try it; it will do no harm at any rate. As to whether it is contagious, I cannot say, but I tried cutting the rhizome of a known poor variety of *Cattleya* with a knife that had been used for cutting a diseased bulb, afterwards rubbing the diseased bulb over the wound; this has had no effect whatever after twelve months. It has been suggested that it is a fungus. This may be so; and I sincerely hope some of our scientific men will take it in hand, and tell us what we are grappling with. Once we really know the cause of the mischief, things will look more hopeful. *Northern.*

growths were attributable to insect agency, but on a review of all the circumstances it seemed as if the restriction caused by a shred, and the accumulation of moisture, were the predisposing causes of the growth.

Hellebores.—Mr. Burbidge, in a letter, commented on the circumstance that cut flowers of *Helleborus niger* remain unwithered much longer than those of *H. orientalis*, a circumstance probably due to a difference in internal structure. Dr. Scott undertook to examine and report. Mention was also made by Mr. Burbidge of the circumstance that flowers of *H. niger* gently forced, last in good condition in water much longer than do flowers of the same variety in the open air. The flowers of *H. niger* last longer in water if the stalks be slit lengthwise from below upwards. The result is, that the tension being removed the cut segments of the stem curl outwards away from the centre, and that a larger absorbent surface is exposed.

Snowdrops.—Flowers of *G. Allani*, *G. Elwesi*, and *G. nivalis* var. *Imperati*, were shown from Mr. Burbidge.

Monstrous Flowers.—A parti-coloured Tulip from Mr. Marshall and a curious *Cypripedium Dayanum* from Mr. O'Brien were shown, and will be reported on by Dr. Masters at the next meeting.

Disa grandiflora.—Messrs. Veitch showed a plant with a thick fleshy creeping rootstock, bearing leaf shoots, by means of which the plant could be propagated.

The following list comprises the names of the members of the several Committees for the present year. Members of Council are members of all committees.

SCIENTIFIC COMMITTEE, 1892.

Chairman.—Sir Joseph Dalton Hooker, K.C.S.I., M.D., C.B., F.R.S., The Camp, Sunningdale.

Vice-Chairmen.—W. T. Taiselton Dyer, C.M.G., F.R.S., Royal Gardens, Kew; Professor M. Foster, Soc. R.S., Great Shelford, Cambridge; Maxwell T. Masters, M.D., F.R.S., Mount Avenue, Ealing, W.

Hon. Secretary.—Rev. Prof. G. Henslow, M.A., F.R.S., F.G.S., Drayton House, Ealing, W.

Baker, J. G., F.R.S., Royal Gardens, Kew.

Blandford, W. H. F., M.A., F.E.S., 48, Wimpole Street, W.

Bonavia, Dr. E., 5, Harrington Mansions, South Kensington.

Burbidge, F. W., F.L.S., Trinity College Gardens, Dublin.

Church, Professor A. H., F.R.S., Shelsley, Richmond.

Clarke, Colonel R. Trevor, Welton Place, Daventry.

Clawson, Francis, F.R.S., Wyckfield, Huntingdon Road, Cambridge.

Dee, Rev. C. Wolley, Edge Hall, Malpas, Cheshire.

Ewes, H. J., F.L.S., F.Z.S., Colebourne, Andoversford, Gloucestershire.

Frankland, E., F.R.S., The Yews, Rigate Hill, Reigate.

Gardiner, W., F.R.S., Clare College, Cambridge.

Gilbert, J. H., Ph.D., F.R.S., Harpenden, Herts.

Godman, E. DuCane, F.R.S., 10, Chandos Street, Cavendish Square, W.

Green, Professor J. R., M.A., 17, Bloomsbury Square, W.C.

Lindsay, R., Botanic Gardens, Edinburgh.

Llewellyn, Sir J. T. D., Bart., F.L.S., Penllergare, Swansea.

Lynch, R. Irwin, A.L.S., Botanic Gardens, Cambridge.

McLachlan, R., F.R.S., West View, Clarendon Road, Lewisham, S.E.

Michael, Albert D., F.L.S., Cadogan Mansions, Sloane Square, S.W.

Morris, D. M.A., F.L.S., 11, Kew Gardens Road, Kew.

Müller, Hugo, Ph.D., F.R.S., 13, Park Square East, Regent's Park, N.W.

Oliver, F. W., D.Sc., F.L.S., 10, Kew Gardens Road, Kew.

Pascov, F. P., F.L.S., 1, Burlington Road, Westbourne Park, W.

Plowright, C. B., F.L.S., 7, King Street, King's Lynn.

Russell, Dr. W. J., F.R.S., 34, Upper Hamilton Terrace, N.W.

Salisbury, Robert, F.R.S., Hawksfold, Fernhurst, Haslemere.

Scott, D. H., Ph.D., F.L.S., The Laurels, Bickley, Kent.

Symons, G. J., F.R.S., 62, Camden Square, N.W.

Veitch, H. J., F.L.S., Royal Exotic Nursery, King's Road, Chelsea, S.W.

Ward, Professor Marshall, F.R.S., The Laurels, Englefield Green, Staines.

Weiss, F., Ernest, B.Sc., F.L.S., Birchbank, Christchurch Road, Hampton.

Wilson, Geo. F., F.R.S., Heatherbank, Weybridge Heath.

FRUIT AND VEGETABLE COMMITTEE, 1892.

Chairman.—Philip Crowley, F.L.S., Waddon House, by Croydon.

Vice-Chairmen.—T. Francis Rivers, Sawbridge-worth; John Lee, 78, Warwick Gardens, Kensington; R. D. Blackmore, Teddington.

Secretary.—Archibald F. Barron, Royal Horticultural Society, Chiswick.

Balderson, H., Corner Hall, Hemel Hempstead.

Bates, W., Poulett Lodge Gardens, Twickenham.

Bennett, W., Rangemore Park Gardens, Burton-on-Trent.

Bunyard, George, The Nurseries, Maidstone.

Cheal, J., Crawley, Sussex.

Cliffe, G., Shoreham Place Gardens, Sevenoaks.

Coleman, W., Eastnor Castle Gardens, Leicestershire.

Cummings, G. W., The Grange Gardens, Walsington.

Dean, A., G9, Feltham Road, Kingston.

Divers, W. H., Ketton Hall Gardens, Stamford.

Dunn, Malcolm, The Palace Gardens, Dalkeith, N.B.

Fairgrieve, P. W., The Palace Gardens, Dunkeld, N.B.

Ford, Sidney, Cowfold, Horsham.

Hogg, Dr., L.L.D., F.L.S., 99, St. George's Road, Pinhook.

Hammond, G., Pilgrims Hatch, Brentwood.

Hudson, J., Gunnersbury House, Acton.

Laing, J., Junr., Forest Hill, S.E.

Lane, Fred, Berkhamsted.

McIndoe, James, Hutton Hall Gardens, Guisborough.

Miles, G. T., Wycomb Abbey, High Wycombe.

Moss, A., 39, King William Street, E.C.

Norman, G., Hatfield House Gardens, Hatfield.

Pearson, A. H., The Nurseries, Chilwell, Notts.

Rhynolds, G., The Gardens, Gunnersbury Park, Acton.

Ross, Charles, The Gardens, Welford Park, Newbury.

Saltmarsh, T. J., The Nurseries, Chelmsford.

Smith, James, The Gardens, Mintonmore, Leighton Buzzard.

Sutton, A. W., F.L.S., Reading.

Taber, G., Rivenhall, Witham, Essex.

Veitch, P. C. M., The Royal Nurseries, Exeter.

Warren, W., Worton Gardens, Isleworth.

Weir, Harrison, Sevenoaks.

Willard, Jesse, Holly Lodge Gardens, Highgate, N.

Woodward, G., Barham Court, Teston, Maidstone.

Wright, John, 171, Fleet Street.

Wythes, G., Syon House Gardens, Brentford.

FLORAL COMMITTEE.

Chairman.—William Marshall, Auchinraith, Bexley.

Vice-Chairmen.—Rev. H. H. D'Ombra, Westwell Vicarage, Ashford, Kent; John Fraser, Lea Bridge Road, Leytonstone, E.; George Paul, The Old Nurseries, Cheshunt.

Secretary.—Archibald F. Barron, Royal Horticultural Society, Chiswick.

Bain, W., The Gardens, Burford Lodge, Dorking.

Baines, Thomas, Fern Cottage, Palmer's Green, N.

Bause, F., Portland Road, South Norwood, S.E.

Bennett-Poe, J. T., 29, Ashley Place, S.W.

Bryceon, G., Flora Vista, Plumstead.

Cannell, H., Swanley, Kent.

Cant, F., Braiswick, Colchester.

Davis, N., Lilford Road, Coldharbour Lane, Camwell, S.E.

Dean, R., Ranelagh Road, Ealing, W.

Drury, C. T., 25, Windsor Road, Forest Gate.

Ellis, W. H., Clovelly, Lampton Road, Hounslow.

Furze, W., Roselands, Broom Road, Teddington.

Girdlestone, T. W., Sunningdale, Berks.

Golding, W., 52, Gloucester Road, Kew.

Gordon, G., 1, Style Villas, Gunnersbury.

Herbst, H., Kew Road, Richmond, Surrey.

Ingram, W., Belvoir Castle Gardens, Grantham.

Jeffries, C., Boston House Gardens, Brentford.

Laing, J., Forest Hill, S.E.

Leach, W. C., Aldbury Park Gardens, Guildford.

Lowe, R. B., Ashridge Gardens, Berkhamsted.

Mawley, E., Rosebank, Berkhamsted.

May, H. B., Dyson's Lane, Upper Edmonton.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

FEBRUARY 9.—D. Morris, Esq., in the chair. Present: Messrs. MacLachlan, Michael, Wilks, Weiss, Dr. Scott, Dr. F. Oliver, and Dr. Masters.

Erecescence from Stems of Gooseberries.—Mr. Lister reported that there was no slime fungus on the specimens sent; and Mr. Massee, who also examined the specimens, failed to find traces of fungoid growth. From the presence of one or more maggots in the tumour, Mr. Massee suggested that the out-

Nicholson, G., Royal Gardens, Kew.
Noble, C., Sunningdale Nursery, Bagshot.
Owen, R., Castle Hill, Maidenhead.
Pearson, C. E., Chilwell, Nottingham.
Peerless, G. R., Park Hill House, Clapham.
Phippen, G., Victoria Nursery, Reading.
Ross, F., Pendell Court Gardens, Bletchingley.
Salter, C. J., Woodchatch Gardens, Reigate.
Turner, H., Royal Nurseries, Slough.
Walker, J., Ham Common, Surrey.
Watson, W., Royal Gardens, Kew.
Williams, W. H. (Keynes & Co.), Salisbury.
Wynne, B., 1, Clement's Inn, Strand, W.C.

ORCHID COMMITTEE, 1892.

Chairman.—H. J. Veitch, F.L.S., Royal Exotic Nursery, Chelsea, S.W.

Vice-Chairmen.—Sir Trevor Lawrence, Bart., M.P., 57, Princes Gate, S.W.; J. Douglas, Great Geardie, Ilford; Maxwell T. Masters, M.D., F.R.S., Mount Avenue, Ealing, W.

Secretary.—James O'Brien, West Street, Harrow-on-the-Hill.

Ballantine, H., The Dell Gardens, Staines.
Bond, T. W., Elstead House Gardens, Godalming.
Burbridge, F. W., Trinity College Botanic Garden, Dublin.

Castle, Lewis, Hotham House, Merton.
Crawshay, De Barri, Rosefield, Sevenoaks.
Cookson, Norman C., Oakwood, Wylam-on-Tyne.
Contrauld, Sydney, Bocking Place, Baintree.

Handley, Rev. E., 19, Royal Crescent, Bath.
Haywood, T. B., Woodchatch Lodge, Reigate.
Hill, R., Tring Park Gardens, Tring.

Kinleside, Rev. R. V. C., Sunbury House, Tunbridge Wells.
Jacques, J., Waddesdon Manor Garden, Aylesbury.
Jennings, J., Ascott Garden, Leighton Buzzard.

Latham, W. B., Botanic Gardens, Edgbaston, Birmingham.
Le Dux, G. R., Langton House, East Molesey.
Lindsay, R., Botanic Gardens, Edinburgh.

Low, H., The Nurseries, Clapton, E.
Lucas, C. J., Warnham Court, Horsham.
Mason, Major, The Firs, Warwick.

Moon, E., Cassiobridge, Watford.
Moore, F., Blendon Hall Gardens, Bexley.
Pilcher, Charles, 81, Ringford Road, Wandsworth, S.W.

Pollett, H. M., Fernside, Bickley, Kent.
Sander, F., St. Albans.
Schroder, Baron, The Dell, Staines.

Smee, H. J., Wallington, Surrey.
Swan, W., Castle Hill Gardens, Englefield Green.
Tantz, E. G., Dibdin House, Hangar Hill, Ealing.

White, R. E., Ardaroach, Garelohead, N.B.
White, W., Burford Lodge Gardens, Dorking.
Williams, H., Victoria Nurseries, Holloway, N.

NARCISSESS COMMITTEE, 1892.

Chairman.—Professor M. Foster, Sec. R.S., Shelford, Cambridge.

Vice-Chairmen.—J. G. Baker, F.R.S., Royal Herbarium, Kew; Rev. C. Wolley Dod, Edge Hall, Malpas, Cheshire; Rev. George H. Engleheart, Appleshaw, Andover; Rev. W. Wilks, Shirley Vicarage, Croydon.

Honorary Secretary.—C. R. Scrase-Dickins, Coolhurst Park, Horsham.

Barr, P., 12, King Street, Covent Garden, W.C.
Barr, W., 12, King Street, Covent Garden, W.C.
Beckett-Poi, John T., 29, Ashley Place, S.W.

Bourne, Rev. E. S., Dunston Vicarage, Lincoln.
Burbridge, F.W., Trinity College Gardens, Dublin.
Clarke, Col. R. Trevor, Welton Place, Daventry.

Collins, A. C., Waterloo Road, S.E.
Cowan, C. W., Valleyfield, Penicuik, Midlothian.
Darlington, H. R., 207, Piccadilly, W.

De Graaff, S. A., Leyden, Holland.
Elwes, H. J., F.L.S., Colesborne, Andoversford, Gloucestershire.

Goldring, W., 52, Gloucester Road, Kew.
Grosvenor, Lady Hy., 73, South Audley Street.
Hartland, W. B., Temple Hill, near Cork.

Haydon, Rev. G. P., Hatfield Vicarage, Doncaster.
Jekyll, Miss G., Munstead, Godalming.
Jenkins, E. H., Queen's Road, Hampton Hill, S.W.

Krelege, J. H., Haarlem, Holland.
Leichtlin, Max, Baden-Baden.
Llewellyn, Sir J. T. D., Bart., F.L.S., Penllergare, Swansea.

MacMichael, Rev. C., Walpole Rectory, Wisbech.
Marsh, Rev. T. H., Causton Rectory, Norfolk.

Milne-Readhead, R., Holden Clough, Bolton-by-Bowland, Clitheroe.

Moore, F. W., Royal Botanic Gardens, Glasnevin, Dublin.

Nelson, Capt. Charles G., R.N., Holme Lodge, Godalming.

Perry, Amos J., Stamford Road, Page Green, Tottenham.

Vilmorin, Henry, L. De, Quai de la Mégisserie, Paris.

Walker, James, Ham Common, Surrey.

Ware, Walter T., Iglecombe Nurseries, near Bath.

Webster, A. D., F.B.S.E., Hollydale, Keston, Kent.

White, Miss, Alexandra College, Dublin.

NEWCASTLE AND DISTRICT HORTICULTURAL.

At a meeting of the above Society, held in the hall, Library Place, Newcastle, on Thursday evening, February 18, Mr. B. Cowan, South Shields, read a paper on "Cottage Gardens and Allotments: how to make the most of them." Mr. Cowan, in the course of his remarks, said that in the Agricultural Returns he found that there were in this country 58,700 acres of small fruits in 1891. In small-fruit cultivation the acreage had risen in Northumberland from 401 in 1890 to 440 in 1891, and in Durham from 263 in 1890 to 337 in 1891. In the five northern counties there were 3120 acres under small fruit in 1890, and 3970 acres in 1891. He would suggest that they should approach the county councils with the object of giving technical instruction in gardening in all districts, and to hold examinations and also grant certificates of merit. Secondly, they should have a committee of inspection or survey to visit any allotments or cottage gardens, and to give the holders advice as to what would grow best. He did not believe in trying to migrate people from the towns to these allotments, as the country people were by far the best adapted to the work. In the third place, growers should have some system of co-operation, whereby the distribution of their produce would be cheapened. In the fourth place, he would at places like Morpeth and Hexham establish jam factories and places for pickling; these, like the means of distribution, should be on a co-operative principle. Then he thought they should offer prizes for the best treatise on what to grow, and what was considered the most suitable for the climate. In connection with allotments, especially where there were daughters, poultry and pigs would become a very valuable adjunct. *Extract from Newcastle Evening Chronicle.*

LAW NOTES.

THE SALE OF "WEED-KILLERS" BY SEEDSMEN.

At the Barnstaple (Devon) County Court, recently, an important judgment was given by Judge Paterson in an adjourned case brought by the Pharmaceutical Society of England against Mr. E. J. Butt, seedsman and florist, of Barnstaple, for selling a certain compound known as "Weed-killer," which contained poison in such quantities that only a registered chemist was permitted to sell. Mr. Bremridge represented the Society as plaintiff; Mr. Flux, London, conducted the case on behalf of the Society; Mr. A. F. Seldon (Barnstaple) defended. In giving judgment, his Honour said:—This was an action brought by the Society under section 15 of the Pharmacy Act, 1868, for selling poison contrary to the enactment. It was proved before him at the previous examination, that the defendant was not a registered pharmaceutical chemist, or a chemist or druggist within the meaning of the Pharmacy Act, but that on Tuesday, October 27 last, he sold in his shop a gallon drum of weed-killer. The drum, which was made of iron, was labelled "poison;" it was also labelled "weed-killer," with directions for its use and "with care." It was admitted on the part of the defendants that the drum contained arsenic in large proportions. The first section of the Pharmacy Act made it unlawful for any person to, *inter alia*, sell poisons unless such person shall be a pharmaceutical

chemist, or a chemist or druggist within the meaning of the Act. The second section declared that the articles named in Schedule A to the Act should be deemed to be poisons within the meaning of the Act, and amongst the articles named in the schedule was "arsenic and its preparations." By the fifteenth section it was enacted that "any person who shall, *inter alia*, sell or keep an open shop for the retailing, dispensing, or compounding of poisons, not being a duly registered pharmaceutical chemist, or chemist or druggist, shall for every such offence be liable to pay a penalty or sum of five pounds." Mr. Seldon, for the defendant, had contended that the Act applied only to poisons pure and simple, and not to a compound which might contain any of the poisons mentioned in the Act. There was no express decision as to whether the Act did or did not apply to any such compound. Mr. Seldon, in support of his contention that the Act applied only to poisons simple, and not when mixed with other ingredients, referred to a dictum of Lord Justice Lush in the case of Berry v. Henderson. The case itself was not in Section 15, but Section 17, of the Act, which made it an offence to sell any poison unless in a wrapper as there required, or to sell any of the poisons in the first part of Schedule A to any person unknown to the seller unless introduced to him by a person he knew. Section 17, however, contained a proviso that "not any of the provisions of that section shall apply to any medicine supplied by a legally qualified apothecary to his patients, nor apply to any article when forming part of the ingredients of any medicine dispensed by a person registered under this Act," if the medicine be labelled and the ingredients entered in the manner there directed. The question in Berry v. Henderson was whether a duly registered pharmaceutical chemist had brought himself within that proviso, and so had become not liable for selling poison contrary to the enacting part of that section. In the course of his judgment, Lord Justice Lush said:—"I observe that the schedule seems to treat all the poisons as sold in their simple state or in some form of preparation alone, and it does not appear to contemplate any of them being mixed up with any other ingredient—it applies to them pure and simple." This was the passage in the judgment which was cited by Mr. Seldon in support of his contention. It was, however, a mere dictum, and unnecessary for the decision in the question in his case. Judgment was given for the plaintiffs for £5 and costs, the costs to be on the higher scale, but plaintiffs were not to have costs of the adjournment. His Honour would, however, give the defendant leave to appeal, as the matter was one of general importance.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

SUITABLE HEEDERS FOR WOODS AND PLANTATIONS.—Perhaps some correspondent will kindly answer the following questions regarding the above:—Whether is Whitethorn or Myrobalan the more suitable to plant? How far from the outside trees should it be planted? Whether in single or double rows, and the distance apart? Whether is plashing or cutting down the better practice? and at what period of growth should it be performed? Any information on the subject will doubtless be of service to others besides *Inquirer*.

MARKETS.

COVENT GARDEN, February 25.

MARKET remains the same, with a good demand for hothouse goods, prices for which are firm. *James Webber, Wholesale Apple Market.*

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, Canadian and	40 0	...
Nova Scotian, per	40 0	...
barrel ...	10 0-10 0	...
Apples, 1-sieve	10 0-10 0	...
Apples, 2-sieve	10 0-10 0	...
Grapes ...	12 0-12 0	...
Kent Cobs, 100 lb.	40 0	...
Lemons, per case	10 0-10 0	...
Pine-apples, St. Mi-	40 0	...
chael, each	2 0-2 0	...

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Acacia or Mimosa,	per bunch 16-20	Narcissus, paper-	white, fr., p. bun. 2 6-4 0
Arum, per doz. bl.	3 0-6 0	Orchids:—	
Azalea, p. doz. sprays	6-1 0	Cattleya, 12 blms.	6-12 0
Camellias, white, doz.	2 0-3 0	Ondontoglossum	crispum, 12 blms. 3 0-6 0
— red, per doz.	1 0-1 6	Polygoniums, scar-	let, per 12 bu. 6 0-9 0
Carotians, 12 blms.	2 0-3 0	— 12 sprays	1 0-1 6
Chrysanthemums,	12 bunches 3 0-6 0	Poinsettia, 12 blooms	4 0-9 0
Eucharis, per dozen	4 0-9 0	Primula, ang., 12 bu.	4 0-6 0
Gardenia, per dozen	4 0-9 0	Roman Hyacinths, 12	sprays 0 9-1 0
Heliotrope, 12 sprays	0 6-9 0	Roses, Teas, per doz.	1 0-3 0
Lilac white (French)	per bunch 5 0-6 0	— colored, dozen	2 0-4 0
Lilium Harrisii, doz.	6 0-10 0	— yellow (Maré-	chais), per doz. 8 0-12 0
Lily of the Valley, per	doz. sprays 0 6-1 0	— red, per dozen	4 0-8 0
Maiden Hair Fern,	12 bunches 6 0-12 0	Tuberose, 12 blms.	1 0-2 0
Marguerite, per doz.	bunches 3 0-4 0	Tulips, p. doz. blms.	1 0-2 0
Mignonette, per doz.	bunches 1 0-2 0	Violets, Farms, per	bunch 2 0-6 0
		— Car, per bunch	1 6-2 0
		— English, 12 bun.	1 6-2 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-12 0	Ferns, per 100	5 0-15 0
Arum, per dozen	12 0-18 0	Ficus elastica, each	1 6-7 6
Aspidistra, per doz.	18 0-30 0	Genista, per dozen	9 0-15 0
Azalea, per doz.	35 0-60 0	Hyacinth Dutch, doz.	6 0-9 0
Begonia, per doz.	12 0-18 0	Lily of the Valley, pot	2 0-3 0
Cyclamen, per doz.	12 0-18 0	Marguerite, per doz.	6 0-12 0
Cyperus, per dozen	4 0-10 0	Primula sinensis, doz.	4 0-6 0
Dracaena, each	1 0-5 0	Palms, various, each	2 0-21 0
Euphylipium, per doz.	12 0-18 0	— specimens, each	10 6-8 0
— pots, 0 9-10 0		Pelargonium, Scar-	let, per doz. 6 0-9 0
Erica hyemalis, per	dozen 12 0-18 0	Solanum, per dozen	9 0-12 0
Erica gracilis, doz.	1 6-2 0	Tulips, per doz. pots	6 0-8 0
Ferns, various, doz.	4 0-9 0		

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.		s. d. s. d.	
Artichokes Globe,	per doz. 0 4-0 6	Lettuces, per doz.	1 6-2 0
Beet, French, lb.	1 6-2 0	Mushrooms, punnet	2 0-—
Beet, red, per dozen	20 0-30 0	Mustard and Cress,	per punnet 0 4-—
Carrots, per bunch	0 4-0 6	Parsley, per bunch	0 3-0 6
Cauliflowers, each	0 3-0 6	Scallies, p. basket	2 0-3 0
Celery, per bundle	0 6-0 9	Shallots, per lb.	0 6-—
Cucumbers, each	0 9-1 3	Spinach, per bush	3 6-—
Endive, per dozen	2 0-3 0	Tomatoes, per lb.	0 6-1 0
Herbs, per bunch	0 9-1 0	Turnips, per bunch	0 4-0 6

POTATOES.

A to C of France has been the feature of the week, with a tendency to a slight advance in samples free from frost. Best Magnum, 9s. to 10s.; Imperators, 8s. to 9s.; Bruce, 9s. to 10s.; Abundant, 10s.; Blackland, 6s. to 7s. These are the main prices. Samples free from frost are scarce, J. B. Thomas.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 32° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.						
	ACCUMULATED.											
	Above (+) or below (—) the Mean for the week ending February 27, 1892.	Above +28° for the Week.	Below 48° for the Week.	Above +28°, difference from Mean since Jan. 3, 1892.								
1	9	0	92	1	97	5	42	30	15			
2	1	9	0	92	1	97	5	42	30	23		
3	10	0	88	6	6	6	6	26	28	21	23	
4	10	0	90	6	6	6	6	26	28	21	23	
5	11	0	97	1	93	4	24	29	29	27	22	
6	18	0	63	1	5	1	25	21	28	21	21	
7	6	9	0	76	1	71	7	5	70	23	21	
8	7	0	76	1	6	1	31	50	24	20	20	
9	8	0	51	2	6	3	33	45	25	24	24	
10	9	7	0	55	3	5	1	35	48	27	18	
11	10	8	0	45	4	5	59	5	31	32	26	20
12	5	8	0	6	2	1	20	14	38	51	26	17

The districts indicated by number in the first column are the following:—

Principal Wheat-growing Districts.—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, S.E.; 4, Midland Counties; 5, England, S.; 6, Ireland, S.E.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending February 20, is furnished from the Meteorological Office:—

"The weather during this period was extremely wintry and unsettled in all parts of our Islands. Heavy falls of sleet or snow, accompanied by strong squally winds, occurred from time to time in nearly all districts; the amount experienced over our south-western counties on the 18th being unusually large.

"The temperature was much below the mean, the deficit ranging from 5° in the 'Channel Islands,' and 7° in 'England, S.W.' and 'Ireland, N.' to 9° or 10° in most other districts, and to 11° in the 'Midland Counties.' The highest of the maxima occurred at most stations on the 14th, and ranged from 51° in 'Ireland, S.' to 45° in 'England, N.E.' and 'E.' During the middle part of the week the daily maxima were but little above the freezing point, excepting in the extreme W. and S.W. The absolute minima were recorded on somewhat varying dates, between the 17th and 20th, and were exceedingly low. In 'Scotland, E.' (at Braemar on the 19th and 20th), and in 'England, N.W.' (at Newton Rigney on the 19th), the sheltered thermometer fell to 2° below zero, while in the 'Midland Counties' (at Loughborough on the 17th, and at Stamford on the 17th and 19th), it descended to zero. A thermometer exposed on the grass at 'Newton Rigney' registered 11° below zero. In the other districts the minima varied from 3° in 'Scotland, N.,' 4° in 'England, N.E.,' and 6° in 'Scotland, W.,' to 18° in 'England, S.,' 21° in 'Ireland, S.,' and to 28° in the 'Channel Islands.' At the close of the week the temperature was recovering.

"The rainfall was less than the mean in 'Scotland, N. and W.,' as well as in 'Ireland, N.,' but more in all other districts. In the 'Channel Islands' the excess was very large, and rather so in most parts of 'England,' and in 'Ireland, S.'

"The bright sunshine was more prevalent over the Kingdom generally than it was during the preceding week, and in most districts exceeded the normal. The percentage of the possible duration varied from 30 in 'Scotland, N.' and 'England, E.' to 21 in 'England, N.E.'"

LECTURES ON TECHNICAL HORTICULTURE.—As we have advocated the course now being followed for years past, we are naturally interested in its success, and we should be obliged if the several lecturers, in connection with the County Councils, would communicate to us their names, the districts in which they are at work, and a general indication of the method pursued by them.

NOTICES TO CORRESPONDENTS.

AMERICAN BLIGHT AND KEROSENE OIL: S. W. The proportion of one wine-glassful of oil to one gallon of hot-water, and a table-spoonful of soft soap to aid amalgamation of the oil and water, will make a safe and effectual wash, if it be stirred up continually whilst being applied.

APPLES IN THE MIDLANDS: W. C. Sedgebrooke. The samples sent were bright, fairly developed, clear skinned, and admirably kept. We may publish your letter on fruit-growing shortly.

BOOKS: T. W. Select Ferns, by the late B. S. Williams, published at Victoria and Paradise Nurseries, Upper Holloway, N.

CARNATIONS: E. H. A. The leaves are full of eelworms. Burn your plants, and get fresh soil.

CLIANTHUS DAMPIERI: A Constant Reader. When the seeds of the Clianthus remain on the plant until they are quite ripe, and then sown and germinated in a greenhouse, the plants are long in appearing. The germ or embryo of the seeds of many species of plants is sufficiently developed to reproduce its kind before the seed is perfectly ripe, and if the seed be sown when it is in the immature condition, germination takes place quickly. This method may be adopted with the seeds of many Australian plants, which have a hard exterior, and including those of Clianthus Dampieri. If seed can be obtained before it is ripe, it should at once be sown, and afforded no more warmth than that of cold frame or cold pit. The soil should be watered and the pots stood on the damp floor, and covered with a bit of close-fitting tile to exclude air and mice,

and to prevent evaporation. The tile should be removed occasionally to ascertain the state of the soil and the seeds, and to remove mould (fungus), which is apt to appear on the surface, if vegetable matter by an oversight, be present in the soil. When the seed is not obtainable before it is ripe it is better to sow it in March or April, and forward the germination by placing the pots on a mild bottom-heat, 70° to 75°, and top-heat of 60°, placing the seed pots in an intermediate-house when germination has taken place. The intermediate-house suits this and other New Hollanders, but not all.

CETOLOGYNE BARBATA: H. T. This species likes cool-house treatment generally, although a warmer temperature suits the plant when making its growth. It requires living sphagnum moss and fibrous peat, and paws or baskets; if in pans, they should be very well-drained, and the plant elevated above the rim. The plant enjoys copious supplies of water when growing, but care must be taken that it does not fall amongst the young growths, or they will rot. When done growing, just enough water should be afforded as will preserve plumpness in the pseudobulbs.

CULTIVATION OF LEMIA ANCEPS: Bournemouth Botanist. Use shallow pans or teak rafts, and hang these near the roof, with only a very small quantity of peat fibre and sphagnum moss. During the growing season the temperature may be 60° to 65° by day and 54° to 60° by night. In bright weather the day temperature may run up with air and much moisture without any danger being incurred. Keep the plant well-supplied with water in bright warm weather, watering twice or thrice daily. When growth is made, the water afforded should be lessened in quantity; and when the pseudobulbs are full-grown none should be given, and no artificial heat afforded. In August and September the plants are benefited by full exposure to the sun.

CORRECTION: Bowden Hill House Orchids. *Gardeners' Chronicle*, p. 235, col. n, line 10, for *Cypripedium bellatulum* read *Calanthe Veitchii*.

CUCUMBERS: C. Vollmar, Frankfurt-on-Main. The leaves sent show that light has been very deficient during the winter, for they are wanting in substance, a condition which renders the plant liable to various ills that more robust plants would escape. The under-surface of the leaves is eaten away all over in patches, and in cases where it is so eaten away deeply, the substance of the leaf falls away, and irregular-shaped holes appear. This injury is caused by a white thrip, of which plenty of specimens could be seen. The destruction of the edges of the leaves is partly due to the ravages of these thrips, and partly to some other cause, fumes from the stable-dung under the plants, or dry air caused by the heating apparatus. The remedies are the destruction of the insects by means of fumigation with tobacco, or syringing with an insecticide—the suppression of strong fumes of ammonia, and keeping the pit in which the plants are growing damper; but, whenever possible, change the air by the admission of just a little fresh outside air night and day.

DENDROBIUM VARIANUM: S. K. Nothing particular. ERGOT IN OIL-CAKE: A. A hitherto unsuspected source of danger, as it is alleged, may occur from the grinding of ergotised Wheat and other grains in the manufacture of low-priced oil-cake under certain circumstances.

EUPHARIS AMAZONICA: H. B. From a leaf or two it is impossible for us to tell you what is the matter with your Eucharis. Kindly send a bulb or two which are not doing as well as they should; and some details of your methods.—Foreman. Your bulbs are swarming with the mite.

FORTY-THREE DEGREES OF FROST: W. T. It is quite likely that so great a degree of cold may have been experienced at Carlisle last week; the thermometer had fallen 10° below zero, or 42° of frost, in the neighbourhood of Stamford about the same time.

GARDENERS' POSITION: W. S. Question 1. Trades union, none. There are free gardeners in Scotland, but we think it is a convivial society rather than a socially political one. Question 2. Wages average £1 10s. per week in England. Question 3. Their position will compare favourably with other trades. Their occupation is a healthy one, and they usually have, in addition to their pay, a cottage or money to pay for one, fuel, and vegetables, and sometimes Potatoes or Potato land, milk, and light. In Scotland and the north, a gardener has lower

pay, but he gets besides oatmeal, Potatoes, or land to grow them, and fuel.

INSECTS: *J. C.* The white fleshy larvæ with a chestnut-coloured head, which have much injured the roots of your *Helleborus niger* (Christmas Rose), are evidently those of one of the Swift moths (*Hepialus* sp.). The single active larva, whitish, with a grey scale-like patch at the back of each segment, is the larva of one of the voracious ground beetles which feed on other larvæ. *I. O. W.*—*W. C. M.* The insects sent as found in sphagnum have evidently escaped out of the piece of blotting-paper in which they had been folded. *I. O. W.*

MUSHROOMS: *May.* Either the spawn was spoiled before use, by age—or the bed was too warm at the time it was spawned, or the warmth may have been right at the time, but it had declined rapidly afterwards. In any case the young mushrooms are killed.

NAMES OF FRUITS: *H. G. P.* Specimens somewhat bruised and rubbed. They appear to be the same variety, viz., *Beurré Sterckmans*.—*E. Sang & Sons*, Stirling Castle.

NAMES OF PLANTS: *G. Southcott.* *Acacia Drummondii*, *Bougainvillea spectabilis*, *W. W.*—*Æquo animo*, *Juniperus thurifera*, *M. T. M.*—*L. C.* *Agavecucum pellicidum*.—*H. S.* *Miltonia cuneata*.—*H. M. E.* *Acacia longifolia*, *Grevillea rosmarinifolia*.—*B. S.* *1.* *Fuchsia procumbens*, *2.* *Origanum dictamnus*, *3.* *Adiantum macrophyllum*.—*W.* *Stanhopea oculata*, *J. O. B.*—*Jarman & Co.* *Malva lateritia*.

PEAR: *F. S.* See answer in "Notices to Correspondents" in our issue for February 6, under the above initials.

PROFITABLE PLANTS TO GROW: *A. B.* Getting as you do the fuel for heating the houses for nothing, you should grow mainly those things that fetch the highest prices when forced. *Dutch Bulbs*, *Narcissus*, *Lilac*, *Gardenias*, *Lily of the Valley*, *Indian Azaleas*, *Q. lantaglossum*, *Dendrobiums*, as noble, *Wardianum*, &c., *Cypripedium*, *Phaias* in variety, *Lælia autumnalis*, *L. anceps*, *L. majalis*, *Cattleyas* that bloom in autumn and winter, *Chrysanthemums* for cut bloom, keeping to a few decided colours and floriferous varieties; *Eucharis amazzonica*. Other subjects that may be mentioned are *Cucumbers*, *Tomatoes*, *early Peaches*, *early Melons*, *early Grapes*, *French Beans*, *Musbrooms*, *Strawberries*. The main things to observe are—to have everything of the best quality, and reasonably early in the year.

SILVER-LEAF IN PEACHES: *Nemo.* The cause of and remedies for this disease were fully described in the *Gardeners' Chronicle* for April 13, 1889, p. 462; and September 7, 1889, p. 278.

TARRING APPLE TREES: *Constant Reader.* Don't, for unless your trees are old and have a thick cork bark, it will injure, perhaps kill them, especially if it touch the buds or younger shoots. You may mix clay, cow-dung, and soot together, with water, adding a little tar to give it a disagreeable odour, and paint the stems. This will do no harm to quite young trees. Rubbing the stems with the fat of bacon is said to deter hares and rabbits. Why not put rabbit-proof wire guards? It is cheap.

THE WINEBERRY: *R. F. & Sons.* We have no definite knowledge of the plant, but it has the appearance of being *Rubus phoenicolasia*. See *Zot. Mag.*, t. 6479, and our illustration on p. 269, fig. 38.

YEAST FUNGUS AND BULB MITE: *L. M.* The fungus and the mite frequently occur on the same plant at one and the same time, but there is no connection between them.

COMMUNICATIONS RECEIVED.—*M. C. H. G.*—*W. Kelly.*—*W. B.* next week. *W. T. W.*—*C. California*, next week. *Hurst & Son.*—*J. T. N.*—*E. V.* & *Sons.*—*G. H.* *Cunne.*—*Ab. D.*—*E. G.* (next week).—*W. Deverell.*—*W. C.*—*W. B. H.* *Ireland.*—*Gisors.*—*D. D.*—*B. R.*—*E. C.*—*W. K. T.* *Sharnam.*—*Foreman.*—*J. K.*—*J. S. T.*—*W. H.* & *Son.*—*S. P. C.*—*J. D.*—*E. M.*—*G. W.*—*H. M.*—*T. H.*—*W. H. D.*—*E. S.*—*T. C.*—*W. B. H.*—*W. D.*—*W. Corry.*—*J. S.*—*E. J. Lowe.*—*W. S.*—*A. H.*—*H. E.*

DRAWINGS RECEIVED.—*Rev. G. E.*

DIED.—On the 22nd inst., at Cairo, EDWIN GRUNDY WROLEY, of Howick House, Preston, and Bury, Lancashire, aged fifty-nine years.

—ROBERT STAYNE HOLFORD, at his residence, Dorchester House, Park Lane, London, on Feb. 22, in the eighty-fourth year of his age.

"Nothing Succeeds like Success." HUGHES' (SOLUBLE) INSECTICIDE FIR TREE OIL

The most reliable and best of all Insecticides for destroying Insects and Vermin on Plants and Fruit Trees, also on Animals, and Birds; and as a Disinfectant & Bleacher in Washing Clothes. Full Directions on the Labels of each Bottle.

Sold by Seedsmen & Chemists, 1/6, 2/6, & 4/6; 1/2-gallon 7/6, 1-gallon 12/6, or less in larger quantities.

A Treatise on FIR-TREE OIL as an insecticide, its application to Plants and Animals, sent post free on application to the manufacturer, addressed to E. GRIFFITHS HUGHES, Victoria-st., Manchester. WHOLESALE from all the London Seed Merchants and Patent Medicine Houses.

NEW YORK—A. ROLKER & SONS.

For Green and Black Fly, American Blight, Camellia Scale, Red Spider, Mealy Bug, Brown and White Scale, Worms, Wood Lice, &c.

"PICRENA," THE UNIVERSAL INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.

15, PRINCES STREET, EDINBURGH, July 15, 1887.—"Dear Sir, I have thoroughly tested a sample of a new Insecticide which you were so good to send me. At the rate of 1 oz. to a gallon of water at a temperature of 95° F. I find it kills Green Fly immediately. Double this strength, or 2 oz. to a gallon at 120°, seals the fate of Scale of all sorts in a few seconds; while 3 oz. to a gallon at same temperature effectually dissolves Mealy Bug, and so far as I have yet observed, without the slightest injury to leaf or flower, and it is withal a most agreeable compound to work with. All our insect remedies are applied through common syringe, or garden engine, a much severer test of efficiency than when applied by hand-washing or spray—I remain, dear Sir, yours truly. (Signed) A. MACKENZIE." Of Messrs. Methven & Sons.

Victoria and Paradise Nurseries, Upper Holloway, London, January 7, 1888. "GENTLEMEN—I have given your Insecticide, 'Picrena,' a good trial in competition with many others. I am pleased to say that I have found it to be more effective in destroying Mealy Bug and other insects than anything we have ever used. It ought to command a good sale. (Signed) B. S. WILLIAMS."

Sold by Chemists, Nurserymen, and Florists, in Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in Tins (1 and 2 gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and upwards, 9s. per gallon.

Prepared only by DUNCAN, FLOCKHART & CO., Chemists to the Queen, Edinburgh.

May be had from B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, London; and from WILLIAM EDWARDS and SON, 157, Queen Victoria Street, London.

SAVE HALF THE COST.

**GARSIDE'S BEDFORDSHIRE
COARSE AND FINE
SILVER SAND**

Is admitted by the leading Nurserymen to be the Best Quality obtainable in the Trade. Consumers should Buy Direct from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Silvester Sand, and thus save half the ordinary cost. NO TRAVELLERS OR AGENTS. Apply direct to the Proprietor for Samples and Price free on Rail or Carriage, and executed with the utmost promptness and under personal supervision. Special Railway Rates in force to all parts. All kinds of PEAT supplied at lowest possible prices. Sample Bag sent on application to GEO. GARSIDE, Jun., F.R.H.S., Leighton Buzzard, Beds.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in Jaffar from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s. from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

RICHARDS' NOTED ORCHID and other

SELECTED PEATS (cut from his own Grounds), SOILS, MANURES, and every description of GARDEN SUN DRIES.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Write for Samples and Price List, Post-free. CHIEF PEAT DEPOT: RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 25s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Feras, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 15s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPE'S selected PEAT,

For ORCHIDS, STOVE PLANTS, Hardwood do, Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPENT PATENT MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter. The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for stove and greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER and CO., Farnborough, Hants.

BROWN and BLACK FIBROUS PEAT, 25s. per Ton, or 45 per Truck of 4 Tons; Bags, 5s. each 10 Bags, 45s.

PEAT for forming Rhododendron, Bog, and American Plant Beds, 21s. per Ton, or 41 s. per Truck of 4 tons; Bags, 5s. each; 10 Bags, 45s.

THOMAS WALKER, Tekels Park, Camberley, Surrey.

GARDEN REQUISITES, as supplied to the Royal Gardens.—COCOA-NUT FIBRE REFUSE, 1s. 6d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sack free; 2-ton truck, 30s. free on rail near works. FINE ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS do., 5s. per sack, 5 for 22s. 6d. LEAF do., 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, BLACK do., and PEAT-MOULD, each 3s. per sack. COARSE SILVER SAND, 1s. 6d. per bushel, 14s. 10s. per ton. CHARCOAL, 3s. per sack. SPAGNUM, 7s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 10s. 6d. to 12s. per dozen. RAFFIA, VIRGIN COIR, STAKES, &c. BONE DUST, 11s. per cwt. PURE BONE DUST, 11s. 6d. TOBACCO-PAPER, Speciality, 10d. per lb., 28 lb. for 21s. CLOTH, 1s. per lb., 28 lb. for 26s. Price List, free. W. HERBERT and CO., Hop Exchange Warehouses, Southwark Street, London, S.E.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO THE LONGFORD WIRE CO. (LIMITED), WARRINGTON.



CHAS. FRAZER'S EXORS.—Conservatories,

Orchid-houses, Vinerias, Greenhouses, Plant and Forcing-houses, Best Materials and Workmanship guaranteed at Moderate Prices. Intending Purchasers waited upon by appointment. HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances. Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps. PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—SILVESTER'S PATENT TRENTTEAM, With Special Provision for Cleaning the Inside thoroughly (a Most Important Point). These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting. All kinds of Garden Requisites, and Expansion Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO., General Engineers, Founders, and Boiler Makers, CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt. and Oil Mixture, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W. 15, VICTORIA STREET, WESTMINSTER, S.W.; and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

SANKEYS' famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your Garden Pots, and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

THE GARDEN.

All who use our Seeds at once pronounce them superior, not only in strain, but plumpness, colour, and germinating powers. Coming off our rich, warm, calcareous soil, they produce nearly double the weight of the ordinary Seeds. The great success that has attended this department (grown and supplied direct from us, the Growers to the Sowers), make us proud of our registered **TRADE MARK, "PERFECT SEEDS."**

Send for our Catalogues.

CANNELL'S SEEDS

NONE PERFECT ONLY FROM CANNELL, KENT

HILL & SMITH,
BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN
TREE GUARD,

"The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Uprights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittern, Herefordshire,

"Dec. 28, 1887.

"DEAR SIRS,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 50 more as before. I enclose cheque for your account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.

W. PEN DENNIS & CO.
GARDENERS
POTTERIES, RUABON.
BEST

WOOD & SON'S SPECIALITY SHADINGS FOR 1892.

EVERY VARIETY FOR IN AND OUTDOORS.

Our Special Favourite for Shading Outdoors,

"A. WHITE," at 1s. 1d. per yard, 54 in. wide. So much appreciated 1st season.

Seen and Taped, ready for Fixing on Rollers, at a slight extra charge.

WOOD & SON'S PRIZE MANURES.

When Fruit is finished Stoning, then is the time to apply as a top-dressing our

"LE FRUITIER."

The Celebrated Vine Manure. "The Perfection of Plant Food."

Tins, 1s. 3d.; 7 lb., 2s. 6d.; 1 Cwt., 19s.

LIQUID MANURE POWDER.

"THE EXHIBITOR'S FAVOURITE."

Tins, 1s. 6d.; 7 lb., 3s.; 1 Cwt., 25s.

ORCHID BASKETS,

Our Own Manufacture, of all Descriptions and Sizes.

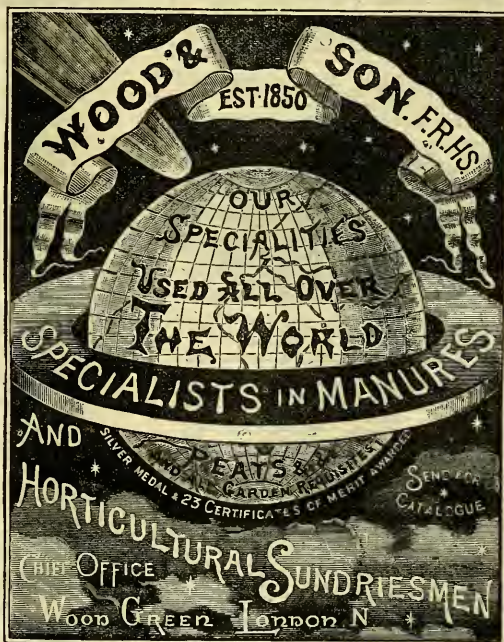
Send for Illustrated Catalogue, giving Prices.

ORCHID PEAT (ALL BROWN BRACKEN FIBRE),

HARD-WOOD and STOVE PEATS, exceptionally Good this Season.

ALL SOUND TURVES.

Before you Buy, send for Samples and Prices, and inspect our New Catalogue.



SILVER MEDAL and 23 CERTIFICATES of MERIT awarded to—

W. WOOD & SON, F.R.H.S. (ESTABLISHED 1850). Address—CHIEF OFFICE, WOOD GREEN, LONDON.



JAS. BOYD & SONS,
HORTICULTURAL BUILDERS
AND HEATING ENGINEERS,
PAISLEY.
HORTICULTURAL STRUCTURES
of every description,
in either Wood or Iron,
or both combined.

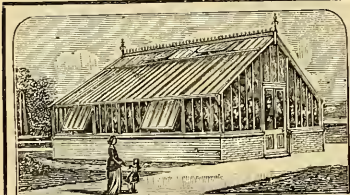


Wooden Chapels,
Shooting Lodges, Cottages,
Tennis Courts, Verandahs, &c.



Hot-water Apparatus
for warming Churches,
Schools, Public Buildings,
Mansions, Harness Rooms,
Drying Rooms, Hothouses, and
Buildings of every Description.
Illustrated Circulars
Post-free.

Complete Catalogue, 3s.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.

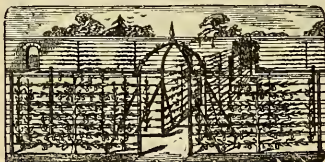


Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid—1-light frame, 4 x 6, 26s. 6d.; 2-light frame, 6 x 8, 55s.; 2-light frame, 12 x 6, 85s. 6d.; Span-roof Frames, 12 x 4, £47s. 6d.; 9 x 5, £31 15s.; 16 x 6, £51 10s.

HARDY BRUIN & CO., Graham Street, LEICESTER

BOULTON & PAUL, MANUFACTURERS, NORWICH.

WIRE ESPALIER TRAINERS.



4 ft. high, with Standards 10 ft. apart, and six lines of galvanised Wire, per yd., 6d. Terminal Posts and Racibours, each 9c. Prices of other sizes on application.

No. 405. **WROUGHT IRON TREE GUARDS.** No. 408.

Made to any design and size.

No. 405.—6 ft. high, 12 in. diameter.

Price, 7s. 9d. each.

No. 408.—6 ft. high, 12 in. diameter.

Price, 8s. 4d. each.

Descriptive Catalogue of all our Manufactures, including Iron Buildings for Shooting and Fishing Lodges, Stabling, Huts, Kennels and Poultry Appliances, Greenhouses Garden Frames, &c., free on application.

BOULTON & PAUL, NORWICH.

FREE GRANTS OF LAND IN MANITOBA
and other PARTS of CANADA.—The reports (illustrated) of the twelve British Tenant-Farmers who visited Canada in 1890, and other pamphlets issued under the authority of the Imperial and Dominion Governments, containing maps and full information as to land regulations, bonuses granted to settlers, openings for capital, demand for labour, rates of wages, cost of living, and all other particulars, may be had post-free, on applying to the High Commissioner for Canada (Mr. J. G. COLMER, C.M.G., Secretary), 17, Victoria Street, London, S.W.; or, to Mr. JOHN DYKE, Canadian Government Agent, 15, Water Street, Liverpool.

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of—**WATSON AND SCULL**, 90, Lower Thames Street, London, E.C.



WARNE'S
(LATE MATTHEWS)
CELEBRATED WESTON
FLOWER POTS
AND
HORTICULTURAL
POTTERY.

CONWAY G. WARNE, Limited,
Royal Potteries, Weston-super-Mare.

STOCK	SIZES
Inches.	Inches.
14 x 12	20 x 15
16 x 12	20 x 16
18 x 12	22 x 16
20 x 12	24 x 16
16 x 14	20 x 18
18 x 14	22 x 18
20 x 14	24 x 18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."
GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

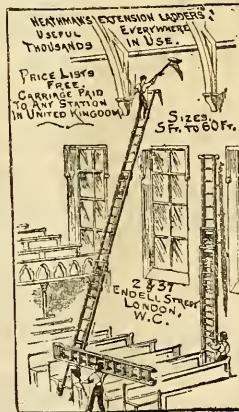
PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.



HERNIMAN'S EXTENSION LADDERS
USEFUL
THROUGHTS
EVERYWHERE
IN USE.
PRICE LIST
FREE
CARRIAGE PAID
TO ANY STATION
IN UNITED KINGDOM.
SPEC. 20 FT.
2831
END OF STREET
LONDON, W.C.

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE and SMITH'S COKE delivered in Trucks
loads to any Station in England and Wales.—Address,
G. J. EVESON, 28, Corporation Street, Birmingham.

ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,
AND ALL GARDEN SUNDRIES.

PRICE LIST

from the Largest Manufacturer in the Trade,

H. G. SMYTH,
21, GOLDSMITH STREET,
DRURY LANE, W.C.

BOILING WATER OR MILK.
E P P S'S
GRATEFUL—COMFORTING.
C O C O A
BREAKFAST—SUPPER.

THREE MILLIONS

HAVE BEEN PAID BY THE

RAILWAY PASSENGERS
ASSURANCE COMPANY,
FOR
ACCIDENTS OF ALL KINDS,
64, CORNHILL, LONDON.

W. D. MASSY, } Secs.
A. VIAN, }

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

If you fail to obtain this
Valuable Canvas from your local
Seedsman, send a post-card to—

BENJ. EDGINGTON,
(LIMITED),
2, DUKE STREET,
London Bridge, S.E.,

Who will reply by return, with
Samples and full Particulars.

"FRIGI DOMO" CANVAS.

HEATING APPARATUS
BUY DIRECT FROM
THOS. W. ROBINSON,
STOURBRIDGE,
DENNIS PARKIRON WORKS
PRICE LISTS
FREE
THE MANUFACTURER
"THE BEST OF ALL"
TELEGRAMS:—"ALPHA"
BRETTELL-LANE
HOT WATER JOINTS

SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 6s. Stamp size, 24 for 1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—**FRANCIS AND CO.**, 28, Ludgate Hill, London.

GARDENING APPOINTMENTS.

Mr. WM. HALLIDAY, for seven years general Foreman to Mr. RAPINE, Alton Towers, as Head Gardener to the Rt. Hon. the Earl of DARBYSHIRE, Fatchall House, Wolverhampton.
Mr. J. TULLETT, for the past three years Head Gardener to Sir EDWARD BLACKETT, Bart., Matten Hall, Newcastle-on-Tyne, as Head Gardener at Raby Castle; and Mr. ATKINSON, Foreman at Matfen, takes the Head Gardener's post at that place.
Mr. FRED. P. LUCKHURST, for many years Head Gardener, Sedgley Hall, Prestwich, Manchester, has been appointed Manager to the SOUTH DEVON FRUIT FARM COMPANY, Torquay.

WANTED, a reliable single MAN, to take charge (in employer's absence) of a small Nursery, 4 acres, 4 greenhouses (Yorks), with Jobbing Work. Good Salesman, as he will be required occasionally to take produce to market. Wages, 21s. Give references, and state what he has been used to.—T. J. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a thoroughly reliable married MAN of about 30, as MANAGER in a Market depot. Must have some knowledge of the Seed Trade, and a thorough knowledge of the Cut Flower and Plant Trade. Character and ability must bear the strictest investigation. Liberal salary and commission to suitable man.—MARSHALL BROS. AND CO., Barnham, Bognor.

WANTED, a HEAD GARDENER, who understands all branches, and Packing and Selling Fruit.—Write to Mrs. LEVESON GOWER, Bill Hill, Wokingham, Berks.

WANTED, a GARDENER, sound and practical, to take the entire Management of a Business where Fruit and Flowers are grown exclusively for Market. Must be able to command a few hundred pounds, taking a share of the profits as his own remuneration, which would be good according to his ability and energy. This is a sound and liberal offer.—Write to W. L. May's Advertising Office, 162, Piccadilly, London, W.

WANTED, a GARDENER, married.—Must understand Glass, and manage pony. Small garden; house found in grounds. Apply stating age, wages, &c., to C. Born, 115, London Wall, E.C.

WANTED, a GARDENER.—Must understand cows. Apply, CAPTAIN PAUL, The Highlands, Tadmerton, Banbury.

WANTED IMMEDIATELY, a HEAD WORKING GARDENER, for Ongar, Essex.—Must thoroughly understand the Management of Vines, Fruits under Glass, Kitchen and Flower Gardens, &c. Three men under. Wife as thorough waitress. Good characters for energy, energy, and honesty required. No children.—Mrs. NEWALL, 1, Beach Mansions, Southsea.

WANTED, as GARDENER, an all-round man, for three-quarters of an acre, in London.—Must be married, be between 30 and 45, a Protestant, English or Scotch, and have thoroughly good long character.—Apply, stating age, and wages required, to A. B., care of M. J. Ross, Chemist, 441, Edgware Road, W.

WANTED, a GARDENER, accustomed to Orchard Growing; also a FERN GROWER. State wages required.—Apply to COLLINS AND COLLINS, Cumberland Park Nursery, Wilsden Junction, W.

WANTED IMMEDIATELY, for Northamptonshire, a good SINGLE-HANDED GARDENER, able to look after a Cow. If married, could employ wife as Landlady and Dairymaid. State age, wages, and all particulars.—M. J., 3, Oxford Road, Birkdale.

WANTED, at Lady Day next, Thoroughly qualified WORKING GARDENER. Wife as Landlady and to take charge of Poultry. One mile from Axminster Station, S.W. R. Carter to bear the strictest investigation. Character, English, and letter only, to G. A. SPOTTSWOOD, Esq., 3, Cadogan Square, London, S.W.

WANTED, a trustworthy young MAN as FOREMAN for the Houses; also a young JOURNEYMAN for the Houses, to help occasionally in the Pleasure Grounds. Wages, 18s. and 12s. per week respectively, with both Vines and Vegetables.—Apply, OLIVER, Stuffwood Gardens, Mansfield, Notts.

WANTED, a good practical and trustworthy FOREMAN. Must be well up in the Cultivation of Vines, Peaches, Tomatoes, Cucumbers, Plants, Flowers, &c., both for family use and Market. Must be able to take charge of men. Wages 20s., both milk, and vegetables.—Apply, stating age and experience, to W. BUGGINS, Woodlands Castle Gardens, Clonsilla, Dublin, Ireland.

WANTED, an efficient, industrious, reliable man as FOREMAN WOODMAN, able to undertake proper care and management of Hedges, Coppice, repairs of Fences, Gates, &c., Chelmsford, and connected with outside work.—Address, stating full particulars as to experience, &c., to G. E., Dickinson's Royal Seed Warehouse, Chester.

WANTED, a reliable man, as Outdoor Foreman, in a General Nursery.—Apply, stating wages, references, and full particulars, to V. E., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a MAN, thoroughly up in growing Tomatoes, Mushrooms, Vines, and Plants for Market.—State age, wages, and married or single, to POLLARD, 63, King William Street E.C.

WANTED, several MEN, for Tomatoes, Cucumbers, and Grap. A. Permanency for good steady men.—H. DICKINSON, Sharnlow, near Derby.

WANTED, a young MAN accustomed to Fern Growing, and quick at Potting and Watering.—JAMES WATSON, Hornpark and Eltham Road Nurseries, Lee Green, S.E.

WANTED, a strong, active young MAN, as Journeyman for Fruit Department.—Apply to Mr. BORMAN, Hyle, at Chelmsford, stating age, experience, and references, as to knowledge of above.

WANTED.—Young MAN, for a Market Nursery, with some knowledge of Fruit and Ornamental Plants. Permanent. Wages 12s. to begin.—HARLEY AND SONS, Reform Street, Dundee.

WANTED, a young MAN for Cucumber, and Tomato Growing, and Soft-wooded Plants. Wages, 17s. per week, lodgings, and vegetables.—MANAGER, Fern Bank Nurseries, Wore, near Newcastle, Staff.

WANTED, a JOURNEYMAN, to take the lead in Pleasure Ground work, and to attend to Conservatory.—Must be an experienced hand with Scythe and Machine. Wages 17s. per week and both.—Apply, W. ROWE, Squerrys Court Gardens, Wetherham, Kent.

WANTED, a young MAN to assist Propagator in a small home nursery. Quick at potting, tyng, watering, wreaths, &c. Wages, 20s.; no both; good character indispensable. THOS. MATHESON, Nurseries, Morpeth.

WANTED, a smart active young MAN, for the Kitchen Garden. Able to Mow with a Scythe.—Apply, stating age, references, and wages, Mr. SLADE, Monzeval Gardens, Wallingford.

WANTED, a young MAN, quick at Potting, Watering, &c. Will also be required to help in Propagating-house. State wages, &c.—CRANE AND CLARKE, Hillside Nursery, Merch, Cambs.

THERE IS AN OPENING for a well-educated young MAN in a well-known HARDY PLANT NURSERY. He must have a knowledge of, and a liking for, Herbaceous Perennials, be capable and willing to assist in the Office. Remuneration in proportion to ability.—ALPINE, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, AT ONCE, a strong LAD, used to Potting, Watering, and General Work.—State wages and references to G. BLUNDELL, Oak Villa Nursery, Oakleigh Road, Frieon, Barnet, N.

WANTED, an ASSISTANT SHOPMAN, also an INVOICE CLERK. Good wages and permanent situations to reliable men. A vacancy also for an apprentice.—Apply, J. E. BAINES, The Great Eastern Seed Stores, 8, Exchange Street, Norwich.

WANTED.—H. CANNELL AND SONS are wanting INVOICE CLERK.—In first instance, apply in own hand-writing.—Swanley, Kent.

WANTED, an ASSISTANT SHOPMAN, or young man as IMPROVER, in the Seed and Florist business. Must have had previous experience. Apply, stating age, wages, and references, to THOS. BUTCHER, Seed Merchant, Croydon.

WANTED, a young GIRL, who has just served her Apprenticeship in the Florist business, to make up Wreaths, Bouquets, &c.—Send full particulars to H. STRINGER, late E. & S. Peters, 212, Western Road, Brighton.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, The Vineyard and Nurseries, Orston, near Liverpool, wish to recommend to any Nobleman or Gentleman who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterspool, near Liverpool.—Full particulars on application to the Company.

Head Gardeners.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

Gardeners, Farm-Bailiffs, Foresters, &c. DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address: "DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

GARDENER (HEAD), where five or more are kept, &c. age 26; well up in the Management of Vines, Peaches, Stone, &c. Highest references. Abstarner.—GARDENER, 8, Deaconsfield Terrace, Catford, Lot 4, S.E.

GARDENER (HEAD); age 33.—J. E. MCCLARY, eight years Head Gardener to R. Heywood Jones, Esq., Badsforth Hall, Pontefract, is open to a re-engagement in a good establishment. Nineteen years' experience in all branches. Testimonials of the highest order.—Catsclough, Winsford, Cheshire.

GARDENER (HEAD).—Mr. CLARKE, Head Gardener to the Earl of Lonsdale, Lowther Castle, Penrith, can with every confidence recommend his Foreman to any Lady or Gentleman requiring the services of a thorough practical man, experienced in all branches.

GARDENER (HEAD), where two or three are kept.—Age 27, single.—WILLIAM KIRBY, Biteswell Hall Garden, Lutworth, can be highly recommended as a very sober, practical man. Understands Grapes, Cucumbers, Melons, Chrysanthemums, and the general routine of Gardening.—Eleven years' good references.

GARDENER (HEAD), where two or three are kept, or SINGLE-HANDED.—Age 25, married; ten years' experience in large establishments. Good references. Abstarner.—G. M., 13, Clifton Terrace, Ashville Road, Leytonstone, Essex.

GARDENER (HEAD); age 31, married, three children.—W. MATTHEWS, Esq., wishes to recommend his Head Gardener to any Lady or Gentleman requiring the services of a thorough practical man, thoroughly conversant with all branches. Leaving through no fault.—W. BEALF, Knowle, Dunster, Somerset.

GARDENER (HEAD), where two or three are kept.—Middle-aged; thoroughly knows his profession. Eleven and a half years' good character. Leaving through death of employer.—W. PEPPER, The Gardens, Tewin Water, Welwyn, Herts.

GARDENER (HEAD), or FOREMAN, in a Large Establishment, experienced in all branches of the profession. Excellent character from previous and present employer.—G. HUBBARD, 3, Cumberland Place, Ken.

GARDENER (HEAD), where two or more are kept, or SECOND in good establishment.—Age 27. Life experience in all branches. Good references.—G. BLAKE, Boreham House, Chelmsford.

GARDENER (HEAD), in a large establishment; age 41, widower, two children, youngest 9 years.—E. S. WILES, who has had charge of the Ercgate Gardens for the last thirteen years, will be engaged on March 25, and is open to re-engage to any Lady or Gentleman requiring a good all-round Gardener. Excellent characters from present and previous employers.—E. S. WILES, Edgemoor, Banbury, Oxon.

GARDENER (HEAD), where one or two are kept.—Age 30, married, no family. Life experience in all branches. Good references.—L. G., Woodcroft Lodge, Mottingham, Eltham, Kent.

GARDENER (HEAD), where two are kept; age 27.—J. ANDERSON, Gardener, Chelmsford, Devon, Worth, wishes to recommend his FOREMAN, Jas. Skinner, to any Lady or Gentleman, requiring a good practical man; twelve years' experience.

GARDENER (HEAD), where three or more are kept; age 31, married, two children.—A GENTLEMAN, breaking up his establishment, wishes to recommend the above. Thoroughly experienced in Stone, greenhouse, Flower and Kitchen Garden. Twenty years' experience in good Gardens. Good reference from previous employer.—JAMES SHEPHERD, 13, Church Road, Bromley, Kent.

GARDENER (HEAD), where five or more are kept; age 38, married, no family.—THOS. LANBERT, Barton Constable Gardens, Hull, can recommend a thoroughly practical man as above, with long experience in the leading establishments in England and Ireland. Nine years in last place.

GARDENER (HEAD), in good establishment.—Married, no family. Abstarner. Life experience in Early and Late Forcing all kinds of Fruits, Flowers, Vegetables, Mushrooms, also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' good character from late employer and sixteen years' references.—J. D., Myrtle Cott'ge, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD).—Any Nobleman, Lady, or Gentleman, requiring the services of a thorough practical man, would be suited, by applying to CHAS. FLACK, Head Gardener, Chalmersfield Castle, Malpas.

GARDENER (HEAD), where three or four are kept.—Age 31, single; sixteen years' experience in all branches. Good references.—A. G., Basing Park Gardens, Alton, Hants.

£5 will be paid to any one furnishing the Advertiser with information of any gardening bungs that will lead to engagement as HEAD GARDENER, where six or more are kept. Well versed in every branch of Horticulture. Age 39, married. Own care for leaving. Highly recommended by present and previous employers.—LAWRENCE, Mr. J. Heath, Coxwell Ford, Farrington, Berks.

GARDENER (HEAD WORKING), or good SINGLE-HANDED.—Thoroughly experienced in all branches. Good character and testimonials. Wife good landlady.—GARDENER, Grenn Lodge, Richmond, Surrey.

GARDENER (HEAD WORKING), where one or two are kept, or good SINGLE-HANDED.—Age 31; single. Five years' good character. Flowers, Fruit, and Kitchen Garden.—G. F., 16, Holly Park Terrace, New Southgate, N.

GARDENER (HEAD WORKING).—Seventeen years and ten months' experience in all branches of the profession. Four years and nine months in present place.—J. ROGERS, Beechwood, Huddersfield.

GARDENER (HEAD WORKING).—Abstainer. Excellent references to large establishments as Foreman. Three years in present situation. Leaving for no fault.—E. E., Casino House, Heme Hill, Surrey.

GARDENER (HEAD WORKING).—A young man (married when suited), of good experience, desires to engage with any Lady or Gentleman requiring a good all-round Gardener. References on application.—S. S. DAVISON, The Gardens, Dislington Hall, Newcastle-on-Tyne.

GARDENER (HEAD WORKING).—Age 28; twelve years' experience in good establishments. Present place as Foreman. Character will bear investigation.—F. CHAMBERLAIN, Marbury Hall Gardens, Northwich.

GARDENER (HEAD WORKING).—Age 32, married.—Messrs. WILLS & SEGAR, the Royal Exotic Nursery, South Kensington, S.W., can recommend with every confidence C. Taylor to be in charge of the services of a thoroughly experienced man, where a large demand of Fruit, Flowers, and Vegetables are required, including House and Table Decorations.

GARDENER (HEAD WORKING).—Trustworthy and thoroughly practical in all departments, including decorating and laying out; single; abstainer; high testimonials; home counties preferred.—J. H., 93, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING).—Age 30, or more as kept.—Age 35, married, three children; seven years as Head Gardener in last situation.—G. RIDDLE, Netley Abbey, Southampton.

GARDENER (HEAD WORKING).—Married, no family; thoroughly practical in Stove Plants, Vines, Peaches, Cucumbers, Flower and Kitchen Gardening. Land and Stock.—GARDENER, Toksowa Cottage, Dalwhin Common.

GARDENER (HEAD WORKING).—Age 33, married, no family. Life experience in all branches. Wife could manage Dairy.—GARDENER, F. Chapel Cure, Essex, Ingistone, Essex.

GARDENER (HEAD WORKING).—Age 33, one child; thoroughly practical with Vines, Peaches, Stove and Greenhouse Plants, Flower and Kitchen Gardening. Good testimonials from previous employer as to ability, industry. Two years' present reference.—GARDENER, Foulis Court, Fair Oak, Southampton.

GARDENER (HEAD WORKING).—Scotch. Age under 40, married. Over twenty years' experience. Wishes re-engagement. Excellent abilities and references. Disengaged March 19.—H. GRANT, Hill House Gardens, Heme Hill, S.E.

GARDENER (HEAD WORKING, or SECOND).—in good establishment.—Age 28, married, no family; not object to lodge. Twelve years' experience in Vines, Flowers, Fruit, Flower and Kitchen Gardening. Good references.—A. H., 8, Moore Park Road, Fulham Road, S.W.

GARDENER (HEAD WORKING).—where two or three are kept.—Married, no family; fourteen years' experience in Fruits under Glass, Stove and Greenhouse Plants, Flower and Kitchen Gardens. Good testimonials.—S. A., Loughston Nursery, Caterham Valley, Surrey.

GARDENER (HEAD WORKING).—Age 36, married, one boy, aged 5; Scotch. A Lady wishes to recommend the above. Twenty years' practical experience in all branches. Abstainer. Four years' excellent character.—M., Squerries Lodge, Westerham, Kent.

GARDENER (HEAD WORKING).—A GENTLEMAN having sold his place will be pleased to recommend his Head Gardener to any Lady or Gentleman in want of a thoroughly experienced man in the cultivation of Grapes, Peaches, Melons, Cucumbers, Tomatoes, Stove and Kitchen Gardens.—G. G., Mrs. Read, East Finchley, London, N.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Twelve years' thorough practical experience in Stove, Vines, Melons, Tomatoes, and Flowers. Early and Late Forcing, and Kitchen Garden Work in general. Excellent character from previous employers.—J. DALEMAN, The Grove, Ditton Hill, Surbiton.

GARDENER (HEAD WORKING).—Age 28. Two years Foreman in present situation. Fourteen years' experience. Good references from present and previous employers.—J. SIMPSON, Marton Hall, Marton S. O., Yorks.

GARDENER (HEAD, or SINGLE-HANDED).—No family. Wife could assist in House or with Poultry. Both trustworthy. Good characters.—A. M., 2, Grove Road, Chertsey, Surrey.

GARDENER (SINGLE-HANDED), or where help is given.—Age 40, married, no family; practical in all branches. Abstainer, and both can be well recommended.—GARDENER, South Bank, The Avenue, High Barnet, Herts.

GARDENER (SINGLE-HANDED, or SECOND).—Age 22. Seven years' experience, Inside and Out. Good reference.—A. SNELLING, 24, Stamford Terrace, Stamford Hill, London, N.

GARDENER (SINGLE-HANDED).—Age 28, married when suited; has had good experience.—WALTER SEARS, Redleaf Gardens, Penhurst, Kent.

GARDENER (SINGLE-HANDED, or FIRST), in Kitchen Garden in large establishment.—Excellent character from last place. Eastern counties preferred.—R. FISCHAM, Hockwold, Brandon, Norfolk.

GARDENER (SINGLE-HANDED), or where help is given.—Age 25, single; good experience in Flower and Kitchen Gardens. Three years' and seven months' good character from present employer.—A. H. DUFFIN, Normansfield, Hampton Wick, Middlesex.

GARDENER (SINGLE-HANDED or SECOND).—Age 23, single. Eight years' experience Inside and Out; six years' good character.—W. MOORE, Church Street, Fleet, Hants.

GARDENER (SINGLE-HANDED, or good SECOND).—Age 25; eleven years' character. Two years' good character from present employer, and four previous.—H. HICKS, 16, Hodgeley Street, Lee, Kent.

GARDENER (SINGLE-HANDED or otherwise).—Age 25. Understands Kitchen and Flower Gardens. Stove and Greenhouse. Eight years' good character.—A. COLEMAN, Sedgwick Park, near Horsaam.

GARDENER (SINGLE-HANDED), or where help is given.—Age 40, married; fifteen years' in present situation. Good character.—T. TRIM, Shillinstone, Dorset.

GARDENER (SINGLE-HANDED, or otherwise) Good references. Willing to be useful.—J. R., 51, Thorne Street, Wandsworth Road, S.W.

GARDENER (WORKING).—Age 35, unmarried. Experienced in Vegetables and Landscape Gardening. Seventh day adventist.—DANIEL H. BENSTED, Fremley Green, Surrey.

GARDENER (good SECOND); age 25, single. —C. WINGROVE, The Gardens, Farnfield, Aldershot, Surrey, can thoroughly recommend a good all-round man as above. Well up in Plants, Forcing Fruits, Grapes, &c. Seven, also two and a half years' reference.

GARDENER (SECOND), where four or five are kept.—Age 22; well used to Stove and Greenhouse Work. Good character.—F. UPTON, Grange Cottage, Warrington, Highways Heath, Sussex.

GARDENER (SECOND).—Age 23. Ten years' experience; early and late Forcing, and Greenhouse Work. Good character. Disengaged now. H. KAPLER, Overstone Rectory, Northampton.

GARDENER (SECOND), in the Houses.—A young man seeking a situation as above. Five years' experience.—FRED. MATTHEWS, The Gardens, Highfield, Trowbridge.

GARDENER (SECOND), under a good working Gardener, where three or more are kept.—Age 21; seven years' experience. Good references.—H. WILKERSON, Ormond House, Cricklewood.

GARDENER (SECOND), where three or four are kept.—Age 22; experience in Greenhouses, Flower and Kitchen Gardens.—W. BRETT, E. Ashling, Chichester, Sussex.

GARDENER (SECOND or good SINGLE-HANDED, or where help is given). Three years' good character from present employer, three previous.—A. ARHUST, Woodside, Sandre, Sevenoaks, Kent.

GARDENER (SECOND), in the Houses. —Age 25; can be well recommended from present and previous situations.—F. S., Richelm, Lincoln.

GARDENER (SECOND).—Age 22; over eight years' experience Inside and Out. Excellent characters. F. S., Mrs. Herrod, Highwood Hill, Mill Hill, N.W.

GARDENER; age 31.—A GENTLEMAN recommends his Gardener. Good all-round man; has been with him over seven years. Good previous references; leaving through no fault.—H. E. HAMMOND, West Cliff Lodge, Ramsgate.

GARDENER.—The Advertiser (age 26), single, begs to offer his services to any Lady or Gentleman requiring a thorough practical man. Experience has been gained in first-class establishments, and can be well recommended by past and previous employers.—H. FEATHERSTONE, The Brackens, Bracknell, Berks.

GARDENER.—Age 21; Kitchen Garden preferred. Total abstainer. Two years and four months' good character.—J. CURTIS, Chadlington, Charlbury, Oxon.

GARDENER (German, familiar with the English language).—Age 24, single. Experienced in growing Cucumbers, Vines, &c., and Plants (general Market Stock). Nine years' experience; good character from last employer.—R. H., 18, Crown Terrace, Richmond, Surrey.

GARDENER; married.—Mr. WADDS, Bird-sall, York, will be pleased to recommend a first-class Gardener to any Lady or Gentleman requiring one in a large establishment. Good references.

GARDENER and ORCHID GROWER.—Mr. HILL, Tring Park Gardens, can confidently recommend his Foreman as above. Seventeen years' practical experience in all its branches.—For full particulars, J. PHILCOX, Tring Park Gardens, Herts.

GARDENER.—Age 45, married; good all-round. Nineteen years' experience as Head. Good references.—W. F., The Gardens, Frenchay Park, near Bristol.

GARDENER (UNDER), Inside and Out.—Age 21; good character from last situation.—R. SLATTERY, 50, Dumbleton, near Evesham, Gloucestershire.

GARDENER (UNDER), in a Gentleman's establishment.—Age 22; three years' good character. Strong and active. Leaving to improve himself.—HENRY VINCENT, Mapperton, Blandford.

GARDENER (UNDER), Inside or Out.—Age 22, married. Mr. BIGGS, Garston, Wootley, Herefordshire, can recommend the above, who has been with him three years.

GARDENER (UNDER), to work indoors, or indoors and Out. Well up in all branches. Good character.—C. UNDERWOOD, Down Park, Worth, Sussex.

GARDENER (UNDER), or THIRD or FOURTH, in a good place.—Age 18; good knowledge of Inside and Outdoor Work. Six and a half years' good character. Both preferred.—S. P. WINTERSHALL, Bramley, Surrey.

GARDENER (UNDER).—Age 23; single; experienced in Flower and Kitchen Gardening. One year and eight months' good character from present employer.—J. COBURN, Normansfield, Hampton Wick.

GARDENER (UNDER), where three or more are kept.—Age 21; four years' experience, Indoor and Out. Good reference.—H. R., 3, Queen's Road, Winchester.

GARDENER (UNDER), Inside or Inside and Out.—Age 21; thoroughly understands Kitchen Gardening. Eight years' excellent character.—S. REDSTONE, High Street, Bovey Tracey, Devon.

GARDENER (UNDER); age 21.—J. JEFFERSON, The Gardens, Carlton House, Worsnop, Notts, will be pleased to recommend a young man who has served with him three years, Inside and Out.

GARDENER (UNDER), Inside, or Inside and Out.—Age 20; six years' experience. Good character.—C. E., 30, Trindford Street, Preston, Lancs.

GARDENER (UNDER).—A young man seeks a situation as above. Good references. Both preferred.—S. BAGLIN, Fort Fields, Dursley, Gloucestershire.

GARDENER and BAILIFF. —Age 37; thoroughly experienced in both branches. Abstainer. Will be pleased to take charge of Dairy and Poultry.—S. HALL, The Cottage, Long Lodge, Nether Street, Finchley, N.

PROPAGATOR and GROWER of general Soft-wooded Stuff.—Advertiser (age 28) seeks re-engagement as above. Ten years' reference.—H. NORMAN, 3, James' Cottages, Shoudben Deal, Kent.

PROPAGATOR and GROWER.—Age 25; ten years' practical experience in all branches. London and suburbs preferred.—A. W., 23, Cross Street, Clapham, S.W.

PROPAGATOR and GROWER.—Well up in Forcing, Ficus, Soft-wooded, and other Market Stuff. Nine years' experience. Good character.—P. H., 247, Neville Road, Upton Park, E.

FOREMAN, PROPAGATOR, and GROWER.—Age 32, married; well up in Tomatoes, Grapes, Cucumbers, Mushrooms, Strawberries, Ferns, Palm, and the General Pot and Cut Flower Trade.—FOREMAN, 17, Braydon Road, Peckham, S.E.

MANAGER and FOREMAN (WORKING).—Age 35, married; practical experience in Growing Grapes, Tomatoes, Cucumbers, Melons, Strawberries, Leeks, Arums, Chrysanthemums, Ferns, &c. Seven years' excellent character as Foreman in large market place.—E. C., 32, Market Street, Worthing, Sussex.

FOREMAN, in the Houses in good establishment.—Age 28. Two years as Foreman at Catton Park, can be well recommended.—F. NOBLEY, Stoke Holy Cross, Norwich.

Trade. FOREMAN (WORKING).—Fifteen years' practical experience in all branches. Can produce in quantity Pot and Cut Stuff, Cucumbers, Tomatoes, &c. First-class Floral Work.—X., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Nurserymen. FOREMAN, or PROPAGATOR.—Age 27, single; and in all its various branches.—T. R., Mr. S. Rogers, Nurseryman, Whittlesea, near Peterborough.

FOREMAN, in a good establishment.—Good Plant and Fruit Grower, 10 years as General Foreman in local situation. Can be highly recommended.—A. C., 152, High Street, Barnet.

FOREMAN (INSIDE or GENERAL).—Ten years' good experience. Good Plant and Fruit Grower; also Decorator. Good character and testimonials.—S. YOUNG, Writtle, Chelmsford.

FOREMAN (INSIDE); age 27.—J. HUNTER will be pleased to recommend William Dryden as above.—Lambton Castle Gardens, Fence House, Durham.

FOREMAN.—Age 26; eleven years' experience. Good Reference.—W. DODWELL, Waddesdon, Aylesbury.

FOREMAN, in the Houses and HOUSE FURNISHING.—Age 28; eleven years' experience. Good references.—GARDNER, 8, Steele Road, Isleworth, W.

FOREMAN, or JOURNEYMAN (FIRST), in a good establishment; age 24.—Mr. DILLY, Gardener, Endcliffe Hall, Sheffield, can with confidence recommend R. Mason as above. Nine years' experience.

FOREMAN, in a good establishment; age 26.—Mr. LOCKYER, Head Gardener, Postpoyl Park, Postpoyl, Mou, can with every confidence recommend John Beating as above, who has been with him two and a half years as Foreman.

FOREMAN.—JAMES KING wishes to recommend his Foreman, William Farr, to any Gardener requiring one well up to his work.—Age 27.—THE GARDENS, Beedingwood, Horsham.

FOREMAN (INSIDE); age 25.—Eleven years experience. Good Grower of Plants, Fruits, Orchids, also Early and late Forcing and House Decorations; excellent references.—FOREMAN, 97, Catford Hill, S.E.

FOREMAN, in the Houses, or Inside and Out.—Age 26. Thirteen years' experience in large Gardens. Excellent testimonials. Bothy preferred.—A. NICHOLSON, 3, Sudley Road, Aigburth, Liverpool.

FOREMAN, in good establishment.—Age 24; eleven years' experience in Fruit and Plant-houses; also House Decorations. Good recommendations.—J. GODDARD, Luton, Bedfordshire, Luton, Beds.

FOREMAN in the Houses.—Age 25. Practical experience in early and late forcing; strong, willing, and active. Will be highly recommended for ability and trustworthiness. Abstrainer.—R. LLOYD, Hyland's Park, Chelmsford, Essex.

FOREMAN.—C. PUZEY can with every confidence recommend his Foreman (F. Lupton) to any Gardener requiring an energetic and trustworthy man. Good knowledge of Plants and Fruit.—Scampton Hall, Billington, York.

To Nurserymen and others.

FOREMAN (GENERAL or DEPARTMENTAL).—A practical grower of Fruit Trees, Roses, Ornamental Trees and Shrubs. Twenty-five years' experience in large nurseries; accustomed to attend exhibitions; can manage men. Testimonials or references.—C. EVANS, High Street, Waltham Cross, London, N.

To Florists.

FOREMAN, and PROPAGATOR.—Age 39, married, London and Provincial experience. First-class references as same.—Y. Z., 154, London Road, East Grinstead, Sussex.

FOREMAN (INSIDE, or GENERAL).—Age 27; six years' experience in Plant and Fruit Growing. Ten years' first-class experience. Good character and testimonials.—J. D., Lower Eaton, Hereford.

FOREMAN PROPAGATOR.—Age 26, married. Good experience in Market Nurseries, growing Plants and Cut Flowers for Market, Palms, Ferns, and general Market Stock, also making up.—A. MORRIS, 6, Capworth Street, Leyton.

FOREMAN, in the Houses.—Age 26; eight years' experience. Four years' in present place as Second. Good character.—G. CLARKE, Barrells Park, Henley-in-Arden.

JOURNEYMAN, age 19; Inside or Out.—Mr. HATCH will recommend A. Hinchliffe, three years at Canoe Hill, previous to coming here.—The Gardens, St. Vincent's, Grantham, Lincolnshire.

JOURNEYMAN, Inside and Out.—Age 20. Four years and nine months' good character; abstrainer. Also IMPROVER, age 18; five and a half years' good character. Bothy preferred.—F. H., Post Office, Chipping Warden, Hants.

JOURNEYMAN, in the Houses, under a Foreman, or Inside and Out.—Age 20; six years' experience. Well recommended.—G. DOWNS, The Gardens, Burkhams House, Alton, Hants.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 21. Five years' experience; good character from present and previous places.—G. HAZELTON, Benacre, Wrentham, Suffolk.

JOURNEYMAN, in the Houses.—Age 20; six years' experience. Three years' good character.—G. GORGE CASTICK, Elstree, Herts.

JOURNEYMAN, Inside, or Inside and Out; in a private establishment preferred.—Age 21. Five years' good character.—S. G. SMALLBRIDGE, 69, West Street, East Grinstead, Sussex.

JOURNEYMAN, Inside, under a Foreman.—Age 19; good references. Two years in present situation, and three previous. Bothy preferred.—G. BENTLEY, The Oaks Gardens, Carshalton, Surrey.

JOURNEYMAN (FIRST) in the Houses in a good establishment.—Age 22. Six years' experience; two years in Orchids.—F. GILBERT, Messrs. Hugh Low & Co., Clapton Nursery, N.E.

JOURNEYMAN, Inside, under a Foreman; age 20.—J. TRIGGER, Milton Gardens, Peterborough, can highly recommend John Samworth, who has been under him four years. Bothy preferred.

JOURNEYMAN (FIRST or SECOND), in the Houses.—Age 22. Eight years' experience. Can be well commended.—W. B., 9, Hasting Street, Waltham Road, S.E.

JOURNEYMAN.—RICHARD SHABPE wishes to recommend John Rudman, who has lived under him three years, as Journeyman. He is tall, strong, and hard-working.—Low Hill, Rushbury, Wolverhampton.

JOURNEYMAN, Inside and Out, under a Foreman; age 21.—HEAD GARDENER, Buckden Towers, Hunts, wishes to recommend E. Cook, who has been under him three years. Bothy preferred.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 24; bothy preferred.—W. JONES, The Gardens, Gledhow Hill, Leeds.

JOURNEYMAN (FIRST) under a Foreman.—Age 24. Twelve years' experience Inside and Out in a Gentleman's Garden with Fruit and Flowers.—F. SPILLARD, Earham, Chichester, Sussex.

JOURNEYMAN, in the Houses; age 21.—Mr. GIBSON, Draycot Gardens, Chippenham, Wilts, can with confidence recommend E. Beeton as above. Two years' in present situation. Six years' previous. Abstrainer.

JOURNEYMAN, in a large place; age 24; ten years' experience Inside and Out.—F. W. RUSSELL, Head Gardener, Woodgreen Park, Chesham, wishes to recommend a trustworthy, industrious young man.—For full particulars, please apply as above.

JOURNEYMAN, in the Houses.—Age 24; ten years' experience Inside and Out. Bothy preferred. Good character.—E. PARKES, Glenoch Gardens, Wells, Somerset.

JOURNEYMAN (Outside); age 21.—Mr. LAMBERT, Powis Castle Gardens, Welshpool, wishes to recommend E. Roberts as above. Over two years and a half in present situation.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 22; six years' good character.—J. CROFTS, Reishaw Hall, Chesterfield.

JOURNEYMAN, in the Houses.—Age 20. Five years' excellent character and experience in Vineries, Stoves and Greenhouses. Bothy preferred.—E. ORPIN, The Gardens, St. Leonard's, West Malling, Kent.

JOURNEYMAN (FIRST), in the Houses.—Age 21. Two years' good character in last place at Leigh Park, Havant.—G. SPRECKLEY, Tangley, Worplesdon, Guildford, Surrey.

JOURNEYMAN (SECOND), in a private establishment, where three or four are kept.—Age 21; good knowledge of Orchids, and highest references from present employer.—W. MASON, Breadsall Priory, Derby.

JOURNEYMAN, Inside and Out.—Age 22; five years' experience. Good character. Total abstrainer.—G. H., The Gardens, Hill House, Herne Hill, S.E.

JOURNEYMAN (FIRST or SECOND).—Age 23; ten years' experience; good character, F. HALL, Middle Hill, Wimborne, Dorset.

JOURNEYMAN (or SECOND), in a small place.—Age 22; can be well recommended by present and previous employer.—G. FARMER, The Gardens, East-hampstead Park, Wokingham, Berks.

JOURNEYMAN, in the Houses.—Age 20; seven years' experience. Inside. Good character. Bothy preferred.—F. CHALKLEY, The Gardens, Wood Hall Park, Hertford.

JOURNEYMAN (Inside, or Inside and Out).—Eight years' experience. Good recommendations. Bothy preferred. State wages.—F. LATMOBE, Kettleton, near Stamford.

IMPROVER, in a gentleman's garden, Inside or Inside and Out.—Youth, age 18, smart, active, and willing. Two years' excellent character. W. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

IMPROVER (INSIDE); age 19.—A. GOODEN, Shopwyke House, Chichester, would be pleased to recommend a willing young man as above. Four years' good character.

IMPROVER, in a Gentleman's Garden, by a respectable youth. Twelve months' good character in Garden, where he is kept.—A. W., Green Hill, Down, Farnborough, S.S.O., Kent.

IMPROVER in the Houses.—Age 19; three years' and a half experience Inside and Out. Bothy preferred. Good character.—F. SAUNDERS, Worton House, Steeple Aston, Oxon.

IMPROVER (INSIDE), in a Nursery, or good private establishment.—Age 19.—J. WARD, Gardener, Ridding's House, near Alfreton, Derbyshire, can recommend a young man as above. Four years' experience, Inside and Out.

IMPROVER, in the Houses.—Age 19. Five years' experience, two under glass. Good characters from present and previous places.—J. FAULKNER, The Gardens, Wentworth Castle, Rotherley, Yorks.

IMPROVER, under a good Gardener, Inside and Out.—Age 16; bothy preferred. Strong, active, willing. Three years' good character.—Apply, CHARLES LAWRENCE, Stone House Farm, Birmopole, near Reading.

IMPROVER (Inside or Inside and Out).—Mr. H. DROVER can highly recommend a young man, age 19, as above, who has had four years' experience with him, chiefly inside. W. Rowson, 34, West Street, Ventnor, Isle of Wight.

IMPROVER, under a good Gardener, Inside and Out.—Age 22; seven years' experience. Strong, active, and willing. Three years' good character. 25 Premium given for a suitable place.—W. KEYWOOD, The Lodge, St. Mary Hall, Brighton.

GARDENER'S HANDY-MAN seeks Work.—Painter, Glazier; handy at Repairs. Any district. Job not objected to.—GLAZIER, 10, Secreten Road, Albany Road, Camberwell, S.E.

TO FRUIT GROWERS.—A young, active Man, age 21, ten years' experience, seeks situation. Market Nursery preferred.—B. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO FRUIT GROWERS under Glass, or FRUIT FARMERS.—Two Gardeners, age 24, are anxious to get situations as above. Ten years' experience in Nursery Work.—T. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS.—Situation wanted by a young Man (age 19), as COWMAN. Fill up time in Garden. Experienced. Good character.—F. ROBERTS, Tokswa Cottage, Dulwich.

TO GARDENERS.—Mr. THOMSON, Gardener, Easney, Ware, Herts, would like to recommend a young man (age 21) for the House, or Inside and Out, as IMPROVER. Fair knowledge of Outside Work.

TO GARDENERS, &c.—A Youth (age 18), seeks employment in the Garden. Four years' good character.—C. W., Ivy Cottage, Great Hadham, Herts.

TO GARDENERS.—A young man (age 22) seeks a situation in a Gentleman's Garden. Two and a half years' experience in Outdoor Work. Please state wages.—A. CHEESMAN, Watersfield, Fulbourn, Huntingdon, Suffolk.

TO GARDENERS.—G. SIMPSON, Esq., can recommend W. Cooper (age 18), who has been in his garden five years, as JOURNEYMAN in the Houses. Bothy preferred.—W. COOPER, The Gardens, Wray Park, Reigate, Surrey.

TO GARDENERS, &c.—Situation wanted, by young man, age 19; has been used to Growing Cucumbers, Tomatoes, Strawberries, &c., for Market. Five years' good character.—Apply, stating wages, &c., to LIME-BEER, Hendon, Kent.

TO NURSERYMEN.—A young man, age 21, seeks a situation in a Market or Trade Nursery. Several years' experience; good character. State wages.—STEEB, 26, Martin's Road, Bromley, Kent.

TO NURSERYMEN.—Situation Wanted, in Market Nursery. Used to Ferns, Carnations, Palms, Bouvardias, Roses, &c., and could take charge in employer's absence.—S. H., 45, St. James' Street, Brighton.

TO NURSERYMEN.—A strong youth, age 18 years, 5 feet, 10 inches, just left School. Offers himself as APPRENTICE, Out or Indoors. Country. Apply, stating terms.—J. H. G., 123, Hopton Road, Streatham.

TO NURSERYMEN and SEEDSMEN.—A German (age 24), with good knowledge of English, French, and Dutch, wants situation in an office.—*Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

COWMAN, on a Gentleman's place.—Single Young Man, thoroughly understood the Management of all kinds of Stock. Good character.—W. E., 10, Church Street, Isleworth.

PAINTER, GLAZIER, and CARPENTER.—A young married man requires situation as above on an Estate or Nursery. Good references.—B. Mr. R. Walker, Cranleigh, Surrey.

SHOPMAN.—Age 45. Life experience in Seed and Bulb Trade. Good references.—O. P., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SHOPMAN, or SALESMAN.—Age 28; fifteen years' experience in Seed, Nursery, and Bulb, and Corn Business. Good references.—G. E., 4, Ward Place, Highfields, Sheffield.

SHOPMAN, or MANAGER.—Age 28, married; well up in Wreaths, Bouquets, Plant, Seeds, Sundries, Book-keeping, &c. Excellent references.—EUCHARI, 65, Solon Road, S.W.

TO FLORISTS.—Situation wanted by a Young Lady. Knowledge of Flower, Fruit, and Seed Trade.—MARY POYNTER, The Nurseries, Taunton.

FLORIST.—Situation wanted by a young Lady; first-class hand, with a good knowledge of fruit. References to present employer.—RIGBY, 31, Finkle Street, Kendal.

HOLLOWAY'S PILLS.—Cure for Indigestion.—Indigestion, with torpidity of the liver, is the curse of thousands, who spend each day with accumulated sufferings, all of which may be avoided by taking Holloway's Pills according to their accompanying directions. They strengthen and invigorate every organ subservient to digestion. Their action is purifying, healing, and strengthening. They may be safely taken without interfering with ordinary pursuits, or requiring much restriction in diet. They quickly remove nausea and giddiness in the head, and dispel low spirits and nervous fears. These balsamic Pills work the cure without debilitating or exhausting the system; on the contrary, they conserve and support the vital principle by substituting pure for impure blood.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by—
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS,
The Late EMPEROR OF THE FRENCH, THE EMPEROR OF RUSSIA,
And most of the Nobility, Clergy, and Gentry of the United Kingdom.



Royal Horticultural Society's Show, South Kensington, London, June 3 to 7, 1881. The "Journal of Horticulture," of June 9, says:—"MOWING MACHINES.—After a critical examination, the Silver Medal was granted to the old firm of world-wide fame, Messrs. T. GREEN & SON, of Leeds and London. As the Machines are known in all lands where good lawns are cherished, it is quite unnecessary to give any description of them."

Upwards of 170,000 of these Machines have been sold since they were first introduced in the year 1856, and thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.

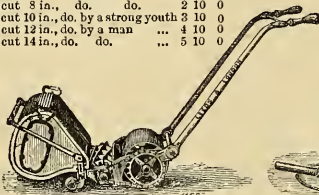
They have been submitted to numerous practical tests in Public Competitions, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER.

With Improved Steel Chains and Handles.

To cut 6 in., can be worked by { £1 15 0
a Lady ... } 2 10 0
To cut 8 in., do. ... } 3 10 0
To cut 10 in., do. by a strong youth } 4 10 0
To cut 12 in., do. by a man ... } 5 10 0
To cut 14 in., do. do. ... }

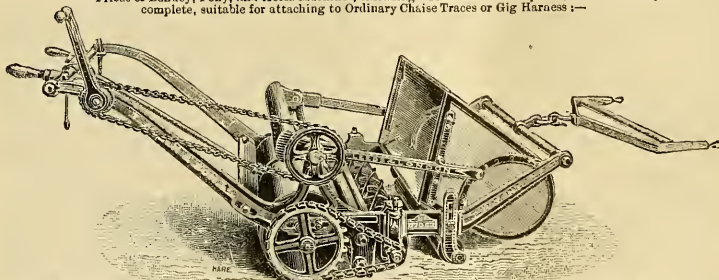


DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man { £6 10 0
on even lawn ... } 7 10 0
To cut 18 inches, do. man and boy ... } 8 0 0
To cut 20 inches, do. do. ... } 9 0 0
* To cut 22 inches, can be worked by two men £8 10 0
To cut 24 inches, do. do. ... £9 0 0
* If made stronger, suitable for Donkey, 30s. extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches ... £14 0 0
To cut 28 inches ... 15 0 0
To cut 30 inches ... 16 0 0
Leather Boots for Donkey ... 1 0 0
Leather Boots for Pony ... 1 4 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of its running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

HORSE MACHINES.

To cut 30 inches ... £22 0 0
To cut 36 inches ... 25 0 0
To cut 42 inches ... 31 0 0
To cut 48 inches ... 34 0 0
Leather Boots for Horse ... 1 9 0

GREEN'S PATENT LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.

Size with 1 wheel for Ordinary Courts, price 14s.

Do., with 3 wheels, 17s.

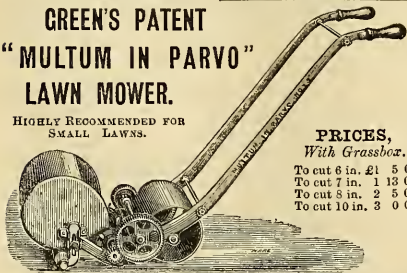
Size for Clubs and Large Grounds, price £1.

Small Bag of Marking Composition, 6d.



GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES.

With Grassbox.

To cut 6 in. £1 5 0

To cut 7 in. 1 13 0

To cut 8 in. 2 5 0

To cut 10 in. 3 0 0

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c.

Descriptive Illustrated PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON;
or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 ins. diam., £1 15s. Packing Case, 8s.

Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

It is a very useful and serviceable Machine.



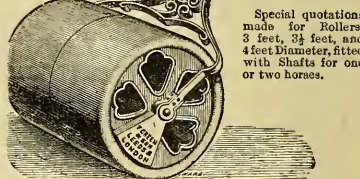
REDUCED PRICES OF

GREEN'S PATENT ROLLERS, For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

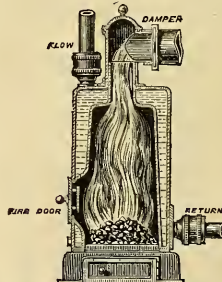
Diam.	Length	£	s.	d.
16 in.	by 17 in.	2	5	0
20 in.	by 22 in.	3	5	0
24 in.	by 26 in.	4	10	0
30 in.	by 32 in.	7	10	0



Special quotations made for Rollers, 3 feet, 24 feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

HOT-WATER BOILERS



AND OTHERS WITH SHELVES, AND HOLLOW OR ORDINARY CAST-IRON GRATE BARS.

VERTICAL SADDLE BOILERS, &c.

The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2671.

No. 271.—VOL. XI. {THIRD SERIES.}

SATURDAY, MARCH 5, 1892.

{PRICE 3d. POST-FREE, 34d.}

CONTENTS.

American Agriculturist, the	296
Artificial colouring for real flowers	310
California as a home	310
Carpenteria californica	308
Cattleya labiata	307
Chrysanthemums, colours of	303
Crosses, and crossing of plants	293
Cultural analogies	306
Dendrobiums, pruning	309
Diagrams of wild flowers	307
Diseases of the reproductive organs of plants	311
Elaeagnus, evergreen	308
Florists' flowers	311
Garden hedges, new	308
Gardeners' Magazine, the	306
Gardeners' Orphan Fund	306
Gardening as a profession	304
Gardenia notes	312
Gardening paper for Queensland, &c.	307
Importation of plants, &c., to Mexico	307
Key Gardens, the history of	297
Melon growing, modern	298
New plants	298
Dendrobium barbatulochlorop	298
Lycaste Skinneri Mr. F. N. Ames	298
Nitrogen, loss of, during the decomposition of manures	307

ILLUSTRATIONS.

Cyclamen grown by J. McEars, Glassingal, Dublin, N.B.	301
Maze, Plan of	312
Watsonia iridifolia var. O'Brien	305
Westonbirt, Gloucestershire	299

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

Vegetable and Agricultural Seeds.

H. LIST & F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

Prize Cob Filbert Trees.

MR. COOPER, F.R.H.S., of Western Elms, Reading (late of Calcut Gardens), is the Largest Grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good Trees now ready for distribution.

Descriptive Price LISTS, &c., on application.

PERNS.—Pteris tremula and Pteris cretica cristata, two best market Ferns, good stuff in large tubs, quite ready for 4s.-pots, 12s. per 100. Packing free for cash with order.—GOWERS and EMBERTSON, Comely Bank Nursery, Walthamstow, E.

SUTTON'S FLOWERS ARE GROWN FROM SEED.

Full descriptions, with numerous illustrations and Price List of upwards of 1,500 varieties. See SUTTON'S "AMATEUR'S GUIDE IN HORTICULTURE for 1892." Price 1s., post-free; gratis to Customers ordering goods value 20s.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

NEW CHRYSANTHEMUM, Mrs. Robinson King, new Golden-Yellow. Incurved sport from Golden Empress. Awarded six First-class Certificates. The true certificated variety. 4s. each, 3 for 10s. 6d.

R. OWEN, Chrysanthemum Grower, Maidenhead.

Many Acres of Lilies of the Valley!

T. JANNACH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNACH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

TO ORCHID LOVERS,—"LE JOURNAL DES ORCHIDÉES," published in French, on the 1st and 15th of each month, 16 pages of text, by LUCIEN LINDEN, and 50 Selected Collaborators, furnishes the best information as to Culture.

Subscription, 8s. per annum, post-free, to be sent to the Publisher, LUCIEN LINDEN, 100, Rue Belliard, Brussels. Specimen Number sent Gratis on demand.

Now is the Time to Plant

PEONIES, PYRETHRUMS, DELPHINIUMS, and GAILLARDIAS, the most showy of all Hardy, Easily-grown Perennial Plants. For Priced Lists, see KELWAY'S SEED and PLANT MANUAL for 1892, 1s. post-free (deducted from first order), to those unknown to us. KELWAY'S GLADIOLI—Now is the time to plant. Priced Descriptive List, free.

KELWAY AND SON, Langport, Somerset.

Seeds—Carriage Paid.—Seeds.

DICKSON AND ROBINSON'S DESCRIPTIVE CATALOGUE for 1892. Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOS; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application.

COLLECTIONS OF VEGETABLE SEEDS, from 5s. to 84s.

COLLECTIONS OF FLOWER SEEDS, from 2s. 6d. to 84s.

Seed Warehouse, 12, Old Millgate, Manchester.

WANTED, PINE SUCKERS.—State sorts, size, and price, to J. SELDEN, The Gardens, Coombe Cottage, Kingston-on-Thames.

WANTED, 225 IRISH or ENGLISH YEWS, 2 feet 6 inches, well-grown, clean, bushy trees. Those moved recently preferred. What offers?—Address, with price and particulars, to S. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, Two Large Dwarf-trained Brown TURKEY FIGS; also good strong Fruiting Plants in pots, and strong Forcing Skale.

WM. CUTBUSH and SON, Highgate Nurseries, London, N.

WANTED, good plants of BEGONIA REX VARS., ASPARAGUS FLUMOSUS VARS., ALPINIA VITTATA, in EXCHANGE for imported ORCHIDS.

SANDER and CO., St. Albans.

WANTED, MAIDENHAIR FERN, ROSES, ORCHIDS, CARNATIONS, LILUM HARRISII, and other CHOICE FLOWERS, to SELL on COMMISSION. Boxes and labels supplied. Established 1870. Telephone No. 2639.

K. END, Wholesale Florist, 23, Wellington Street, Covent Garden, W.C., and Crystal Palace, Sydenham.

WANTED, GERANIUM CUTTINGS, rooted or not; Jacoby, J. Gibbons, Vauxhall, and Caeleoria. State price per 100 or 1000; or would EXCHANGE for Large PALMS, ANTHURUMS, or IMANTOPHYLLUMS. GARDENER, 45, Ravenswood Road, Balham.

CHRYSANTHEMUMS.—CARTERS' ILLUSTRATED CATALOGUE of the FINEST COLLECTION in the COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—The Queen's Seedsmen, 227 and 233, High Holborn, London, W.C.

B. S. WILLIAMS and SON'S, World-renowned Gold Medal Strains of FLORISTS' FLOWER SEEDS—Begonia, Calceolaria, Cineraria, Cyclamen, Gloxinia, and Primula, per packet, 1s. 6d. and 2s. 6d., Post-free. Victoria and Paradise Nurseries, Upper Holloway, London, N.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPES, &c. Good references.

MESSRS. SQUELCH and WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

Trade Offer of Large Palms.

W. ICKETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application. W. ICKETON, Putney, S.W.

For Exhibition!

BROAD BEAN, BIDDLE'S MONSTER LONGPOD.—Extra long, fine quality. Per quart, 1s. 6d.

CARROT, BIDDLE'S SCARLET PRIZETAKER, Intermediate, the best exhibition Carrot grown. Per oz., 1s.

ONION, BIDDLE'S GIANT SPRING.—Too well known as a prize-winner to need further recommendation. Per oz., 1s.

BIDDLES and CO., THE PENNY PACKET SEED CO., Loughborough, Leicestershire.

Fruit Trees a Specialty.

APPLES, PEARS, PLUMS, STRAWBERRIES, and all sorts of Small and Hardy Fruit grown in immense quantities. The best of the Old and New Varieties either to Grow for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most complete issued, 6d. Ordinary List free.

JOHN WATKINS, Pomona Farm Nurseries, Withington, Hereford.

BARB'S SEEDS, BULBS and PLANTS.

VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION. FLOWER SEEDS.—Upwards of 3000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michaelmas Daisies, Perennial Snowflowers, Double and Single Peonies, Irises, Oriental Hebelesores, Carnations, &c. LISTS FREE ON APPLICATION.

BAIR and SON, 12, King Street, Covent Garden, London.

ROSES! ROSES! ROSES!—Plant now.

100 strong dwarf, F.H. Roses for 25s.; or £10 per 1000. The finest in the Trade.

Send for Sample Duplex List. Cash with Order.

CATALOGUES, free on application.

C. H. GORRINGE, Ruslands Nursery, Eastbourne.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.

—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney, W.M. THOMSON and SONS, Clovenfords, Galsashiels, N.P.

SALES BY AUCTION.

Monday Next.—Hardy Plants and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 7, at half-past 11 o'clock, many thousands of HARDY PERENNIALS, all being true to name; *GLADIOLUS*, *Pearl TUBEROSES*, *NARCISSUS*, a Collection of *CARNATIONS*, including a number of Continental varieties; *GOLDENROCKS*, *FLYTRUTHS*, *PHLOXES*, *PEONIES*, *EGONIAS*, *CYPRIPEDIUMS*, *SPECTABILES*, Imported *LILIES*, a fine Collection of Home-grown *LILIES*, *BESSERA ELEGANS*, *TROPEOLIMUM TUBEROSUM*, Choice Hardy *ERIGONIAS*, *CARANTHUS*, *DAHLIAS*, Hardy *ANEMONES*, and a quantity of beautiful *HARDY CLIMBERS*, &c.

On view morning of Sale, and Catalogues had.

Wednesday Next.—Azaleas, Ferns, Roses, &c.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 9, at half-past 11 o'clock, 100 *AZALEA INDICA*, *INDICA*, *PALMATA*, *EXONIENSIS*, *EXONIENSIS*, *EXONIENSIS*, &c., from Belgium; *GREENHOUSE FERNS*, *TEA ROSES* in pots, extra fine; *PANCRATIUM ZEYLANICUM*, choice *GLOXINIAS*, 500 Single *EGONIAS*, *PEARL TUBEROSES*, 100 lots of *LILiums* in various colors, *CARANTHUS*, *DAHLIAS*, *HERACODES PHLOX*, 350 Standard, Half-standard, and Dwarf *ROSES*, *CACTUS DAHLIAS*, *RUSTIC FLOWER VASES*, *GARDEN SEATS*, &c.

On view morning of Sale, and Catalogues had.

Wednesday Next.

50,000 COCOS WEDDELLIANA SEEDS.

MESSRS. PROTHEROE AND MORRIS will include in their Sale on WEDNESDAY NEXT, March 9, 50,000 COCOS WEDDELLIANA SEEDS, just received in splendid condition.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will include in their SALE on FRIDAY NEXT, March 11, at half-past 12 o'clock,

75 DISA DRACONIS.

A noble species offered for the first time. A strong grower with broad leaves, 5 to 6 inches long, and strong spikes of half-creamy-white and purple flowers, with spur 1½ inches in length and very fragrant.

20 DISA ROSEA.

also offered for the first time, and D. PURPURASCENS, D. SPATHULATA, fine tubers of SATYRIUM PRINCEPS, S. CANDIDUM, BARTHOLOMA DISPERIS, &c. Also the new CYPRIPEDIUM HARKNESSI ROSEUM, &c. Also the rare TRIGONIDIUM SPATHULATUM, and other species.

On view morning of Sale, and Catalogues had.

Friday Next.

CATTLEYA TRIANE.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, March 11, at half-past 12 o'clock, by order of Messrs. SEGER & TROPP, a specially fine importation, just received, of

CATTLEYA TRIANE.

The plants are in such superb condition, that it is almost impossible for any imported plants to surpass or even equal them. They come from the locality whence all the superb varieties of the past few years have been derived, and from the variability of the bulbs, leaves, and general appearance of the plants, give promise of equalling the best forms in cultivation, such as *OSMANI*, *LEANA*, *BACHOUSEANA*, &c., &c. The whole consignment is profusely furnished with sound green leaves, at once giving the appearance of established plants.

The entire lot will be offered.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT.

By order of Messrs. LINDEN, Brussels, GREAT SALE.

NEW AND RARE ORCHIDS.
EXTRAORDINARY NEW ODONTOGLOSSUM, in flower.

ODONTOGLOSSUM CELESTE
(LINDEN).

GRAND NEW SPECIES.

THE ENTIRE STOCK (ABOUT 500) WILL BE OFFERED.

The plants are established, and one in blossom. The flowers are mauve, and most attractive.

Also a FINE IMPORTATION, in perfect order and condition, of

CYPRIPEDIUM INSIGNE VAR. MONTANUM.

The plants have been collected by the same men, in and around the region whence was obtained the exquisite *Cypridium insigne* sandere and other grand varieties, all in very fine masses.

Also some fine Established Plants of *MORMODES BOLLEAFUM* (new species), *AGANTHIA CERULEA*, *ODONTOGLOSSUM CORONARIUM*, *O. TRIPUDIAN*, *ANGRECHUM SESQUEDALE*, *SACCOLARIUM CELESTE*, *GRAMMATOPHYLLUM SPECIES* from Madagascar, *CORYANTHES LECOCORIS*, *DENDROCHILUM FILIFORME*, &c.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. LINDEN to SELL the above at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 11, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Wednesday and Saturday Next.

2000 Choice—standard, Half-standard, Dwarf and Climbing *ROSES*, from a well-known English grower; 500 *FRUIT TREES*, 500 *LABELLS*, *CONFERS*, 1000 choice *BEGONIAS*; a nice collection of *PALMS*, &c.; *LILiums* in variety; a large quantity of *BORDER PLANTS*, *PERL TUBEROSES*, &c.

M. R. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY and SATURDAY NEXT, March 9 and 12, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

The Choice Collection of Established Orchids formed by A. SILEM, Esq.

M. R. C. STEVENS has received instructions from AUGUSTUS SILEM, Esq. (who is medically forbidden to frequent the houses), to offer for SALE, by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY and THURSDAY, April 6 and 7, at half-past 12 o'clock precisely each day, within the least reserve, his entire COLLECTION OF ORCHIDS, which will be found in excellent health, and amongst them may be mentioned—

<i>Phalopsis grandiflora</i>	<i>Vanda fere</i>
" <i>ambigua</i>	<i>Cattleya labiata</i>
" <i>Sturtiana</i>	" <i>Mendii</i>
" <i>Sanderiana</i>	" <i>Aelandiae</i>
<i>Angraecum sesquipedale</i>	" <i>Calceoglossum cristata lemosiana</i>
" <i>Sootiana</i>	" <i>paniculata</i>
<i>Cypridium Stonei</i>	<i>Lycaste Skinneri alba</i>
" <i>Levigatum</i>	<i>Cyclopium eburneum</i>
" <i>Lowi</i>	" <i>Lowi</i>
" <i>Lothchildianum</i>	" <i>Hoebii</i>
<i>Aerides Fieldingi</i>	<i>Odontoglossum Alexandrine</i>
" <i>Sanderiana</i>	" <i>reclivum</i>
<i>Plinia tuberculosa</i>	" <i>Londe-boroughianum</i>
" <i>Bombosii</i>	" <i>hystrix</i>
" <i>Heurys</i>	<i>Dendrobium Ainsworthii</i>
<i>Vanda Sanderiana</i>	" <i>multiflorum</i>
" <i>Cathartae</i>	" <i>albo sanguineum</i> , &c.
" <i>Bensoni</i>	

On view mornings of Sale, and Catalogues had.

Thursday Next, March 10.—Orchids.

A GRAND COLLECTION OF ORCHIDS, chiefly in Flower; also a quantity of IMPORTED PLANTS, comprising ODONTOGLOSSUM ALEXANDRINE (true *Pachy* variety), DENDROBIA D. J. JAMESIANUM, CATTLEYA MOSSIE, and other things; also a Consignment of EUCARIS CANDIDA, extra fine Bulbs, by order of Messrs. High Low & Co., and others.

THOMAS B. JAMES will SELL the above by AUCTION, at his Central Rooms, on THURSDAY NEXT, March 10, at 11.30 A.M., at his Sale Room, 12, Bull Ring, Birmingham.

Commissions carefully executed. Catalogues post-free.

Thursday Next.—Palms, Azaleas, Ferns, &c.
THOMAS B. JAMES will include in his SALE on THURSDAY NEXT, March 10, a choice consignment of Plants from Belgium, consisting of *PALMS* in variety, *DRACENAS*, *ERAS*, *AZALEAS*, *INDICA*, *MOLLIS*, *SOLANUMS*, *CITRUS*, *CROTONS*, *CYCLOMUS*, and other *GREENHOUSE PLANTS*; also THIRTY EXTRA FINE SPECIMENS *AZALEAS*, from a well-known successful Exhibitor. To be sold without reserve.

Horticultural Auction Rooms, 12, Bull Ring, Birmingham.

Catalogues post-free.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 12, Bull Ring, Birmingham, of BULBS, PLANTS, NURSERY STOCK, &c., every WEDNESDAY and FRIDAY, at 4.20 P.M. Sales of choice Cut Flowers. Fresh Entries invited. Account Sales and cheques daily. Empties and labels found.

MESSRS. J. McLACHLAN AND SONS, of COTTONBURY, Giffarth, S.W., are instructed to SELL PRIVATELY, the superb and well watered collection of Cool ORCHIDS, belonging to the late Sir John Lambert, K.C.B. The specially-constructed HOUSE might also be purchased, if desired.

Apply, for full particulars, to the Auctioneers, as above.

To Noblemen, Gentlemen, Committees of Public Parks, and others interested in Horticulture.

TO BE SOLD by private treaty, owing to the ground having been leased for building purposes, THE MAGNIFICENT CONSERVATORY OR WINTER GARDEN at HAYMARKET, EDINBURGH.

The style of Building is suitable for use as Public or Private Grounds. The structure is principally of Iron. The frontage of Main Building is 140 feet, the Dome rising to the height of 40 feet from the floor. The whole interior is paved with encaustic tiles, and heated with hot water. There is an ornamental fountain, large mirrors, &c. The whole is in capital condition and will remove with safety.

Offers will be received for the Conservatory as it stands, and Photographs and other information can be had from the proprietors, Messrs. K. B. LAIRD AND SONS, Nursery and Seedsmen, Edinburgh; or Mr. DAVID MITCHELL, Horticultural Valuator, 6, Cornhill Bank, Edinburgh.

A SALE BY AUCTION of the specimen and other Plants in the above will be held at a date yet to be fixed.

To Fruit Growers, Nurserymen, and Others.

GOOD ARABLE AND MEADOW LAND to be LET or SOLD. Close to the main road at Ponder's End (9 miles from London). Long Leases granted. Rent, £19 per acre per annum, with option to purchase the Freehold any time during the first nine years. Several large Market Nurseries are established on the Estate. Full particulars at A. and G. GUYVER, Land Agents, Ponder's End.

TO BE LET, on LEASE, near Birmingham, to a SMALL NURSERY, with two Greenhouses and Dwelling-house. Small Stock, to be taken at valuation. Apply to THOMAS B. JAMES, Horticultural Auctioneer and Valuer, 12, Bull Ring, Birmingham.

NURSERY, Small, to LET.—Eight Well-heated Houses, &c., Over retiring, in Upper Holloway, in Centre of a good Residential District, where an energetic man could do increasing trade. Good opening for Sundries. No opposition. A most favourable opportunity for establishing a Branch Business. A Ready Money Trade done in the season. Rent, £4 6d. per annum, on agreement; or Lease for the unexpired term of 18½ years, with Houses and Stock, at a Valuation.

Apply, THOMAS PASK, 10, Cullum Street, London, E.C.

To Nurserymen, Florists, &c.

CAPITAL NURSERY PREMISES in Turner Road, Lee, TO BE LET on LEASE, at a small nominal Premium. The Premises consist of 55 Greenhouses, Dwelling-house, Stabling, &c., occupying about an acre of Land, and are situated 6 miles from Covent Garden, London. May be viewed on application to Mr. A. RUSSELL, 33A, Turner Road, Lee, S.E.

TO BE LET ON LEASE, a SMALL NURSERY, 1 acre of ground, six glass-houses, 150 feet long, well-heated and well-stocked. Apply on premises, J. HULSE, Belmont Nursery, 5th Cross Road, Twickenham.

TO LET, a NURSERY, FLORIST, and GLASSHOUSE BUSINESS, in central position; Ground and Glasshouses in good order. Giving opportunity to do a good business. Apply, A. J. DAVIS, Brecon Road Nursery, Aberystwyth.

TO LET.—SMALL NURSERY, 2 acres excellent land, good house and out-offices, 4 greenhouses, 40 feet by 12 feet, 33 feet by 12 feet, 19 feet by 8 feet; plenty of water, coach-house, stable, large room over, large shed; adjoining junction on Crews, Shrewsbury, Chester, and Cambrian Railways. Immediate possession. Rent, £150. Lease, Rent, £45. RICHARD HUGHES, Ash Wood, Whitechurch, Salop.

TO LET, with IMMEDIATE POSSESSION, FLORIST'S BUSINESS, and Bath. Seven Greenhouses, and several Pits; about 3 Acres of Land. Rent, £15. Including good Cottage. The Glass and Stock may be purchased for about £250, a very low price. An excellent opportunity for starting business. Apply to FOWELL and POWELL, Bath.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS HORTICULTURAL REGISTER contains full particulars of the above, and other, gratis, at 67 and 68, Cheapside, London, E.C.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchaser have the choice of 100 Wholesale Houses. Call or write for Prospects.

Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Scenery, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by Messrs. H. L. LAM and SON, 2, Abchurch Lane, London, E.C., and Broxbourne, Herts. Photo Illustrations Books for inspection on receipt of twelve stamps.

A. G. WATSON,
FRUIT & FLOWER SALESMAN, ABERDEEN.

Sale Days, Tuesday and Friday, at 9 A.M.

Consignments solicited of Pot Plants & Cut Flowers.

SHRUBS and CONIFERS.—American Arborvitae, 2½ feet, 20s. per 100; Berberis aquifolium, 1 foot, 15s. per 100; Box Tree, 1½ foot, 12s. per 100; Cotoneaster microphylla, 2 feet, 12s. per 100; C. Sinensis, 3 feet, 12s. per 100; Escallonia macrantha, pot, 2 feet, 25s. per 100; Laurel, Common, 1½ foot, 10s. per 100; 2 to 2½ feet, 14s. per 100; 3 to 3½ feet, 20s. per 100; rostrifolia, 2 to 2½ feet, 15s. per 100; Portugal Laurel, 2 to 2½ feet, 22s. per 100; Rhododendron ponticum, 1½ to 2 feet, 25s. per 100; 2 to 2½ feet, 32s. per 100; 3 feet, 50s. per 100; 4 to 4½ feet, 70s. per 100; 5 to 5½ feet, 100s. per 100; 6 to 6½ feet, 120s. per 100; 7 to 7½ feet, 150s. per 100; 8 to 8½ feet, 200s. per 100; 9 to 9½ feet, 250s. per 100; 10 to 10½ feet, 300s. per 100; 11 to 11½ feet, 350s. per 100; 12 to 12½ feet, 400s. per 100; 13 to 13½ feet, 450s. per 100; 14 to 14½ feet, 500s. per 100; 15 to 15½ feet, 550s. per 100; 16 to 16½ feet, 600s. per 100; 17 to 17½ feet, 650s. per 100; 18 to 18½ feet, 700s. per 100; 19 to 19½ feet, 750s. per 100; 20 to 20½ feet, 800s. per 100; 21 to 21½ feet, 850s. per 100; 22 to 22½ feet, 900s. per 100; 23 to 23½ feet, 950s. per 100; 24 to 24½ feet, 1000s. per 100; 25 to 25½ feet, 1050s. per 100; 26 to 26½ feet, 1100s. per 100; 27 to 27½ feet, 1150s. per 100; 28 to 28½ feet, 1200s. per 100; 29 to 29½ feet, 1250s. per 100; 30 to 30½ feet, 1300s. per 100; 31 to 31½ feet, 1350s. per 100; 32 to 32½ feet, 1400s. per 100; 33 to 33½ feet, 1450s. per 100; 34 to 34½ feet, 1500s. per 100; 35 to 35½ feet, 1550s. per 100; 36 to 36½ feet, 1600s. per 100; 37 to 37½ feet, 1650s. per 100; 38 to 38½ feet, 1700s. per 100; 39 to 39½ feet, 1750s. per 100; 40 to 40½ feet, 1800s. per 100; 41 to 41½ feet, 1850s. per 100; 42 to 42½ feet, 1900s. per 100; 43 to 43½ feet, 1950s. per 100; 44 to 44½ feet, 2000s. per 100; 45 to 45½ feet, 2050s. per 100; 46 to 46½ feet, 2100s. per 100; 47 to 47½ feet, 2150s. per 100; 48 to 48½ feet, 2200s. per 100; 49 to 49½ feet, 2250s. per 100; 50 to 50½ feet, 2300s. per 100; 51 to 51½ feet, 2350s. per 100; 52 to 52½ feet, 2400s. per 100; 53 to 53½ feet, 2450s. per 100; 54 to 54½ feet, 2500s. per 100; 55 to 55½ feet, 2550s. per 100; 56 to 56½ feet, 2600s. per 100; 57 to 57½ feet, 2650s. per 100; 58 to 58½ feet, 2700s. per 100; 59 to 59½ feet, 2750s. per 100; 60 to 60½ feet, 2800s. per 100; 61 to 61½ feet, 2850s. per 100; 62 to 62½ feet, 2900s. per 100; 63 to 63½ feet, 2950s. per 100; 64 to 64½ feet, 3000s. per 100; 65 to 65½ feet, 3050s. per 100; 66 to 66½ feet, 3100s. per 100; 67 to 67½ feet, 3150s. per 100; 68 to 68½ feet, 3200s. per 100; 69 to 69½ feet, 3250s. per 100; 70 to 70½ feet, 3300s. per 100; 71 to 71½ feet, 3350s. per 100; 72 to 72½ feet, 3400s. per 100; 73 to 73½ feet, 3450s. per 100; 74 to 74½ feet, 3500s. per 100; 75 to 75½ feet, 3550s. per 100; 76 to 76½ feet, 3600s. per 100; 77 to 77½ feet, 3650s. per 100; 78 to 78½ feet, 3700s. per 100; 79 to 79½ feet, 3750s. per 100; 80 to 80½ feet, 3800s. per 100; 81 to 81½ feet, 3850s. per 100; 82 to 82½ feet, 3900s. per 100; 83 to 83½ feet, 3950s. per 100; 84 to 84½ feet, 4000s. per 100; 85 to 85½ feet, 4050s. per 100; 86 to 86½ feet, 4100s. per 100; 87 to 87½ feet, 4150s. per 100; 88 to 88½ feet, 4200s. per 100; 89 to 89½ feet, 4250s. per 100; 90 to 90½ feet, 4300s. per 100; 91 to 91½ feet, 4350s. per 100; 92 to 92½ feet, 4400s. per 100; 93 to 93½ feet, 4450s. per 100; 94 to 94½ feet, 4500s. per 100; 95 to 95½ feet, 4550s. per 100; 96 to 96½ feet, 4600s. per 100; 97 to 97½ feet, 4650s. per 100; 98 to 98½ feet, 4700s. per 100; 99 to 99½ feet, 4750s. per 100; 100 to 100½ feet, 4800s. per 100; 101 to 101½ feet, 4850s. per 100; 102 to 102½ feet, 4900s. per 100; 103 to 103½ feet, 4950s. per 100; 104 to 104½ feet, 5000s. per 100; 105 to 105½ feet, 5050s. per 100; 106 to 106½ feet, 5100s. per 100; 107 to 107½ feet, 5150s. per 100; 108 to 108½ feet, 5200s. per 100; 109 to 109½ feet, 5250s. per 100; 110 to 110½ feet, 5300s. per 100; 111 to 111½ feet, 5350s. per 100; 112 to 112½ feet, 5400s. per 100; 113 to 113½ feet, 5450s. per 100; 114 to 114½ feet, 5500s. per 100; 115 to 115½ feet, 5550s. per 100; 116 to 116½ feet, 5600s. per 100; 117 to 117½ feet, 5650s. per 100; 118 to 118½ feet, 5700s. per 100; 119 to 119½ feet, 5750s. per 100; 120 to 120½ feet, 5800s. per 100; 121 to 121½ feet, 5850s. per 100; 122 to 122½ feet, 5900s. per 100; 123 to 123½ feet, 5950s. per 100; 124 to 124½ feet, 6000s. per 100; 125 to 125½ feet, 6050s. per 100; 126 to 126½ feet, 6100s. per 100; 127 to 127½ feet, 6150s. per 100; 128 to 128½ feet, 6200s. per 100; 129 to 129½ feet, 6250s. per 100; 130 to 130½ feet, 6300s. per 100; 131 to 131½ feet, 6350s. per 100; 132 to 132½ feet, 6400s. per 100; 133 to 133½ feet, 6450s. per 100; 134 to 134½ feet, 6500s. per 100; 135 to 135½ feet, 6550s. per 100; 136 to 136½ feet, 6600s. per 100; 137 to 137½ feet, 6650s. per 100; 138 to 138½ feet, 6700s. per 100; 139 to 139½ feet, 6750s. per 100; 140 to 140½ feet, 6800s. per 100; 141 to 141½ feet, 6850s. per 100; 142 to 142½ feet, 6900s. per 100; 143 to 143½ feet, 6950s. per 100; 144 to 144½ feet, 7000s. per 100; 145 to 145½ feet, 7050s. per 100; 146 to 146½ feet, 7100s. per 100; 147 to 147½ feet, 7150s. per 100; 148 to 148½ feet, 7200s. per 100; 149 to 149½ feet, 7250s. per 100; 150 to 150½ feet, 7300s. per 100; 151 to 151½ feet, 7350s. per 100; 152 to 152½ feet, 7400s. per 100; 153 to 153½ feet, 7450s. per 100; 154 to 154½ feet, 7500s. per 100; 155 to 155½ feet, 7550s. per 100; 156 to 156½ feet, 7600s. per 100; 157 to 157½ feet, 7650s. per 100; 158 to 158½ feet, 7700s. per 100; 159 to 159½ feet, 7750s. per 100; 160 to 160½ feet, 7800s. per 100; 161 to 161½ feet, 7850s. per 100; 162 to 162½ feet, 7900s. per 100; 163 to 163½ feet, 7950s. per 100; 164 to 164½ feet, 8000s. per 100; 165 to 165½ feet, 8050s. per 100; 166 to 166½ feet, 8100s. per 100; 167 to 167½ feet, 8150s. per 100; 168 to 168½ feet, 8200s. per 100; 169 to 169½ feet, 8250s. per 100; 170 to 170½ feet, 8300s. per 100; 171 to 171½ feet, 8350s. per 100; 172 to 172½ feet, 8400s. per 100; 173 to 173½ feet, 8450s. per 100; 174 to 174½ feet, 8500s. per 100; 175 to 175½ feet, 8550s. per 100; 176 to 176½ feet, 8600s. per 100; 177 to 177½ feet, 8650s. per 100; 178 to 178½ feet, 8700s. per 100; 179 to 179½ feet, 8750s. per 100; 180 to 180½ feet, 8800s. per 100; 181 to 181½ feet, 8850s. per 100; 182 to 182½ feet, 8900s. per 100; 183 to 183½ feet, 8950s. per 100; 184 to 184½ feet, 9000s. per 100; 185 to 185½ feet, 9050s. per 100; 186 to 186½ feet, 9100s. per 100; 187 to 187½ feet, 9150s. per 100; 188 to 188½ feet, 9200s. per 100; 189 to 189½ feet, 9250s. per 100; 190 to 190½ feet, 9300s. per 100; 191 to 191½ feet, 9350s. per 100; 192 to 192½ feet, 9400s. per 100; 193 to 193½ feet, 9450s. per 100; 194 to 194½ feet, 9500s. per 100; 195 to 195½ feet, 9550s. per 100; 196 to 196½ feet, 9600s. per 100; 197 to 197½ feet, 9650s. per 100; 198 to 198½ feet, 9700s. per 100; 199 to 199½ feet, 9750s. per 100; 200 to 200½ feet, 9800s. per 100; 201 to 201½ feet, 9850s. per 100; 202 to 202½ feet, 9900s. per 100; 203 to 203½ feet, 9950s. per 100; 204 to 204½

FOR ORCHIDS, and GARDENERS
to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

EARLY OFFENHAM CABBAGE PLANTS
for SALE. True Stock. Apply to—
J. H. B. R. O. W. N., Swansea, Bedon.

DOUBLE PINK IVY-LEAF GERANIUM,
Madame Crousse, fine strong cuttings, 5s. per 100.
W. H. DIVERS, Ketton Hall Gardens, Stamford.

LAXTON'S SEEDS and STRAWBERRIES.
—Best novelties and best standard sorts. 100 Certificates. Send for Descriptive Price Lists.
T. LAXTON, Seed Grower, Bedford.

GLORIOSA SUPERBA.—30 good sound
Bulbs to dispose of. Would EXCHANGE for CLEODENDRON FALLAX. What offers?
WILKINSON, Cannizaro, Wimbledon.

FOR SALE.—15 bushels PAINTED LADY
RUNNER BEANS; a fine bushels SCARLET RUNNER BEANS. New and good quality, 3s. per bushel, either by the sack, bushel, or peck.—Apply to,
E. BRIDGEMAN, Kelvedon, Essex.

SPECIMEN CONIFERS.—To be sold cheap,
to clear the Ground, a few extra-fine well-rooted specimens of THUYA AUSTRALIS, WELLINGTONIA, CUPRESSUS, ARAUCARIA, PINUS AUSTRALIS, &c. &c. Particulars, apply to S. WILKINSON'S Executors, Stamford, Lincoln.

COOPER, TABEL, and CO., LIMITED, have
posted their new CATALOGUE of AGRICULTURAL SEEDS to all their Customers. If not received, another copy will be forwarded on application.
90, Southwark Street, London, S.E.

DWARF ROSES, for Cutting and Forcing,
on Seedling Brier, first-class plants, with fibrous roots, 1000 La France, 2000 Horace Vermet, 2000 Fisher Holmes, 2000 Louis Van Houtte, 2000 General Jacquemont, 2000 Prince Camille de Rohan. Offers at 20s. per 100.
FREDERICK MULLER, Rose Grower, Pinneberg, n. Hamburg.

RASPBERRY CANES.—BAUMFORTH
SEEDLINGS, 40s. per 1000; Semper Fidelis, 30s. per 1000. Sample 10 of either sort, 6s. RED CURRANT TREES, 8s. per 100. Cash with Order. Free on Rail.
R. H. BATH, Wisbech.

1000 flowering Bulbs of GALANTHUS
ELWESI, CHIONODOXA LUCILLE, and C. SARDENIS, will be sent on receipt of 10s. Orders are requested to be sent not later than the end of April. Catalogues gratis, post paid.
FRANZ SCHLOSSER, Kunst und Handelsgeister, Smyrna, Asia Minor.

KELWAY'S SEED MANUAL
for 1892.
"Will greatly assist all gardeners, whether amateur or professional; up to date in all respects."—*Court Journal*,
1s., post-free (deducted from first order) to those unknown to us.
KELWAY and SON, Langport.

CARNATIONS.—Germania, Pride of Penhurst, Mrs. Reynolds Hole, and Mrs. Frank Watts, good strong stuff and fresh potted up for flowering, 9s. per dozen; Mrs. Sinkins, 6s. per dozen. LOBELIA, Emperor William, true from cuttings, strong stuff from store, 2s. 6d. per 100; F. V. Raspail cuttings, 2s. 6d. per 100.
A. MOORE, Nurseries, Spalding.

PANSIES, VIOLAS, and DAHLIAS.—We
do as well as any firm in the Kingdom. Ten Gold and Silver Medals last season from leading Societies. Only standard exhibition varieties kept in stock. Prices from 2s. 6d. per dozen, carriage paid. Send for Catalogue and Competitor's Guide, 160 pages, post free, 3d. DAHLIA CUTTINGS supplied very cheap.—DOBIE and CO., Rothsay.

PERNS!!—Trade.—Greenhouse and
Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cucumatum, Aralia, Cyperus, and Primula, all in 48s. 6d. per doz. Palms and Ficus, 1s. each. Large Ferns, 10 best sorts, 5s. 6d. per doz., in 48s. Cinerarias, Spiraea, and Cyclamen, full bloom, 9s. per dozen, in 48s. Adiantum cucumatum and P. tremula, extra size, in 23-inch pots, 16s. and 20s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

The Best Present for a Gardener.
VINES and VINE CULTURE.
The most complete and exhaustive Treatise on
Grapes and their Culture ever published.
New Edition.
Price 3s., post-free, 3s. 6d.
A. F. BARBON, Royal Horticultural Society, Chiswick.

VINES. — VINES. — VINES.
We hold a fine Stock of the above, both Fruiting and Planting Canes. Names and prices sent on application.
JOHN FRED. and SONS, Boupell Park Nurseries, Norwood Road, London, S.E.

L'HORTICULTURE INTERNATIONALE
(Orchid Emporium), Leopold Park, Brussels.
THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN,
cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

EXHIBITIONS.

CRYSTAL PALACE,
The ANNUAL SHOW OF SPRING FLOWERS will be held on SATURDAY, MARCH 26.
Schedules are now ready, and may be had on application to Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E.
Entries close March 19.

BATH BULB SHOW, March 16 and 17.
—Entries close, FRIDAY, March 11.—For Prize Schedules, &c., apply to B. R. F. PEARSON, } Secs.
2, Northumberland Bldgs., Bath. W. JEFFEY, }

TAUNTON DEANE HORTICULTURAL SOCIETY.
THE TWENTY-FIFTH ANNUAL SHOW will be held on THURSDAY, August 11, 1892. £250 in Prizes. Schedules on application to—
HON. SECS.,
5, Hammet Street, Taunton.

NEW ZONAL PELARGONIUMS (GERANIUMS). LIST ready, free on application.
J. R. PEARSON and SONS, Chilwell Nurseries, Notts.

Buy Direct from the Grower.
CUCUMBER SEEDS, Rolisson's Telegraph,
50 for 1s.; 100 for 1s. 9d.; 2s. 6d. per ounce, post-free, from—
S. BARRATT, Cucumber Grower, Radcliffe-on-Trent, Notts.

CACTUS DAHLIAS, Pot Roots; a few
bushels in one or smaller lots. For sorts and price, apply to H. HARRIS, Writtle Road, Chelmsford.

CARNATIONS.—OLD CRIMSON CLOVE,
good, in 60-pots. Will EXCHANGE for Autumn or Spring-rooted Cuttings of MISS JOLIFFE CARNATION.—Particulars to FRED. HANSON, Nurseryman, Silver Street, King's Heath, Birmingham.

EUCHARIS CANDIDA.

SPECIAL OFFER BEFORE POTTING.
A grand lot, sound Bulbs, flowering size, just received from our collector by ss. "Medway," in most possible condition.
100s. and 150s. per 100.

HUGH LOW & CO.,
CLAPTON NURSERY, LONDON, N.E.

VINES { **STRONG FRUITING and**
AND **PLANTING.**—The best leading
FIGS. { kinds, thoroughly ripened without bottom
heat. Particulars on application.

DICKSONS NURSERIES CHESTER
(LIMITED) (400 Acres)

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,
Have an immense stock of

ORCHIDS.

Both Established and Semi-Established, and they are constantly receiving

IMPORTATIONS

from various parts of the world.

INSPECTION IS VERY EARNESTLY INVITED.

The COMPANY'S Prices are all fixed as low as possible, with the view of inducing liberal Orders.

PRICED and DESCRIPTIVE CATALOGUE
Post-free on Application to the Company.

THE VINEYARD and NURSERIES,
CARSTON, NEAR LIVERPOOL.

TARRAGON.—For Sale about 1400 plants in
prime condition, 20s. per 100; or open to an offer for the lot.—Apply, W. H. PEET, 39, Paternoster Row, E.C.

SUPERB ORCHIDS, CHEAP.—Thousands
to select from. Write for List, free.—P. McARTHUR, The London Nursery, 4, Mania Lane, London, W.

Hardy Fruits for the Midlands.
PROFITABLE FRUIT GROWING: What
to Plant, and how to Plant, New Edition up to date, now ready, price 6d.—A. H. PEARSON, Chilwell, Notts.

10,000 EUONYMUS (Green), bushy, well-
dozen. Less by the 1000. Cash with order.
J. J. CLARK, Oldstone, West Brighton.

FRUIT TREES.—APPLES, PEARS,
PLUMS, CHERRIES, per 100 or 1000. Descriptive CATALOGUES, post free, on application.
FLETCHER BROS., Ottershaw Nurseries, Chertsey, Surrey.

RASPBERRY CANES.—Norwich Wonder,
also Pastol, strong and well rooted.
At 15s. per 1000, cash with order. Not less than 1000 supplied.
ALBERT BATH, Vine Court, Sevenoaks, Kent.

Sharpe's Victor Potatos.
W. W. JOHNSON & SON, SEED GROWERS
and MERCHANTS, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

R. GILBERT, High Park, Stamford, is now
offering the best of all RHUBARBES, "True Champagne," 4s. per dozen; also, King of the BEUSSELS SPROUTS, "Universal Savoy," "Late Victoria BEBO-COLI," and "CHOU DE BURGHE," at 1s. per packet.

ORCHIDS A SPECIALTY.
Please write for New Illustrated Price LIST of well-established, healthy, and early-growing plants.
W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

LOVELY YORKSHIRE STRAWBERRIES.
We offer for Cash, good sorts in nice plants, carriage paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample Dozen, 6d. Descriptive LIST free.
W. LOVELL and SON, Strawberry Growers, Driffield.

LAURELS, Common, 4 to 7 feet, extra,
several times transplanted, splendidly rooted; L. ROTUNDFOLIA, very bushy, transplanted 1890, 2½ to 4 feet; PORTUGAL LAURELS, extra fine. Offered cheap to clear.
R. R. DAVIS, Yeovil Nurseries, Somerset.

BEGONIAS.—Davis's New, Rare, & Beautiful.
The Best BEGONIA CATALOGUE published.
Enumerates a magnificent and unsurpassed Collection, with descriptions, illustrations, and much valuable information on this now popular flower; post-free. The first grower to issue a Begonia Catalogue was H. B. DAVIS, Begonia Grower, Yeovil Nurseries, Yeovil, Somerset.

Seed Potatos.
H. and F. SHARPE invite the attention of
the Seed Trade to their fine selected stocks of SEED POTATOS, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other Seed Potatoes.
Seed Growing Establishment, Wisbech.

150,000.—Special Offer of Kentias.
W. ICETON has a large quantity of the
above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well-established, at £30 per 1000.
W. ICETON, Putney, S.W.

BIRMINGHAM PRIMULAS,
Lady Churchill, The Queen, Marquis of Lorne, and all select sorts, 2s. 6d. per packet. Mixed, 2d. 6d. Usual Trade discount.
POPE and SONS, King's Norton, Birmingham.

CHRYSAETHANTEMUM, PELARGONIUMS,
DAHLIAS, BEGONIAS, CANNAS, &c.—Our CATALOGUES will be sent free on application.
15 First Prizes (10 this year). 5 Gold Medals.
REID and BORNEMANN, Sydenham, London, S.E.

THE OLD BROWN QUARRY EARLY POTATO. The Oldest Existing Sort in Ireland.
In existence here for 150 years; certainly, when I was a child, prior to the famine period. There was no other sort grown for harvest purposes when men worked with a sickle. I am enabled to offer it for redistribution—it never having made its way to England—from a stock preserved for years on peat land, resting on limestone, in a remote part of county Cork. There must be something in the soil that preserved it for years. It is a first-class early June variety, of great substance. 7-lb. bag and postage for 2s. 9d.
WM. EYLAND HATLAND, F.R.H.S., Old Established Seed Warehouse, Cork, Ireland.

BEGONIAS A SPECIALTY.—Awarded
Four Gold Medals, and Gold Cup, and all First Prizes. Seed saved from Prize plants. Our Begonia Seed and Bulbs eclipse all previous years. Choicest mixed, single or double varieties, 1s. 2d. 6d. and 3s. per packet. Collections (Seed)—single, 12 named varieties, separate, 5s. 6d.; 5 ditto, 3s. Turned named singles, from 12s. to 42s. per dozen; unnamed seedlings, 12s. to 21s. per dozen; bedding, choicest, 4s. 6s. 6d., and 9s. per dozen; choicest named doubles, from 42s. per doz.; unnamed, choicest 18s. to 30s. per dozen; choicest mixed, for bedding, 9s. and 12s. per dozen. Catalogues gratis.
JOHN LAING and SONS, Begonia Growers, &c., Forest Hill, London.

A GOOD INVESTMENT.

Last season I sowed a small quantity of Chrysanthemum seed, from which I obtained twenty varieties that I would not sell for one hundred pounds. I have again obtained seed from the same source, and have a small quantity to spare at 1s. 6d. and 2s. 6d. per packet. I shall be pleased to purchase at a fair price any good varieties raised from this seed.—H. J. JONES, Ryecroft Nursery, Lewisham.

The best bank on the Chrysanthemum is Chrysanthemums, and How to Grow Them. Now ready, post-free, 9 stamps, of H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

CHRYSANTHEMUMS.

See our New DESCRIPTIVE CATALOGUE for all Novelties of the present Season, and all the best varieties in cultivation, post-free, on application to

PITCHER & MANDA,

The United States Nurseries,
HEXETALE, SWANLEY, KENT.

SEEDS! SEEDS!! SEEDS!!!

VEGETABLE AND FLOWER SEEDS saved from CHOICE SELECTED STOCKS. Everyone with a garden and every market gardener should send for a Catalogue before purchasing elsewhere. Special Low Quotations to large buyers.

B. L. COLEMAN, Seed Merchant and
Grower, SANDWICH, KENT.

PLANTING SEASON.

HARDILY-GROWN
FOREST, FRUIT,
& ALL OTHER
TREES & PLANTS,
EVERGREENS, ROSES, &c.

NURSERIES 400 ACRES:
VERY EXTENSIVE STOCK. Inspection Invited.
Priced Catalogues Gratis & Post Free.

THE
DICKSONS NURSERIES
(LIMITED) CHESTER.

FOREST TREES.—Alders, 2 to 3 feet, 10s. per 1000; Ash, 3-yr., 2s. 6d. per 1000; 1½ to 2 feet, 12s. per 1000; 2 to 3 feet, 16s. per 1000; 3 to 4 feet, 20s. per 1000; Elm, Mountain, 3 to 4 feet, 24s. per 1000; Birch, 2 to 3 feet, 22s. per 1000; 3 to 4 feet, 40s. per 1000; Chestnut, Horse, 2 feet, 16s. per 1000; Spanish C., 1½ to 2 feet, 16s. per 1000; Elm Wych, 2 to 3 feet, 20s. per 1000; Larch, 12 to 18 inch, 14s. per 1000; 1½ to 2 feet, 20s. per 1000; 2 to 3 feet, 24s. per 1000; Spruce Fir, 1½ to 2 feet, 14s. per 1000; Scotch Fir, 2-yr., 2-yr. fir, 16s. per 1000; 2 feet, 20s. per 1000; Hazels, 3 to 3 feet, 20s. per 1000; Hornbeam, 2 to 3 feet, 16s. per 1000; Oak, English, 1½ feet, 12s. per 1000; 2 feet, 14s. per 1000; 2½ to 3 feet, 18s. per 1000; Privets, Oval, 1½ to 2 feet, 20s. per 1000; Privets, Common, 1½ feet, 12s. per 1000; Sycamores, 1½ to 2 feet, 12s. per 1000; 4 to 5 feet, 40s. per 1000; Thorns, 2 feet, 10s. per 1000; 2½ feet, 12s. per 1000; 3 feet, 15s. per 1000; 3 to 4 feet, 17s. per 1000.

GARLIES MITCHELL, Nurseryman, Stranraer.

ROSES.

STANDARDS, from 21s. per dozen.

DWARFS, from 6s. per dozen.

CATALOGUES, post-free.

FRANK CANT, BRAISWICK NURSERY,
COLCHESTER.

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW
OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of
Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,
THE NURSERIES,
SAWERIDGEWORTH, HERTS.

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on
FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best
Anthrums, Begonias, Geraniums, Delphiniums, Delphiniums,
Fuchsias, Fumias, Pansies, Violets, Pelargoniums, Pen-
tetons, Petunias, Phloxes, Pinks, Potentillas, Primulas, Pyre-
thras, Verbenas, Herbaceous Plants, &c.; also of my true
and reliable strain of

EAST LOTHIAN STOCKS.

which, by the force of their merit, are now justly celebrated
all the world over. In 5 distinct sorts, crimson purple,
scarlet, white, and Wallflower-leaved white, each sort, 1s.,
2s. 6d., 5s. per packet. Reference-Book on all sorts of a
Florists' Flowers, and should be carefully perused by all buyers
of flowers. Free on application.

JOHN FORBES, Nurseryman, Hawick, Scotland.

ANTHONY WATERER invites from
intending Planters an inspection of the following well-
grown and finely-rooted EVERGREENS:—

ABIES CANADENSIS (Hemlock Spruce), 5 to 8 feet.
DOUGLASII, 6 to 12 feet.
GLAUCA, 3 to 8 feet.

HOOKERIANA (Pattoniana), 3 to 6 feet.
CEDRUS ATLANTICA, 4 to 8 feet.

LIBANI (Cedar of Lebanon), 4 to 10 feet.
CUPRESSUS LAWSONIANA ERRECTA VIRIDIS, 4 to 8 feet.

LUTEA (Golden), 3 to 6 feet.
JUNIPERUS CHINENSIS, 3 to 10 feet.

AUREA (Golden Chinese Juniper), 3 to 8 feet.
PICEA CONCOLOR, 3 to 7 feet.

GRANDIS, 5 to 8 feet.
LASIOCARPA, 4 to 6 feet.

MAGNIFICA, 3 to 5 feet.
PUNGENS, 1½ to 4 feet.

GLAUCA (Blue Spruce), 1½ to 4 feet.
PICEA AUSTRIACA, 3 to 7 feet.

LARICIO, 3 to 4 feet.
THUOPSIS BOREALIS, 4 to 7 feet.

DOLABRATA and VARIEGATA, 3 to 8 feet.
THUJA LOBBII (giant), 3 to 9 feet.

OCCIDENTALIS LUTEA (Golden), 3 to 4 feet.
WELLINGTONIA GIGANTEA, 3 to 7 feet.

YEW, Common, 3, 4, 5, and 6 feet.
Golden, of all sizes, up to 12 feet, in various forms,

Pyramids, Globes, and Standards, in point of variety,
size, and quality unequalled.

Golden Seedlings, 3, 4, 5, up to 10 feet.
Irish, 5 to 10 feet.

Golden, 3 to 6 feet.
AUCUBA JAPONICA, 2½ to 4 feet.

BAMBUS METAKE, fine clumps, 4 to 7 feet.
BOX, Green and Variegated, 3, 4, 5, and 8 feet.

HOLLIES, Common, from 3 to 10 feet.
ALTALENERSE.

HODGINS or NOBILIS, } 3, 4, 5, up to 10 feet.
LAURIFOLIA, }
MYRTIFOLIA, }

SCOTICA, }
Yellow berried, and other sorts }
Variegated, of sorts, 2, 3, 5, up to 10 feet.

Golden Queen, 4, 5, up to 10 feet.
Silver Queen, 4, 5, up to 10 feet.

Weeping Perry's (Silver Variegated), on straight stems,
with heads 20 to 25 years' growth.

New Golden Weeping.
RHODODENDRONS, 3 to 8 feet.

Knap Hill Nursery, Woking, Surrey.

WM. PAUL AND SON respectfully invite
inspection of the following TREES and SHRUBS,

now on Sale. Prices (on application) very reasonable, and
quality exceptional as to roots, tops, and stems:—

BEECH, purple, best variety ... 12 to 16 feet.
common ... 12 feet.

BIRCH, Silver and others ... 12 to 14 feet.
ELMS, four sorts ... 12 to 18 feet.

LAURUS ... 9 to 10 feet.
LIMES ... 8 to 12 feet.

MOUNTAIN ASH ... 12 to 16 feet.
NORWAY MAPLES ... 12 to 18 feet.

PLAINS ... 12 to 18 feet.
POPLARS, six sorts ... 12 to 18 feet.

SYCAMORE ... 12 to 18 feet.
THORNS, Paul's Double Scarlet ... 12 to 14 feet.

(The finest Trees in the Trade.)
FLOWERING SHRUBS, various ... 4 to 5 feet.

ARBO-VITE, American ... 6 feet.
AUCUBAS ... 3 to 4½ feet.

BOX, of sorts ... 3 to 5 feet.
CEDRUS ATLANTICA ... 5 to 10 feet.

DEODARA ... 8 to 12 feet.
CUPRESSUS LAWSONIANA ... 8 to 12 feet.

HOLLY, Variegated ... 6 to 12 feet.
Green, named sorts ... 6 to 12 feet.

FIR, Scotch ... 6 to 9 feet.
Austrian ... 3 to 8 feet.

LAURELS ... 3 to 7 feet.
OSMANTHUS ... 2 to 4 feet.

PICEA PINSAPO ... 6 to 8 feet.
RHODODENDRON PONTICUM, off

loom ... 2 to 4 feet.
Hybrids ... 2 to 4 feet.

Named sorts ... 2 to 4 feet.
YEW, Common, and others ... 3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and
Pyramids.

APPLES and PEARS, Horizontal-trained.
CHERRIES and PLUMS, Fan-trained.

ASPARAGUS for Forcing.

PAUL'S NURSERIES, WALTHAM CROSS.

South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station.

Great Eastern Railway.

32 ACRES of RHODODENDRONS,

AND
170 Acres of Other Nursery Stock.

RHODODENDRON Ponticum, 9 to 12 inch ... Per 100, per 1000.
" " " 12 to 18 " ... 12s. ... 90.
" " " 18 to 24 " ... 16s. ... 140s.
" " " 24 to 30 " ... 25s. ... 230s.
" " " 30 to 36 " ... 12s. ... 100s.
" " " 36 to 42 " ... 15s. ... 190s.
" " " 42 to 48 " ... 28s. ... 240s.

For other NURSERY STOCK, see CATALOGUES, free.

Rhododendrons make grand cover for Game, Hives and
Rabbits will not eat them; they will grow well under trees,
where many other trees perish. Smaller or larger sizes can
be supplied if required.

JAMES SMITH & SONS,
DARLEY DALE NURSERIES, near MATLOCK.

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standards, Pyramids, and Wall-trained), Apples, Pears,
Cherries, Fenchies, Filberts, and Plums; 20,000 noble tall
standard Victoria Plums and Damsons, six years old. The
Trees are without blemish, twice transplanted, splendidly
rooted, and intended for the tenants and hedgerows on the
Estate. Guaranteed true to name. The superb Rhododend-
rons: 2000 Maiden, Standard, and Dwarf Roses; 6000 Black
and Red Currants, four years old; and forty kinds of Gos-
berries, 6000 Raspberries. In small or large quantities,
Purchaser's selection. Price half their value. See Catalogue.
Removing.—LAND STEWARD, Hon. GERTRUDE JONES,
Churchfield, Cradley, near Malvern.

FERNS A SPECIALITY

The finest & most interesting Collection in the Trade.

1400 SPECIES & VARIETIES

Stove, Greenhouse, Hardy Exotic & British

EVERY ONE interested in FERNS SHOULD

SEND FOR OUR partially descriptive

CATALOGUE FREE ON APPLICATION.

also our ILLUSTRATED CATALOGUE No. 21.

Price 1/6 post free.

W. & J. BIRKENHEAD

FERN NURSERY, SALE, MANCHESTER.

ROSES. ROSES.

12 acres of Roses, 100,000 magnificent plants to select from.
23 Choice Standards, 21s.; 24 Half-Standards, 21s.; 12
Standards, 12s. 6d.; 12 Half-Standards, 10s. 6d.; 50 Choice
Dwarfs, 50 sorts, 21s.; 24 Choice dwarf Teas and Noisettes,
12s. 6d.; 12 choice climbing, 4s.; 12 beautiful Teas and
Noisettes, 9s.; 6 lovely yellow Roses, 4s. 6d.; 6 Maréchal
Nils, 4s. 6d.; 6 Gloire de Dijon, 4s.; 6 choice Moss Roses,
3s. 6d.; 6 old Cabbage Roses, 3s. 6d.; 6 old-fashioned Roses,
3s. 6d.; 8 crimson Monthly Roses, 3s.; 6 pink Monthly Roses,
2s. 6d.; 6 white Monthly Roses, 3s.; 6 quick-growing Climbing
Roses, 2s. 6d.; 12 Sweet Briars, 3s. My selection, each with
order. Thousands of Testimonials. Catalogues free.

JAMES WALTERS, Rose Grower, Exeter.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(BIDDLES & Co., Proprietors),

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those who to purchase garden seeds to send
for a copy of our complete Seed Catalogue and Guide, which
will be sent gratis and post-free on application.

3000 Varieties catalogued, 500 Illustrations.

VEITCH'S EXONIAN PEA,

A FIRST EARLY WRINKLED MARROW,

Of Finest Flavour, and very productive.

A STERLING NOVELTY.

ROBERT VEITCH & SON, QUEEN'S
SEEDSMEN,

EXETER.

And of the Principal Seedsmen throughout the Kingdom

2/6 per Packet (7-pint). Trade Price on Application.

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,

EXOTIC NURSERIES, CHELTENHAM.

DANIELS BROS., TOWN CLOSE NURSERIES, NORWICH,

BEG to offer the following Plants, Bulbs, &c., which they can highly recommend:—

Roses, Hybrid Perpetual. A splendid collection, including all the choicest sorts. ... per doz. 4. 6.
Flae Standards to name ... 18s. and 24 0
Dwarfs or Bushes ... 7s. 6d. and 10 6
Tea Scented, in pots, best sorts 15s., 18s., and 24 0
Clematises. Choice named sorts ... 18s. and 24 0

Carnations and Picotees. A very choice collection, including all the newest and finest sorts, 8s., 9s., and 12 0

Carnation. "Germania." Beautiful pure yellow. The best, fine plants ... 3 for 4s., each 1s. 6d.

New Garden Pink, "Her Majesty." Beautiful pure white, deliciously scented, 3 for 4s., each 1s. 6d.

Delphiniums. Single and double-flowered, choice named sorts, strong plants ... 6s. and 18 0

Gallardias. Large-flowered hybrids, in beautiful variety, to name ... 9s., 12s., and 18 0

Perennial Phloxes. A splendid collection. Established plants to name ... 4s. 6d., 6s., and 9 0

Pyrethrums, Double-flowered. A grand collection, including the newest and choicest sorts. Established plants ... 6s. and 9 0

Single-flowered, in brilliant variety ... 6 0

Fæonies, Herbaceous. Double-flowered, choice named sorts ... 12s., 18s., and 24 0

Hardy Flowering Plants. We have a splendid collection of these, which we offer as follows, including such fine subjects as Anemonis pallida, Chrysanthemum maximum, Doronicum, Erigeron, Heleum, Heuchera sanguinea, Senecio pulcher, &c. ... 30 0

100 in 100 choice varieties ... 17 6
50 ,, 50 ,, ,, established 17 6
25 ,, 25 ,, ,, plants 10 0
12 ,, 12 ,, ,, 6 0

Lilium auratum. Fine selected bulbs—6s., 9s., and 12 0

„ „ „ Rubro-vittatum. Pure white, with deep crimson bands, splendid—each 2s. 6d.

„ „ „ Wallichiana superba. Immense primrose-yellow trumpets, magnificent, ea. 3s. 6d.

Lilies. Choice named, from our fine collection—6s., 9s., 12s., 18s., 24s., and 30 0

Begonias, Tuberous-rooted. Large, brilliantly-coloured flowers of all the most beautiful shades. Good strong flowering tubers in splendid mixture ... per 100, 30s. 4 8

„ „ „ Double-flowered, very fine mixed 9s. and 12 0

Gladiolus Gandavensis. Choice named sorts—4s. 6d., 6s., 9s., and 12 0

„ „ „ In splendid mixture ... per 100, 20s. 3 0

„ „ „ New hardy hybrid. A charming class with large, handsomely-stained or blotched flowers. Very choice mixed ... per 100, 24s. 3 6

Tubtyses, American Pearl. Fine bulbs—per 100, 11s. 6d. 2 6

All carriage free with the exception of Tea Roses and Clematises, which are sent in pots.

SMALL SHRUBS AND CONIFERÆ.—Abies orientalis, 4-yr., 40s. per 1000; Cupressus macrocarpa, 1-yr., 30s. per 1000; C. Lawsoniana, 1 foot, 40s. per 1000; C. erecta viridis, 5 to 9 inch, 30s. per 1000; Cotoneaster Simonsii, 1 foot, 30s. per 1000; Escallonia macrantha, 9 inch, 8s. per 100; Ivy, Irish, 2-yr., 30s. per 1000; Lilac, purple, 2-yr., 30s. per 1000; Laurestinus, 6 to 8 inch, 7s. per 100; Oaks, evergreen, 2-yr., dried, 10 inch, 50s. per 100; Pinus cembra, 2-yr. transplanted, 40s. per 1000; P. Nordmanniana, 2-yr. transplanted, 60s. per 1000; P. nobilis, 2-year transplanted, 6s. per 100; Privets, oval, 9 inch, 8s. per 1000; ditto, 10 to 12 inch, 14s. per 1000; Retinospora plumosa, 8 inch, transplanted, 40s. per 1000; R. aurea, 6 to 8 inch, 8s. per 100; Rhododendron ponticum, transplanted, 4 to 6 inch, 40s. per 1000; 6 to 9 inch, 55s. per 1000; Veronica Pavoni, 8 inch, 7s. per 100; Y. Fragrantula, 6 inch, 8s. per 100; Yew, English, 2-yr., 1-yr. transplanted, 20s. per 1000; Irish Yew, 8 to 9 inch, 8s. per 100.

GARLES MITCHELL, Nurseryman, Stranraer.

CLEARANCE SALE OF PALMS, DRACENAS, &c.

Strong Small Palms, averaging 10 to 12 inches high, of SEAPORTHIA ELEGANS, LATANIA BORONICA, ARECA SAPIDA, CORYPHA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of each, 14 plants in all, 5s. 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.

Price per 100 or 1000 on application.

* LATANIA BORONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.

* CHAMÆROPS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.

* Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.

* DRACENA CANIFOLIA, 5 to 6 feet high, 21s. each.

* Ditto ditto 4 feet high, 15s. each.

* PHENIX TENUIS, 3 feet high, 5s. each.

* Ditto ditto 2 feet high, 18s. per dozen.

* DRACENA INDIVISA, 3 feet 6 inches high, 5s. each.

* Ditto RUBRA, 6 feet high, 18s. per dozen.

* Ditto CONGESTA, 2 feet high, 18s. per dozen.

* SEAPORTHIA ELEGANS, in 80's, fit for 45's, strong, 8s. doz.

Those marked * are Potted Free, but not Carriage Paid.

W. OWEN, 106, Stamford Hill, N.



VEITCH'S Superb Strain of GLOXINIA THE FINEST IN CULTIVATION.

"Veitch's strain of Gloxinia has long been celebrated for its excellence, and each season new seedling varieties, eclipsing those of older date, are added to it." *The Gardener*, June 5.

Seed saved from the magnificent collection grown at our Chelsea Nursery, embracing all the richest, most brilliant and varied colours.

Finest Mixed Colours, per packet, 2s. 6d.

BRIGHT SCARLET and CRIMSON,
saved from our splendid collection of high-coloured sorts,

Per packet, 2s. 6d.

For full description of the above and other Choice Novelties, see *SEED CATALOGUE* for 1892, forwarded Gratis and Post-free on application.

JAMES VEITCH & SONS ROYAL EXOTIC NURSERY, CHELSEA, S.W.

SUTTON'S New Peas For 1892.

SUTTON'S EMPRESS OF INDIA.

"The earliest wrinkled Pea I have ever grown, of great value, pods large, and Peas of good quality."—Mr. E. BURDEN, The Gardens, Wake Green House.

Per packet, 1s. 6d. and 2s. 6d.

SUTTON'S BOUNTIFUL.

"Sutton's Bountiful showed undoubted advance in size of pod as an early Pea, and a good type of what should now be set up as a standard, as the very small podded whites of the Sangster's No. 1 type hardly merit recognition. If Sutton's Bountiful, which is really a much finer and better Pea, should prove to be as early as Sangster's No. 1, a great gain will be found."—*Gardener's Chronicle*, August 1, 1891.

Per pint, 2s. 6d.

SUTTON'S EXHIBITION.

"A free grower and a grand Pea in every respect. A great bearer of splendid Marrowfat Peas of the finest flavour."—Mr. W. C. LEACH, Gardener to His Grace the Duke of Northumberland.

Per packet, 1s. 6d. and 2s. 6d.

SUTTON & SONS, THE QUEEN'S SEEDSMEN, READING.

THE BEST CUCUMBER GROWN.



CARTERS' MODEL.

FOR SIZE,
FOR FLAVOUR,
FOR EXHIBITION.

A Customer writes:—
"I cut 900 fruit from 4 plants."

Price, in Sealed Packets,
2/6 and 3/6 each, post-free.

Seedsmen by Royal Warrants to H.M. the Queen, and H.R.H. the Prince of Wales.

237 HIGH HOLBORN, LONDON.

VERY FINE STANDARD ORNAMENTAL TREES.

ALMOND, fruit-bearing, 1s. 6d. to 2s. 6d.
BIRCH, Fern-leaved, weeping (silver bark), 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
„ Silver weeping, 7 to 8 feet, 1s. 3d. each, 12s. per dozen; 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. each, 15s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
CHERRY, double blossom, 1s. 6d. to 2s. 6d. each.
ELM, English huddled, 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
„ Montana (Wych), 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
HOLLY (aquifolium, aquifolium weeping, bronze, elegantissima stricta, Gold Queen, green in variety, Handsworth silver weeping, Milkmaid weeping, new golden weeping, variegated in variety, Waterers), very fine, 10s. 6d. to 12s.
LABURNUM, English, 1s. 6d. to 2s. 6d. each, 15s. to 24s. per dozen.
LILAC, Persian, 2s. 6d. each.
„ Siberian, 2s. 6d. each.
MAPLE, colchicum rubrum, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
„ Norway, 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
„ Schwedleri, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. each, 30s. per dozen.
„ virginicum rubrum, 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
SYCAMORE, 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen; 15 to 18 feet, 4s. each, 42s. per dozen.
„ purple-leaved, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
PLANE, occidentalis, 20 feet and more, very fine, 10s. 6d. to 21s.
PINUS PISARDII (leaves richer in colour than Purple Beech, and much longer, has pretty pink flowers and nice fruit), 2s. 6d. to 3s. 6d. each, 24s. to 36s. per dozen.
PYRUS FLORIBUNDA, 2s. to 2s. 6d. each, 15s. to 21s. per dozen.
WILLOW, Kilmarnock weeping, 2s. 6d. to 3s. 6d. each, 21s. to 36s. per dozen.

RICHARD SMITH & CO., Nurserymen and Seed Merchants,
WORCESTER.

SEEDS - SEEDS - SEEDS

Established 1793.

THE BEST AND THE CHEAPEST.
Send for Catalogue. Free to all.

JOHN K. KING, ROYAL SEED GROWER,
COGGESHALL, ESSEX.

SEEDS - SEEDS - SEEDS

GAME COVERTS.

ARBOR-VITÆ, American, 2½ to 3 feet, 28s. per 100.
Do. do. 3 to 4 feet, 35s. per 100.
CUPRESSUS LAWSONIANA, 2 to 2½ feet, 30s. per 100.
Do. do. 2½ to 3 feet, 35s. per 100.
Do. do. 3 to 4 feet, 75s. per 100.
COTONEASTER SIMONSHII, 2 to 3 feet, 20s. per 100.
HOLLIES, Green, 15 to 2 feet, 40s. per 100.
Do. do. 2 to 3 feet, 60s. per 100.
MAGNOLIA AQUIFOLIA, 1½ to 2 feet, 20s. per 100.
YEW, English, 15 to 2 feet, 35s. per 100.
Do. do. 2 to 2½ feet, 60s. per 100.
Do. do. 2½ to 3 feet, 75s. per 100.

The above are all bushy and well rooted.
JNO. JEFFERIES & SON,
ROYAL NURSERIES, CIRENCESTER.

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow.
74 ACRES IN STOCK.
See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Soils.

ROSES. Hundreds of Thousands.
BUSHES, Packing and Carriage Free for Cash with Order.
8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.
ORNAMENTAL TREES, 91 ACRES.
4 ACRES OF GLASS.
CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS { VEGETABLE, FLOWER, and FARM.
DESCRIPTIVE LIST, FREE.
RICHARD SMITH & CO., WORCESTER.

HARDY FLOWERS.—The Plants in the beds surrounding the mansion are offered in half guinea assorted selections of twelve dozen, to flower this spring, summer, and autumn (suit 6s.), all transplanted, not weakly offshoots, many worth 5s. per dozen. Removing.—Head Gardener, Hon. GERTRAUDE JONES, Churchfield, Cradley, near Malvern.

STRONG FOREST TREES and PLANTS for COVERTS.
ASH, 2 to 3, and 3 to 4 feet.
BEECH, 2 to 3, and 3 to 4 feet.
LARCH, 2 to 2½, 2½ to 3, 3 to 3½, and 3½ to 4½ feet.
OAKS, 2 to 3, 3 to 4, 4 to 5, and 5 to 6 feet.
SCOTCH, 1½ to 2, 2 to 2½, and 2½ to 3 feet.
SPRUCE, 1½ to 2, 2 to 2½, 2½ to 3, and 3 to 4 feet.
Together with a large Stock of HAZELS, MOUNTAIN ASH, BIRCH, LAURELS of sorts, RHODODENDRONS, BERBERIS AQUIFOLIA, and other COVERT PLANTS, all of the best quality, and very reasonable in Price. Catalogues on application. Apply to—
JOHN HILL, Spot Acre Nurseries, near Stone, Staffs.

WILLIAM BARRON and SON offer the following well-grown and finely-rooted, which they offer at very low prices:—
ABIES, in variety, 2 to 6 feet.
CEDRUS ATLANTICA and DEODARA, 2 to 7 feet.
CUPRESSUS LAWSONIANA, in great variety, 2 to 8 feet.
NUTKANSIS, in variety, 2 to 8 feet.
PICEA NOBILIS, very fine, 1½ to 2½ feet, 65s. per 100, in variety, 2 to 10 feet.
PINUS AUSTRIACA, over 100,000, 1 to 8 feet.
.. Forest-tree sizes, very cheap, grand specimens, 6 to 8 feet.
PINUS, in variety, 1 to 8 feet.
RETINOSPORA, in variety, 1 to 8 feet.
THUYA OCCIDENTALIS, for hedges, 5 to 6 feet, 45s. per 100, in variety, 2 to 8 feet.
YEW, Common, many thousands, 1½ to 2½ feet.
.. Golden, grand specimens, up to 8 feet.
HOLLIES, in great quantity and variety, 1 to 10 feet.
.. Golden Queen specimens, 4 to 7 feet, very fine.
AUCUBA, green and variegated, 1½ to 2½ feet.

AVENUE TREES.
ACER SCHWEDLERII (scarlet-leaved Maple), 10 to 14 feet.
NORWAY MAPLE, 10 to 14 feet.
SYCAMORE, from 12 to 14 feet.
HORSE CHESTNUTS, very stout, 10 to 12 feet.
POPLARS, in variety, 10 to 14 feet.
PURPLE BEECH, from 10 to 12 feet.
OAKS, Scarlet and other varieties, 10 to 12 feet.
FLMS, fine variety, 10 to 14 feet.
THORNS, Scarlet, Pink, and White, fine standards.
LARCH, very fine, from 2 to 3 feet.
THORN (Quick), strong, 15s. per 1000.
.. very strong, 20s. to 25s. per 1000.
FRUIT TREES, all kinds.
APPLES and PLUMS especially fine.
A visit from intending planters is respectfully invited. Evesham Nurseries, Borrowash, Derby, only three minutes walk from Borrowash Station, Nottingham and Derby, Midland Line.



By Royal Appointment
Nurserymen & Seedsmen
to H.M. the Queen, and
His Royal Highness the
Prince of Wales.

Nurseries &
Seed Farms
400 Acres.

PURE & RELIABLE
GARDEN SEEDS
CARRIAGE PAID. CATALOGUES FREE.
LITTLE & BALLANTYNE
CARLISLE.

WHEELERS' NEW POTATO, "THE ALDERMAN."

For Exhibition this Potato is a model of Perfection; the eyes are shallow, the skin rough, and it is of large size, a great cropper, and of the finest possible quality, very mealy, of good colour, and excellent flavour. Being a vigorous grower it withstands disease well.

Price 6d. per pound; per peck, 6s.

"I am specially pleased with 'The Alderman' Potato, and consider it the most valuable introduction since the Magnum Bonum. It is a first-class Potato all round, strong in the haulm, a vigorous grower, tubers large and handsome, and on the table no Potato can surpass it for appearance or flavour.—J. H. FRY."

WHEELER & SON,
Seed Growers, GLOUCESTER.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 8 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN TREE GUARD, "The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Uprights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire, "Dec. 28, 1887."
"DEAR SIRS,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 50 more as before. I enclose cheque for your account.
Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith."

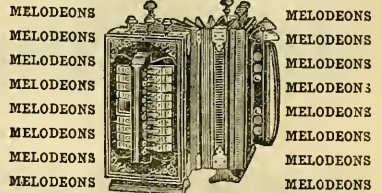
BARB WIRE.
CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



W. PEN DENNIS & CO.
GARDEN SEEDS
POTTERIES, RUABON.

CHEERFUL WINTER EVENINGS.

CAMPBELL'S BROAD REED MELODEONS (Patent). GRAND NEW MODELS.



NO HOME SHOULD BE WITHOUT ONE. CAMPBELL'S world-famed MELODEONS have Organ and Celestial Tones and Charming Bell Accompaniments. The Solemn Psalm, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming instruments. No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER. To readers of the *Gardeners' Chronicle*. OUR GRAND PRIZE MEDAL "GEM" MELODEON. 6s. 6d. With Two Sets of Broad Reeds, Organ and Celestial Tones, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 6s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER. To readers of the *Gardeners' Chronicle*. OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON. 10s. WORTH DOUBLE. 10s. With Two Sets of Broad Reeds, Organ and Celestial Tones, and the Charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS. Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales—"Campbell's Patent Melodeons are the finest instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready, 100,000 of those valuable lists sent out yearly. Send 1d. stamp to **CAMPBELL & CO.,** MUSICAL INSTRUMENT MAKERS, 118, TRONGATE, GLASGOW. ESTABLISHED 50 YEARS.

BOULTON & PAUL, Manufacturers, NORWICH.

PARK FENCING, DEER FENCING, GARDEN FENCING, TREE GUARDS, UNCLIMBABLE HURDLES, and GAME FENCING of all kinds.

CONTINUOUS BAR FENCING.



Prices on application.

Descriptive Catalogue of all our Manufactures, including Iron Buildings for Shooting and Fishing Lodges, Stabling, Huts, Kennel and Poultry Appliances, Greenhouses, Garden Frames, &c., free on application.

BOULTON & PAUL, NORWICH.

The Original and Only Makers of the

GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—SILVERSTER'S PATENT TRENTHAM, With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant. Every other kind of Boilers, Socket, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers.
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

INTERNATIONAL HORTICULTURAL EXHIBITION.

LONDON, 1892.

TO BE HELD AT THE EXHIBITION GROUNDS, EARL'S COURT, S.W.

Chairman of the Executive Committee—HENRY ERNEST MILNER, F.L.S., Assoc.M.Inst.C.E.

Secretary—G. A. LOVEDAY, B.A.

THE EXHIBITION WILL BE OPENED ON MAY 7,
AND WILL
REMAIN OPEN UNTIL OCTOBER NEXT.

SCHEDULE OF EXHIBITS,

FOR WHICH NUMEROUS GOLD, SILVER, AND BRONZE MEDALS AND CERTIFICATES WILL BE GRANTED IN THE VARIOUS CLASSES.

GROUP A.

Plant Houses, Conservatories, Hot Houses, Vineries, Peach Houses, Forcing Houses, Stoves, Fruit Rooms, Frames, Pits.
Systems of Patent Glazing and Ventilation.
Systems of Heating, including Hot-Water Boilers.

GROUP B.

Lawn Mowers (Hand and Horse Machines).
Garden Rollers.
Water Barrows, Syringes, Pumps, Spray Distributors.
Garden Tools and Cutlery.
Thermometers, Barometers.
Rain and Snow Gauges.

GROUP C.

Garden Tents.
Garden Seats, Band Stands.
Flower Stands and Baskets for Conservatory Decoration.
Rustic Summer Houses and Seats.
Ice Houses, and artificial methods of maintaining equable temperature.

GROUP D.

Ornamental Iron Work for Conservatories and Hot Houses.
Ornamental Wire Work, Trellises, Arches, Apiaries, Aviaries, Borders.
Fences, Gates, Tree Guards.

GROUP E.

Shadings (various kinds).
Paints and Wood-preserving Materials.
Labels, Sticks, Bamboo Canes.

GROUP E—continued.

Cocoa Fibres, Refuse Manures, and Silver Sand.
Ropes, Lines and Twines.
Russia Mate, Archangel, Taganrog and Petersburg.
Raffia Fibre.
Fumigating Materials and Processes.
Insecticides and Weed Killers.
Horticultural Glass.

GROUP F.

Orchid and other Peats.
Fuel for general Horticultural Purposes.
Fertilizers and Artificial Manures.

GROUP G.

Ferneries, portable and permanent.
Rock Work.

GROUP H.

Garden Pottery.
Statuary, Fountains, Vases, Edgings, &c.

GROUP I.

Tree-transplanting Machines.
Tree Tubes.

GROUP K.

New or Patent Inventions amongst Garden Requisites.

GROUP L.

Miscellaneous Decorative Requisites, such as Bouquet holders, Papers, Tubes, &c.

GROUP M.

Machinery for Seed Cleaning and Saving.
Machinery for Extracting Essential Oils.
Perfumes.
Fruit Evaporators.
Pumps, Methods of Irrigation.

GROUP N.

Stands exhibiting Models of Produce from Seeds provided by Exhibitor.
Collections of Flower and Vegetable Seeds.
Collections of Agricultural Seeds.
Collections of Grass Seeds.
Flower Seeds.
Vegetable Seeds.
Grass Seeds.
Agricultural Seeds.

GROUP O.

Designs for the Laying-out of a Typical Estate of 100 Acres, bounded by Roads, 5 miles from Town in Midlands, with Ground sloping gradually towards South.
Designs for Improvements of Grounds to Private Residences.
Photographs of Trees and Shrubs and of Garden Scenes.

GROUP P.

Essays on the Progress of Gardening since 1866, and the Practical Education of Gardeners and Foresters.

GROUP Q.

Methods of determining the Nature and Fertility of Soils, the Germinating Powers of Seeds, and the use of the Electric Light in the Growth of Plants.

In addition, there will be Permanent Displays of Groups of Flowering Plants and of Fruits throughout the Season, arranged for effect. Special Cash Prizes will be distributed Monthly in Competition.

THERE WILL ALSO BE A NUMBER OF FLOWER SHOWS, COMPRISING ALL VARIETIES OF FLOWERS AND PLANTS IN THEIR DIFFERENT SEASONS.

Applications for Space should be Addressed to the Secretary of the International Horticultural Exhibition, Earl's Court, London, S.W., from whom all further particulars may be obtained.

extending from Richmond Green to Brentford Ferry; and the gardens were very elaborately adorned with groves, statues, &c.; and there was a "forest walk" running from near the present Kew palace to Richmond Green. Queen Caroline, the consort of George II., is believed to have spent large sums on Richmond Gardens. Rooke describes Kew palace as "a complete Place, very beautiful in its situation, gardens, &c., all laid out at his Highness's expense, and affords a delightful Prospect of ye River and the opposite country."

As already indicated, the boundaries of Kew Gardens and Richmond Gardens have varied at different periods, and the whole grounds have undergone the most complete transformations. Formerly, there was a public road across the middle of Kew Green, from east to west, through the gardens, past the present palace to Brentford Ferry. From the *Bulletin* we learn that "Kew, as it exists to-day, was formed by the fusion of distinct properties or domains, both royal, but with entirely different histories. They corresponded roughly to the west and east halves of the present gardens. The western [waterside] half was known as Richmond Gardens. The eastern half corresponds in great part to the grounds of Kew House, and to this the name of Kew Gardens was originally confined. The two properties were separated by Love Lane, the ancient bridle-road between Richmond and Brentford Ferry. The "forest walk," mentioned above and "Love Lane" must have been nearly parallel, or perhaps even the same road.

It would fill far too much space here to follow the Director of Kew through his history, which itself is so highly concentrated that every paragraph might be expanded into an article of two or three columns; therefore we pass on to the period illustrated by Sir William Chambers in his large folio work (1763), entitled *Plans, Elevations, Sections, and Perspective Views of the Gardens and Buildings at Kew, in Surrey, the Seat of Her Royal Highness the Princess Dowager of Wales*. Many of the buildings there figured still remain; but the general configuration of the plantations and ornamental waters, and the boundaries, are very different. In 1765, George III. obtained an Act of Parliament empowering him to close Love Lane, but this appears not to have been fully accomplished till 1802; and the road from Brentford Ferry, past the front of the present palace, and across the middle of Kew Green, to Mortlake, was not abolished till 1823, when the west end of the Green was added to the Royal property.

Kent and "Capability" Brown both had much to do with the transformations effected in the grounds now constituting Kew Gardens and the Old Deer Park; the former mainly in construction, the latter in destruction. But most of the remaining old buildings were erected from the designs, and under the superintendence of Sir William Chambers, notably the orangery (now museum of timbers), the temple of the sun, under the spreading branches of the noble Cedar of Lebanon, near the main entrance, and the pagoda in the pleasure-grounds.

Immediately to the south of the temple of the sun stood a range of hot-houses (also designed and built by Sir W. Chambers), heated by flues, and having tan beds in the centre. These were lean-to buildings, with gardeners' rooms, potting-sheds, &c., at the back, and a glass-covered border in front for tender bulbous plants. The large Wistaria, on a circular trellis near the present cool Fern-house, covered a portion of the building behind the glass-houses. This block of buildings was removed in 1861, or 1862, after the

completion of the Temperate-house, having stood just a century. During the short period the writer knew these houses, they contained South African and Australian hard-wooded plants. The orangery at the same date was used in winter to house the larger plants from the same regions. Most of these buildings were erected between 1755 and 1761, and they were substantially though quickly built. Even the pagoda, which is a good specimen of brickwork, about 160 feet high, was completed in a year, having been commenced in the autumn of 1760, and completed in the spring of 1761.

Notable among the other structures that have disappeared altogether were the mosque, alhambra, gallery of antiquities, cathedral, aviary, menagerie, Merlin's cave, and the hermitage. The removal of many of these fancies of a somewhat puerile imagination was a great improvement.

Towards the end of the reign of George II., and at the beginning of the reign of George III., John Stuart, third Earl of Bute, and publisher of the costly *Botanical Tables*, of which only twelve copies were printed, was a sort of honorary director of the Gardens; and a print of the date 1765 shows that the houses on the left, from the church to the main entrance on Kew Green, were much the same then as now; and the Princess Dowager of Wales' residence stood in front, and to the south of the present palace. In 1753, Sir John Hill published the first edition of his *Hortus Kewensis*, of which a second edition appeared in 1759. This catalogue comprises 3400 species under their Linnean names, and of these nearly 500 were 'hardy trees and shrubs. In the spring of 1762, Kew was greatly enriched by the removal of all the Duke of Argyll's trees and shrubs from his famous garden at Whifton, near Hounslow; and it is supposed that the noble Turkey Oak and the majestic Cedar of Lebanon, near the temple of the sun, are remnants of that fine collection.

Sir Joseph Banks succeeded the Earl of Bute as Botanical adviser to the King; and in 1772 the first of the long roll of botanical collectors for Kew was sent to the Cape of Good Hope. This was Francis Masson, one of the under gardeners at Kew, and it was he who, under the liberal administration of that period, introduced the numerous Heaths, Pelargoniums, Mesembryanthemums, and bulbous plants figured in the early volumes of the *Botanical Magazine*, and other illustrated botanical works of the end of the last century. In 1773, the afterwards famous William Cobbett was employed at Kew, having, at the youthful age of eleven, walked from Farnham with only sixpence-halfpenny in his pocket, in order to obtain this coveted position. *W. B. H.*

NEW OR NOTEWORTHY PLANTS.

DENDROBIUM BARBATULO-CHLOROPS, *nat. hybr.*

Dendrobium barbatulum and *D. chlorops* are both natives of the Deccan Peninsula, and are known to grow together in certain localities in the Concan, if not elsewhere. Though closely allied, they are abundantly distinct in many particulars. *D. barbatulum* has white flowers, with an acute mentum, several rose-purple stripes on the side-lobes of the lip, and a tuft of loose yellow hairs on the disc in front of the bidentate crest. *D. chlorops* has cream-yellow flowers, with far more spreading, or even reflexed segments, a shorter and blunter mentum, the side-lobes of the lip and base of the front-lobe green, a broader crest, and much shorter hairs in front of the same. A form has now appeared in the collection of Major-General E. S. Berkeley, of Spetchley, Bitterne Park, Southampton, which so neatly combines the characters of the two species,

that I have no doubt it is a natural hybrid between them. The flower is white, and has the shape of *D. barbatulum*, yet all the segments and mentum are shorter than in that species, and the latter organ more blunt, as in *D. chlorops*. The side-lobes of the lip are also wholly light green, and the crest broader, as in the same species, but the tuft of hairs closely resembles *D. barbatulum*. Briefly, it may be described as *D. barbatulum*, a little modified in shape, with the crest and side-lobes of the lip of *D. chlorops*. Good specimens of both the parent species from the same collection enables these characters to be easily traced. Its appearance is very interesting, as *D. crassinodi-Wardianum* is the only other undoubtedly natural hybrid known in the genus.

These two species, and the allied *D. Fytchianum*, Batem., were formerly somewhat confused, but the blunders were afterwards rectified. Unfortunately, at p. 136, Dr. Kränzin once more confuses them, *D. barbatulum*, Wight, *Loves*, t. 910, is *D. chlorops*, Lindl., not *D. Fytchianum*, Batem., which it is not too much to infer Wright never saw, as it is a native of Burma. It is the Burmese representative of the South Indian *D. barbatulum*, and chiefly differs in its larger flowers and rose-purple side-lobes of the lip. Wight's figure is unmistakable, if not very artistic, and his type specimen removes the last fragment of doubt. Since the above was written, Major-General Berkeley informs me that he has seen *Dendrobium barbatulum* and *D. chlorops* growing together in hundreds. *R. A. Rolfe*.

LYCASTE SEINNERII MR. F. L. AMES.

This has noble flowers of the typical form, and it may be likened to an enlarged representation of the best variety of *L. S. alba*, but with a slight bluish hue on the sepals, and with rich crimson feathering up the margins of the petals. The front lobe and outer margins of the side-lobes of the lip are bright ruby-red, and the calyx yellow. It flowered with Messrs. Sander, James O'Brien.

WESTONBIRT.

THIS, an illustration of which we reproduce (see p. 299), is one of the finest seats in the county of Gloucestershire, and was the country residence of the late R. S. Holford, Esq., whose recent death we announced in our last issue. Mr. Holford took great interest in his garden, which, under the management of Mr. A. Chapman, is kept in excellent order. A full description of the place was published in the *Gardeners' Chronicle* for July 9, 1881, to which we refer our readers for further particulars.

CROSSES AND CROSSING OF PLANTS.

(Continued from p. 267.)

HYBRIDS RARE AND UNSTABLE.

Another theoretical point borne out by practice is, that because of the great difference between parents, pronounced hybrid offspring are unstable. Again, because of the unequal and unknown powers of the parents, we can never predict what characters will appear in the hybrids. This fact was well expressed by Lindley a half century ago, in the phrase, "Hybridising is a game of chance played between man and plants." The characters of hybrids as compared with the characters of simple crosses between stocks of the same variety, are therefore ambiguous, negative, and often prejudicial.

The difficulties in the way of successful results through hybridisation are, therefore, the difficulty of effecting the cross, infertility, instability, variability, and often weakness and monstrosity of the hybrids, and the absolute impossibility of predicting results. The advantage to be derived from a successful hybridisation is the securing in combination the most desirable features of both parents; and this advantage is often of so great moment that it is worth while to experiment in the face of numerous failures. From theoretical considerations, it is apparent that hybridisation is essentially an empirical subject, and the results are such as fall under the common denomination of chance. And as it does not rest upon any legitimate function in Nature, we can understand that it will always be difficult to codify laws upon it.

Among the various characters of hybrid-offspring, the most prejudicial one is their instability. It is difficult to fix any particular form which we may secure in the first generation of hybrids; and, therefore, we find that the great majority of the best hybrids in cultivation are increased by bud-propagation, as cuttings, layers, suckers, buds or grafts. In fact, there are few instances of undoubted hybrids which are propagated with practical certainty by means of seeds.

This simply means that it is difficult to fix hybrids so that they will come "true to seed," and makes

the subject. In Pears, there is the Kieffer class. In Apples, Peaches, Plums, Cherries, Gooseberries, Blackberries, and Dewberries there are no commercial hybrids. The Strawberry is doubtful. Some of the Raspberries, like Caroline and Shaffer, appear to be hybrids between the red and black species. Hybrids have been produced between the Raspberry and Blackberry by two or three persons, but they possess no promise of economical results. Among all the list of garden vegetables—plants which are propagated by seed—I do not know of a single authentic hybrid; and the same is true of Wheat

severely for a chance to live, and even then only the very best can persist, or are even allowed to try.

POPULAR MISCONCEPTIONS.

This list of hybrids is much more meagre than most catalogues and trade-lists would have us believe, but it is approximately near the truth. It is, of course, equivalent to saying that most of the so-called hybrid fruits and vegetables are myths. There is everywhere a misconception of what a hybrid is, and how it comes to exist; and yet, perhaps because of this indefinite knowledge, there is a wide-



FIG. 41.—WESTON COURT, THE RESIDENCE OF THE LATE R. S. BOLFORD, ESQ. (SEE P. 298.)

apparent the fact that if we desire hybrids we must expect to propagate them by means of buds.

Let us now recall how many undoubted hybrids there are, named and known, among our fruits and vegetables. In Grapes there are the most. There are Rogers' hybrids, like Agawam, Lindley, Wilder, Salem, and Barry; and there is some reason for supposing that Delaware, Catawba, and other varieties are of hybrid origin. And many hybrids have come to notice lately through the work of Munson and others. But it must be remembered that Grapes are naturally exceedingly variable, and the specific limits are not well known, and that hybridisation among them lacks much of that definiteness which ordinarily attaches to

—unless the Carman Wheat-Rye varieties become prominent—Oats, the grasses, and other farm crops. But among ornamental plants there are many; and it is a significant fact that the most numerous, most marked, and most successful hybrids occur in the plants most carefully cultivated and protected—those, in other words, which are furthest removed from all untoward circumstances and an independent position. This is nowhere so well illustrated as in the case of cultivated Orchids, in which hybridisation has played no end of freaks, and in which, also, every individual plant is nursed and coddled. For such plants the struggle for existence is reduced to its lowest terms; for it must be borne in mind that even in the garden, plants must fight

spread feeling that a hybrid is necessarily good while the presumption is directly the opposite.

There is an old yet common notion that there is some peculiar influence exerted by each sex in the parentage of hybrids. It was held by certain early observers, of whom the great Linnaeus was one, that the female parent determines the constitution of the hybrid, while the male parent gives the external attributes, as form, size, and colour. The accumulated experience of nearly a century and a half appears to contradict this proposition. There are instances, to be sure, in which this old idea is affirmed, but there are others in which it is contradicted. The truth appears to be, that the parent of greater strength or virility makes the stronger im-

pression upon the hybrids, whether it is the staminate or pistillate parent. And it appears to be equally true that it is usually impossible to determine beforehand which parent is the stronger. The common little Pear-shaped Gourd will impress itself more strongly upon crosses than any of the edible Squashes and Pumpkins with which it will effect a cross, whether it is used as male or female parents. Even the imposing and ubiquitous great field-Pumpkin is overpowered by the little Gourd. Seeds from a large and sleek Pumpkin, which had been fertilised by Gourd pollen, produced Gourds and small hard-shelled globular fruits which were entirely inedible. A more interesting experiment with the handsome green-striped Bergen Fall Squash showed a similar propensity of the Gourd.

Uncertainty follows hybridisation, and uncertainty also attaches to the mere act of pollination. Between some species, which are closely allied, and have large and strong flowers, four-fifths of the attempts at cross-pollination may be successful, but such a large proportion of successes is not common. Even the most expert operators fail as often as they succeed in promiscuous pollinating. In my own experience, 234 pollinations of Gourds, Pumpkins, and Squashes, mostly between varieties of one species, and including some individual pollinations, gave 117 failures and 117 successes. But from all the 117 fruits, for some of them turned out to be seedless, and some were destroyed by insects before they were ripe, or were lost by accidental means, a few more than half of the successful pollinations—if by success we mean the formation and growth of fruit—really secured us seeds, or but one-fourth of the whole number of efforts, and this was considered a successful experiment. Referring to a record-book where experiments were made with many species, I find that a total of 312 efforts resulted in 89 successes, 223 failures.

And now the sum of it all is this: Encourage in every way crosses within the limits of the variety and in connection with change of stock, expecting increase in vigour and productiveness. Hybridise if you are curious to know what Nature will do about it, but do it carefully, honestly, thoroughly, and do not expect too much. Extend Darwin's famous proposition to read like this: Nature abhors both perpetual self-fertilisation and hybridisation. *Prof. L. H. Bailey, Massachusetts.*

MODERN MELON GROWING.

Nor only has the modern mode of constructing and heating horticultural buildings made Melon-culture an easy matter, compared to what it formerly was, but it has lengthened its season; and although good fruits are produced in hotbed frames at the present day, the system of heating by hot water is preferred even for the midsummer fruiters, and it is indispensable for very early or very late crops. The form of a Melon-pit or house may be either span-roofed, half-span, or lean-to, the last being, perhaps, the most useful form for early and late crops; but all Melon-pits should be furnished with side and top ventilators, and adequate heating for both top and bottom, tree leaves being the best of materials for forming the bed over the hot-water pipes.

The seed should be sown in fine light soil, which should be moist enough to allow of the germination of the seeds without affording it water, two seeds being placed in a 60-pot, which should be plunged in a hot-bed having a warmth of 75°, a sheet of glass being placed over the pots till the plants appear above the mould; the weaker plant in each pot should be pulled up in three or four days. The temperature of the frame may range from 60° to 65° at night, and 70° to 75° by day, with the usual rise during sunshine, air being carefully admitted when it reaches 80° through a bit of muslin in cold weather, and the amount regulated in accordance with the prevailing weather. The glass must be kept clean, so that the light is unobstructed, and when the plants have formed the second true leaf, they should be shifted into 6-inch pots, or, better, planted in the Melon-bed about 2 feet 6 inches asunder. The soil of the bed should be formed in a narrow ridge, and may consist

of rough strong loam, mixed with a little leaf-soil, and made quite firm by ramming. Plant when the soil has got warmed throughout, and keep the plants rather high—not sinking the roots deep in the soil, which should be firmly pressed about the roots Finish with a light watering of tepid water. Under proper management, rapid progress will be made, and a moderately moist atmosphere must be maintained by syringing the plants, and damping dry surfaces in favourable weather, morning and afternoon, while proper attention must be paid to watering the soil. Keep each plant to one stem, which must be secured to the trellis as it lengthens, and stopped (that is, the point removed) when it has reached 4 feet in length, the laterals being also stopped at one joint beyond the fruit when the latter is set, and the superfluous shoots cut off, to prevent crowding. As the female blossoms expand, their fertilisation must be attended to, if possible that of a dozen or so at one time, and a moderately dry temperature maintained until they are safe, which is determined by their commencing to swell freely. Once the fruit have attained half-size, the plants may be afforded diluted liquid manure. I prefer stable-yard water, or one made from sheep's dung. Top-dressings of a soil like that of the bed should be applied when found necessary, that is, when the roots show on the surface. When the fruit approaches the ripening stage, ventilation should be increased in volume, a warm temperature maintained, with less atmospheric moisture. Melons on trellises must have the fruit suspended with strips of raffia, and it should be gathered immediately cracks are observed round the stalk. Pot culture of Melons answers well for early crops, but I do not practise it, and generally gather good fruit in the last week of April, from beds. Hero of Lockinge, Blenheim Orange, The Countess, and Sutton's Triumph are excellent varieties.

Red-spider, which is sometimes troublesome, may be prevented doing much harm by using the syringe freely. Black aphid, however, when allowed to get a footing, is more formidable, but this insect can be eradicated by repeated syringings with strong tobacco-water. Canker, which shows itself near the bottom of the stem, generally arises from a too-free use of manures, or a close moist atmosphere in the pit, together with a low temperature. As a preventive, these evils should be guarded against; also the lateral shoots which spring from the base of the stem should be rubbed off when young, thus allowing sun to reach the stem, and a continuous circulation of air admitted by means of the front ventilators, and in such a way that it comes in contact with the hot-water pipes before it reaches the plants. Once a plant is affected with canker, the place should be dressed with quicklime, and then covered with a heap of charcoal-dust. *Thomas Coomber.*

THE POTATO CROP OF THE WORLD.

It is quite remarkable, says the *American Agriculturist*, that the crop of Potatoes should be as universally good in 1891, in the countries of chief production, as it was poor in 1890. The results of a special investigation, conducted with the co-operation of the various agricultural and statistical departments, may be briefly summarised as follows:—

UNITED STATES.

More Potatoes were grown in 1891 than in any previous year. The returns make the average yield nearly 94 bushels per acre. This indicates a crop of 244,697,000 bushels. The warm weather of September dried the soil, and checked the incipient Potato rot, which was threatened after the rains of August, so effectually, that it is scarcely reported. The yield was everywhere good, but the comparatively small average in the north-west makes the market in that section better than in cities nearer the principal sources of supply.

CANADA.

This Dominion yielded a magnificent crop, the

following table showing the acreage, the total produce, and the quantity per acre for each section:—

District.	Area under Crop.	Total Crop.	Per Acre.
	Aeres.	Bushels.	Bushels.
Prince Edward Island ...	43,164	6,690,420	155
Nova Scotia ...	65,492	7,859,040	120
New Brunswick ...	51,100	6,694,100	131
Quebec ...	125,000	15,125,000	121
Ontario ...	160,218	20,347,688	127
Manitoba ...	12,457	1,868,550	150
British Columbia ...	9,000	1,305,000	145
Territories ...	2,600	220,000	110
Total ...	485,431	69,109,796	129

BRITISH ISLES.

Ireland had a little over 753,000 acres under Potatoes in 1891; England, Wales, and Scotland, had 532,794 acres, a total of 1,285,854 acres. This was a slight increase over the previous year. The total crop exceeded 235,000,000 bushels, which is a full average yield, and much above the harvest of 1890. The crop at one time was seriously threatened with disease, but better and drier weather arrested the rot, and the crop was harvested in good order. It was these reports that gave the impression in America of widespread disaster to the Potato crop in Ireland; whereas the harvest there yielded more tubers than have been gathered in any year since the famine of 1846. Scotland also had a large out-turn of Potatoes, and the English crop, while poor in some sections, was, on the whole, well up to average.

FRANCE.

Potatoes turned out rather below the average on a slightly increased area, some 3,621,800 acres. The yield varied widely, from 50 to 235 bushels per acre. The average may, however, be placed at 100 bushels per acre, against 109 bushels in 1889, and 106 bushels the year previous. This gives a total crop for the past season of 362,188,000 bushels.

GERMANY.

This is the greatest Potato-producing nation in the world. Her crop of 1889 was five times larger than that of the United States. Prussia alone, in 1891, gave 692,000,000 bushels, against 629,000,000 bushels in 1890, and 758,112,616 bushels as the average for the past ten years. The Potato area of the whole German Empire the past year is placed at 7,217,458 acres, producing an average of 125 bushels per acre, and a total crop of 887,747,334 bushels.

AUSTRIA.

The Potato crop is 50 per cent. greater than that of the United States in average seasons, and the past year was no exception to the rule, as it exceeds last year's crop of 302,204,000 bushels, but did not reach the great product of 1889, which was nearly 332,000,000 bushels.

OTHER COUNTRIES.

Sweden and Norway received a full average product of Potatoes, and neither country will need to import the tubers. Sweden's crop is between 50,000,000 and 60,000,000 bushels, against only 34,942,000 bushels in 1890, 70,735,470 bushels in 1889, and something over 51,000,000 bushels as the average for the preceding ten years.

Along the Baltic Provinces in Russia the crop was so abundant that, in some places, the tubers are used for distilling purposes, the difficulty of transportation to the famine-stricken districts making the movement of the crop to those sections quite slow.

It may be of interest to mention that, from statistics recently collected and published by Dr. J. H. Gilbert of Rothamsted, he found that, of thirteen countries where the Potato is largely grown, their aggregate area under the crop was about 21,000,000 acres, and their aggregate produce about 61,000,000 tons, but not one reached the average produce per acre of Great Britain. Norway, Belgium, and Holland, the most nearly approach our yield, and it is of interest to observe that these and Denmark are the countries that most nearly approach the United Kingdom in yield per acre of Wheat and Barley also. *J. J. Willis, Harpenden.*

A WELL-BLOOMED CYCLAMEN.

Our illustration (fig. 42) shows a Cyclamen excellently flowered, and which was taken from a photograph kindly sent us by Mr. J. M'Ara, gardener at Glassingal, Dunblane, N.B.

THE DISEASES OF THE REPRODUCTIVE ORGANS OF PLANTS, CAUSED BY PARASITIC FUNGI.

[The following extracts are taken from Professor Mowbray's recent lectures at the Royal College of Surgeons. The subject, though somewhat technical, is one of the greatest importance to cultivators of cereals, flowers, and fruit.]

INTRODUCTORY REMARKS.—Foremost amongst the numerous fungi which attack the floral organs are

have become converted into a mass of black dust, so that nothing remains but the rachis; we further find, too, that all the ears given off from the same root are similarly destroyed, so that the total extermination of the Barley plant appears to be only a work of time; but we know for a fact that, although the fungus has been at work for the last two or three hundred years, yet there is more Barley grown now than there ever was. If we take the case of the Oat plant, which is similarly liable to smut, it appears a little more hopeful for the host-plant, since, although the affected ears are as effectually destroyed, yet we do find, now and again, some of the heads have escaped in part, and are able to produce a small proportion of perfect seeds; indeed, it is not so very rare a circumstance that one is able to find an entire

denied, but it is not the case with the truly parasitic species with which we are at the present engaged. Although the reproductive parasites have no special predilection for weakly host-plants, yet they are, by virtue of their parasitic habit, capable of playing an important part in the evolution of their hosts. This may occur in various ways; to take, for example, a widely-distributed and well-known reproductive parasite, namely, the fungus which produces ergot. Certain grasses are more subject to ergotisation than others; Rye, for instance, is more frequently attacked than Wheat or Barley. The explanation of the relative escape of these two last-named is, that their florets remain open but for a very short time, and as soon as fertilisation has taken place, the feathery styles are withdrawn between the palea out of harm's way. Now it is evident that any variety of Wheat whose styles remained longer exposed, would *ceteris paribus*, be more likely to become ergotised than those varieties in which the florets closed quickly. The more rapidly fertilised varieties, by escaping the disease, would be more likely to perpetuate themselves, because they would produce more healthy seed. Those individuals least susceptible to unfavourable conditions of the weather at the time of blooming, such as rain or absence of sunshine, would be the most likely to mature perfect seed. Now it so happens that certain varieties of Wheat are much more liable to ergotisation than others; for example, the bearded variety, called Rivett's Wheat, is almost always ergotised when it is grown in fields surrounded by ditches.

The smut fungus just alluded to, like many others, is capable of gaining admission into the tissues of its host only during a very limited period of the plant's life, namely, between the time the seed germinates and before its first green leaf is put forth, so that those individuals which grow most rapidly during this stage of their existence stand by far the best chance of escaping the disease. There are other ways, however, of which these reproductive parasites are capable of influencing the growth of these host-plants other than by their action upon the rapidity of fertilisation or germination, which, after all, may be only an exceptional mode of action confined to a small number of species. Take the very obvious one of their action upon the local distribution of the individuals of a given species. Their general tendency is to prevent the segregation of individuals, and to favour the wide distribution of the host-plants in a given district. As a matter of experience, when a botanist desires to find any particular parasitic fungus, he knows that his best chance of finding it is to go where the host-plant grows in the greatest profusion, and that his chance of meeting with the parasite is much diminished if he has to search for it in a district where the host only occurs in a scattered manner: although the same number of host plants be examined in both cases.

Let us consider the influence which such a reproductive parasite as *Tilletia* has upon the distribution of its host-plant. In this case the fungus is developed in the interior of the seed, which it totally destroys, so far as its reproductive function is concerned, but the parasite has no further baneful action on the plant. The fungus can only gain admission into the tissues of the host-plant effectively during a very limited portion of its existence, namely, between the time the seed has germinated and emitted the young plant, and the time that the first green leaf appears. Before the seed germinates it cannot enter, and after the first green leaf has appeared the fungus cannot infect the host-plant. It is necessary that the spores of the fungus should be in close proximity to the seed, because they have no power of locomotion, and it is also essential that they should germinate at the exact time that the seed germinates. Practically, it amounts to this: that the *Tilletia* spores must be on the seed and germinate with it. Now the seeds of the Wheat-plant are enclosed in the chaff, and are thus protected in great measure; until the seed matures and falls to the ground it is practically safe. The *Tilletia* spores too are contained in a capsule formed from the external coverings of the ovule,

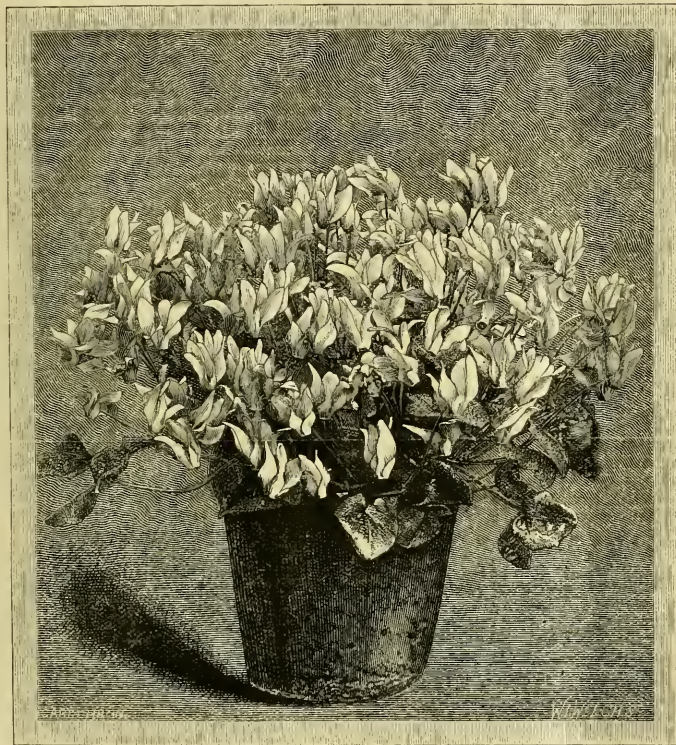


FIG. 42.—CYCLAMEN GROWN BY J. M'ARA, GLASSINGAL, DUNBLANE N.B.

the Ustilaginæ, although the Discomycetes, the Pyrenomyces, the Peronosporæ, and several others, each afford their quota. The peculiarity of this site for parasitic attack is in itself remarkable, inasmuch as it is evident that the parasite tends not only to injure the particular individual it has attacked, but also to exterminate its host-plant altogether. This suicidal tendency is, however, more apparent than real, as there are several collateral circumstances which require to be taken into account; we shall then see the danger of self-extermination is but a remote contingency as far as the fungus is concerned.

In the first place, the total destruction of all the seeds upon a given plant by a reproductive parasite seldom occurs. The well-known smut of our cereals, the old Ustilago carbo, may be taken as an instance. It is true that in looking at an affected Barley plant we find the whole ear destroyed, all the floral organs

ear on an affected plant which has escaped the disease entirely.

INDIRECT EFFECTS OF THE REPRODUCTIVE PARASITES ON THEIR HOST-PLANTS.

The influence of these reproductive parasites on the economy of Nature must be of necessity very great, acting, as they do, upon the "origin of life" of their host-plants, in limiting the number of embryos by which the stock of the host is maintained. It is a widely-spread but incorrect notion, that parasitic fungi are more prone to attack debilitated or sickly plants than healthy ones; were this the case, the action of parasitic fungi generally, and of the reproductive parasite in particular, would be directly advantageous to their hosts collectively, by weeding out from them the weakly individuals, and so leaving only robust ones to reproduce themselves. That some such process takes place in the economy of Nature through the instrumentality of fungi is not

and are not free to be blown about until this capsule ruptures, which does not happen in a state of Nature until after the Wheat seeds are matured. It is, then, only in those cases where both the seed and the bunted grains have fallen to the ground in proximity to one another, that there is a chance of the parasite infecting its host. Of course, we are now considering the case of an uncultivated plant, as in the artificial process of threshing the bunts get broken, and the whole of the seed dusted with their spores. Neither do the admirable researches of Brefeld, who has shown that bunt spores are capable of growing in the excreta of herbivorous animals, and of reproducing themselves aseptically, materially affect the question, because, however interesting these observations may be, and however important, as giving us a fuller knowledge of the life-history of the fungus, yet we find in this country, as a rule, bunt can be prevented by applying to the seed-corn certain chemical substances (of which the most efficacious is copper-sulphate), which have the power of killing the fungus-spores, but not injuring the Wheat; whereas, if bunt was spread through the agency of animal excreta, such dressing to the seed would be practically useless.

From the above, it is evident that the more scattered individual plants are, the better will be their chance of escaping the disease. A very striking instance of this came under notice during the past autumn: In a wood near Doncaster, during an excursion of the Yorkshire Naturalists' Society, a species of bunt new to Britain was discovered on *Holcus mollis*. The host-plant was common all through the wood in scattered patches, but they were all free from disease, excepting one large plot of the grass, extending over many square yards, in which every plant was diseased and incapable of reproducing itself by its seed. The above is only a single instance amongst many which could be quoted as evidence that the reproductive parasites tend to cause segregation of their host-plants.

(To be continued.)

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By R. MILLNER, *Gardener, Peirce Gardens, Swanes.*

EUPHORBIA JACQUINIÆFLORA.—When well grown, this plant is one of the best winter flowers that we have. I sometimes hear complaints of its being a plant difficult to propagate; but if the cuttings are taken off, and treated in the following manner, no difficulty will be found in rooting them. Plants which flowered towards the end of the past year, and have been kept in the stove, will have thrown out a quantity of shoots from the main stems, and when these have attained some 4 or 5 inches in length, they should be taken off with a small portion of the firm wood attached, removing a few of the lower leaves, and placing them on a clean board for about two hours, so as to allow the milky sap to escape before inserting them in the cutting pots, but take precaution to cover the cuttings with hand or bell glasses to prevent them flagging. The most suitable size pot for them is a 4-inch, and in preparing them, place one fair-sized crock at the bottom, and then some smaller crocks over it, and then a little moss, so as to prevent the compost getting amongst the crocks. Then prepare a compost of sifted loam two parts, leaf soil one part, and one of sharp sand, and well incorporating these. The pots should be filled partly with the prepared compost, and the remaining portion with sharp clear sand. Place from four to five cuttings in a pot, afterwards shifting them into larger pots as required, without dividing the plants. The cutting pots should be placed in a structure having a night temperature of 75°, with a proportionate rise by day, and covered with hand or bell glasses. Keep the sand moist, and take precautions not to let the cuttings flag, and during bright sunshine the cuttings should be shaded with some light material; and when rooted, the plants should be ventilated for a few days by lifting the covering of glass before removing it; otherwise the plants will receive a check, which should always be avoided. The plants should be grown in a light position close to the roof-glass, and lowered occasionally as growth

proceeds. If it should be desired to have the plants dwarf and bushy, they may have their points pinched out when they have made about 15 inches of growth, but if potted-on, without disturbing the young plants, they have a more graceful appearance when in bloom, than if stopped during growth. When the required number of cuttings have been struck, last year's plants may be shifted into pots one or two sizes larger than those previously occupied, taking care to disturb the roots as little as possible in removing the loose soil from around the ball; these plants may have the same kind of treatment as that recommended for the young stock.

TENDER ANNUALS.—No time should be lost in preparing a hot-bed for raising from seeds the different varieties of annuals used in furnishing the conservatory and greenhouse in summer and autumn, and in having the required number of seed-pots and boxes got in readiness. A good kind of compost for the different varieties, consists of two parts rich loam, one each of decayed manure and leaf-mould, with a free addition of silver sand, all of which should be passed through a fine sieve. The seeds should be sown thinly and evenly over the surface of the soil, covering them very lightly with the fine portion of the compost; afterwards placing a sheet of glass over each pot or box, and over the glass a little damp moss to be removed when germination has taken place, and the glass lifted for a few days, before removing that. The hot-bed may have a bed of half-decayed leaf-mould, fine coal-ashes, or cocoa-fibre refuse, in which to plunge the seed-pots. When the seedlings are large enough to be handled, they should be pricked off, or potted into small pots, and grown on in a light position near the glass, taking precautions to shade during bright sunshine. The above remarks apply to *Coleus*, *Petunias*, *Cyclamens*, *Cockscombs*, *Globe Amaranthus*, *Balsams*, *Lisianthus Russellianus* (a biennial), *Torenia*, &c.

TEMPERATURES AND SHADING.—At the present time, and all through the coming period of changeable weather, great care is required in giving air. When the weather is bright, the ventilators of the stove should be closed at 2 P.M., so as to husband as much sun-heat as possible, and all available surfaces dampened, so as to create humidity; and *Allamandas*, *Clerodendron Thompsonianum*, and *Stephanotis floribunda*, should be gently syringed with tepid water. The night temperature of the stove may be kept at from 65° to 70°, according to the state of the outside temperature, with a rise of 10° to 15° by day. Examine and make good all defects in glasshouse shadings, and get all the rollers put into good order, so that when bright days do come these shadings will be in readiness.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, *Gardener, Barham Court, Maidstone.*

PROTECTING THE BLOOM OF WALL FRUIT TREES.—Fruit trees of most kinds, especially Peaches and Nectarines, are now showing signs of being about to recommence growth. If a little examination be made, it will be noticed that the bloom buds are plumping up, telling us that a critical time for the trees is at hand. I would advise that this subject should receive full attention from the gardener, as much will depend on bloom protection being afforded at the right time. One often sees good results obtained by the use of very simple and inexpensive contrivances. Fish netting, when doubled and fastened at the top of walls, and by the aid of poles kept away from the blossoms during gusty weather, is a very good protector, and much better than Spruce Fir branches; but if the latter must be made use of, they should be tied thinly to light hurdles or poles placed in a slanting position from the top of the wall, which will allow of a good circulation of air between the branches and the fruit trees. After several years experimenting with the latter, and other cumbersome methods, I have now adopted the following: If there is a coping on the wall, a wire should be strained from end to end, and at intervals of about 9 feet some staples should be driven into the face of the wall to support it. At 5 feet away from the base of wall, and 15 feet apart, stout poles should be sunk into the earth; the two end ones having struts to make them more secure. Upon these another wire strained lengthwise of the wall. If the wall be 10 or 12 feet high, these stakes should not stand more than 5 feet out of the ground. The distance between the two wires will give the width of material required. In the case of a lower wall than 10 feet, the material need not be so wide. The netting is best fastened to the wires by means

of twine and a thin packing-needle. This kind of protection should not be put up until it is ascertained that one or two blooms are expanded. The protection should be very light and airy—what we use is Eddy's of Portleven, Cornwall, No. 3, recommended for this purpose, some of which we have had in use for the last four years. This material can be kept up for four or five weeks according to the state of the weather, and no harm will be done. The posts are left in from year to year, and to these Tomatoes are fastened.

RE-GRAFTING TREES.—Trees intended to be re-grafted should be headed back to about 3 or 4 feet, above a point where the main stem becomes forked, a few of the very small branches being left untouched to draw up the sap until such time as the grafts have got well into growth, when they should be removed. Old worn-out trees cannot be renovated by heading back and grafting, and if it be done, it is usually a waste of time and labour, and young trees are better grubbed up to make room for such ones.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

TRANSPLANTING BORDER CARNATIONS.—Next week we shall plant out our Carnations from the beds in which they were layered last August, in rows 1 foot apart, and at the same distance from plant to plant in the rows, also in patches of three, set on triangularly at 7 or 8 inches apart in the herbaceous borders. Prior to planting, the ground is dressed with soft manure, digging and breaking the soil to a fine tilth; and it is then trodden over and surface-dressed with soot and wood-ashes, which are scratched in with a rake, and the soil made level. This dressing will save the plants from being attacked at the roots by wire-worm and various kinds of grubs. In planting these rooted layers, lift them with good balls of soil and roots; and in planting, sink them in the mould as far as the leaves, and make them firm in it. The plants in each succeeding row should be set between the plants in the preceding row. This mode of setting them out, in addition to giving them more space for growth than would be the case if set opposite each other in the rows, looks better; the plants, if set out with precision, being in a line the whole length of the border, viewed from any standpoint.

GLADIOLUS.—The present is a good time for planting the corms of the Gladiolus, which may be done either in beds by themselves, or in irregular patches in the herbaceous borders, letting the corms into holes made with a dibber, about 3 inches deep and 1 foot asunder, if planted in rows, placing a little finely-sifted rich sandy soil under and over each if the soil is stiff. The best flower-spikes are secured from corms planted in deep sandy loams which are well manured. If the corms are intended to remain in the ground without removal, the holes should be made 2 or 3 inches deeper, which, with a layer of leaf-mould put over them in November, will secure them from frost. Lemoine's hybrids are very effective and hardy varieties of the Gladiolus.

HYACINTHUS CANDICANS.—This hardy bulbous plant, when planted after the manner of Gladiolus, will flower freely, and the tall spikes of drooping bell-shaped white flowers be very attractive. It is a very suitable and showy subject, whether planted in mixed beds in the flower-garden proper, in rockeries, or herbaceous borders.

PROPAGATING VERBENAS, ETC.—Cuttings of *Verbenas*, *Ageratums*, *Lobelias*, *Salvia patens*, *Alternantheras*, and *Mesembryanthemums* should be inserted in 48-sized pots, pans, and shallow boxes, properly drained, and filled with light mould, surfaced with sand. The *Verbenas* and *Ageratums* will do best in pots plunged in a hot bed, and shaded from sunshine for a few days. The other things will do very well in boxes placed in any of the forcing houses.

FRUITS UNDER GLASS.

By J. RIDNELL, *Gardener, Castle Howard, York.*

VINES.—All Vines that have been at rest should now be started by according them the same conditions as those forced earlier, it being important that the current season's growth, as well as the fruit, should be thoroughly ripe by the beginning of the month of September. The means recommended in a former Calendar to be employed for promoting growth in early forced Vines are equally applicable in the case of late ones, and although they will

respond more readily to them now than earlier in the year, a night temperature of 45° will be quite high enough to start with, except in Muscat vineries, which may be 5° higher at the start. Before watering the borders, however, of these late Vines with warm liquid manure, it is advisable to apply a good dressing of quicklime, and lightly fork it into the surface of the same. This will be highly beneficial in the case of borders that have been liberally supplied in former years with strong manures in solid or liquid form.

Young Vines, or those two-years' planted, may have the ends of their canes bent down, and tied to stakes placed in the borders, so that the buds on both sides of the canes shall break evenly and regularly. Clear out any hotbeds that may be in the vineries, and carefully prick up the surface of borders where the Vines are bursting into leaf, and maintain a minimum temperature of 55° to 60°, with humidity in the house in bright weather. Keep the young shoots tied down almost daily of those approaching flowering, and stop any shoots which may have attained the desired length, removing all sub-laterals, or stopping them at the first leaf. At this stage a night temperature of 60°, rising to 65° when they are in full bloom, should be aimed at, and less moisture used about the vinery. Assist shy-setting varieties of Grapes by distributing over the bloom when expanded the pollen from the Black Hamburgs, or other free setters, and cut off all bunches of the latter not required. When a good set of all the shy-setting varieties has been secured, cut off the superfluous bunches, endeavouring at the same time to spread the crop evenly over the Vine, and let the fruit be borne by the stronger laterals, although the bunches on them may not be the largest, weakly shoots often making the best show at first, but lacking the power to perfect it, the bunches remain small. When the berries have become as large as small Peas, thinning may commence, and the number to be cut out of each bunch will depend on the varieties and the strength of the Vines, and the number which have set properly. Such Grapes as Duke of Buccleuch and Madresfield Court Muscat have large berries, compared with the Black Hamburg; consequently, they require to be more severely thinned, if the set has been good. The minimum temperature at this period and until they are ripe should be 60°, with a maximum of 80°; but rather than admit a large volume of cold air, allow it to rise somewhat higher, and keep the atmosphere moist. See that the borders do not lack for water, and when they are found to be getting dry, give a dressing of superphosphate and then liquid-manure.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

MAIN CROP ONIONS.—No time should be lost after the land once gets dry enough to work, in sowing the main crop of Onions. Much time will be saved in the preparation of the land if it has been frequently stirred, so as to expose the upper portion to weather influences; it will in that case be in condition early in March, the weather being dry. If a large breadth of Onions be sown, the making of beds may be omitted, and a row may be missed in sowing the land, which will make an alley wide enough for all purposes. This may be every sixth row if a 12-inch interval is allowed between the rows. Much will depend on the quality and nature of the soil as to the space to allow, and the position in all cases should be an open one; in fact, Onions should have one of the best quarters in the garden, and it should have been well dunged and deeply dug, and dressed with lime, soot, and charred rubbish. In ground that is infested with maggot I have used gas lime with advantage, spreading on the ground in the autumn, but I cannot advise its use just previous to sowing the seed; although soot, guano, and wood ashes may be so used without disadvantage. Where the Onion maggot is usually troublesome, the drills, as they are drawn, should receive a good dressing of wood ashes and soot; then the seed should be sown and covered with the staple and some burnt earth or wood ashes, finally smoothing the rows with the back of the rake, and treading the soil evenly all over or rolling it. Our soil being of a light nature it is trodden before the sowing takes place, and also made firm afterwards by rolling. It is the only way in which we get bulbs with a small neck. In heavy or clayey soil treading and rolling are not so very necessary precautions, but merely firming it with the back of the spade or with a light wooden roller after the drills have been filled in with some lighter material. Much may be done to assist the

crop during early summer with dressings of guano, soot, and common salt, one or all put on in showery weather—in fact, a dressing will often check the ravages of the maggot in its early stages. Those who grow Onions for exhibition purposes should grow such varieties as Atlas Craig, Roussham Park, and some others of that type, but these require, in a general way, sowing in heat at an earlier date. For the crop for early use there is none better than Veitch's Main Crop, and for late supplies take Bedfordshire Champion and James Keeping.

PARSNIPS.—Few words are necessary with regard to the culture of this root. A piece of ground deeply dug, and which was heavily manured for the previous crop, should be chosen and prepared similarly as for Onions. Fresh manure, especially if it be that of animals, tends to produce forked roots and decay of the crown of the root; and a dressing of soot or guano is better than animal manure, if the ground has not been specially prepared. Sow the seeds in drills and in patches of four or five seeds at 18 inches apart, treading the ground or raking the drill over, sow as soon as possible some of the Hollow-Crowned or The Student, the former for large roots, the latter for good flavour.

CARROTS.—Some seeds of the Early Scarlet Short Horn or the Early Nantes should be sown on a warm border to afford an early supply in great quantity. It is not generally necessary to sow a large quantity of seed, as these are only required for summer use. For sowing the main crop the first half of the month of April will be sufficiently early.

TURNIPS.—These may now be sown with every chance of getting good returns, but February sowings often run to seed without bulbing. A heavier soil than that advised for Carrots may be selected for this crop. Our best early Turnip last year was the Early Milano, a quick-growing plant, coming into use ten days to a fortnight before any other. To follow this sowing a fortnight afterwards, Early Whitestone should be now sown, and Veitch's Red Globe for a main crop sowing. This last-named is one of the best Turnips grown, and an excellent keeping root.

GREEN CROPS.—A portion of a warm border should be got ready for the first sowings in the open of Brussels Sprouts, Cabbages, Autumn Giant Cauliflower, and Savoy, and not sowing much seed at this time, as ground may not be at liberty for planting out these plants till the early Potatoes are dug up, and to keep the plants in the seed-beds is to court failure; where that is the case, sowings had better wait till April. Borecole and Broccoli should be sown not earlier than the first week in April and the middle of May. Lettuces should be sown fortnightly after the middle of the present month, and if this be done with regularity up to August the supply of heads for use will not fail. I prefer sowing in drills after April has come in, and sowing thinly and thinning-out the seedlings to 1 foot apart; but early in the year and in the autumn seed may be sown broadcast. My best Cabbage Lettuce last season was Perfect Gem; Superb White Cos, a closely folding variety, was very useful.

THE ORCHID HOUSES.

By H. A. BURNETT, Orchid Grower, Highbury, Birmingham.

THE INTERMEDIATE-HOUSE.—Plants of *Cymbidium churanum* and *C. Lovianum* will soon be in flower. It may be stated that good yellow loam is the best material in which to grow these species, and the coolest end of the house is the right place for them. *Lycaste plana* and *Odontoglossum cirrosum* also do well in the intermediate-house, and these plants are pushing forth their flower-spikes. *Odontoglossum Edwardi*, *O. Harryanum*, *Oncidium macranthum*, *O. Leopoldii*, and many *Lycastes* succeed in it at the cooler part; whilst *Vanda suavis*, *Arides Lindenianum*, and *A. Fieldingii* are at home at the warmer part, and in a spot where light is abundant. The flower-spikes of these plants will be more or less advanced at this period, and must be protected against the depredations of slugs.

CATTLEYA-HOUSE.—The method of growing Orchids on blocks of wood has long since been superseded by the employment of pots, pans, and baskets, and rightly so, I think. A block may seem to some persons to be a natural thing for an Orchid to grow upon, but it seldom does well on one for any great length of time, it becoming exhausted, owing, doubtless, to the great fluctuation of dryness and moistness and temperature felt by the plant; and, the root being exposed, it suffers more than would be the case if it

were in a compost, or standing among crocks, &c., as then the roots are protected from fluctuations. However, there are a few species, notably *Cattleya citrina*, which seem to require a block; but even for this Orchid, some growers prefer a small pan, and let the new pseudobulb creep over the rim, and grow downwards; but be it grown in a pan or on a block, the cultivation of this Orchid is at times difficult, though it grows very freely when first imported. It must be suspended near the roof in a sunny position. I grow it here in the Mexican-house during summer, in company with those mentioned in a previous calendar, and in the Cattleya-house during winter, when it makes growth, and requires more heat than at other times.

WATERING AND TEMPERATURES.—Much uncertainty is sometimes experienced in respect to watering of Orchids, and plants suffer either by reason of being afforded too much, or of not getting water enough; but now that the season of active growth is at hand, it will not be easy to err in this direction, if water be afforded the plant when it needs it, just as with any other plant. This may be known by the compost in which the plant is growing looking whitish; although there are a few exceptions, for instance, care must be exercised in the case of *Dendrobium*, as moisture applied at the roots injudiciously, or lodging in the axils of the young breaks, is apt to cause the plants to damp off. We are placing our *Dendrobium* in one house, and giving them a gentle rise of temperature, and increase of moisture on the path; 60° to 70° will suffice at present. All plants that have flowered should be re-potted if necessary, using pots small in proportion to the plants, as *Dendrobium* dislike a large mass of material round their roots. The *Phalenopsis* are now starting into growth, and must have warmth and moisture; 65° by night, to 75° by day will suffice. The cool and intermediate houses will require but little more warmth than that recommended in January.

ORCHIDS IN FLOWER.—*Cattleya Trianae*, and the variety *alba*, are now attractive, as also are *Lycaste Skinneri alba*, and *Dendrobium*, in great variety. The latter being useful for decorative purposes, are indispensable at this season, and they can be brought on in succession. The stems, however, should never be cut; a more suicidal method can scarcely be imagined. If desired for dinner-table decoration, the flowers may be made to present a natural and graceful appearance by wiring them to small sticks, such as Bamboo-tips.

CONTINENTAL NOVELTY.

VIOLET FRAU HOF GARTENDIREKTOR JÜLKE.

This novelty in Violets, the result of crossing Lee's Queen Victoria Violet with *V. rossica superba*, was brought into commerce in 1890 by H. A. Zeimer, a florist in Bornstedt, near Potsdam. It is said by a correspondent in *Möller's Deutsche Gärtner Zeitung* for January 20, to be the pearl of all hitherto existing varieties of Violets, and to unite the good qualities of both its parents. It is not furnished with runners, and the leaves are of a glittering green colour, which itself must be looked upon as of particular merit. The flower stalk is long, the flowers large, larger than the Russian, the colour light blue, and the fragrance powerful, and in floriferousness it exceeds all other known Violets. Placed in the greenhouse, or in a cold frame in the autumn, it continues to bloom, and if at the end of the month of December or beginning of the new year it can be afforded the warmth of an intermediate house, its season of flowering will be extended into the spring. The time when extra warmth may be afforded the plant must be pretty strictly adhered to, as those plants which are attempted to be forwarded in the flowering at an earlier date seldom unfold their blooms properly. The cultivation of the plant is identical with that commonly pursued with Violets. It is said that this variety will drive out of commerce all others, it possessing every good quality that a florist's variety should have. It is good for forming the once-favourite standard form now so seldom seen in gardens in these islands.

EDITORIAL NOTICES.

LECTURES ON TECHNICAL HORTICULTURE.—As we have advocated the course now being followed for years past, we are naturally interested in its success, and we should be obliged if the several lecturers, in connection with the County Councils, would communicate to us their names, the districts in which they are at work, and a general indication of the method pursued by them.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY,	MAR. 8	{ Royal Horticultural Society: Lecture on "Plants for Home Decoration;" and all Committees.
THURSDAY,	MAR. 10	{ Brighton and Sussex "New" Horticultural Society.
SATURDAY,	MAR. 12	{ Royal Botanic.

SALES.

MONDAY,	MAR. 7	{ Hardy Plants and Bulbs, Cypridopium spectabile, Tropaeolum tuberosum, Cacti, &c. at Protheroe & Morris' Rooms.
WEDNESDAY	MAR. 9	{ 2000 Roses, Fruit Trees, Liliums, &c., at Stevens' Rooms. Azaleas, Ferns, Roses, 80,000 Cocos Weddelliana Seeds, &c., at Protheroe & Morris' Rooms. Border Plants, Bulbs, Fruit Trees Liliums, &c., at Stevens' Rooms.
FRIDAY,	MAR. 11	{ Disa draconis, D. rosea, and other species; Satyrium, Cattleya Trianae, Odontoglossum Coleata (Linden), and other new and rare Orchids, at Protheroe & Morris' Rooms.

CORROTTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40°·9.

Gardening as a Profession.

At a recent meeting at Aberdeen of the North of Scotland Horticultural Association, Sir ARTHUR GRANT, the chairman of the meeting, made some observations on the question of horticultural education which are of special interest at the present time, when this question is exciting so much attention. We may incidentally mention that we have already received several replies to our request for information as to the names of the lecturers employed by the several county councils, and some of them have favoured us with details as to their method of procedure; doubtless, other communications will reach us, and will enable us to give hereafter a general statement on the subject. Meanwhile, the names of the lecturers, so far as we have received them, furnish an ample guarantee that lectures on practical gardening, with appropriate demonstrations, are not going to be the useless things that some people fear. Mistakes are sure to

be committed in a scheme so suddenly brought into practice, but one potent means of avoiding them is to collect and compare information in the way we propose to do. We noticed in the *Gardening World* a paragraph to the effect that there was a proposal to form an association of the lecturers to consider these very points. If such an association be founded, we shall be pleased to be of service to it, and to promote the cause so far as we are able. All this time we are keeping Sir ARTHUR GRANT waiting, so we will at once step aside, and make room for the orator of the evening.

Sir ARTHUR, after a few preliminary remarks, said what he wanted to talk about was the advantages of gardening as a profession to young men rather than about any other point. The prospects of a young man as a clerk were poor in comparison to those who stuck to the country and to gardening. Gardening demanded quite as much education to do it properly as many indoor occupations. It at least developed a young fellow physically a great deal more than any indoor occupations, and it demanded quite as much accuracy of observation. It was absolutely necessary that he should do his work truly and thoroughly. They could scamp a good deal in building, and in nearly every trade, but if they tried to scamp gardening, in a very few months they would be convicted—they might be sure their sins would find them out. Gardening demanded more observation than almost any science or any occupation. It demanded exercises of memory, and it was necessary they should have a good deal of the spirit of order in their minds; and, above all things, they must have their heart in their work, if they wanted to get on as gardeners. In fact, as NAPOLEON said of the art of war—a very different art indeed—the whole thing was just this—being able to do the right thing at the right time, and at the right place. Individual results would not, he dared to say, be always brilliant. It was not given to many men to become Sir JOSEPH FAXTON, one who started from the very smallest beginning, and won a world-wide fame. Not many young men could hope to do that. There were not many great prizes, except to a very few, but the gardener had at least a pleasant outdoor life—a life which could teach him more almost than any other, and he would, even if he had not much money himself, have daily a share of the greatest and purest pleasures which were purchasable by money, and that was, actually living among the beautiful sights, and colours, and arrangements of the garden.

Touching on the prospects of a gardener, Sir ARTHUR gave two instances of the success of young men trained at Monymusk House. One was now employed in India in one of those societies for acclimatising different plants, and trying their scientific and mercantile value, and his salary was £250. The other was engaged in China in the same way, and was soon to go to India; there he was to get £500 per annum. He gave these examples of Scotch boys, born quite close to Aberdeen, growing up, educated, and taking up an outdoor life, and doing as well in that situation as they could possibly hope to have done in many of those indoor employments to which so many young men rushed. He would furthermore say that, besides these two, which were rather good successes in life, a good many had gone from them to America, where there was a great demand for young men who were capable gardeners. They knew that wealth was increasing in America to an enormous extent; and with wealth comes the desire of pleasure, and, to a certain extent, what they would almost call luxury, and there were more situations vacant for young men as gardeners than there were gardeners to fill them in the Eastern States, and where there was a great opening for men to get salaries ranging from £120 to £150 per annum.

He had been asked whether he had any idea to give them as to how they could improve their Society. The only thing that he could say was to increase the scope of the Society, to try and give it a wider

range of interest, and he would suggest that they should do more to try to get not only gardeners but also the numberless people who are connected with forestry, directly or indirectly, whether in growing a cutting or owning the great plantations which adorned Aberdeenshire. He himself took an hereditary interest in forestry, because it was a GRANT of Monymusk who first began to plant on a large scale in this country at all, and when his ancestors first went to Monymusk there were only four or five trees, the fruit which was grown on them being chiefly Highlanders who had been strung up by the scurf of the neck. In that valley now there were millions of trees. He would also hope that before long, now that there was talk about university extension, they would have under that extension all the accessories necessary to the proper study of botany; and he hoped that the intimacy, if he might so express it, which existed between the chair of botany, which was shown by the presence of Professor TRAIL, and the Society would ever continue and increase. He saw in Aberdeen a great many societies of a kindred nature, and he might almost say, hundreds of small clubs or societies for gardening purposes in the county of Aberdeen. He should like, if it was possible, if they could not combine, that, at all events, they might correspond a great deal more than they did, and, by doing so, they would avoid a great deal of friction, and be able to do what they did a great deal more cheaply, and increase the scope of their powers.

Professor TRAIL was then called upon to speak. The advice given by Sir ARTHUR to young men to look to gardening for work, instead of crowding the so-called more genteel professions—which he denied were more genteel—was most excellent advice, and if people would only recognise that work well done in any line that was honourable, was honourable to the whole community, it would be the best education, it seemed to him, that could be given. Many were much more capable of hand work than of head work, if they could only recognise it. When one looked at what horticulture, properly understood, meant, they would see that it was very far from being merely hand work, but that it required to be successfully prosecuted, a clear apprehension, and that meant head work of the best and most honourable kind. There was no study that was more enjoyable in every way. As regards the part that the University could play in assisting the work of the Association, he did not need to say that it would be most willingly done, so far as it was in the power of the University; and he thought he could speak for others as well as himself. The University should be fully equipped in all that pertained to the study of the natural sciences, and he hoped that the time was not far distant when the study of such practical subjects as arboriculture and horticulture would find a place in their university as well as elsewhere.

Fruits, &c., from the Cape.

THE imports into this country of fruits and vegetables from foreign countries, and from our colonies and "possessions," is increasing year by year, and soon there will be no period in the year when fresh fruits and vegetables will be found wanting in our markets. There are heavy supplies from the Canary Islands, from Italy—widely apart localities; from the Mediterranean shores, Portugal, Spain, and now the Cape of Good Hope has shown what may be expected from that quarter of the globe, for an attempt is being made in the early months of this year to import into this country the fruits of the Cape Colony and Natal in a marketable condition. The Cape summer, as will be remembered, is at its height when winter arrests all growth in this country; fruit can, therefore, be obtained in abundance from the Cape when most wanted here. Apricots, Peaches, Nectarines, Grapes, Apples, Pine-apples, and Grana-

dillas have already arrived in good condition, and other fruits, we are informed, will follow in their train. The cool chambers of the rapid ocean-steamers have rendered this possible, the transit being accomplished in from fifteen to

on the way here, and the first cargo may be expected in about four weeks' time. It behoves producers in the various exporting countries to see that they do not overlap each other—to note their most successful products—those making

or retard growth in certain cases, will have carefully to watch the products with which they may have to compete.

The latest thing in imports is Tea from Natal, a consignment of which was offered at Mining



FIG. 43.—*WATSONIA IRIDIFOLIA* VAR. *O'BRIENI*: FLOWERS PURE WHITE;
AND NATIVE WILD PLANTS.

nineteen days. In the present month, and in April and May, weekly shipments of the above-mentioned fruits, as well as other kinds, may be expected.

As already stated, Tasmanian fruits are now

the best prices on this market, otherwise they may only contribute to the production of a glut, by which the consumer only can benefit. Doubtless, things will settle themselves comfortably by-and-by; growers at home, who can forward

Lane on Monday. Some 50,000 lb. were put up, but it is stated that the price obtained was not quite satisfactory to the importers. The cultivation of Tea is not a new thing in Natal, but it would appear that the local demand has for some years swallowed up the amount put upon the market; now, however, that the Coffee crop is threatened, the growing of Tea has received a fillip, one result of which we have just recorded. Doubtless the present market experience will induce greater attention to plant, growth, and manufacture.

WATSONIA IRIDIFOLIA VAR. *O'BRIENI*.—An attractive border in St. George's Park, Port Elizabeth, was one which was filled with native or wild flowers, and backed with the beautiful new white *Watsonia* (see fig. 43). This plant was raised here, and a few corms were sent to Mr. O'BRIEN and to Kew. Mr. N. E. BROWN described it in the *Gardeners' Chronicle* for October 3, 1891, and Mr. O'BRIEN obtained a Certificate from the Royal Horticultural Society for blooms exhibited. We Port Elizabethans think that as Mr. O'BRIEN has so many ways open to him to gain immortality, he might have given poor Port Elizabeth the only chance that was open to immortalise herself, and called it the Port Elizabeth Pearl, the Pride of Algoa Bay, St. George's Beauty, or something similar. It is a superb plant, growing and flowering splendidly. The first flowers to open in this interesting collection of spring flowers (our spring being your autumn) were those of the exquisite *Hypoxis stellata*, flowers which have only to be seen to be remembered; then a fine variety of *Ornithogalum aureum*, *Ixia* in abundance, the beautifully-marked, rich-hued *Sparaxis*; the fragrant and favourite *Gladiolus grandis*, the lovely *Hebea Gladiolus* species, with colours varying from rich purple to ivory-white; the floriferous and

cream-coloured *Gladiolus Milleri*, described by Mr. Brown in the *Gardeners' Chronicle* for October 3, 1891. This year the *velde* is covered in places with G. *Milleri*, of a different colour. Lemon and white-coloured *Ornithogalum*, *Hemeranthus*, *Veltheimias*, *Crimuns*, and *Watsonias* are included in this charming collection of wild flowers from off the *velde*. These instead of wasting their fragrance in the desert air, have gained the appreciation of the visitors to the many parks, and of the tourists, who only make a brief stay here, and could not otherwise see the things of beauty which are scattered here and there in out-of-the-way places, in the kloofs and valleys, on the hills, and in the open *velde* of this, at first sight, barren, dusty, and uninteresting district.

ROYAL HORTICULTURAL SOCIETY.—On Tuesday, March 8, a paper on "Plants for House Decoration," by Mr. JOHN WILLS, will be read at the Fruit and Floral Meeting of the Royal Horticultural Society, in the Drill Hall, James Street, Victoria Street, Westminster.

THE GARDENERS' ORPHAN FUND.—The committee met on the 26th ult. for the first time since the annual meeting, and unanimously re-elected Mr. W. MARSHALL to the office of chairman. The following gentlemen were elected local secretaries for the ensuing year, viz.:—R. Bell, Esq., Tyrone, for Ulster; Mr. George Cooper, Kirkstall, for Leeds and district; Mr. F. Collyer, for Ilkley, Yorks; Mr. Malcolm Dunn and Mr. Matthew Todd, for Edinburgh; Mr. Fairgrieve, for Dundee; Mr. Goldsmith, High Trees, for Redhill, Surrey; Mr. Hussey, Olive House, for Esher, Surrey; Mr. J. B. Stevenson, for Bournemouth; Mr. J. Lyne, for Chislehurst, Kent; and Mr. Upjohn, Worsley Hall, for Manchester. The following gentlemen who retire were accorded a hearty vote of thanks for their past services:—Mr. Furze, Mr. Ellicott, Mr. Frankland, Mr. Lumsden, Mr. F. Ross, and Mr. L. Castle. The following special receipts were announced as having been received during the month:—Manchester Gardeners' Improvement Society, £5; Reading Gardeners' Improvement Society, £2 2s.; Mr. J. Thomson, Hawkhurst, £1 1s.; and Mr. M. Dunn, £1 1s. The sum of £1000 was authorised to be invested; and guardians were appointed for the eleven children who were elected at the annual meeting.

LINNEAN SOCIETY.—At the meeting held on Thursday, February 18, Prof. STEWART, President, in the chair, Mr. Stanley Edwards was admitted, and Messrs. C. Chilton, F. A. Skuse, and J. Humphreys were elected Fellows of the Society. The President exhibited specimens of *Cystocollia immaculata*, an orthopterous insect from Namaqualand, in which the female is far more conspicuously coloured than the male, which is unusual, and the stridulating apparatus of the male differ in certain important details from that of other species. A discussion followed on stridulation in insects and the various modes of producing it, in which Messrs. C. Breeze, E. M. Holmes, and B. Daydon Jackson, took part. A paper by Professor Groom was then read "On Bud Protection in Dicotyledons," and, in his unavoidable absence, the author's views were expounded by Mr. B. Daydon Jackson. Mr. W. T. Thistleton-Dyer, F.R.S., communicated a paper by Herr F. Stephani, entitled "A Revision of *Coleosus* New Zealand Ipeaceæ."

THE SHROPSHIRE HORTICULTURAL SOCIETY.—The schedule of the great annual horticultural exhibition at Shrewsbury, in August next, is most comprehensive in the way it gives encouragement to horticulture, both in the number of its classes and in liberal prizes. Good prizes will be awarded to plants in the various classes, especially for groups of stove and greenhouse subjects and groups of Orchids. Fruit will be well premiated; especially liberal are the prizes for collections, and in the Grape classes. Vegetables are by no means left out. Excellent extra prizes are offered by some of the leading seed

firms. Over 160 prizes are also offered for cottagers' productions. Nearly £600 in cash prizes will be expended, together with certain silver medals.

THE DATES OF ROSE SHOWS IN 1892.—Mr. EDWARD MAWLEY, Rosebank, Berkhamsted, Herts, has kindly communicated to us the following list of Rose shows for the coming season:—

- June 21 (Tuesday).—Westminster (N.R.S.).
- " 29 (Wednesday).—Brighton (two days), Ipswich, and Windsor.
- " 30 (Thursday).—Canterbury, Eltham, Farningham, and Winchester.
- July 2 (Saturday).—Crystal Palace (N.R.S.).
- " 5 (Tuesday).—Gloucester, and Sutton.
- " 6 (Wednesday).—Croydon, and Hitchin.
- " 7 (Thursday).—Bath, Lee (two days), Norwich, and Woodbridge.
- " 9 (Saturday).—Reigate.
- " 12 (Tuesday).—Hereford, and Wolverhampton (three days).
- " 14 (Thursday).—Chester (N.R.S.), and Helensburgh.
- " 21 (Thursday).—Trentham, and Worsop.
- " 23 (Saturday).—Bendale.
- " 28 (Thursday).—Southwell.
- " 30 (Saturday).—Ripley.

We shall be glad to receive the dates of other Rose shows for insertion in the next list, which will appear early next month.

THE "GARDENERS' MAGAZINE," has issued its two thousand weekly number, and worthily celebrates the occasion. The *Gardeners' Magazine* is the direct lineal descendant of Harrison's *Floricultural Cabinet*, a monthly periodical, which first appeared on March 1, 1833. This was carried on till the end of 1859, when the title of the journal was altered to that of the *Gardeners' Weekly Magazine* and *Floricultural Cabinet*, the periods of publication being altered accordingly. In 1861, the late Mr. SMIRLEY HINDEB became its Editor; but it was not till 1865 that the paper assumed the form and title it now bears. In 1890, Mr. HINDEB sacrificed his life to the cause of the *Chrysanthemum*, and since that time the paper has been edited with great freshness, vigour, and ability by Mr. GEORGE GORDON, who had been the associate of HINDEB for twenty-two years, and to whom we tender our hearty congratulations. In an article entitled, "Sixty Years of Horticulture," Mr. GORDON traverses much the same ground that we had occasion to do last year. Incidentally, he remarks that the first Pine-apple was fruitfully in England in 1719 at Richmond; but the generally-accepted version is that JOHN ROSE was the first to accomplish the feat, at Downey Court, Buckinghamshire, and that he there presented the fruit to CHARLES II. There is, or was, an oil painting at Kensington Palace representing ROSE making the act of presentation. Of this picture there was a water-colour copy on a small scale, in the possession of the Royal Horticultural Society. We fear that in the removal from Kensington this was lost; at any rate, we have not heard of its recovery.

CULTURAL ANALOGIES.—In a sermon preached at Sandringham before the Prince and Princess of WALES by Canon FLEMING, on the occasion of the death of the Duke of CLARENCE and AVONDALE, the preacher had recourse to an analogy. This is so common and so effective a practice, that it would not have attracted attention had it not been for the circumstance that the Canon, with a laudable desire to disclaim originality and to acknowledge the sources of his information, has inserted a slip to the effect that the illustration in question "is not his own, nor does he know where he has read it." The illustration reads thus:—"It is said that when skilled gardeners would bring a very choice plant to richest flowering, they deprive it of light and moisture. Silent and lonely it stands, dropping one faded leaf after another, seeming to go patiently down to death. But when every leaf is dropped, and the plant stands stripped, a new life is working

in the bud that lies under (?) every falling leaf [and] from which shall spring forth a richer foliage and a brighter wealth of flowers." What the Canon or his informant can have meant, we are at a loss to conceive. It cannot have been Mushrooms. It is a common practice, it is true, to diminish the amount of water supplied, and to temper the light to which a plant about to flower is exposed, and it is still more common to carry the privation of light and moisture still further after the period of flowering, so as to give the plant a rest. But this does not apply to very choice plants only, and very choice plants are not more silent than others. Can the preacher have had in his mind some distorted account of the production of white Lilac at this season of the year, by forcing the purple one in diffused light or even in darkness, and at high temperature? Contrary to what was at one time supposed, neither the diminution of the light nor the increase in the temperature is absolutely necessary, but in whatever manner produced, the phenomenon is striking enough to serve the purpose of a preacher.

"THE AMERICAN AGRICULTURIST."—What an epidemic of jubilees and celebrations! In addition to those before-mentioned, we have on our table the semi-centennial issue of the *American Agriculturist*. Although chiefly devoted to agriculture, it contained, under the editorship of our late friend Dr. THURBER, a good deal of horticulture and cultural botany, besides much matter of general interest. The present number contains the usual retrospect fitting to such occasions, and an account of the wonderful development of pomology in the United States; together with portraits of our late friend—an old man eloquent indeed—MARSHALL WILDER, and of the present respected President of the American Pomological Society, Mr. P. J. BERCEMAN.

CHRYSANTHEMUMS.—According to Mr. CONDER, cited in *Garden and Forest*, the Japanese cite 269 colour varieties of the *Chrysanthemum*, of which sixty-three are yellow, eighty-seven white, thirty-two purple, thirty red, thirty-one pale pink, twelve russet, and fourteen of mixed colours. A fancy prevails in the country that in this flower the same tint is never exactly reproduced, and that in this it resembles the endless variety of the human countenance.

"THE ENGLISH FLOWER GARDEN."—A new edition of this useful book is in the press.

ARTIFICIAL COLOURING FOR REAL FLOWERS.

—We have already called attention to some artificially-coloured Carnations which have been submitted to us. When the green Carnations were subjected to chemical examination, it was discovered that the tint had been produced by steeping the stems of the freshly-cut flowers in a certain colouring-matter, which, by reason of capillary attraction, ascended the stem, and permeated every little vein in the blossom, when it became oxidised, owing to contact with the atmosphere. The colour lasts for a long time, and is not injurious to the health of any person using it. Here is the story of the discovery of this curious property of absorbing pigment possessed by flowers:—"It seems that one day, some women employed in the manufacture of artificial flowers, poured by accident into a pot, wherein stood white "Pinks" and Carnations, a little of the colour that they were using, and in an hour or two they noticed that the flowers had turned a green shade. MRS. GRAD had been following up this discovery, but so far has only been able to obtain green, violet, and pink. Green is produced by a bright green, or "tetra;" the others—violet, or by methyl-violet, or Paris-violet; pink by fuchsine, or hydrochlorate of rosaniline. A greenish-blue has also been produced by using "tetra." The Parisian press hints that the traditional bridal orange-flowers can now be obtained of a delicate violet, suitable for ladies entering for a second time into the holy estate of matrimony. It will be remembered that the so-called discovery is by no means

new. Many well remember the bunch of "white" Lilies shown some years ago at South Kensington, delicately tinted in various hues.

THE LOSS OF NITROGEN DURING THE DECOMPOSITION OF MANURES, AND HOW TO PREVENT IT.—According to VON KRAUSE (*Journal für Landwirtschaft*, xxxviii., p. 1), superphosphate is an excellent preservative for manure, and is preferable to superphosphate-gypsum, owing to the greater amount of soluble phosphates it contains. In a recent paper by J. H. VOEL, which may be consulted in *Biedermann's Central-blatt*, xx., 562—564, the author refutes these views of VON KRAUSE. Small losses of soluble salts cannot be avoided with farmyard manure. The loss of phosphoric acid is, however, slight, but may be considerable if superphosphate is added to it—so much so, that any beneficial action of the superphosphate is more than cancelled. The very favourable effect of phosphoric acid in preserving manure is due, in the first place, to its power of so changing the fermentation that no free nitrogen, or but very little, is formed. The liberation of nitrogen was shown by DIETSELL to be promoted not only by phosphoric acid soluble in water, but also by phosphoric acid soluble in citrate; and VOEL has already proposed using a preparation which contains, besides calcium and magnesium sulphates, also a large amount of phosphoric acid soluble in citrate. The loss of free nitrogen when gypsum is used alone is in VOEL's opinion, not nearly so great as the advantage which follows from the fixation of the ammonia.

DIAGRAMS OF WILD FLOWERS.—The Society for the Promotion of Christian Knowledge is issuing a series of coloured diagrams illustrative of the structure of various common plants. The figures are accurate and the details correct, but the size is so small that the drawings could not be seen at a distance, and hence are unsuitable for lecture-rooms, though very serviceable for small-class teaching.

WORLD'S FAIR NOTES.—The Horticultural Department of the Exposition is planning to have a magnificent Rose-garden, in which will be fully 50,000 plants, besides large groups in special areas. The garden will be of classic design, with temples, arbours, archways, and trellises.

—The Department of Horticulture of the World's Columbian Exposition desires to obtain fine specimens of various plants, such as Palms, Dracenas, Yuccas, Agaves, Cycads, Bamboos, Tree Ferns, Cacti, and other ornamental genera and species. Only finely-developed specimens are sought, and they must be established in boxes, tubs, or pots, or in such a manner as to insure their growth and convenience for transportation. The Department wishes to know if such plants will be donated, loaned, or exhibited by the owner, or whether they can be bought, and at what price. Address, JOHN THORPE, Chief, Bureau of Floriculture; or, J. M. SAMUELS, Chief, Department of Horticulture.

IMPORTATION OF PLANTS, ETC., TO MEXICO.—In the Customs' regulations, which came into force on November 1 last year in the Republic of Mexico, it is stated that the following articles are admitted duty free:—Living plants, garden seeds, agricultural seeds, when these have the special permission of the Minister of Finance; moss and natural flowers. Duty is to be paid as follows:—Dried fruits, 0.10 pesos; fruit preserved in their own juice, in sugar and in spirits, 0.75 pesos; fruit in salt water, 0.06 pesos; and fresh fruit, culinary vegetables, and tubers which are not in any other manner charged duty 0.02 pesos per kilogramme.

EDUCATION.—The enclosed extract from an auction catalogue seems to show that horticultural education is deficient somewhere:—"1000 first-class greenhouse and other plants, comprising Orchids of the following varieties: Cattlys, cymbidiums, saccolabiums, labias, lycaster, masdaralia, vandas, dendrobiums, odontoglossums, oxalogues, and brassia; stove and greenhouse plants, viz, camelias, tree palms and tree fern, lemon, azaleas, eucharis, stephanotis, cactuses, heliotropes, aurium, lilies,

Jerusalem thorns, passion plants, saclements, bagoniums, bagonias, gloxienias (extra variety), eucsa lilies, imantophyllums, valettas, epiphyllums, asparagus, allamanda, richardia, plumbago pandanus, potted rose trees, variety of fuchsias, geraniums, creepers (gold and silver), maiden hair, and other ferns.

CATTLEYA LABIATA.—The *Journal des Orchidées* contains an account of the reintroduction of this plant as effected by the *Horticulture Internationale*. M. L. LINDEN's account of the inspection of a painting in the Paris Exhibition of 1889, which induced him eventually to despatch M. BUNGEOTH to Pernambuco in search of it, reminds us of the picture of Nepenthes Northiana, which led Messrs. VEITCH to institute the similar successful quest for the Queen of the Nepenthes. BUNGEOTH stated that "no rain had fallen in the district for more than ten years," the sole supply of moisture being furnished by the heavy dew, a statement confirmed by M. CLAES, who is, or was, till recently collecting in the same region.

A GARDENING PAPER FOR QUEENSLAND.—The latest addition to local journalism is the organ of the Horticultural Society of Queensland, the first number of which has just reached us. The *Queensland Horticulturist*, edited by Mr. W. SOUTER, the well-known Curator of the Acclimatisation Gardens, contains sixteen pages, about quarto-demy size, and the first issue includes a number of interesting articles on subjects likely to be of interest to amateur gardeners. We have also to acknowledge receipt of the official report of the proceedings at the conference held in Sydney in June last, to discuss the subject of rust in Wheat. The document contains details of experiments carried out in Queensland, New South Wales, South Australia, and Victoria, and is replete with information which might be studied with advantage by Wheat-growers—both those who are already established in the industry, and those who contemplate embarking in it.

PRIMULA SINENSIS.—We have received from Messrs. VEITCH & SONS, Chelsea, a lot of fine blooms of *Primula sinensis*, which leave nothing to be desired on the score of beauty of colour and symmetry, some being semi-double.

KENT COUNTY CHRYSANTHEMUM SOCIETY.—The members of this Society held their fourth annual dinner at the Bridge House Hotel, London Bridge, on Wednesday evening last. In the unavoidable absence of the President, Mr. STEVENS, the Chairman of the Committee, occupied the Chair, and Mr. T. W. SANDERS, Editor of *Amateur Gardening*, the Vice-chair. About eighty members and friends were present, and during the course of the evening the Chairman, on behalf of the Society, presented Mr. H. A. NEELS, the ex-secretary, with a silver tea-service, in recognition of his past valuable services. After the customary loyal and other toasts, the "Horticultural Press" was proposed and drunk, and Mr. J. WRIGHT and Mr. G. GORDON responded. A capital musical entertainment enlivened the proceedings, and a very pleasant evening was spent. Mr. H. J. JONES, Ryecroft Nursery, Lewisham, is the hon. secretary.

PUBLICATIONS RECEIVED.—Report on the Agricultural Work in the Botanical Gardens, British Guiana. (C. K. JARDINE, Georgetown, Demerara.)

NURSERY NOTES.

ORCHIDS AT MESSRS. SEEGER & TROPF'S.

IN the neat little Orchid establishment at 112, Lordship Lane, East Dulwich, there is a very extensive collection of Masdevallias, and many interesting botanical Orchids, together with representatives of all the showy species of Orchids, and a very valuable series of rare white forms of them, among which we noted the large snow-white *Sobralia macrantha* Kienastiana, the equally pure *Lælia Perrinii* alba, Seeger's variety, and the fine *Cattleya intermedia* Parthenia. In bloom were some Phala-

nopsis Schilleriana, P. denticulata, and P. Stuartiana, Oncidium cheiroporum, with ten spikes; several good O. Forbesii, Cypripedium Seegerianum X, C. Laforcadii X, C. calophyllum, C. Harrisianum superbum, and many distinct forms of C. insigne. Also Masdevallia chelonii X, M. Schroderiana, and other species and varieties of Masdevallia; Saccolabium bellinum, Cirrhopetalum chinense, Vanda Amesiana, &c., and in bud several Angraecum sesquipedale, which, like the fine batch of Vanda suavis and tricolor, seem to thrive remarkably well here.

DENDROBIUMS AT MR. JAMES CYPRES'S NURSERY.

The Queen's Road Nurseries, Cheltenham, have a name for the excellent culture of Orchids generally, and especially Dendrobiums, on which the growth is marvellous; and among those now in bloom are several of Dendrobium Phalenopsis Schroderianum, D. bigibulum, D. splendissimum grandiflorum X, D. Leechianum X, D. Ainsworthii X, all very closely related, but distinct in degree; D. Casiope X, D. Jamesianum, D. Findlayianum, several varieties of D. aureum (heterocarpum), many D. nobile, one of the best being D. n. splendens; and the neat little D. crepidatum.

ORCHIDS AND LILIES AT TWICKENHAM.

Mr. H. A. Tracy, in his Orchid and Lily establishment, well maintains its character for healthy stock, supplied at a cheap rate. The Cypripediums have been making a fine show there all through the past winter, and at present a few of the newer hybrids are in bloom. A fine strain of Dendrobium Wardianum also gives some exceptionally good forms; the Cattleya Trianae have some very richly-coloured varieties; and Cattleya Percivaliana, Lycate Skinneri, varieties of Cologyns cristata and other Cologyns, Odontoglossums, and many varieties of Dendrobium nobile are in flower in quantity. The forced Lilies in the large house are coming on well; and among Orchid sundries may be noted a good sample of Orchid peat, a thing not easy to obtain in these days.

FOREIGN CORRESPONDENCE.

A METHOD OF UNDERGROUND WATERING OF CROPS, &c.

A PERSON I know here (who makes his own gardening implements), has invented a contrivance by which he manages to supply his fruit trees underground with a copious supply of liquid-manure, which—1, Prevents any waste of liquid-manure; 2, obviates the necessity of waiting for rain to moisten the top soil; 3, which reaches the roots about 3 inches below the surface, filtering among the root-fibres direct; 4, the surface-ground is kept parched, and weeds cannot thrive; 5, crops of fruit and vegetables are watered by the same contrivance; 6, watering can take place during the full blaze of the sun at mid-day without any fear of blistering the crops; 8, the crops never get soiled, and it is best for plants to be watered when the ground is very hot. It is most expeditious and effectual; deluges of clear water can be supplied underground, and as the parched surface does not imbibe it, I need hardly point out that weeds are most successfully kept under, and the crops, whatever they may be, exceptionally fine and healthy. It is not an expensive contrivance, and I am much taken with it. Gisors. [See under "Notices to Correspondents."]

AN AMATEUR'S EXPERIENCES WITH ORCHIDS.

HAVE you a corner to spare for a poor amateur gardener, who has for the last seven years been trying to grow the more common and inexpensive Orchids, looking to the pages of the *Gardeners' Chronicle* week by week for instruction. My first duty is to tender you my thanks for the numerous benefits I have received, and am receiving, from you and your correspondents; but it is when doctors differ that I am perplexed. For instance, Mr. Barbery (and everyone knows that a higher authority could not be found) discourages the use of manure-water, which other growers have held beneficial. I was led to adopt it from considering, that under the

conditions of Nature excrement of birds and dead insects must find lodging on the trees which are the homes of the plants, and these must be constantly washed down the trunks by the tropical rains, and nutrition from them might be absorbed by the spreading roots of the Orchids. Acting on this idea, I have dipped, perhaps once a week in the growing season, the block on which is a nice plant of *Cattleya citrina* in weak guano-water, with the result that the new bulbs have increased almost to normal size again, whereas previously they had become smaller and smaller as time went on. I shall therefore be very reluctant to abandon this practice.

Again, there seems a dispute among growers in respect of pruning away the old bulbs of *Dendrobiums*. I have always regarded the old pseudobulbs of all Orchids as reservoirs of nourishment on which the rapidly-growing new bulbs of each year could draw, and have therefore carefully preserved them, never cutting off the bulbs with the flowers, and never pruning off old bulbs till completely withered. It would be good news if one could really believe that these flowering bulbs could be bodily removed without damage to the plant.

Last year, the writer on Orchids in "The Week's Work" recommended a period of drought for *Odontoglossum grande*, and I acted on it, contrary to my previous practice, which had been to keep this and other *Odontoglossum* moderately moist throughout the year. I still believe, from observation, that the plant on which I tried it suffered by producing a rather weaker growth than usual when it started. Of course, I know that generalisation from one particular is always fallacious, and that is why the amateur wants safe guidance, as he has not dozens of a species to experiment on.

As to the temperature in which special plants are to be grown, we find again most opposite views expressed, the tendency on the whole being towards cooler treatment, but I confess I was startled when a week or two back I found *E. vitellinum majus* spoken of as the coolest of cool Orchids. My experience of it in a warm house has not been satisfactory, and I shall now try the treatment recommended. In connection with the same note I may say, I have grown *Odontoglossum Rossi majus* in an intermediate temperature, where it has grown and flowered very well, while side by side with it *O. crispum* all but perished.

May I add to this already long letter one or two cautions which I needed, and suffered from want of? There is an abominable white scale, possibly that known as "stock seed," which infests the pseudobulbs of some *Cattleyas*, getting under the sheaths and so escaping detection. It also forms a colony in the axils of the leaves, where for a time it gets overlooked, but the effect, if neglected long, is the destruction by decay of the base of the leaf, which falls off, the decay often spreading to the pseudobulb itself.

Again, we often see it stated that many Orchids when in bloom may be transferred to the house for decorative purposes. Four years ago, during the Christmas holidays, I transferred two lovely plants in full bloom—an *Odontoglossum grande* and a *Lycaste Skinneri*—to the drawing room. After a very few days the flowers went off (those of *Lycaste Skinneri* should have lasted a month or more) in a most disappointing way, and the plants were sent back to the greenhouse. Little did I know the mischief which had been done, but it was only after three seasons' growth that these plants again formed flowers. My readers will probably say gas, but the room has never in my time had a gas-burner in it, but it was gas, nevertheless. An escape of gas was going on into the ceiling of the room below, and slowly filtering through the boards of the room in which the plants were placed. I can, at any rate, imagine no other cause for the calamity, though the quantity was so small that the escape was only suspected at the time, and was with great difficulty traced a week afterwards. I must, however, be furnished with electric light throughout before I shall again venture to introduce flowering Orchids into my rooms. *L. C. Rugby.*

TREES AND SHRUBS.

CARPENTERIA CALIFORNICA.

This is another evergreen that deserves to be grown more extensively against walls having a south or west aspect in the southern and western counties of England and Ireland than it appears to be at present. It produces *Chimonanthus*-like foliage, and white flowers with yellow stamens, which are very fragrant. Chancellor Swayne has a nice plant of this somewhat rare evergreen growing against a south wall, and covering a space of about 5 feet by 4 feet, and which with him it has proved quite hardy. In the herbaceous borders, which contain an extensive and choice collection of hardy perennials, there is a good display of the white and purple-flowered *Helleborus*, both plants and flowers being large and of good substance. Chancellor Swayne is of opinion that these popular and very useful winter-flowering plants do best in the shade, and in a uniformly moist soil. Several rare varieties of the *Crocus* and *Snow-drop* (*Galanthus*) are very telling in effect just now. These latter include *G. Elwesii*, *G. plicatus*, *G. imperialis*, and *G. Snowflake*; whilst on a shelf in the greenhouse are flowering the pretty little *Narcissus corbularia alba*, *N. cyclaminus*, and *Iris caucasica*, with its silver-margined foliage and pretty primrose-coloured flowers. *H. W. W.*

EVERGREEN ELAAGNUS.

The evergreen Japanese *Elagnus* are more appreciated at this time of the year than in the summer, when flowering shrubs are generally attractive, but their merits are not so generally recognised as they should be. If planted with discretion, as isolated specimens on the grass, they present a warm and pleasing appearance all the year round.

They are of easy culture, and free-growing, thriving in almost all garden soils, except that which is very damp and heavy. I have even fine healthy specimens with strong shoots, plentifully supplied with foliage, growing in dry, sandy soils. When once established, they give very little trouble. The only pruning necessary is to cut back the strongest shoots, thereby causing them to grow more evenly. The evergreen *Elagnus* are admirably adapted for training against walls, and in such positions are really attractive, particularly when the majority of wall shrubs have lost their leaves. They are perfectly hardy, and can stand drought with impunity. If planted in a southern aspect, the variegation is brought out to a much greater extent, which, in many cases, equals that of *Crotons*. Those mentioned below include the most useful kinds.

E. glabra is a distinct green-leaved species, and one of the most accommodating shrubs extant. Although it has been known to English gardens some time, it is very scarce. It is of free growth, and flourishes in poor soils, in many cases where others refuse to grow. It forms a dense bush some 5 to 6 feet high, plentifully supplied with bright green leaves, 3 to 4 inches long. *E. glabra variegata* is similar in growth to the species, but the leaves are variegated. It should always be planted where it can get a full share of the sun, and if isolated on the lawn, it is seen to advantage.

E. pungens aurea is another useful kind. It is readily recognised from the rest by having rich, golden coloured leaves. It is perhaps the finest ornamental shrub we possess, and being of a bardy nature and easy culture, it commands itself to all lovers of hardy trees and shrubs. There is no subject better suited for lawn specimens than this. If planted in a sunny site, and carefully pruned, its neat golden foliage is very beautiful all through the year.

E. macrophylla is a distinct species of great merit, and thoroughly hardy. Its habit of growth is free, with very handsome leaves, which are bright shining green above, with a silvery whiteness beneath, measuring 4 inches long.

E. Simoni is a free and distinct-growing kind, suitable for planting on banks, &c. It has leaves of a light green above, and white on the under surface. Its free habit of growth ought to recommend it to

planters, as it well merits more extended cultivation. There is a variegated form known as *E. Simoni tricolor*, which is of recent introduction, and not yet very widely distributed, but when it is better known it will become a general favourite. It is quite distinct from those hitherto described. The leaves are beautifully marked with a rich sulphur-yellow colour, some having a blotch of yellow in the centre, with a band of green on the outside, whilst others are shaded with soft yellow and pale green; the under surfaces are covered with rusty-coloured scales. If trained to a south wall, it is very beautiful. Altogether it is a very useful evergreen shrub, and perfectly hardy.

E. Frederici variegata, like the last-named, is very scarce. It is a free grower, and very ornamental. The leaves vary in colour, but are usually of a soft sulphur colour, changing to a milky-white, with a border of green on the outside; the lower side is covered with a silvery appearance, which greatly adds to the charms of the plant. Unfortunately, it is unable to withstand the severity of our winters without protection, but will do against a warm wall; nevertheless, it is a capital subject for a cool-house, and if grown as a pot-plant, it is very valuable for decoration. It should be stood in the open air in summer, in a sunny position.

The *Elagnus* are not difficult to propagate, for, if pieces of the half-ripened shoots about 3 or 4 inches long are taken off in August, with a heel of the old wood attached, and with a sharp knife make a clean cut, they will root in a few weeks. The cuttings should be inserted in light soil, taking care that the base of each is made very firm and the pots plunged in warm cases with a temperature of 60° to 65°. When rooted gradually harden off, and place them in cold frames for the winter; and in spring they can with safety be planted out in nursery rows, and a watering given occasionally till they have become established. *H.*

FLORISTS' FLOWERS.

CARNATIONS AND PICOTEES FROM SEED.

THE hybridisation of Carnations and Picotees and saving the seeds is a simple enough process, but the amateur who intends to take up this work should obtain the very best varieties in cultivation, as it would not be worth while to begin with inferior varieties. I have raised many thousands of seedlings, and get most gratification from the work by taking one or two classes or sections only in a season. Say, for instance, the cultivator determines to obtain seedlings from the *Scarlet Bizarre*: select in this case good healthy plants of, say, *Admiral Curzon* and *Robert Houlgrave*. Place a few plants of each variety together in an airy greenhouse, and if the flowers can be induced to open earlier than usual, all the better; allow every flower and bud to remain, and as the flowers open they may be fertilised both ways. It is not necessary to remove the pollen from the seed-bearer, as the flowers are rarely self-fertilised. The two horn-like processes in the centre of the flower, and attached to the top of the seed-pod, are the points to which the pollen must be applied; this has to be sought for underneath the petals. The pollen-cases are attached to slender thread-like filaments, and when the pollen is in a state of powder, transfer it with a small brush to the aforesaid stigmatic part of the flower. If the pollen has been effective, the petals will begin to droop in about twenty-four hours, and when they are quite dead, pull them out carefully, leaving the stigma in its two divisions, for these stand out fresh and sound long after the petals collapse.

About the end of September the seeds ripen, the pod become brownish, and open at the ends. The seeds are usually black, but sometimes a pod of seeds will be entirely cream-coloured, but they vegetate as freely as the others. The pods should be gathered, and a label placed with each, recording its parentage. Lay them out on clean paper in a room to dry, and the seed can be placed in packets of paper until it is time to sow it. I ought to add, that the process of

hybridising should go on until the flowers fade; and it should be performed daily about noon. The pollen will sometimes be found wet and clammy, but in this state it cannot be used. It must always be taken when in the powder form.

Carnation and Picotee seeds can seldom be obtained out-of-doors; the pods mostly rot in the autumn before the seeds ripen. Even under glass a good pod of seeds will decay at the base, and rot before the seeds are ripe. As a preventive of decay, split the calyx down at two or three places; this process will allow any moisture to escape, and admit air to dry the base of the bulbs. Amateurs must be very watchful over these small details. I crossed pure white flowers, with the merest margin of purple colour on the petals, and obtained many deep purple selfs; one is now in cultivation under the name of Purple Emperor. I believe it is the best purple Carnation. From crosses of yellow Picotees, I obtained rose of various shades, scarlet, and maroon selfs. Two of them obtained first-class certificates under the names of Ruby and King of Scarlets. One grower saves seeds from a yellow self, *Pride of Benhurst*, and raised some hundreds of seedlings, and obtained almost every colour but yellow. He had one yellow variety only, but it was worthless. Sometimes an improvement on both parents is obtained, but we have to wait and watch for this. *J. Douglas.*

CHRYSANTHEMUM GOLDEN GEM.

I received this from Mr. Owen, Maidenhead, last spring as a useful late-flowering yellow variety, and it has fully borne out its character, retaining its flowers in good condition until January 11. It is also one of the best varieties for compactness of growth. My plants, which were in 10-inch pots, were only 16 inches high. If grown in the natural manner without disabbling I consider it without a rival for conservatory decoration, and providing flowers for cutting purposes at the end of the season. But it is not likely to please those who only require morn blooms for exhibition purposes. *W. H. Rivers.*

HOME CORRESPONDENCE.

TECHNICAL EDUCATION FOR GARDENERS.—

Some of the statements which have lately appeared in the *Gardeners' Chronicle* in connection with the above, clearly show that a few of the craft have sadly neglected to avail themselves of the opportunities within the reach of most for acquiring a knowledge of the different departments of science bearing on horticulture, which renders their opinion of little value in such matters. Surely no man is entitled to give judgment on subjects of which he is utterly ignorant. We usually find those men who are most behind the times in scientific knowledge, strongest in their condemnation of its use, and this is due, perhaps, in part to a certain amount of jealousy, for "boary" heads usually exhibit great aversion to being taught anything by youths. But be this as it may, there is not the least grounds for doubt regarding the advantages accruing from the acquisition of scientific knowledge; in fact, unless a gardener makes a study of such subjects as [elementary] chemistry, botany, geology, and scientific agriculture, it is impossible for him to discharge his duties economically and well. By chemistry he is enabled to obtain analyses of soils and plants, but the chemist knows nothing concerning the cultivation of plants, or the treatment of the soil on and in which they grow; then what good could result from his labour, unless the gardener is familiar with this science, and is also able to apply his special knowledge? I remarked an article of the issue of the *Gardeners' Chronicle* for Jan. 30, which dealt with fuels, in which the writer alluded to the need of vapour to support combustion. Now, I would like to ask, how long a time has elapsed since the time Bunsen made the discovery that red-hot carbon decomposed water vapour passed over it, and the time when a gardener described the advantages derived from the presence of water in the ash-pits of garden furnaces? Had this gardener not made himself acquainted with chemistry, in all likelihood we should still have been in ignorance of the facts. Any science to be of service to Art, must first be made a subject of study by those whose labours are confined to that branch of Art, then by their practically applied. Had it not been for the costly experiments conducted and carried on by Sir J. B. Lawes and Dr. Gilbert over a long series of years,

we should probably be still in need of trustworthy information bearing on the scientific cultivation of soil. The county councils, then, in fostering a knowledge of the sciences more closely connected with agriculture and horticulture are endeavouring to raise the intelligence alike of the farmer and gardener, so as to enable each to become a more efficient worker in his respective field. Apart from the power which knowledge gives to its possessor, and which may prove an incentive to some to acquire it, there is the question of how young men in gardens should spend their winter evenings. I suppose those railers at science would say, "Sing, play at cards, attend dances, concerts, and other amusements [Each and all well enough in their way, in moderation, En.]; for this is the only way that I have seen young men kill time who did not study." During the last eight years, I have taught some of the young men under me at this place, situated in Yorkshire, either chemistry, botany, or scientific agriculture; and it speaks well for them, and is encouraging to me, to be able to state that all of them have passed the examinations of the Science and Art Department at South Kensington in all the subjects on which they were examined. I may also add that some of these young gardeners are occupying prominent positions as head gardeners in various parts of the United Kingdom, to their own credit and the satisfaction of their respective employers. Let not young men be dismayed by the disparaging remarks of those who are not initiated in scientific knowledge, but let them look around and see which of those who have once been like them, and who have become conspicuous among their fellows, did not attain to their present eminence through study and application. Let our young men remember, too, that in spite of the carpings of those who regard practice alone as being proficiency, science will continue to advance, and unless the subjects enumerated are numbered among these attainments, they will, in all probability, have to content themselves with a labourer's work at a labourer's wage. *R. C. H.* [As all sides have now been heard, we can give no more space to the discussion in spite of the piles of correspondence before us still unpublished, but we shall have an opportunity of reverting to the subject later on. *En.*]

PRUNING DENDROBIUMS.—Your correspondent, "B. P.," asks if I mean what I wrote under the above heading. I recommend that only in which I thoroughly believe. I maintain that the old pseudobulbs are natural reservoirs, storing up during the rainy season all that which is necessary for the sustenance of the plant during the dry or resting season. In *Dendrobium nobile* we have an easily-grown Orchid, which makes no great demand on the skill of the cultivator, and which grows and flowers without any strict and long period of rest, which is so necessary to those I had in view; hence the old stored-up juices in the old pseudobulbs are sometimes not made use of. The deciduous species of *Dendrobium*, as *D. Wardianum*, *D. crassinode*, and *D. Devonianum*, I have actually seen denuded of the whole of their pseudobulbs, only the young growths being left to struggle on as best they could. This is a very erroneous method of treatment. I have also noticed instances of species which flower from the old stems or pseudobulbs that have been cut back very hard. It is quite safe to remove old stems which may have failed to become plump during summer or growing season, and this may occur to those named above when three or four years old, or even older. No admirer of Orchids would consider a well-preserved old pseudobulb unsightly, but quite the reverse. The removal of the flowers with portions of the growth is an injurious practice to advocate generally or without limitation, and would lead to the loss of the plants when much indulged in. *H. A. Burberry.*

SPARROWS AND FRUIT-BUDS.—The sparrow now and then has someone to say a good word for him, but I regard him as an unmitigated nuisance, and if I had my way with him, I would extirpate him altogether, as the evil and mischief he commits far outweigh any good he does, and I much doubt if the latter ever comes in. If he visits a garden, and there are fruit-bushes, you will find him among them taking out the buds, apparently for amusement, as the greater portion is left on the snow or ground, but he takes a portion—just the tender and tasty middle or embryo blossom and fruit, and discards the other, so that, to appease his voracious appetite, he will soon strip a tree, and spoil the whole crop. Not content with the buds of the bushes, he visits the Peas, and gives his attention to them as soon as they are through the ground, nibbling off the leaves or tops as fast as they grow,

till he destroys—if not stopped—or cripples the plants. Later on, when one plants out the young spring Lettuce, at them he goes, and instead of nice thriving plants, you look and find skeletons, with only the ribs, as all else has gone into his maw. Meantime, Gooseberry and Currant bushes must be protected, which may be done by syringing them with moderately thick lime-wash, with a little soot and paraffin added thereto. Bitter Aloes dissolved in water, and mixed with the lime-wash, is first-rate, and a little of that, harmful as it is to the bushes, goes a long way. For protecting Peas, nothing is equal to black-cotton strained along just above the rows in three lines, one over the middle, and the others close to the sides; and if the cotton is kept supported just clear of the Peas, some 3 inches or so from the ground, no sparrow will venture his precious carcass near more than once. *J. Sheppard.*

FRUIT GROWING IN THE MIDLANDS.—I have read with interest the letters on Apples that have lately appeared in these pages, and much has been written and said on this subject, but I fear that much still remains to be done before we can produce the large quantities of good Apples required to meet our ever increasing consumption. The foreigner seems to have pretty much his own way, and foreign fruit seems always to the fore, and it is always in demand, so far as my experience goes. In this part persons who have Apples to dispose of do so at the time of gathering, and even sell them on the trees, being led to do so from fear of their not keeping in the fruit room. It seems to me that is where the mistake lies. If about half-a-dozen really good keeping sorts were planted extensively, and stored well when gathered until they were ripe, they would fetch the best prices. My employer, Mr. H. P. Markham, is an enthusiastic fruit grower, and he has planted largely Apples, Pears, Plums, and Damsons. The Apples for the most part are planted on grass, and the plantations are well sheltered, which, he thinks, a great consideration, especially as the west winds in autumn would otherwise damage a large amount of our biggest and best fruit. Last year we stored many quarters of really good fruit. Our method of storing is in a large spare cellar under the house, fitted in the usual way with shelving, and the cellar is about 6 feet deep from floor to ground-line, and it is lighted and ventilated by means of windows. Into this place the frost never penetrates, and the air is never quite dry, although it is not too damp for the good keeping of the fruit. But with all this lot of fruit we never sell any, Mr. Markham giving all away to his friends what is not required by his own household. The soil not being all that we could wish for fruit trees (for it is shallow and near the rock), we mulch heavily with good rich manure, and supply copious waterings of liquid manure, both now and throughout the summer. All of our trees are kept pruned, but we cannot get such fine fruit from trees that are pruned with the saw alone as from those which are pruned carefully with the knife or *secateur*. Our trees were planted fifteen to twenty years ago. *Wm. Cory, Sedgemoor.*

ODONTOGLOSSUM CRISPUM.—Your correspondent "C. H. B." in "Amateur's Notes," of *Gardeners' Chronicle* for February 13, in giving his experiences of establishing imported *Odontoglossums*, advises their being laid on mats in a stove, and syringed three or four times a day. This treatment may be successful under his own personal supervision, but with the treatment recommended, ninety-nine out of every hundred amateurs would find most of them rotted at the end of a month. Now, as importations of these plants are at the present time rather heavy, and this season of the year is best for getting them established, I would advise those who may intend laying in a quantity to get them as soon as possible; after looking them over carefully, the old roots should be shortened a little, and the plants laid in boxes on a little damp sphagnum, and placed with a sheet of paper over them in a house which is kept at 50° to 55°. Failing the shading of paper, a mat may be laid on the glass. The stage and under and around the boxes should be kept moist; at the end of a week take them out of the moss, and carefully rearrange them, and at the end of a month with this kind of treatment they will most likely be started into growth. If so, carefully pot them, the few old roots left holding them firmly in the pots with the aid of some wooden pegs. I have twisted a piece of thin copper wire round the base of the oldest bulb, secured to a piece of wire kept close to the pseudobulbs, which holds them nicely; keep the plants in the same house, moistening two or three times a week after they begin to root,

and treating them as one would plants which are established. I have been successful with another mode of treatment: A long narrow pit, with a wall on each side of the path, was filled with clinkers from the garden boilers, the same being so arranged that the surface had a sharp slope towards the walls on each side, and on this was placed a layer, 2 inches thick, of peat, moss, and sand mixed together, and on this were planted the *Odontoglossums*, about 6 inches apart. I put 40 imported pieces out this way last May, and at the present time we have 402 growing plants, many of them showing flower spikes, and have made growth double the size they usually do in pots—in fact, the growths are more like those of two or three years old. With these plants there are about 600 plants which were growing in pots, but as they did not do satisfactorily I turned them out, with the result that they are now rapidly improving. I would advise anyone having a pit to spare, and growing a quantity of this species of *Orchid* to try my plan, as I am sure he will be pleased with the result. It is only a tithe of the trouble and labour attached to any other method. *W. Stevens, Walton Grange, Stone, Staffs.*

VICTORIA REGIA.—It may interest some of the readers of the *Gardeners' Chronicle*, as an indication of the peculiarity of the present season, to hear that I had during four days of the past week a very beautiful, though small flower, of my *Victoria Regia* in full bloom, accompanied by eight perfect leaves about 30 inches in diameter. The flower opened with its usual delightful perfume, filling my tropical-house, but only reached a diameter of 5 inches; it remained perfectly white for a couple of days, and then gradually assumed its usual crimson as it approached its end. I have never yet had a bloom of the *Victoria Regia* later than Christmas Day on the old plants, and the new ones rarely flower till May. In my temperate-house the white and red *Lapagerias* have been in bloom ever since June last—and in August they were luxuriantly abundant; the plants will not have been without a few open blooms during the entire twelvemonths. The Japanese *Loquat* is also now open with its delicious odour, and forms a pleasant variety with the *Camellias* and other spring flowers in the conservatory, and the *Anthuriums*, *Cannas*, *Strelitzias*, and other flowers in the tropical-house. *A. Dixon, Cherkeley Court, Leatherhead.*

ANTHRACITE AS FUEL.—No one that I am acquainted with, who has given anthracite coal a trial for horticultural use, even thinks of using aught else afterwards. This coal possesses decided advantages over any other fuel, when we consider the minimum of labour required in stoking, the extra heat given, the cleanliness in its use, and the perfect freedom from smoke. Of course coke gives no smoke, but it does give off a lot of sulphur, which is most disagreeable to the stoker. Another point about anthracite is the small amount of cost incurred in carting as compared with coke, and to many this is a great consideration when two tons of anthracite are of more value than three tons of coke. It is argued against the employment of anthracite for horticultural use that more difficulty is found in stoking, but that is not so where a man is up to his work. In the first place, it is necessary to ensure a good draught, which is given by a well-set boiler and a fairly-high chimney; in our case the latter is about 20 feet high from the junction of the flue to the chimney top. The boiler is a plain saddle, 4 feet long, with a waterway back, one of the best forms of boiler, not only for the burning of anthracite, but for giving heat also. This one boiler works 3000 feet of 4-inch piping, the houses consisting of vineries, stoves, Melon, Cucumber-hills, &c., and for the year just past our coal-bill is £52 17s. 9d., or, in weight of coal, 51 ton 19 cwt. The method adopted here in stoking is to allow the fire to burn down quite low in the afternoon, which gives an opportunity to clean the bars and corners of the flue connected with the end of the boiler and the water-way back. By this means nothing but clear bright fire is on the bars, an entire absence of ashes or clinkers; a thorough draught is thus ensured. The coal is broken in size rather larger than a cricket-ball; the fire is gradually built up until at the last time, say, 9 p.m., the inside of the furnace is full of fire and fresh fuel. From the time the bars are cleaned in the afternoon, no more stoking of the fire is needed until morning, when, if the weather necessitates, it is cleaned, and the draught regulated accordingly, otherwise the fire is checked until afternoon again. The ashes in the pit are removed daily, the ash-pit is kept damp, a

bucket or two of water being placed in this every afternoon. If everyone would adopt this plan, they would find anthracite a boon, not only in giving heat, but in a saving of labour in stoking. Where so many fail is in allowing the fire-bars to be coated continually with clinkers, the flues at the end of the boiler to be choked, and the ash-pit filled with ashes. It is a mistake to break the coal finer than as above-named, for if so done, the fire is inclined to burn dull. Anthracite is a decided boon to those who have boilers too small for the amount of pipes to heat. I know an instance where the boiler was too limited to contain a sufficient quantity of coke to enable the fire to last until morning. A change was made to anthracite, with the result that the fire was always alight in the morning, and the pipes were also warm. Such facts as these prove the advantage of one class of fuel over another. Where people fail in the use of anthracite is by bad stoking, and improperly constructed chimney and flues. *E. M.*

PEAR, BEURRÉ BALYET PÈRE.—Much has been written and said of late on the best varieties of Pears to plant, but in no statement on the subject have I seen the above Pear mentioned. As a mid-season variety, it is excellent as supplied to me; and it succeeds as a cordon or pyramid on the Quince stock, and is a good hardy, free setting, variety. When fully exposed the fruit is streaked with red, and when ripe it is melting, and of good flavour, and by care it can be preserved till Christmas. The above variety was the only one out of twenty pyramids in a fully exposed row, after the late spring frost of 1891, which set and ripened its fruit, which were in some cases nearly 1 lb. in weight. *John Chinnery.*

SWEET PEAS.—It is known that to secure an early supply of bloom, seeds of Sweet Peas should be sown in pots in February, grown on till the middle of the present month, and then transplanted in the pots just as they are, at 10 inches apart, in some well sheltered spot. Forty such pots would supply a large quantity of flowers. Sow the seed of a first-rate strain, even if the seed be sown thickly. Place them in a cold frame, and shield them from frost. White Sweet Pea flowers are much liked. Mrs. Sankey, one of Mr. Eckford's raising, should be grown—a good thing; in fact, I know of no better. When Sweet Peas are raised in pots and transferred to prepared sets in the open, the leaves at first are tender, and liable to be eaten by slugs, which, however, may be kept away by timely dustings of soot; some protection is also needed for a time, and there is no better plan than placing a few spruce boughs around the plants, putting net stakes to them at the same time. To follow these, there should be a sowing made out in the open in well-prepared trenches, sowing the seed somewhat thickly, and when the plants are about 3 inches high, thinning them out. *H. Markham, Mereworth Castle, Maidstone.*

A WIDELY-TRAVELLED AND USEFUL TIN CAN.—Messrs. Miller, plumbers, Haymarket, Edinburgh, have just repaired for me a tin can which I have carried about with me and used during nearly the whole of the extensive and protracted journeyings performed while employed by the India Office in collecting seeds and plants of various species of quinine-yielding trees (*Cinchona*s) of South America, together with the India-rubber trees of Central America and Brazil for introduction and cultivation in India. The waters of the river Jumbaz, and its tributaries in Northern Peru; the rivers Catamayo and Cayuquill, in the Republic of Ecuador; of the rivers Patia, Daqua, Cauca, Caqueta, and Magdalena in the Republic of New Granada; of the rivers Chagres, and Trinidad, on the isthmus of Panama; of the Amazon, in Brazil; of the Nile, in Egypt; and of the Cauvery, in India, have all been carried in this can! When crossing the Cordillera to the westward of Loxa with the collection of Crown bark seeds which formed the original stock from whence have been derived the numerous plantations of this valuable species in India and Ceylon, the seeds were put in the can with the lid firmly tied down during the descent of the slopes in drenching showers of rain, and thus were securely preserved. Nothing short of this expedient would have succeeded, for owing to the high temperature and densely humid atmosphere of the wooded region traversed, every article of clothing and other objects were mildewed or moulded in a single night. Apart from these services, the can has at one time or other—during our lengthened sojourn in those regions—contained all the different descriptions of food and beverages

in use among thirteen different tribes of South American Indians. *Robert Cross, Victor Park, Corstorphine.*

CALIFORNIA AS A HOME.—Believing the letter of your correspondent of Amador County, California, to be misleading to the people of this country, I beg to reply to it briefly. He makes out there are splendid advantages, in the way of cheap land, rich soil, no storms, no winter, sure crops, and free schools; also wonderful returns from Peaches and Apricots. Having lived some time on my own ranch, which is in the best wine county of California, viz., Sonoma, and situated near Santa Rosa, I will give you a few facts: I paid 100 dollars, or £20, per acre for my ranch. The soil is so poor you cannot grow any vegetables, except on a very small patch out of the many hundred acres, where you can pump water enough to irrigate them every day. Having no rain from one December till the next, as your correspondent says, no storms, no winter, and the temperature averaging about 80°, how would you expect to get a green crop under such conditions? Then, as to the wonderful returns for fruit: I could never get more than about 1 cent per pound for Peaches or Apricots, and from 5 to 7 dollars per ton for Grapes, and I have had to take them 10 or 20 miles as the case may be, and then sometimes to be sold at the canneries and wineries, when I got there, that they did not want them, then; so you may dump them out of your wagon where you like, and that, after working your vineyards for five years before you can gather a crop, and running the risk meanwhile of being eaten clean by locusts, or have the crops spoiled by other causes. Your correspondent says Grapes will not ripen in San Francisco; the fact is, there is no place in which to grow them at San Francisco, for it is nearly all sand-hills. Then he states that from 10 to 5 acres is enough land for a man to get a living on. It is absurd. Not one of my neighbours who owned hundreds of acres, with a great part of it in vineyards, but had to turn out on the roads and otherwise to make a living with their teams. Now for free schools: I admit you do not have to pay a direct school fee, but I think your correspondent should have told your readers how they were supported, and that is, by heavy taxation; every man over 20 years of age, and until he is 60 years old, has to pay 10s. 6d. per annum, or what is known there as the Poll Tax; and then everything else which he possesses, whether real or personal estate, even to his chickens or goat, or his watch, if he is fortunate enough to have one—in fact, everything that he owns, whether in coin or kind, and if he should be fortunate enough to live within a city boundary, is taxed, and he has to pay his estate taxes twice a year—i.e., the city tax and the county tax, which combined may mean 3 dols. in every 100 dols., or 1s. 6d. for every £100 of value he owns, down to his wife's brooch or ring, if she have any. Ladies have to pay for themselves where the property is in their own name. I have just received a letter from California, stating there are hundreds of intelligent men with abilities who would be glad to give their services for their board. I would advise all your readers to have all the facts before them before making California their home. *William Carter, Cheltenham.*

TECOMA CAPENSIS IN FLORIDA.—Your excellent engraving of the flowers of this plant on p. 275 reminds me of its great beauty in Florida, where it has been introduced to some of the flower gardens adjoining the residences of the white people. One plant, which I saw had been trained to a pole about 12 feet high, and had grown to the top, forming a column about 3 feet in diameter at the base, and only a trifle less at the top. At the time I saw it (December 23) this was covered, but not too thickly, with bunches of beautiful scarlet flowers, and formed one of the finest sights among flowering shrubs that I have ever seen. The corymbs on the plant in question were larger than your figure, most of them having from eight to a dozen flowers. It has a peculiar habit in that country of throwing out strong horizontal shoots on the surface of the soil; these appear to grow very quickly until they get from 1 to 2 yards in length, and quite away from the original plant, when they strike root at the end, and throw strong upright shoots, which form lateral branches, and flower. The horizontal running stem survives after these natural layers become good-sized bushes. Those plants that had grown naturally were not more than 4 feet high, but were growing in almost pure sand. The trained specimen before alluded to was more favourably situated in this respect, being

in a slight valley, with a good proportion of black earth among the sand, and plenty of moisture. In addition to this, the weather at that date was about the same as we had in England in June, 1887, clear and hot, with a dense fog occasionally in the early morning, which, to some extent, counteracted the excessive drought. Gardenias, *Hibiscus sinensis*, Cotton-plants, &c., were growing and flowering in close proximity. A plant of this Tecoma which I brought home has flowered twice in the stove here, but the colour is not nearly so good, and the same may be said of the whole appearance of the plant under pot-culture at present. Probably it would succeed much better if we could plant it out in an intermediate-house. *W. H. Divers, Ketton Hall Gardens, Stamford.*

FRUIT PROSPECTS, AND PROTECTING TREES.

—At the time of writing (the end of February), I am glad to say the buds of fruit trees are well backward. Apricots and Peaches, however, are at this season fast swelling their buds, and the first-named showing colour, but as they are late, there are better prospects of having a good crop. What has kept trees back so much is the absence of sun, but in forward seasons a check may be given to the progress of the buds by running down or drawing the blinds for an hour or two during the brightest part of the day, or having fishing-nets fixed, so that they just break the solar rays without much obstructing the light. Some think that fishing-nets are of little or no use as protectors, but I consider them of great value, especially if put up double, as then the meshes cross, and if we get pelting rains, hail, or snow-storms, the net forms a sufficient obstruction to stop their force, and so prevents damage. Not only will nets do this in the case of storms, but when keen, cutting winds prevail, as they often do during March, the net acts as a protection to the tree. Helpful as the net is in the way referred to, its value does not end there, as it intercepts radiation, and therefore increases the warmth by night, and so assists in warding off frosts. Given, then, a narrow glass coping and a double fishing-net made fast to it, and below secured to a rail run along and supported to stakes driven into the ground a yard or so from the wall, and one has an excellent shelter for his fruit trees. In my young days, Spruce Fir branches were thought much of for protecting trees, but they are rarely used now, as the trouble of getting them and putting them on or up securely is great, and they shut out too much of the sunlight from the blossoms. On some of our walls we use an open cloth with the sides bound with strong tape or webbing, and rings sewn on, which run on wires strained just under copings, and near the ground, and the coverings are easily drawn and secured. *J. Sheppard.*

WINEBERRY.—There is no doubt the "Wineberry" and *Robus phoenicolasius* (see pp. 269 and 282) are the same plant. I have heard its hardiness questioned, so I give an experience of a large plant trained on a cut Furze hedge at Oakwood gardens. The severe winter of 1890-91 appeared to cut it very hard, and the bark at the base peeled off; it was as bare as a walking-stick, and I thought its fate was sealed. However, in due time it showed itself to be in vigorous health. The beautiful berries were greatly admired by visitors, and had a pleasant taste. We had to net the plant as the birds attacked the fruit, even before it was ripe. *G. F. Wilson, Heatherbank, Weybridge Heath.*

WATERING COKE.—I quite agree with "Practice" in his note of last week, as regards stoking with the above. During the past winter we have consumed large quantities of coke, and I have always found that, using it rather damp is preferable to a dry state. Also, on banking up, a much steeper and lasting heat can be secured by using coke when slightly moistened. I may also mention, that keeping the ash-pans constantly filled with water helps in a great measure to keep the fires clear, and less liable to clinker. At least I have invariably found it so in connection with the large upright boilers in use here. *T. H. Bolton, Milner Field.*

NEW GARDEN HINGE.—On p. 119 of the *Gardeners' Chronicle* for January 23, 1892, you gave an engraving of a strong and durable hinge. I have certainly found it a very useful hinge for many purposes, and I quite agree with Mr. Piper as to its merits, and also as to the worthlessness of the cast-iron butt hinges. I will not take up space to follow him in his other remarks, but only to tell

him that he cannot patent that hinge, or that if he has done so his patent is worthless, for I have used hinges of the same principle for the last eleven years, and they were made and used many years before that. I was making some lately for myself, and anyone can make them. To be fair to Mr. Piper, I will say when I first used them eleven years ago it was to a ventilator for a small shed in the garden of Mr. William Parke, of No. 6, Jessamine Cottages, White Horse Road, Croydon, Surrey, and I have no doubt they could be seen there now, though I have not seen the place for a number of years. *Thos. Cartwright, Gardener, 77, High Street, Fulham.*

SCOTLAND.

BOTANICAL SOCIETY OF EDINBURGH.

FEBRUARY 11.—The Society met on this date at 5, St. Andrew Square. Dr. Christison, President, occupied the chair.

Flowering shoots of *Aconitum venetum* and *Hamamelis japonica* from the Royal Botanic Garden, and *Chimonanthus fragrans*, *Garrya elliptica*, &c., from Mr. Dunn, Dalkeith Gardens, were exhibited.

An obituary notice of Dom Pedro II., Emperor of Brazil, an Honorary Fellow of the Society, by Dr. R. H. Gunning, was read by Dr. Cleghorne. Eulogistic reference was made to the late emperor's statesmanship, erudition, and scientific attainments, and especially to his encouragement of botany.

A paper entitled "Supplementary Notes on the Marine Algae of the Orkney Islands," sent by Mr. Geo. W. Traill, contained a list of many species not previously found in these islands, including *Calothrix pulvinata*, *C. scopulorum*, *Rhodomenia palmata* var. *tenuissima*, *Corallina mediterranea*, and *Dicysiphon suppuroides* var. *fragilis*. The last-mentioned is now first recorded as a British form.

Mr. Arthur Bennett, F.R.S., sent "Notes on the Records of Scottish Plants for 1891." The total number of new stations recorded for the year is 320, the largest number, 59, being from West Inverness, by Mr. Druce. The author recommended careful search in the islands of the Outer and Inner Hebrides as likely to be profitable. Commenting on the paper, doubt was expressed by Professor Balfour and Doctor Craig whether *Eriophorum alpinum* had ever been gathered on Craig Chaillich, Perthshire.

Professor Balfour gave an account of the life-history of the Mistletoe, illustrated by a large number of lantern illustrations.

Mr. W. Etherington Dixon, Associate, read a paper on "Economic Orchids," in which he narrated instances of very high prices given for plants, and gave a review of the medicinal and other uses to which certain species were put.

Report on Temperature, &c., at the Royal Botanic Garden during January.—The weather was exceedingly cold and frosty, with much snow during the early part of the month. Frost was registered every night in succession but one, from the 1st till the 25th, after which the temperature rose rapidly till the end of the month. Such a long continuance of frosty nights is unusual, but at no time was it very severe. The lowest readings were on the 8th, 22°; 10th, 22°; 13th, 21°; 16th, 22°; and 17th, 22°. Although the lowest reading was thus only 11° of frost, the collective amount for the month was 136°, as against 126° for the corresponding month last year. The lowest day reading was 33° on the 11th, and the highest 65° on the 29th of the month. Very few plants came into flower in January. Of the forty selected plants whose dates of flowering are annually recorded to the Society, only one came into flower, viz., *Galanthus plicatus*, on the 26th. At the same date last year, five were in flower, and in January, 1890, as many as eighteen of the forty had flowered. On the rock garden, the following came into flower:—*Galanthus plicatus*, *Polygala Chamæbuxus* var. *purpurea*, *Geum minimum*, *Hepatica angulosa*, *Helleborus purpurascens*, and *Primula variabilis*.

Mr. Bullen's Report on Temperature, &c., at the Botanic Garden, Glasgow.—The temperature was at

or below the freezing-point on seventeen nights, during the first three weeks. The last week was unusually mild, with frequent light rain, and at times stormy; 10° of frost was registered during the nights of the 9th and 15th respectively. The total night frost was only 64°, and four times at freezing point. Owing to the unusually high temperature of the last week, the mean for the month is comparatively high. Snow fell during the night of the 6th, and owing to the continuous frosts, the ground presented a very wintry appearance till the 17th, when the temperature gradually became higher as the month came to a close. The readings for the last eight days varied from 40° to 51°, and at night from 40° to 47°.

ABERDEEN UNIVERSITY NATURAL HISTORY MUSEUM.

The scope of the recent extension at Marischal College, Aberdeen—for which the Government gave £5400—is evident in the extensive improvement and enlargement of the Natural History Museum. This Museum in its unregenerate condition—for its condition hitherto, through no fault of the Curator, Professor Alleyne Nicholson, might fitly be described in such terms—has long been familiar to those frequenting Aberdeen University Buildings. That the elements of a representative museum of natural history were there seemed certain, but from want of space, and from other causes, the collection was neither particularly useful nor pleasant to look at. Under the hampering influences of inadequate funds and meagre accommodation, the Museum has remained till now in an unsatisfactory state, from which no amount of enthusiasm or scientific skill could rescue it. Even by the aid of that portion of the grant to which the department of natural history was entitled, Professor Nicholson has not been able to do what he wished to do, and yet the Museum has undergone a transformation which even to the casual observer bears the impress of the extraordinary painstaking labours of Professor Nicholson and his assistant, Mr. T. W. Ogilvie. For months past they have been engaged on the laborious process of putting the old material into ship-shape, and arranging the new material, much of which Professor Nicholson has presented to the University. The Museum in its present condition looks quite different to the somewhat dingy place it used to be. All the old specimens have been cleaned, and every specimen has been re-labelled. The labour involved in the process of labelling alone has been enormous, but in this way the Museum is rendered extremely useful to the students. The most striking feature of the improvements is the enlarged accommodation. The natural history department now consists of a suite of some half-dozen rooms. With the enlarged accommodation at his disposal, Professor Nicholson has devoted the main hall to zoology. Every inch of space available has been utilised. From floor to ceiling the walls are covered with cases, while along the entire length of the hall run two parallel rows of floor cases. The hall looks very handsome, and bears on every hand traces of the Curator's skill and labour. The re-arrangement of the specimens has been carried out on an extensive scale. In the floor cases, there are the elements of the vast subject which Professor Nicholson has to deal with, namely, the protozoa. The development of the protozoa is carried out in a clear and concise manner, Professor Nicholson's skilled draughtsmanship being conspicuous everywhere. The galleries are devoted to fishes and reptiles, while the mammalia are located in the ground cases. The geological collection occupies part of the extended wing. It is an extremely interesting collection, and is largely the production of Professor Nicholson, who has presented numerous rare specimens to it. This room is perhaps half the size and height of the main hall, but here also all the space is already utilised. The walls are lined with cases, and a series of lower cases cover the floor. In some departments the geological collection is unequalled anywhere, and for the student it will prove extremely useful.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.

A meeting of the acting directors of this Society was held in Aberdeen on Wednesday evening, February 24, to consider the arrangements for the forthcoming floral *fête*. There was a full attendance of the directors, Baillie Crombie presiding. After a good deal of conversation, it was agreed to hold the annual exhibition of the Society at Central Park, Kittybrewster, Aberdeen, on Thursday, Friday, and Saturday, August 18, 19, and 20; and that cavalry sports be held in connection therewith. It was remitted to the Secretary (Mr. A. M. Byres), and Sir Arthur Grant to carry out the necessary arrangement for the sports. The other business was routine.

We understand that a requisition is about to be sent to the Secretary of the Society requesting that a special meeting be called to discuss the question of holding cavalry sports in connection with the flower show. The requisitionists are strongly opposed to any such proposal on the ground, not only that the result will be the sacrifice of the flower show, but also on account of the financial risk involved in the venture.

GARDENING NOTES.

THE latter part of the article by "Semper Paratus," p. 212, will, I feel sure, commend itself to every fair-minded, intelligent, and practical gardener, in so far as it relates to certificates and gardeners' engagements.

Seven years ago the same idea occurred to me, and so strongly did I feel with regard to it, that I had serious thoughts of trying to start an association for providing employers with suitable men, and vice versa; but between doubts entertained as to securing sufficient influence for a start, and circumstances at that time arising likely to alter my then position, the matter was dropped.

BUT as "S. P." mentions a society for this purpose, and as no new society which might be created could have half the weight and influence which is already wielded by the Royal Horticultural Society, and as many ladies and gentlemen all over the kingdom are already members or fellows of the Society, they would have no hesitation in resorting to it when in quest of suitable men. Let us hope, therefore, now that the Royal Horticultural Society has (according to your leader in the issue for February 20) passed through the slough of despond—or despair, shall I say? that the grass will not be allowed to grow under our feet until this matter has been taken up in a manner so hearty and enthusiastic as to bode a speedy settlement, on a basis broad enough to include all those grades mentioned by "S. P.," but, at the same time, stringent enough to prevent interlopers and dummies from passing through the lines, and so ensure patrons getting only such men as they may apply for. This may easily be effected by the council of the Royal Horticultural Society creating a committee to formulate a scheme, and to deal with the whole matter in detail.

If I may be allowed a suggestion here, the latter could be carried out on some such lines as these, viz., let all gardeners of every grade caring to patronise it send in their names for registration in their respective classes, giving at the same time all particulars as to age, whether married or single, the number of family, length of service in present and at least two previous situations, and in what capacity, where and under whom they served their apprenticeship, &c.

NOW for the proper test. At quarterly meetings of this committee, all those concerned within a given radius from London to appear before them, when papers would be set each class or grade, to be answered or filled-in in a given time, when Certificates of Merit would be granted individually, according to merit or according to a given number of points gained, as is done in the Civil Service examinations. It will be understood that the papers set should be kept secret until examination day. For outlying centres throughout the country, sub-committees would have to be appointed. Of course, those who failed in these examinations would be eligible to come up again.

THIS, to some, may appear a somewhat tedious and clumsy procedure, but looked at broadly, there appears to be no reason why it should not work smoothly. Our young and middle-aged gardeners would be, I am certain, only too glad to secure, at whatever slight personal expenditure and study it might cost them, one of these certificates which ought—looking at the honour and the source whence obtained—to be an open sesame to the holders in securing such situations as their abilities thus shown ought to entitle them to.

IN the other parts of "S. P.'s" article great inconsistency is exhibited, which cannot fail to attract the most casual reader. After having delivered himself in terms anything but favourable to the lecturers now engaged on behalf of various county councils, he goes on to ask these very men, whom he has so deliberately lashed, to use their eloquence to raise the status of the gardener out of the depths of degradation and obscurity into which he says they have fallen.

We should certainly have thought that "S. P.'s"

me, are all practical gardeners. How, then can "S. P." tax them with giving far-fetched lectures, or propounding false theories? *Pomum*.

THE BULB GARDEN.

GALANTHUS CAUCASICUS.

THIS charming *Galanthus* is now flowering at Tottenham, and although not so useful as *G. Elwesii*, it still possesses sufficient attractions to entitle it to a place amongst the early spring bulbous plants. Being a plant of recent introduction, it is, as yet, comparatively scarce. It is a very distinct species, the foliage being of a deep glaucous green, and the flowers white, with a large and very conspicuous green blotch on each of the outer segments. It is quite hardy, and very free-flowering.

GALANTHUS FOSTERI.

This is a *Galanthus* of recent introduction, in

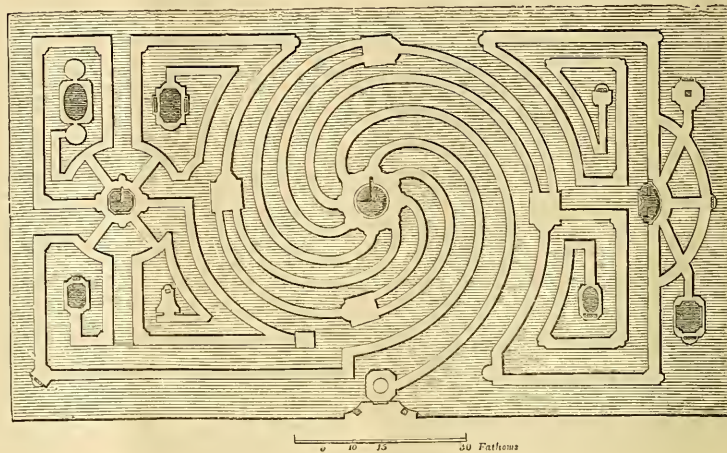


FIG. 44.—PLAN OF A MAZE. (See "Notices to Correspondents.")

young men, with the fundamental nursery training, &c., and arrived at the mature age of thirty years, armed with that power and knowledge sufficient to excite the envy of professors, &c., would at least have risen to positions far removed from degrading obscurity without the aid of the eloquence of a lecturer. Very many young men have had a nursery training, have had the requisite number of shifts, have also seen the best practice as carried out in gardens both north and south, and having arrived at the age of thirty, yet have never exhibited any powers or knowledge worth speaking of—certainly not sufficient to excite anyone's envy.

There is something more required, I may assure "S. P.," beyond the curriculum laid down by him to enable men at the age of thirty, possessing powers and knowledge which a professor might envy; and unless they possess this something, they will, I fear, still abide in their obscurity, despite the aid of lecturers.

A word as to these latter. If "S. P." means by these, county council lecturers, he is labouring under a misapprehension as to their duties. These lectures, so far as I am aware, were never intended to advance either the status or education of gardeners in the rudiments or otherwise of their profession, but cottagers or allotment holders only, or only those who never have had the advantage of a garden training; and the lecturers now at work, so far as known to

appearance resembling a gigantic form of *G. latifolius*, having broad and very deep green-coloured leaves, and large white flowers, tipped with green; and it is distinct from any other species. Being thoroughly hardy, it is a nice acquisition to the genus. *E. S.*

COLONIAL NOTES.

SPORTS.

IN reading a report of a paper read at the National Chrysanthemum Society in November last, and published by you, I noticed that Professor Henslow, speaking of sporting in plants, puts down climatic changes as being in a great measure the cause of this, and I send you a few facts that have some bearing upon the same thing. I had sent me some seed of *Papaver nudicaule* in the three colours, imported from Tottenham, and was surprised to see at flowering-time that 95 per cent. of the orange-scarlet had changed to yellow, being orange-scarlet only whilst in bud, opening generally a clear yellow, but now and again with orange streaks in them, so that I had to discard this colour altogether in selling them. The whites and yellows were very clear in colour, but very abnormal; about 20 per cent. were semi-double in character, and 5 per cent. as double as a Poppy Anemone. When the last named

came single, they were as large as the Shirley Poppies in many cases. Another batch, grown 30 miles away, by a nurseryman friend of mine, from Cannell's seed, came exactly similar, so that these changes were undoubtedly due entirely to climate. I have seen many new plants imported into the old country when at Kew and Tottenham, but I never saw such a striking case. If selected doubles come true when sown again, I will send some to England, and have their permanency tested. Plants under cultivation with us, of course, have a more generous climate than yours; but when not under cultivation, our summer acts the part of your winter, the droughts killing a great part of the garden plants as well, if they are not well looked after. I have thought several times of sending you an article on Australian gardening, as your past records are very poor in this respect; but in a new country our time for literary work is very limited. [Please do not. En.] F. Elsom, The Nurseries, Canterbury, Melbourne.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

RATING OF GREENHOUSES.—This question came before the magistrates at the Hammersmith Vestry Hall, on February 24. Messrs. Collins & Collins disputed the assessment on their nursery, on the ground that under the Public Health Act of 1890, Orchards and Nursery Grounds were exempt from extra rates, other than that charged on the usual cultivated land. The magistrates decided against Messrs. Collins, on the ground that the Act does not apply to London. This seems a great anomaly. Can you or any of the readers of the *Gardeners' Chronicle*, say whether any cases have been decided elsewhere in the County of London. E. C.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.				
	ACCUMULATED.										
	Above (+) or below (—) the Mean for the week ending February 27.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 1, 1892.	Below 42° difference from Mean since Jan. 1, 1892.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1892.	Total Fall since Jan. 1, 1892.			
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.				
0	1	3	39	—	5	105	8	45	92	31	17
1	3	0	46	—	10	99	1	—	43	42	21
2	2	0	32	—	6	8	0	aver	31	30	8
3	1	5	33	—	13	81	1	—	31	35	14
4	1	6	31	—	10	88	1	—	32	33	11
5	1	13	21	—	12	41	2	—	28	24	23
6	1	6	27	—	10	75	9	—	38	52	12
7	aver	10	56	—	17	65	3	—	34	52	31
8	1	22	8	—	23	45	1	—	38	52	36
9	1	13	13	—	35	41	8	—	38	50	22
10	aver	24	11	—	38	53	4	—	36	64	16
11	1	29	0	—	8	11	1	—	45	58	30

The districts indicated by number in the first column are the following:—
Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.
Principal Cereals, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending February 27, is furnished from the Meteorological Office:—

"The weather during this week was much less wintry, and unsettled than during the preceding week, but much wet fog and mist were experienced during the latter part of the time. The rainfall was generally slight, but some rather large amounts were recorded at Scilly and in 'Ireland, S.'"

"The temperature was a little above the mean in 'England, S. and S.W.', as well as in 'Ireland, N.' and the 'Channel Islands,' and just equalled it in 'England, N.W.' and 'Ireland, S.'; in all other districts, however, it continued below the normal, the deficit ranging from 1° to 3°. The highest of the maxima were registered in most cases on the 25th, and varied from 55° in the 'Channel Islands,' and 54° over Ireland and in 'England, S.,' to 46° in 'England, E.' The lowest of the minima were recorded on the first day of the period, when the thermometer fell to 11° in 'Scotland, E.' (at Nairn), 19° in 'Scotland, N.,' 20° in 'Scotland, W.,' and to between 25° and 31° in most other districts, and to 39° in the 'Channel Islands.'"

"The rainfall exceeded the mean in 'Ireland, S.' and the 'Channel Islands,' as well as in 'Scotland, E.,' and equalled the normal value in 'England, N.E.' In all other parts of the Kingdom there was a deficit. In 'England, S.,' 'Scotland, N. and W.,' and 'Ireland, N.,' the fall was very slight."

"The bright sunshine exceeded the mean in 'England, W.' and in 'Scotland, N.'; but was deficient elsewhere. The percentage of the possible amount of duration ranged from 36 in 'England, S.W.,' 31 in 'Scotland, N.,' and 30 in 'England, N.W.' and the 'Channel Islands,' to 23 in 'England, S.,' 11 in the 'Midland Counties,' and 8 in 'England, N.E.'"

MARKETS.

COVENT GARDEN, March 3.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

MARKET quiet, but prices are well maintained. Large consignments of 'Tomatoes, Potatoes, and Beans from the Canary Islands and Madeira to hand, at lower values. James Webber, Wholesale Apple Market.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Acacia or Mimosa	1 6-20	Narcissus, paper-	2 6-40
French, per bunch	2 0-40	white, (various),	—
Arum, per doz.	0 6-80	Narcissus (various),	—
Azalea, p. doz. sprays	0 6-80	Scilly-doz bunches	2 0-40
Camellias, white, doz.	2 0-30	Orchids	—
— red, per doz.	1 0-16	Cattleya, 12 blms.	6 0-120
Carnations, 12 blms.	2 0-30	Odonotolossium	—
Cinerarias, per doz.	0 12-10	crispum, 12 blms.	3 0-60
— bunch	0 9-120	Pelargoniums, scar.	6 0-90
Daffodils, double per	3 0-40	let, per 12 bun.	6 0-90
dozen bun.	3 0-40	— 12 sprays	0 8-10
— single	4 0-60	Poinsettias, 12 blooms	0 0-30
— French	4 0-60	Primrose, doz. bun.	1 6-30
Eucharis, per dozen	4 0-60	Primula, sing., 12 bun.	4 0-60
Freesia, dozen bun.	2 0-40	Roman Hyacinths, 12	—
Gardenia, per dozen	4 0-80	French bunches	2 0-40
Heliotrop, 12 sprays	0 6-10	Roses, Ten, per dozen	1 0-30
Jonquils, French bun.	1 6-30	— coloured, dozen	2 0-40
Lilac white (French)	—	— yellow (Maré-	4 0-90
per bunch	5 0-60	chal), doz.	4 0-90
Lily of the Valley, per	6 0-100	red, per dozen	4 0-60
doz. sprays	0 6-10	Snowdrops, doz. bun.	1 0-30
Maiden Hair Fern,	0 6-10	Tuberose, 12 blms.	1 0-20
12 bunches	0 6-10	Tulips, p. doz. blms.	0 8-16
Marguerites, per doz.	0 30-40	Violets, Parme, per	2 0-30
Nigella, per doz.	0 6-10	— bunch	2 0-30
— bunches	0 40-60	— Clar, per bunch	1 6-20
—	—	— English, 12 bun.	1 6-20
—	—	Wallflowers, French,	2 0-40

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-120	Ferns, per 100	5 0-150
Arum, per dozen	0 12-10	English, elastica, each	1 6-10
Aspidistra, per doz.	18 0-40	Goniat, per dozen	9 0-150
Azalea, per doz.	38 0-60	Hyacinth, Dutch, doz.	6 0-90
Begonias, per doz.	0 12-10	Lily of the Valley, per 20	0 30
Cineraria, per doz.	8 0-10	Marguerites, per doz.	6 0-120
Cyclamen, per doz.	12 0-18	Primula sinensis, doz.	4 0-60
Cyperus, per dozen	4 0-10	Palms, various, each	2 0-210
Draacena, each	1 0-50	— specimens, each 10	8 0-40
Erica byrnalis, per dozen	—	Pelargonium, Scar. let, per doz.	6 0-90
Erica gracilis, doz.	6 0-120	Solanum, per dozen	9 0-120
Ferns, various, doz.	4 0-90	Tulips, per doz. pots	6 0-80

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Apples, Canadian and Nova Scotia, per barrel	10 0-25 0	Kent Cobs, 100 lb.	6 0-10 0
Apples, 4-sieve	1 0-4 0	Lemons, per case	6 0-14 0
Grapes	1 8-3 6	Pine-apples, St. Mi-chael, each	2 0-6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.		s. d. s. d.	
Artichokes Globe, each	0 4-0 6	Lettuces, per doz.	1 6-2 0
Beans, French, lb.	1 6-2 0	Mushrooms, p. bunet	2 0-—
Beet, red, per dozen	2 0-3 0	Mustard and Cress, p. bunet	0 4-—
Carrots, per bunch	0 4-0 6	Parsley, per bunch	0 3-0 6
Cauliflowers, each	0 3-0 6	Seakale, p. basket	2 0-3 0
Celery, per bundle	1 0-3 0	Shallots, per lb.	0 6-—
Cucumbers, each	6 0-1 3	Spinach, per bushel	3 6-4 0
Endive, per dozen	2 0-3 0	Tomatoes, per lb.	6 0-1 0
Herbs, per bunch	0 8-1 0	Turnips, per bunch	0 4-0 6

Best samples still maintain their price. Many lots are coming to hand affected by recent severe weather, which sell at low price. The probable tendency will be upward for lots free from frost. Best, 90s. to 100s.; Medium, 70s. to 90s.; Blackland and Inferior Magoums, 60s. to 70s. J. B. Thomas.

SEEDS.

LONDON: Feb. 29.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., report a greatly improved feeling in the trade, considerable quantities of Clover seeds having changed hands at full prices. American red especially exhibits a substantial advance. Other varieties are steady. More doing in Tares. Canary seed is now cheaper in London than Liverpool, which is most unusual. Peas in improved request. Mustard and Rape seed firm. Linseed dull. Haricots unchanged.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure, for the week ending February 27, and for the corresponding period last year:—1892: Wheat, 32s. 8d.; Barley, 27s. 10d.; Oats, 20s. 1d. 1891: Wheat, 32s. 4d.; Barley, 27s. 5d.; Oats, 18s. 2d.

FRUITS AND VEGETABLES.

SPITALFIELDS, March 1.—Quotations:—Savoys, 1s. 6d. to 3s. 6d.; Cauliflowers, 1s. 6d. to 10s. 6d. per tally; Greens, 1s. to 1s. 6d.; Turnips, 1s. 6d. to 2s. 6d.; Carrots, 1s. to 2s. 6d. per bunch; Spinach, 1s. to 1s. 6d. per bushel; Turnips, 2s. to 3s. 6d.; Swede-tops, 1s. to 2s. 6d.; Sprouting Broccoli, 1s. to 2s. per sack; and 1s. to 1s. 6d. per sieve; Endive, 1s. to 1s. 6d.; Cabbage Lettuces, 4d. to 1s.; Leeks, 2s. to 3s.; Beetroots, 3d. to 4d. per dozen; Mustard and Cress, 1s. to 1s. 6d. per dozen baskets; English Onions, 6s. 6d. to 7s. 6d. per cwt.; Bordeaux do., 4s. 6d. to 5s.; Spanish do., 6s. 6d. to 7s. 6d. per case; Celeriac, 4d. to 1s.; Horse-radish, 1s. to 1s. 1d. per bundle; English Apples, 2s. 6d. to 3s. per bushel; American do., 12s. to 20s. per barrel; foreign Tomatoes, 1s. to 1s. 6d.; Seakale, 1s. to 1s. 6d. per p. bunet; Parsnips, 4d. to 6d. per sieve.

BOROUGH, March 1.—Quotations:—Savoys, 3s. to 5s.; Broccoli, 5s. to 7s. 6d. per tally; Sprouting ditto, 1s. 6d. to 2s. 6d.; Turnip-tops, 1s. 6d. to 2s. 6d. per bag; Spinach, 1s. 6d. to 2s. per bushel; Brussels Sprouts, 1s. 3d. to 1s. 6d. per half sieve; Greens, 1s. 6d. to 1s. 9d.; Turnips, 1s. 6d. to 1s. 9d.; Carrots, 1s. 3d. to 1s. 9d. per dozen bunches; English Onions, 6s. to 7s. 6d. per cwt.; Apples, 2s. 6d. to 6s. per bushel; Canadian do., 11s. to 20s.; Newtown Pippins, 15s. to 28s. per barrel.

STRAATFORD: March 1.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done at the undermentioned quotations:—Savoys, 2s. 6d. to 6s. per tally; Greens, 1s. 3d. to 1s. 6d. loose; do., 1s. 6d. to 2s. per dozen bunches; Cauliflowers, 1s. 6d. to 1s. 9d. per dozen; do., 3s. 6d. to 7s. per tally; Turnip-tops, 2s. to 3s. per bag; Broccoli, 2s. to 3s. do.; Brussels-tops, 3d. to 1s. do.; Brussels Sprouts, 1s. to 1s. 6d. per half sieve; do., 2s. to 2s. 6d. per bundle; Celery, 1s. to 1s. 6d. per roll; Horseradish, 1s. to 1s. 6d. per bundle; Turnips, 2s. to 3s. per dozen bunches; Carrots, household, 3s. to 40s. per ton; do., cattle-feed, 15s. to 32s. per ton; Parsnips, 6d. to 10d. per score; Mangels, 16s. to 18s. per ton; Swedes, 15s. to 22s. do.; Onions, English, 100s. to 140s. per ton; do., Dutch, 3s. 9d. to 4s. 6d. per bag; do., Bordeaux, 3s. 9d. to 4s. 3d. per case; Apples, English, 2s. to 5s. 6d. per bushel; do., American, 14s. to 20s. per barrel.

POTATOS.

SPITALFIELDS: March 1.—Quotations:—Magoums, 52s. 6d. to 70s.; Imperators, 60s. to 80s.; Hebrons, 60s. to 80s.; Main Crop, 70s. to 90s.; Snowdrops, 80s. to 70s. per ton.

BOROUGH: March 1.—Quotations:—Hebrons and Elephant 70s. to 90s.; Imperators, 60s. to 85s.; Bruce Magoums, 60s. to 90s.; Dunbar Magoums, 90s. to 105s. per ton.

STRAATFORD: March 2.—Quotations:—Magoums, 50s. to 70s.; Imperators, 85s. to 75s.; Bruce Magoums, 60s. to 75s. 6d.; Scotch do., 65s. to 75s.; Main Crop, 90s. to 110s. per ton.

NOTICES TO CORRESPONDENTS.

ARSENIC AND WEEDS: *J. A. V.* It will kill vegetation on walks, including the Grass verges, &c., but it is a dangerous substance to employ for the purpose; dogs and cats rolling on it, and afterwards licking their coats, may be poisoned; also domestic fowls, pheasants, &c. It is safer to employ common salt, spreading it evenly and thinly over the surface in dry weather in May, but not nearer than 8 inches to the live edgings. If you have the means of boiling large quantities of water, weeds may be killed at any season and in any kind of weather, by distributing boiling water, in which 1 lb. of salt to the gallon is dissolved. Do not use tinned cans, or those which are painted. Very dirty walks are better if the surface gravel be turned over with a steel digging fork.

BEGONIA SEED: *T. H.* Unless you can afford your seedling tuberous Begonias a humid temperature of 60° to 65° at night, and 75° to 80° by day, progress will be very slow for some time yet.

BOOKS: *F. N. Villa Gardening* (Ed. Hobday), Macmillan & Co., Bedford Street, London, W.C.

BUILDINGS ERRECTED BY TENANT: *S. N.* The buildings being of brick or stone, with foundations in the soil, remain the property of the freeholder, notwithstanding all oral promises, or agreements to the contrary, that your father may have obtained from the previous owner of the land. In any case you should consult a lawyer.

CUCUMBER-HOUSE: *F. N.* Your house, as shown in the sketch sent, will do very well for summer Cucumbers, when no top-heat would be required after the beginning of June; and, although not heated with hot-water or a fire, it could be made to grow early Cucumbers, &c., by means of dung linings, if it be constructed of boards, or with pigeon-holed walls of brick.

EUCHARIS AMAZONICA *syn. GRANDIFLORA.* *W. J. B.* A native of New Grenada. We doubt if its blossoms grow any larger under cultivation than in its native habitat.

FERDINANDA *SPS. SEEDS:* *T. H.* Start them in hot-bed with a night temperature of 65°, bottom heat 80°, day warmth 80° to 85°, with ventilation. Your object should be to get them up quickly. Grow them on afterwards in a somewhat lower degree of warmth, shifting them into larger pots as the season advances, obtaining in that way good strong plants for planting out in June. The second week in March will be soon enough to sow seed.

GLOBIOSA DISEASED: *G. B.* The roots appear to have been injured by woodlice or other insect, and decay has set in at the injured place.

MAZE: *Cherry Blossom.* See p. 312, fig. 44.

MOSS: *Enquirer.* A moss is a plant and it lives upon what it can get, and what it can itself make out of water, earth, air, heat and sunlight. If you mean a lichen such as grows on old apple trees, and which is often wrongly called moss, then, the matter is more complicated, as such plants are really compounds of a fungus and an alga, the fungus lives at the expense of the alga, but the alga probably gets some benefit from the fungus in its turn, and so the two live together, each not for itself only, but for its associate also.

NAMES OF FRUIT: *G. Gilman.* Apple not known—nor any better than a crab.

NAMES OF PLANTS: *T. H. No. 3.* *Fuchsia thymifolia.*—*W. B.* 1, *Cupressus torulosa* var. *Corneana*; 2, *Tsuga canadensis*, probably; 3, *Cupressus Goveniana*. *M. T. M.*—*G. Abbey.* *Cattleya Triana*, an ordinary variety, *J. O'B.*—*Shepherd.* *Iris ambriata.*—*R. W.* *Eucomis punctata.* The bulb sent is strong enough to flower, but it seems to have scarcely had the necessary winter's rest, the growth being so forward for this part of the season. Grow the plant in the greenhouse. It should remain in the soil in the winter, and not get much water. The best place for it at that season is a bed of coal-ashes in a cold pit from which frost is excluded.—*N. J. B.* *Eucharis subcordata.*—*J. Wallace.* 1, *Spirella formosissima*; 2, *Reineckia carnea variegata*; 3, *Olearia Haastii*; 4, *Azara microphylla*; 5, *Stachys lanata*; 6, *Buddleia globosa*—sometimes it gets cut by frost.—*G. Abbey.* 1, *Camellia*, *Targioni*; 2, *C. eximial*; 3, *C. conspica*; 4, *C. Prince Albert*; 5, *C. imbricata*,

W. P. & Sons.—*R. M.* *Mormodes linoxatum* and *Dendrobium Wardianum*, the latter not remarkable.—*G. H.* 1 and 2, Both forms of *Quercus Ilex*. Such question, not being one concerning finance or advertisement business should have been sent to Editor.—*A Constant Reader.* 1, *Abies pectinata*; 2, *Abies pectinata*; 3, *Abies Lowiana*; 4, *Abies pectinata*; 5, Probably the cork Oak; 6, *Berberis Darwinii*. This is the nearest approximation we can make; it is impossible to name such detached pieces.—*E. D. L.* 1 and 2, seedling *Hellebores*; 3, *Polypodium ensiferum*; 4, *Davallia pentaphylla*; 5, *Reineckia carnea variegata*; 6, *Aloe variegata*. *M. T. M.*—*A. W.* *Dendrobium speciosum.*—*Alpha.* 1, *Begonia*, garden hybrid, probably of *D. spatulata*; 2, *Chorozoya ilicifolia*; 3, *Asparagus plumosus*; 4, *Hibbertia dentata.*—*G. H.* 1, *Asparagus plumosus* var. *tenuissimus*; 2, *Gnidia simplex*; 3, *Sparmannia africana*.

ONTOGLOSSUM CRISPUM: *H. W. W.* Very refined flowers, belonging to the set usually called gut-tatum.

POTASH AND VINES: *G. T. B.* Without potash in the soil, the stem of a Vine will not reach a fourth of the dimensions it would attain were it present. The leaves do not reach their full development, and in the hottest time of the year they become red and spotted with black, after which they become dry and are readily reduced to powder under pressure of the fingers. Potash, however, is rarely deficient in garden soil.

ROMAN HYACINTHS AND DAHLIAS: *J. B.* These roots are so cheap that it is scarcely worth your while to save them after blooming; but should you decide to do so, give them less and less water till the foliage begins to change colour, when no water should be afforded. Store in a dry place. Dahlias may be planted whole or divided in early May; or they may be split up with a bud or two to each tuber or tubers, potted in light rich mould and started in gentle heat, and when new roots have formed, put into the greenhouse and then out of doors or in a cold frame; planting them out at the end of May. If cuttings are required, put the roots in boxes or on the floor of a forcing house in a light part, and just cover them with leaf mould, taking the cuttings when they are 3 inches long. Strip them off, do not use a knife, and root them in a mild bottom heat.

TAN CONSISTING OF *MYROBALANS* AND *VALONIA:* *W. J. B.* The first are the fruits of several species of *Terminalia*, and the latter the acorn cups of *Quercus Egilope*, have no value as manure until they are completely decayed, when their value as such would be rather less than that of leaf mould. Dug into the earth in the fresh state they would merely exert a mechanical effect in rendering it porous, and they would doubtless be injurious to plant life in large quantities. There would be no harm in trenching them in—in quantity where the soil is dug three spits deep, turning them into the bottom of the trenches; and as such land would not be trenched again for a period of four or five years, the tan would by that time have been in great part decomposed.

TRECOMA CAPENSIS: *P. C. S.* and *A. P.* Obtainable through any good nurseryman. The flower when well grown is about 2 inches long, so that our engraving is slightly reduced.

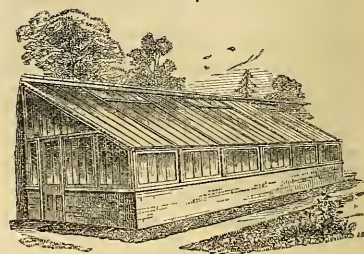
TO DISSOLVE BONES: *W. H.* Mix in an earthen pit or on a stone floor with sulphuric acid, and when dissolved mix the acid phosphate with unburnt plaster of paris. Another mode, but which takes a year in its execution, is to place layers of fine woodashes and bones 6 inches thick alternately in a water-tight vessel, with a layer of fine dry earth at the bottom, expose it to the air for one year, when it will be found that the bones have dissolved.

UNDERGROUND WATERING OF GARDEN CROPS, &c.: *Gizors.* The method is not new—in fact, it has been practised in Paris for supplying the street trees with water. Our gardeners also practice a variation of the method in watering Vine-borders, and in supplying diluted liquid manure to Cucumbers, Melons, &c.

COMMUNICATIONS RECEIVED.—*H. W. W.*—*H. M. P.*—*C. D. E.* *Sierre.*—*A. W. B.*—*R. V.* & *Sons.*—*E. P.*—*F. W. M.*—*W. H. D.*—*J. W. G.*—*J. Moody.*—*S. Hardy.*—*W. A. C.*—*J. B. T.*—*W. W. B.* *Hardland.*—*S. P. C.*—*H. B.*—*E. M.*—*T. H. S.*—*H. J. S.*—*A. Pearl.*—*R. A.*—*W. D.*—*A. E.*—*W. E.*—*T. S. T.*—*C. A.*—*C. J. W.*

W. H. LASCELLES & CO.,

HORTICULTURAL BUILDERS,
121, BUNHILL ROW,
LONDON, E.C.



CONSERVATORIES, GREENHOUSES, ORCHID HOUSES, VINERIES, PEACH HOUSES, &c.

Plans and Estimates Free.

STOCK	Inches.	SIZES	Inches.
14x12	20x15	20x15	20x15
16x12	20x16	20x16	20x16
18x12	22x16	22x16	22x16
20x12	24x16	24x16	24x16
18x14	20x18	20x18	20x18
18x14	22x18	22x18	22x18
20x14	24x18	24x18	24x18

21-in. and 15-in. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."

GEORGE FARMILOE & SONS,

LEAD, GLASS, OIL, and COLOUR MERCHANTS,

34, St. John Street, West Smithfield, London, E.C.

Stock Lists and Prices on application. Please quote Chronicle

THOS. W. ROBINSON

REVISED PRICES FREE

THE BEST OF ALL

IMPROVED EXPANSION JOINT

HOT WATER JOINTS

HEATING APPARATUS FIXED COMPLETE

DENNIS PARK IRON WORKS

STOURBRIDGE

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt., and Oil Mixture, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-Free.

GROVE WORKS, BATTERSEA, LONDON, S.W.

15, VICTORIA STREET, WESTMINSTER, S.W.; and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

For all **INSECT PESTS** in Greenhouses and Frames, nothing has proved equal to the

LETHORION (VAPOUR CONE),

(PATENT).



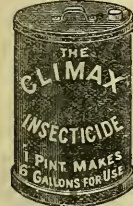
They are now universally admitted to be thoroughly uniform in strength, and safe for any Plant or Flower, even if four times the quantity is used.

Scale and Mealy Bug may be completely eradicated by using the Cones double strength.

PRICES.—For Frames, &c., of 50 cubic feet, 6d.; 100 ft., 9d.; 500 feet, 1s.; 1000 feet, 1s. 6d.; 4000 feet, 5s. each. THE HOUSES SHOULD BE WELL SECURED.

CORRY & CO., Ltd., 16, Finsbury Street, LONDON, E.C.

Prices.—In Tins, 4 Pints 1/3, Pints 1/6, Quarts 3/4, 1 Gall. 5/6, 5 to 10 Gall. Drums, 8s. per Gall. Carriage Paid.



THE MYRTLE CASTLE GARDENS, Tewkesbury, Aug. 13th, 1891.

Gentlemen,—I have given your "Climax." Insecticide a good trial on tender foliage, Orchids and Ferns for Bug and Scale. In every instance I found the Bug and Scale dead and the foliage bright and clean. I found it most effectual for Black Fly on Peach trees. The "Climax" Insecticide ought to be better known, it is the only one I have found to kill Bug on tender plants without injury to the foliage.—I am, yours faithfully,

W. MACKIE.

Prepared Solely by

The Boundary Chemical Co., Ltd., LIVERPOOL.

IMPORTANT TO GARDENERS, AMATEURS, AND OTHERS, WHO FUMIGATE HOUSES

TO KILL "FLY," OR "THRIP."

You will shortly be ordering your Spring Supply of Fumigating Material. Why lay in a heavy stock of tobacco paper, uncertain in quality, often disappointing, and very unpleasant to use, when you can have a SAFE, RELIABLE article, and one that is pleasant to use?

THE FIRST OF ITS CLASS, AND STILL THE ONLY ONE



PRICES:

For houses with 1000 cubic ft., No. 3 Roll, 1/- each; 1st a capacity of 2000 " " " " 1/9 " " Free. The Rolls may be cut for houses of a smaller capacity, or to make up required quantities for larger houses.

LEMON OIL INSECTICIDE—The safest and most effective Liquid Insecticide for dipping or spraying. PRICES, post free.—Pints, 1s. 10d.; quarts, 3s. 3d.; half gallons, 5s. 9d.

CLIBRAN'S EUCCHARIS MITE KILLER.—A truly valuable remedy, has saved thousands of bulbs. PRICES, post free.—Half-pints, 1s. 9d.; pints, 2s. 9d.; quarts, 4s. 9d.; half-gallons, 8s.

OR FROM YOUR SEEDSMAN.

CLIBRAN'S OLD FIELD NURSERIES, ALTRINCHAM; 10 & 12 MARKET STREET, MANCHESTER; And Principality Nurseries, Degaawy, Llandudno.

HORTICULTURAL SUPPLY CO.—RELIANCE FERTILISER for Fruit, Flowers, Vegetables, Lawns, &c. See list, and clearly to use. A highly concentrated and entire Plant Food, carefully compounded.

Prices.	Tins, or 2 lb. Post-free.	7 lb. lb.	14 lb. lb.	28 lb. lb.	56 lb. lb.	112 lb. lb.
Best Perluvian Guano	1 0	1 9 3	0 5 6	10 0	18 0	36 0
Nitrate of Soda	1 0	1 2 6	9 4	9 8	16 0	32 0
Sulphate of Ammonia	1 0	1 9 3	0 5 6	10 0	18 0	36 0
Bones, Fish or Meal, and half-inch	0 9	1 3 2	0 3 6	6 0	10 8	21 6
Superphosphate	0 9	1 0 1	9 2	9 1	16 0	32 0

The above, in tins, charged extra, 7 lb. 3d., 14 lb. 4d., 28 lb. 6d. Carriage paid on 10c. orders of the above MANURES on Carter Paterson's round, or to any railway stations within 200 miles. Directions for Use with every lot. Leaf-mould, Post-mould, Loam, and Potting Compost, each, 3s. per sack, 1 lb. per bushel. Best Brown Peat, 5s. per sack, 1s. 6d. per bushel. Cocoa-nut Fibre, 1s. 3d. per sack, 5 for 6s. Silver Sand (coarse or fine), 1s. 6d. per bushel. Charcoal (sifted or fine), 2s. per bushel.

"PLANT FOODS AND HOW TO APPLY THEM." A Descriptive List, post-free, 1d. Price Lists free. The Trade supplied on liberal terms.—**HORTICULTURAL SUPPLY CO.,** Old Shot Tower Wharf, London, S.E.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

Field Crawley, Sussex, Sept. 14, 1891. "The effect of this manure is most noticeable in the development, ripening, and colouring of the fruit. In consequence of the wet and unseasonable weather, I could not get my Tomatoes growing in an unheated and rather damp house to ripen; but within three days of applying your Manure they began to colour, and I have been gathering splendid fruit almost daily since." (Signed), E. C. RAVENSCROFT.

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO., THE CHEMICAL WORKS, HEMEL HEMPSTEAD, HERTS.

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price 230s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent Carriage Paid to any Station in England, on receipt of P. O. for 5s.

Extracts from 18th Annual Collection of Reports:—**NATIVE GUANO, FOR POTATOES, VEGETABLES, &c.** H. BRISKWORTH, Potato Grower, Leeds, using for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops."—**J. BUTLER, Sittingbourne:**—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOES, &c. J. PEEB & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Whalebone."—**J. FINCH, Orrell Gardens:**—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

BENTLEY'S BENTLEY'S WEED DESTROYER

Has passed the way for many imitators, but maintains its position of superiority, and acknowledges no equal. Has the largest sale, and the confidence of the leading gardeners. 3 gallons, 5s. 6d.; 6 gallons, 10s.; 12 gallons, 18s.; 18 gallons, 27s. 6d.; 40 gallons, 50s. Carriage paid.

JOSEPH BENTLEY, CHEMICAL WORKS, BARROW-ON-HUMBER, HULL.

THE "STOTT" SPECIALTIES For Destruction of Insect Pests.

Patent Distributor, Patent Syringe, Patent Sprayers. **KILLMRIGHT,** 2-oz. Sample posted on application. Testimonials and Price Lists on application. Retail from Ironmongers and Seedsmen. Wholesale and Retail from **Stott Distributor Co., Ltd., Barton House, Manchester**

INNES' FERTILITAS.—THE VINE and PLANT FOOD.—Of all Nurseries and Seedsmen, or direct, 15s. per cwt., carriage paid to all Stations. References and testimonials of the Sole Maker, W. INNES and CO., Sunny Hill Viney, Littleover, Derby.

RICHARDS' NOTED ORCHID and other SELECTED PEATS (Cut from his Grounds), **SOILS, MANURES,** and every description of **GARDEN SUPPLIES.** G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Write for Samples and Price List, Post-free. **CHIEF PEAT DEPOT: RINGWOOD, HANTS.**

EPPE'S Selected PEAT, For ORCHIDS, STOVE PLANTS, Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT,** in sack only. Rich fibrous LOAM, superior to any. PREPARED Coarse, Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter** The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 4s. per sack; 5 for 22s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included. Send Postal Order for Sample Sack. Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Store and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER and CO., Farnborough, Hants.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE, 4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4 bushel bags, 4d. each. LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each. BLACK FIBROUS PEAT, 5s. per sack, 5 sacks, 22s.; sacks, 4d. each. COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each. YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel. SPAGNUM MOSS, 8s. 6d. per sack. MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price List.—**H. G. SMYTH, F.R.H.S., 21, Goldsmith's Street, Drury Lane** (lately called 17A, Coal Yard), W.C.

GARDEN REQUISITES, as supplied to the Royal Gardens.—**COCOA-NUT FIBRE REFUSE,** 1s. 3d. per sack, 10 for 12s.; 20 for 20s.; 30 for 25s.; sacks free; 2-ton truck, 30s., free on rail near works. FINE ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS do., 5s. per sack, 5 for 22s. 6d. BLACK do., 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. COARSE SILVER-SAND, 1s. 6d. per bushel, 14s. 2s. per ton. CHARCOAL, 8s. per sack. SPAGNUM, 7s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 10s. 6d. to 18s. per dozen. RAFFIA, VIRGIN CORK, STAKES, &c. BONES, 4-inch, 11s. per cwt. Pure BONE-DUST, 11s. 6d. TOBACCO-PAPER, Specialties, 10d. per lb., 2s. 10 for 21s. CLOTH, 1s. per lb., 2s. 10 for 25s. Price List, free. **W. HERBERT and CO.,** Hop Exchange Warehouses, Southwark Street, London, S.E.

GARDEN REQUISITES.—Gardens, Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of—**WATSON and SCULL, 90, Lower Thames Street, London, E.C.**

HORTICULTURAL GLASS. A Large Stock always on Hand.

Special quotations for quantities.

WHITE LEAD, OILS, and COLOURS At lowest possible prices.

NICHOLLS & CLARKE, 6, HIGH STREET, SHOREDITCH, LONDON, E.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 " ..	0 3 6	16 " ..	0 9 0
6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s. If set across three Columns the lowest charge will be 30s. Page, 4s.; Half Page, 4s. 10s.; Column, 4s.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths, and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week must reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months; Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

AMERICAN GARDENING,

WHICH INCLUDES:—

THE AMERICAN GARDEN United in
THE GARDENERS' MONTHLY and HOR- in
TICULTURIST ONE.
THE FLORAL CABINET
POPULAR GARDENING

Making the Largest, Best, Oldest, Liveliest, Handsomest Gardening Magazine in America.

THE LEADING AMERICAN JOURNAL FOR HORTICULTURAL ADVERTISEMENTS.

Subscription Price for England and Countries in the Universal Postal Union. 6s. Subscriptions must commence from Jan. 1.

E. H. LIBBY, Publisher, Times Building, New York, U.S.A.

Agents for Great Britain and Ireland:—

STEEL AND JONES, 4, Spring Gardens, Charing Cross, London, S.W., to whom Orders for Advertisements and Subscriptions may be sent. A Specimen Copy post-free for 10d. (stamps).

Agricultural Economist.

AN ILLUSTRATED MONTHLY MAGAZINE, of 52 pages and cover. Exponent of scientific and high farming; advocate of co-operation in agriculture, in the supply of farm requisites, and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of pure oilcakes, complete manures, reliable seeds, and implements on wholesale terms. Specimen copy free. Subscription, per annum, 5s., inclusive of postage. Single copies 6d. each, through all Newsagents.

3, Agar Street, Strand, London, W.C.

REVUE DE L'HORTICULTURE BELGE et ÉTRANGÈRE (Belgian and Foreign Horticultural Review).—14th year.—Among the principal Contributors are:—A. Allard, E. André, C. Ballet, F. Burenich, F. Crépin, O. de Kerchove de Denterghem, P. E. de Puydt, A. M. C. Jongkindt Coninck, J. Kieck, T. Moore, C. Naudin, B. Oliveira, R. Orsieres, E. Fynsart, E. Rodrigues, G. Thomas, A. van Gert Son, H. J. van Halle, J. van Volxem, H. J. Veitch, A. Westmael, and P. Wolkenstein.

This illustrated Journal appears on the 1st of every month, in parts of 24 pages, 8vo, with two-coloured Plates and numerous Engravings.

Terms of Subscription for the United Kingdom:—One year, 14s. payable in advance.

Publishing Office: 124, Rue de Bruxelles, Ghent, Belgium. Post-office Orders to be made payable to M. E. FYNARS, Ghent.

SEED PANS.—Second-hand Lard Tins; 18 inches by 14 inches, and 4 inches deep, 3s. 6d. per dozen. On rail, Calne Station.

CHAS. & THOS. HARRIS & CO., Limited, Calne, Wilts.

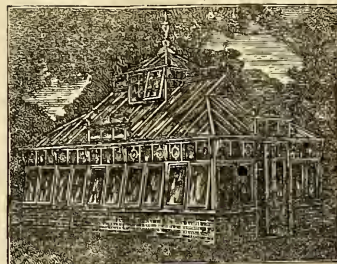
HORTICULTURAL SHADINGS and NETTINGS, TIFFANY, COTTON WOOLS, and WADDINGS. Supplied Wholesale by—

JOSEPH COOKSON, 21, New Cannon Street, Manchester.

CHAS. FRAZER'S EXHORS.—Conservatories, Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps.

PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

BECKETT BROS., CHELMSFORD.



Thoroughly Practical and Experienced Horticultural Engineers in all branches connected therewith. Price List and Estimates free on application.



W. A. R. N. E.'S
(LARGE PATENTED)
CELEBRATED WESTON
FLOWER POTS
AND
HORTICULTURAL
POTTERY.

CONWAY & WARNE, Limited,
Royal Potteries, Weston-super-Mare.

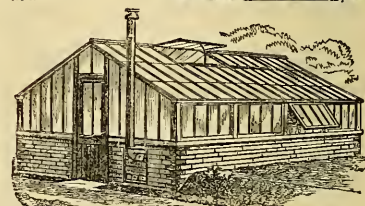
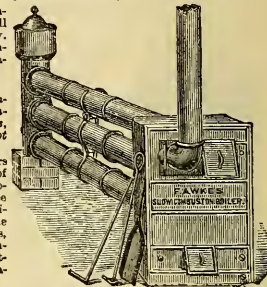
FAWKES' SLOW-COMBUSTION HEATING APPARATUS.

Most Efficient and Cheapest in Existence. Requires no sunk stovehole and no brick setting. Will last all night without attention. Will burn house coals, therefore costs next to nothing for fuel. Any one can fix it. A domestic servant can make it.

Complete Apparatus from 44 12s. SUCCESS GUARANTEED.

Enormous numbers in use all over the country. Only Slow Combustion Apparatus of the kind. CAUTION. Beware of inefficient incomplete Apparatus, which will not last all night.

Full particulars and Prices of every sized Apparatus, and see numerous Testimonials for the last five seasons, showing enormous success, post-free on application.



BEST CONSTRUCTED AND CHEAPEST Greenhouses, Forcing-houses, Pits, Frames, Plant Protectors, Potting Sheds, Tool-houses, &c.

Illustrated Price Catalogue post-free from

CROMPTON & FAWKES, CHELMSFORD.

THE DOUBLE-POINTED NAIL.

The best Fence Nail invented. This Nail renders any wooden fence perfectly unclimbable. It is a complete protection against trespassers and cats. In use at Hurst Park and Hurlingham, Lord's Cricket-ground, and hundreds of other places. A—HAMMER HEAD. B—CHISEL EDGE. Price of Fence Nails in Malleable Iron:—1, 2, 2 1/2, 3, 4, 5, and 6 in. 7 lb. Bags, 3s. 6d.; per cwt., 55s. 1 1/2 in. Steel Nails, for thin palings, 1s. per gross. MACHINE-CUT NAILS, for dovelling joinery, wood block flooring, &c., 1 1/2 and 1 3/4 in., 9d. per gross. Sample boxes assorted sizes, 6d.; by post, 8d. CAPPING for BRICK WALLS, complete, from 3d. per foot, in 6 feet lengths.

DURRAN'S PATENT NAIL SYNDICATE, Limited, 43 & 44, UPPER BAKER STREET, LONDON, N.W.

FREE GRANTS OF LAND IN MANITOBA and other PARTS OF CANADA.—The reports (illustrated) of the twelve British Tenant-Farmers who visited Canada in 1890, and other pamphlets issued under the authority of the Imperial and Dominion Governments, containing maps and full information as to land regulations, bonuses granted to settlers, openings for capital, demand for labour, rates of wages, cost of living, and all other particulars, may be had post-free, on applying to the High Commissioner for Canada (Mr. J. G. COLMER, C.M.G., Secretary), 17, Victoria Street, London, S.W.; or to Mr. JOHN DYKE, Canadian Government Agent, 15, Water Street, Liverpool.

THREE MILLIONS
HAVE BEEN PAID BY THE
RAILWAY PASSENGERS
ASSURANCE COMPANY,
FOR
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.
W. D. MASSY, { Secs.
A. VIAN, {

BOILING WATER OR MILK.
E P P S'S
GRATEFUL-COMFORTING.
C O C O A
BREAKFAST-SUPPER.

THE IMPROVED TREE-PRUNER, Coppin's Patent, Awarded Certificate of Merit from the Royal Horticultural Society. Used in the principal Parks and Gardens in the United Kingdom and Germany. Lists, &c., free from Patentees.—GEO. COPPIN and SONS, Addington, Surrey.

TO GAS COKE and SMITH'S COKE delivered in Trucks loaded to any Station in England and Wales.—Address, G. J. EVESON, 26, Corporation Street, Birmingham.

SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 8s. Stamp size, 2s. 4d. for 1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order, and the above ten days you will receive highly-finished Copies, with Original.—FRANCIS and CO., 29, Ludgate Hill, London.

GARDENING APPOINTMENTS.

Mr. ARTHUR NEWMAN, formerly Foreman in the Gardens, Mereworth Castle, as Gardener to Major WARDE, Barham Court, Maidstone.

Mr. H. BENNETT, formerly Gardener at Barrow Point, Pinner, as Head Gardener to J. A. N. MARTIN, Esq., West Leigh, Havant, Hants.

Mr. BY, FLUMBERIDGE, formerly with Mr. CHAS. SIMS, Devonshire, Hemel Hempstead, as Head Gardener to Kewer ERYK, Esq., Gayton House, Ellisworth, Northamptonshire.

Mr. A. KETT, for the past five years Head Gardener at Osden Hall, Newmarket, as Head Gardener at Framingham Manor, Norwich.

CATALOGUES RECEIVED.

THOMAS DAYLES & Co., Wavertree, Liverpool—Garden Seeds, &c.

JOHN K. KING, Coggeshall, Essex—Illustrated Garden Manual.

W. COOPER, Old Kent Road, S.E.—Illustrated Price Lists of Conservatories, Greenhouses, Manures, Peat, &c.

GEORGE BRUCE & Co., Aberleyn—Agricultural Seals.

Y. LEMOINE & FILS, Rue du Montel, Nancy—Plantes Nouvelles.

M. X. DEGEN, Koestritz—Roses, Gladioli, Dahlias, &c.

H. J. JONES, Hither Green, Lewisham—New and Choice Chrysanthemums.

W. THOMPSON, Tavern Street, Ipswich—Flower Seeds.

K. DEAN, Randolph Road, Ealing—Primroses, Vegetable and Flower Seeds, Potatoes, &c.

HARNES, Norwich—Vegetable and Flower Seeds, Potatoes, &c.

DICKSON, BROWN, and TAIT, Manchester—New Farm Seeds.

HOOPER & Co., Covent Garden, W.C.—Seed Catalogue.

WILLIAM WATT, Cupar and Perth, N.B.—Farm Seeds.

J. W. WILSON, South Cave, East Yorkshire—Seed List.

JOHN A. BRUCE & Co., Hamilton, Canada—Flower and Vegetable Seeds, Bulbs, &c.

W. & J. KIRKHEAD, St. Leonards—Ferns and Selaginellas.

ERIC F. SUCH, Maidenhead, Berkshire—Vegetable and Flower Seeds, &c.

JONAS WATSON, Withington, Hereford—Seed Potatoes.

NOXON & HOEPRER, Ahrensburg, Germany—Vegetable and Flower Seeds, Plants, &c.

E. H. KRELAGE & SON, Haarlem—Bulbs for Spring Planting.

JOHN PUGH & SONS, Rouppel Park, S.E.—Gloxinias and Nodias.

HUGH & WOOD, Caldwell, N.B.—Grasses and Clovers for permanent pastures.

HENRY BROOKE, Durham—Vegetable and Flower Seeds.

CHARLES FRAGGE'S EXORS., Norwich—New List of Greenhouse and Pottery Appliances.

AGRICULTURAL and HORTICULTURAL ASSOCIATION, LTD., Creek Road, Deptford—Manures, Vegetable and Flower Seeds, Appliances, &c.



To Nurserymen.
PARTNERSHIP REQUIRED by Advertiser, in an Established Business. Strictest investigation required. Near London preferred.—E. C. R., The Pines, Aisleborough.

WANTED, A PARTNER, in an old established Nursery, with 2500. The lessee has obtained a new lease for thirty years at a low rental.—Apply to J. B. Gardeners' Chronicle Office, 41, Wellington St., Strand, W.C.

WANTED, A GOOD SINGLE-HANDED GARDENER—Married; Kitchen and Flower Garden, with Viney. Wages, 12s. with lodg. Personal character.—L., Highway House, Alton, Hants.

WANTED, AT ONCE, A SINGLE-HANDED GARDENER—Married, no children. Must understand Glass, &c.; willing to be useful.—Write, with particulars, and state wages, to Mr. POWELL WARNER, Beechcroft, Hopton Road, Streatham, S.W.

WANTED, A GARDENER and his WIFE, ages 35 to 40, without children, to live in the house in an eastern suburb of London; man to attend to small garden and greenhouse, and to make himself useful; wife to act as good plain cook; a housemaid kept. Family consists of two ladies. Apply to M. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, AS GARDENER a good practical MAN, single-handed, but with help. One well up in Fruit and Flowers. Must understand Grafting and Budding.—Apply by letter, stating age, previous engagements, and salary, including Cottage, to E. F. NIK, Kensington, Sevenoaks.

WANTED, A MAN, about 30, who is thoroughly acquainted with Jobbing Gardening. Permanent.—W. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, A thorough practical Man, as FOREMAN for the Houses, in large Private Establishment. Must have been Foreman twice previously. Age not under 27.—Address BROWN, Sheffield English, Romsley, Hants.

WANTED, AS FRUIT FOREMAN, a practical MAN, who has had experience in the growing of all kinds of Outdoor Fruit trees, and is capable of managing a staff of men. A thoroughly competent man is required, to whom a good salary will be given.—WM. PAUL and SON, Waltham Cross.

New South Wales.
WANTED, A young MAN as FOREMAN, in a Florist's shop in Sydney.—Must have good knowledge of Plants, Bulbs, and Seeds, and their value, and a good correspondent. Character must be strict investigation. Salary, 45s. per week; passage not paid. Apply first to M. BANKS and CO., 2, High Street, Birmingham.

WANTED, AS FOREMAN, an industrious young MAN, well up in his work. Wages, 18s., and bothy. Apply, with particulars, to J. HILL, Babraham Gardens, Cambridge.

WANTED, AT ONCE, A young MAN, under a Foreman.—Used to Potting, Propagating, and general Inside Work (principally Market Work).—Apply, stating age, wages required, and experience, to T. K. INGRAM, Parkstone Nurseries, Dorset.

WANTED, TWO or THREE respectable Young MEN, for the General Work of a Market Nursery.—Address letter to W. H. R., care of J. W. Vickers, 5, Nicholas Lane, E.C.

WANTED, A strong active young MAN as JOURNEYMAN for the Houses. Preference given to an abnainer. Apply, sending copies of testimonials, stating wages, &c., to W. LAPHAM, Beasborough, Cork.

WANTED, A young MAN for the Houses, with experience, not under 19. Wages, 12s., rising to 14s. per week. Bothy and Vegetables.—J. EVANS, Nequis Hall Gardens, Mold, Flintshire.

WANTED, A young MAN for the Houses.—Must be quick at Watering, Potting, Tying, &c. Wages, 17s. per week to commence with. State age, reference, &c., to JAMES WINGFIELD, Widmore Nursery, Bromley, Kent.

WANTED, an Active MAN, as GARDEN LABOURER; one that can use Scythe and Mowing Machine. Age from 25 to 30. Wages, one guinea per week.—Apply, C. INGS, Golder's Hill, North End, Hampstead, N.W.

WANTED, SEVERAL young MEN, accustomed to working under Glass, in a Market Nursery. State age, and wages required, to E. ROCHFORD, Mill Lane Nursery, Cheshunt, Herts.

WANTED, A single young MAN, for (Growing Cucumbers and Tomatoes for Market. Wages, 21 per week.—J. POXON, Jun., Market Gardener, Castle Donington, near Derby.

WANTED, A YOUTH, to assist with Correspondence. Must be quick-witted, tidy, and trustworthy; a good writer, with a knowledge of Shorthand.—J. BACKHOUSE and SON, The Nurseries, York.

WANTED, an IMPROVER.—No bothy. Wages, 18s.—GARDENER, Hailes House, Kingsknowe Station, N.B.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

Head Gardeners.
JOHN LAING and SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character, Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stansfield Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

Gardeners, Farm-Bailiffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH and CO.
beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

SCOTCH GARDENERS.—I have at present several very superior MEN on my Register, whose character and ability will bear the strictest investigation.—JOHN DOWNE, Seedsmen, 144, Princes Street, Edinburgh.

To Noblemen and Gentlemen requiring Land Agent STEWARDS, BAILIFFS, or GARDENERS.

JAMES CARTER and CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, The Vineyard and Nurseries, Garston, near Liverpool, wish to recommend to any Noblemen or Gentlemen who require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Edwards Moss, Bart., of Otterspool, near Liverpool. Full particulars on application to the Company.

GARDENER (HEAD), where five or more are kept.—Age 26; well up in the Management of Vines, Peaches, Stone, &c. Highest references.—GARDENER, 8, Beauchamp Terrace, Clifton, London, S.E.

GARDENER (HEAD), Scotch.—Age 32, married, no family; life experience in all branches.—F. H., Glenblath Cottage, Pitlochry, Aberdeen.

GARDENER (HEAD), where one or two are kept.—Age 30, married, no family; thirteen years' experience in all branches. Good references.—L. G., Woodcroft Lodge, Motttingham, Eitham, Kent.

GARDENER (HEAD), where two are kept; age 27.—J. ANDERSON, Gardener, Charman Dean, Worthing, wishes to recommend his FOREMAN, Jas. Skinner, to any Lady or Gentleman, requiring a good practical man: twelve years' experience.

GARDENER (HEAD).—Age 42; married, no family. Life experience in all branches. Fourteen years as Head. Land and Stock it desired.—F. W., 37, Bridge Street, Witney, Oxon.

GARDENER (HEAD), where several under are employed.—Advertiser (age 39, married, one boy) is open to engage with any Lady or Gentleman requiring the services of a good all-round practical Gardener. Excellent testimonials from each place previously filled.—W. S., High Street, Acton, W.

GARDENER (HEAD).—Age 30, married, small family; thoroughly experienced in Growing Fruit, Flowers, and Vegetables, Inside and Out. Twelve years as Head in last situation, where strict economy was enforced, and all surplus produce sold. Good character from last and present employer.—F. HILL, Oakwood Grange, Rotherham.

GARDENER (HEAD).—Age 30, married. Thoroughly experienced in the cultivation of Stove and Greenhouse Plants, Forcing Fruit, Flower and Kitchen Garden, and the requirements of a good Establishment. Life experience; excellent testimonials. A death cause of leaving.—A. CORDERY, Shales, Bitterne, Southampton.

GARDENER (HEAD), in a large establishment; age 44, widower, two children, youngest 9 years.—E. S. WILES, who has had charge of the Edgote Gardens for the last thirteen years, will be disengaged on March 25, and is open to re-engage to any Lady or Gentleman requiring a good all-round Gardener. Excellent character from present and previous employers.—E. S. WILES, Edgote, Banbury, Oxon.

GARDENER (HEAD), in good establishment. Married, no family. Abstainer. Life experience in Early and Late Forcing all kinds of Fruits, Flowers, Vegetables, Mushrooms, also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' good character from employer. Sixteen years' reference from D. Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

£5 will be paid to any one furnishing the Advertiser with information of any gardening changes that will lead to obtaining an engagement as HEAD GARDENER, where six or more are kept. Well versed in every branch of Horticulture. Age 39, married. Own cause for leaving. Highly recommended by present and previous employers.—LAURENCE, Mr. J. Heath, Coxwell Road, Faringdon, Berks.

GARDENER (HEAD), where three or four are kept.—Age 30, single; sixteen years' experience in all branches. Good references.—A. G., Basing Park Gardens, Alton, Hants.

GARDENER (HEAD).—Any Nobleman, Lady, or Gentleman, requiring the services of a good Gardener would be suited by applying to CHAS. FLACK, Head Gardener, Chomondley Castle, Malpas.

£5.—Anyone getting Advertiser a situation as HEAD GARDENER, where five or six are kept, will receive the same sum of money as the highest references.—F. N., 29, Highgate Hill, N.

GARDENER (HEAD WORKING).—Single; thoroughly practical in all departments, including Decorating and Laying-out. Abstainer. High testimonials. Home Counties preferred.—J. H., 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING).—F. CORNISH, the Gardens, Joldwynds, near Dorking, wishes to recommend his Foreman, James Pullen; thoroughly practical in all branches, including Orchids, Hardy Alpines, and Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING).—Age 28; has had thorough experience in Vines, Peaches, Stove and Greenhouse Plants, Melons, Cucumbers, and Flower and Kitchen Gardens. Excellent testimonials. Abstainer.—GARDNER, 29, Stadium Street, Ashburham Road, Chelsea, S.W.

GARDENER (HEAD WORKING).—Age 33, no family. Life experience in all branches. Wife could manage Dairy. Good references.—GARDNER, F. Copei Curre Esq., Ingatestone, Essex.

GARDENER (HEAD WORKING).—Age 28, married; fourteen years' practical experience in all branches. Excellent references as to character and ability. Nine years in present situation, over three years as Head. Leaving through a death.—H. UNDERWOOD, Gardener, Stapleford, Notts.

GARDENER (HEAD WORKING).—Age 33, married. Sixteen years' practical experience in the Early and Late Forcing of Plants, Fruits, and Vegetables. Well recommended from last and previous situations.—L. MATTHEWS, 19, Faulkner Street, Hoole, Chester.

GARDENER (HEAD WORKING), where two or three are kept.—Age 29, married, one child; eight and a half years in present situation. Thorough practical all-round man. Would prefer situation in the country, with a good Cottage. Excellent character from present employer. Wilfred Cripps, Esq., C.B.—W. J. EVANS, The Gardens, Walnut Trees, Cirencester.

GARDENER (HEAD WORKING).—Age 31, married, one child, 24 years; thoroughly experienced. Excellent references.—C. PARKER, Gayton, Blisworth, North Hants.

GARDENER (HEAD WORKING).—Seventeen years and ten months' experience in all branches of the profession. Four years and nine months in present place.—J. ROGERS, Beechwood, Huddersfield.

GARDENER (HEAD WORKING).—Age 36, married, one boy, aged 5; Scotch.—A Lady wishes to recommend the above. Twenty years' practical experience in all branches. Abstainer. Four years' excellent character.—M. Squerries Lodge, Westerham, Kent.

GARDENER (HEAD WORKING), where help is given.—Abstainer. Thirteen years' practical experience both Inside and Out. Excellent references.—E. E., Casino House, Herne Hill, Surrey.

GARDENER (HEAD WORKING).—Understands Vines, Peaches, Cucumbers, Tomatoes, Flower and Kitchen Gardens. Married, no family. Good references. Disengaged March 25.—MOSS, Harold Court Nurseries, Romford, Essex.

GARDENER (HEAD WORKING).—Mr. A. G. WATERS, Hopwood Hall Gardens, Manchester, will be pleased to give full particulars of a thoroughly efficient man. Twenty years' experience in good establishments. Character will bear strict investigation.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Thoroughly experienced in all branches. Wife good Landress. Good character and testimonials.—GARDNER, Green Lodge, Richmond, Surrey.

GARDENER (HEAD WORKING), where two or three are kept. Age 19, married, no family. Thoroughly practical. Will re-engage with any Gentleman requiring a trustworthy practical man.—2, Roseligh, Alexandra Road, Epsom.

GARDENER (HEAD WORKING).—Scotch. Age under 40, married. Over twenty years' experience. Wishes re-engagement. Excellent abilities and references. Disengaged March 19.—H. GRANT, Hill House Gardens, Herne Hill, S.E.

GARDENER (HEAD WORKING).—JAMES CHILL, upwards of five years Head Gardener to Baily Hawkins, Hants, wishes to re-engage with any Gentleman requiring a trustworthy practical man.—2, Roseligh, Alexandra Road, Epsom.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 26, single. Leaving through a death. Over eight years' character from present situation.—H. ELLIOT, 7, Alexandra Street, Stapleford, Notts.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 28, married. Thoroughly experienced in all branches; excellent character. Leaving through giving up establishment.—LEES, 5, Spencer Road, Hornsey, N.

GARDENER (SINGLE-HANDED or otherwise).—Age 24. Abstainer. Understands Flower, Kitchen, and Fruit Gardens, Stove and Greenhouse. Can be highly recommended.—J. V., 43, Trinity Road, East Finchley, N.

GARDENER (SINGLE-HANDED, or good SECOND).—Age 25; eleven years' experience. Two years' good character from present employer, and four previous.—H. HICKS, 16, Hedgley Street, Lee, Kent.

GARDENER (SINGLE-HANDED, or otherwise).—Age 27; thoroughly practical in all branches. Excellent references from previous employers. Disengaged.—W. G., Granville House, Rodney Street, Fentonville.

GARDENER (SINGLE-HANDED, or otherwise).—Age 27, single. Life experience in all branches of the profession; would not object to pony and trap. Two years' character from present employer.—G. L., 289, Crystal Palace Road, East Dulwich, S.E.

GARDENER (SINGLE-HANDED), or where help is given.—Age 25, married with wife. Experienced in Fruit, Flowers, Vines, Kitchen Garden, &c. Good character.—W. WORSFOLD, Rose Cottage, Hasleey, near Warwick.

GARDENER (SINGLE-HANDED), or where help is given.—Good all-round; married, one child, age 7. Wife good Plain Cook or Dairy-woman. Eight years' good character from present employer.—H. BAILLEN, Gardner, Hillside, Grombridge, Tisbury, Wilt.

GARDENER (SINGLE-HANDED, or where help is given).—Age 25, single; good experience in Glass and Flower and Kitchen Gardens. Three years and seven months' good character from present employer.—A. H. DUFFIN, Norman-held, Hampton Wick, Middlesex.

GARDENER (good SINGLE-HANDED), near London preferred.—Age 30; life experience in good establishments. Fifteen years' testimonials and character. Please state wages.—GARDNER, Mr. Dale, Stationer, Mitoham.

GARDENER (SINGLE-HANDED, or otherwise).—Age 23; good experience in Kitchen and Flower Gardens, Stove and Greenhouse. Eight years' good character.—A. COLEMAN, Sedgwick Park, near Hornham.

GARDENER (SINGLE-HANDED, or where two are kept).—Age 29, married, one child; eight and a half years in present situation. Thorough practical all-round man. Would prefer situation in the country, with a good Cottage. Excellent character from present employer. Disengaged March 1.—JOSEPH SKELTON, Stoneleigh, Somers' Road, Reigate.

GARDENER (SINGLE-HANDED, or with help).—Age 26, single. Twelve years' experience, Inside and Out. Two years and eight months' good character from present employer. Disengaged March 1.—JOSEPH SKELTON, Stoneleigh, Somers' Road, Reigate.

GARDENER (SINGLE-HANDED, or where help is given).—Good character.—J. FISHER, School Green, Shalford, Bunting.

GARDENER (good SINGLE-HANDED, or where help is given).—Age 24; thorough experience in good gardens. Good characters from previous employers.—J. H., East Tytherly, near Stockbridge, Hants.

GARDENER (SINGLE-HANDED, or good SECOND).—Age 22.—Mr. BIGGS wishes to recommend A. Street as above. Good characters from previous situations.—Tile House Gardens, Deobam, Bucks.

GARDENER; age 31.—A GENTLEMAN recommends his Gardener. Good all-round man. Has been with him over seven years. Good previous references. Leaving through no fault.—H. B. HAMMOND, Esq., West Cliff Lodge, Ramsgate.

GARDENER, where help is given.—Understands Glass, Kitchen, and Flower Gardens. Eight years' experience. Excellent references.—G. WALL, Mr. C. Miller, 5, The Parade, Uxbridge Road, Acton, W.

GARDENER.—Age 33, married, no family. Experienced in Orchids, Stove and Greenhouse Plants, Choice Fruits, Flower and Kitchen Gardens. Nearly seven years' good character. Disengaged.—BRYANT, 13, Mason's Hall, Bromley.

GARDENER.—The Advertiser (age 26) begs to offer his services to any Lady or Gentleman requiring a thorough practical man. Experience has been gained in first-class establishments, and he can be well recommended by last and previous employers.—H. FEATHERSTONE, The Brackens, Bracknell, Berks.

GARDENER (good SECOND).—Age 24; twelve years' experience, Inside and Out in Gentlemen's Gardens. No objection to bothy.—F. SPILLARD, Earham, Chichester, Sussex.

GARDENER (SECOND), where three or four are kept.—Age 24, single; experienced Inside and Out. Good references.—W. TURNER, Burnwood Lane, Upper Caterham, Surrey.

GARDENER (SECOND), where three or four are kept, or Inside and Out.—Age 22; bothy preferred. Over seven years' good character from present situation. Leaving to improve himself.—F., Albany Road, Hersham, Surrey.

GARDENER (SECOND), under a good working Gardener, where three or more are kept.—Age 21; seven years' experience. Good references.—H. WILKERSON, Ormrod House, Cricklewood.

GARDENER (SECOND, or otherwise). Age 25, single.—C. WINGROVE, The Gardens, Finsfield, Addlestone, Surrey, can thoroughly recommend good all-round man as above; well up both Inside and Out. Seven and two and a half years' references.

GARDENER (KITCHEN, UNDER), where others are kept.—Age 25, married, can make himself generally useful. Seven years at present situation.—E. G., 7, Fairfax Cottage, Hampton Wick.

GARDENER (UNDER); age 21.—J. JEFFERSON, The Gardens, Carlton House, Worksop, Notts, will be pleased to recommend a young man who has served with him three years, Inside and Out.

GARDENER (UNDER), where he can have a good insight under Glass.—Age 23. Good references from last and previous places. Bothy preferred.—E. GEORGE, Tidenham, Chesham.

GARDENER (UNDER), Outside.—Age 21. Five years' good character from previous situation.—J. PAYNE, The Gardens, Orchardleigh Park, Frome, Somerset.

GARDENER (UNDER).—Age 23; ten and a half years' experience. Used to Glass, Flower and Kitchen Gardens.—H. BARTON, 19, Queen Street, Crook Place, Norwich.

GARDENER (UNDER).—Age 20; seven years' experience. Houses preferred. Can be well recommended.—H. EDWARDS, Biston Farm, Seale, Farnham, Surrey.

GARDENER (UNDER, or THIRD or FOURTH in a good place).—Age 18; good knowledge of Inside and Outdoor work. Six and a half years' excellent character.—S. ELLIN, Wink's Hall, Brimley, Surrey.

GARDENER (UNDER).—Situation wanted, by young man (aged 20) as Good character.—H. KEELING, 1, Station Road, Chadwell Heath.

GARDENER (UNDER).—A young man seeks a situation above. Good references. Bothy preferred.—S. EAGLIN, Fort Fields, Dursley, Gloucestershire.

To Nurserymen.

PROPAGATOR.—Age 23; nine years' experience in Stove and Soft-wooded Stuff, Ferns, &c., for Market. Good references.—P. C., 41, Wellington Street, Strand, W.C.

PROPAGATOR or GROWER (Stove or Soft-wooded).—Age 25. Good references. Ten years' experience in London or suburbs preferred.—H., 6, Ivy Terrace, Baddow Road, Chelmsford, Essex.

To Nurserymen.

PROPAGATOR and GROWER of Ferns and Soft-wooded Stuff for Market.—Age 23; seven years' experience. Good character.—Please state wages to W. E. GARDENERS' Chronicle Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR and GROWER.—Age 25; ten years' practical experience. Used to the General Routine of a Nursery Staff, Forcing of Lilies, &c.—E., 45, Wilmberg Street, Clapham, S.W.

PROPAGATOR or GROWER (ASSISTANT).—Age 24. Nine and a half years' experience with all kinds of Hard and Soft-wooded Plants, the grafting of Roses, Rhododendrons, Clematis, &c.—J. WHEATLEY, 51, Alexandra Road, Walthamstow, Essex.

PROPAGATOR and GROWER for Market.—Age 28; twelve years' experience in Tomatoes, Cucumbers, Plants, Ferns, Roses, Bulbs, Forcing, Wreaths, Bouquets, &c. Good references.—WOODS, Camperdown Nurseries, Broughty Ferry, N.B.

FOREMAN PROPAGATOR.—Age 26; nine years' experience in Growing Soft-wooded Stuff, Ferns, Palms, &c., for Market. Good Salesman. Could Manage small Nursery.—A. U. Ivy Cottage, White Cross Road, Hereford.

FOREMAN, or PROPAGATOR and GROWER.—Age 28, married; life experience in good Nurseries and all branches, Inside and Out. Good Salesman. Well up in Wreaths, Bouquets, &c. Good references.—W., 2, Morningide Cottages, Hendon Lane, Finchley, N.

FOREMAN or PROPAGATOR and GROWER of Soft-wooded Stuff, Palms, Ferns, Tomatoes, Cucumbers, and Cut Flowers, Gardenias, Eucharis, Roses, &c.—Married. Seven years' Foreman in good Market Nursery, Southern Counties preferred.—A. FLOYD, 54, Mallet Road, Hither Green, Lewisham, S.E.

MANAGER and FOREMAN (WORKING).—Age 35, married; practical experience in Growing Grapes, Tomatoes, Cucumbers, Melons, Strawberries, Beans, Arums, Chrysanthemums, Ferns, &c. Seven years' excellent character as Foreman in large market place.—E. C., 32, Market Street, Worthing, Sussex.

FOREMAN, in a good establishment; Houses preferred.—Age 28; eleven years' experience in all branches. Good references.—CRANE, 2, Bell Green Cottages, Lower Sydenham.

FOREMAN, Inside, or Inside and Out.—Age 22; nine years' experience in good all-round work. Two and a half years in present situation. Good character. Abstainer.—W. BOALCH, The Gardens, Creeth Grange, Wrexham.

FOREMAN, in a good establishment.—Age 27; well-versed in all branches of the profession. Ten years' experience. Good character and testimonials.—J. DEAN, Lower Eaton, Hereford.

FOREMAN.—Age 26; eleven years' experience. Good References.—W. DODWELL, Waddleson, Aylesbury.

FOREMAN, in the Houses in good establishment.—Age 25. Eight years' experience in Fruit and Plant Houses. Can be highly recommended.—T. NOTLEY, Stoke, Holy Cross, Norwich.

FOREMAN, or charge of small Nursery.—Age 27; well up in its various branches, Inside and Out. Good references.—T. ROGERS, High Street, Whittlesea, near Peterborough.

FOREMAN, in good establishment.—Age 24; eleven years' experience in Fruit and Plant-houses; also House Decorations. Good recommendations.—J. GODDARD, Woodham Lane, Woking, Surrey.

FOREMAN, in the Houses, in a good Establishment.—E. ATKINS will be pleased to recommend his Foreman to any Gardener requiring a steady, sober, industrious, obliging young man.—W. MARTIN, Hargraves Gardens, Stansted, Essex.

To Nurserymen.

FOREMAN (INDOOR), MANAGER, or TRAVELLER.—Age 26, single; fourteen years' experience in all branches. Good references.—J. W., 41, Pradshwgate, Bolton, Lancs.

FOREMAN, in the Houses, or General.—Age 27. Thoroughly experienced Inside and Out. Good references.—J. H., 26, Salisbury Road, Highgate Hill, London, N.

FOREMAN (WORKING), or GROWER, or good General Hand.—J. ORPWOOD, Tangley Park, Hampton, Middlesex.

FOREMAN, R. HONEY, The Briery, Sunderland, can with confidence recommend to any Gardener an energetic and thoroughly trustworthy young man as above. Abstainer.

FOREMAN (FRUIT), or KNIFEMAN, in good establishment.—Single; has a knowledge of Outdoor and Nursery Work. Good references. Abstainer.—T. KYTE, 18, Pomona Place, Fulham, S.W.

FOREMAN, in a good Establishment; age 25.—EDWIN BECKETT, Aldenham House Gardens, Elstree, can with every confidence recommend his First Journeyman, H. Naylor, as above.

To Nurserymen.

FOREMAN (HOUSE), PROPAGATOR, and SALESMAN.—Twenty-five years' practical and successful experience in principal London and Provincial Establishments, wholesale and retail.—H. W. REED, 2, Kirby Villas, Fletcher Road, Chiswick, W.

FOREMAN, or JOURNEYMAN (FIRST), in a good Establishment.—Age 25; good experience in Orchids, Stone and Greenhouse Plants; also Fruits. Abstainer.—W. DYER, 3, Hursthouse Terrace, Bexley, Kent.

JOURNEYMAN, in the Houses in a good establishment.—Bothy preferred.—B. HEDLEY, The Gardens, Gledhow Wood, Leeds.

JOURNEYMAN (FIRST) in the Houses in a good Establishment.—Age 23. Two years in present place; good reference; bothy preferred.—T. KIPPING, Ashridge Park Gardens, Great Berkhampstead, Herts.

JOURNEYMAN, Inside and Out.—Age 23; five years' experience. Strong and willing. Two years' good character.—E. WOOD, The Gardens, Butler's Green, Hayward's Heath, Sussex.

JOURNEYMAN, in the Houses.—Age 20; six years' experience. Three years' good character.—GEORGE CARSTICK, Elstree, Herts.

JOURNEYMAN (FIRST or SECOND).—Age 23; ten years' experience; good characters.—F. HALL, Middle Hill, Wimborne, Dorset.

JOURNEYMAN, in the Houses; age 20.—Mr. A. WEBB, Kelham Hall Gardens, Newark, Notts, wishes to recommend a young man as above. Has been with him three years.

JOURNEYMAN, in the Houses, under a foreman.—Age 23. Three and a half years' good character from present situation.—E. DUNNINGTON, Houlough, Epsom, Yorks.

JOURNEYMAN (SECOND), in a good private establishment.—Age 21; over five years' experience, chiefly under reference. Good testimonials.—FREDERICK CASTLE, Boreham House Gardens, Chelmsford.

JOURNEYMAN, in the Houses.—Mr. MASTERTON, Gardener to the Countess of Camperdown, can with confidence recommend a smart, active, intelligent young man, age 22. Three years in present place.—Weston House Gardens, Shipston-on-Stroud.

JOURNEYMAN, in the Houses, in a good place.—RALPH CROSSING, Penarth Nurseries, South Wales, can confidently recommend a young man (age 20) as above. Six years' experience, two here.

JOURNEYMAN (FIRST), in the Houses.—Age 21; six years' experience. Two years' good character from present employer. Bothy preferred.—W. B., Meadow Lodge, West Wickham, Kent.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 24; bothy preferred.—W. JONES, The Gardens, Gledhow Hill, Leeds.

JOURNEYMAN, Inside and Out.—Mr. HAIGH, The Gardens, St. Vincent's, Grantham, has pleasure in recommending G. NORRIS; two years in present situation, four years previous. Abstainer.

JOURNEYMAN (SECOND), in the Houses, under a good Foreman.—T. AMES, Head Gardener, Heath, Chalfey, Leves, can thoroughly recommend J. PARKER to any Gardener requiring a steady willing young man.

JOURNEYMAN (FIRST), in the Houses of a good establishment.—Age 24; ten years' experience. Good character, and can be well recommended.—W. PEARCE, London Road, Ascot, Berks.

JOURNEYMAN (SECOND), where two or three are kept.—Six years' practice in Fruit and Plant Houses. Bothy preferred. For character, apply to Mr. DAVIDSON, Iwerne Gardens, Blandford.

JOURNEYMAN, in a good Establishment.—Age 18. Four years' experience. Good testimonials from late employer.—F. TAYLOR, Black mit Shop, Hampton Bishop, near Hereford.

JOURNEYMAN, Inside, under a Foreman.—Age 19; good references. Two years in present situation, and three previous. Bothy preferred.—G. BENTLEY, The Oaks Gardens, Carshalton, Surrey.

JOURNEYMAN, in the Houses.—Age 22; nine years' experience. Three and two years' excellent character. Abstainer. Bothy preferred.—W. FOSSEY, Brook Street, Brentwood, Essex.

JOURNEYMAN, Inside, or Inside and Out, under Foreman, in large Garden.—Age 21, tall, strong; seven years' experience, two in present place, in charge of Houses. Bothy preferred.—F. DYLL, Cranmore Hall Gardens, Shepton Mallet.

IMPROVER, under a good Gardener, a young man (age 20); six years' experience. Good character. No objection to a bothy.—Mr. E. CALVER, Brockdish, Norfolk.

IMPROVER, in the Houses.—Age 19; three years' experience. Inside and Out. Abstainer.—E. RAMFORD, Grange Lodge, New Eitham, Kent.

IMPROVER, in the Houses.—Age 22; desires a situation under a good Gardener. Three years' good character. Bothy preferred. 25 premium given.—W. HEYWOOD, The Lodge, St. Mary Hall, Brighton.

IMPROVER, under a good Gardener.—Age 16; strong and willing, not afraid of work. One year's excellent character.—JACKSON, Claydon Park, Winslow, Bucks.

IMPROVER, under a good Gardener, Inside and Out.—Age 16; bothy preferred. Strong, active, willing. Three years' good character.—Apply, CHARLES LAWRENCE, Stone House Farm, Brimpton, near Reading.

IMPROVER, under Glass, by a Lad of 18; nearly two years' experience. No objection to small or large firm.—H., 10, St. Ann's Hill, Wandsworth, S.W.

IMPROVER, Inside.—Age 19; five years' experience. Two under Glass. Good character from present and previous situations.—J. FAULKNER, Wentworth Castle Gardens, Barnsley, Yorks.

IMPROVER, Inside, or Inside and Out.—Mr. H. DROVER can highly recommend a young man (age 19), as above, who has had four years' experience with him, chiefly Inside.—W. ROWSON, 34, West Street, Ventnor, Isle of Wight.

IMPROVER, Inside, or Inside and Out.—Age 18; good character.—F. DOWLING, 39, Farwig Lane, Bromley, Kent.

GARDEN.—Will any Lady or Gentleman kindly give a willing boy (age 16) a start under a Gardener? Has been eighteen months' Indoors. Good character.—H. H., Fendrena, Crickhowell.

TO HEAD GARDENERS.—A young man, a student at Swanley College, and six months' service in large garden, would like a year in a good Private Garden, where things are well done.—R. Selwood, Horsely Lane, N.

TO HEAD GARDENERS.—T. LOCKIE, Oakley Court, Windsor, wishes to procure a place for a very respectable Youth (age 19) as young JOURNEYMAN and IMPROVER. Has been with him four years, mostly in the Houses, in charge of fires, &c. Bothy preferred. Clean, steady, and willing.

TO GARDENERS.—A Youth wishes to learn Gardening under a Head Gardener. Small premium, if required.—J. W., 18, Gloucester Road, South Kensington, S.W.

TO GARDENERS, &c.—A young Man seeks a situation to look after Herbaceous Borders, Wall Trees, and Pleasure Grounds. Five-and-a-half years' character.—G. KING, Mars Hill, Dover Street, Hyde, I. W.

TO GARDENERS, &c.—Situation wanted, in a Gentleman's garden (near); willing to make himself useful. Age 20; good references.—A. D., 1, Queen's Road, Winchester, Hants.

TO FRUIT GROWERS under Glass, or FRUIT FARMERS.—Two Gardeners, age 21, are anxious to get situations as above. Ten years' experience in Nursery Work.—T. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—Situation in a good Market Nursery wanted, by a young man, age 21; seven years' experience. Good character.—W. WINTER, Mill Road, Hampton Hill, Middlesex.

TO NURSERYMEN.—A young Man (age 21) seeks a situation in a Market Nursery. Good knowledge of Cut Bloom and Pot Stuff. Good references.—F. S., Albert Villa, Chestnut Road, Tottenham.

TO NURSERYMEN.—As BOOK-KEEPER, CORRESPONDING CLERK, or SALESMAN. Thoroughly qualified, having had twenty-five years' experience in present situation. Can be well recommended. Disengaged at the end of March.—ALBERT HEAD, Ascot.

TO NURSERYMEN.—Situation wanted in a Market Nursery; used to Ferns, Carnations, Roses, Bouvardias, Palms, &c., and the general routine of the trade, and could take charge in employer's absence.—S. H., 45, St. James' Street, Brighton.

To Nurserymen and Gardeners.

HANDY-MAN seeks employment.—Painter, Glazier, Handy at Repairs, Carpentering, Hot-water Joints, Any District. Job not objected to. Good character.—G. BAKER, 10, Secretan Road, Camberwell, S.E.

PAINTER, GLAZIER, and CARPENTER.—A young married man requires situation as above on an Estate or Nursery. Good references.—B., Mr. R. Walker, Cranleigh, Surrey.

SHOPMAN.—Age 25. Life experience in Seed and Bulb Trade, Shop and Warehouse. Good references.—O. F., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SHOPMAN (ASSISTANT).—Age 22; Paris and London experience. Good references.—LEON G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FLORISTS.—A young Lady desires re-engagement. Well up in all branches. Two years' experience. First-class references.—FLORIST, 14, Clarendon Road, West Green, Tottenham, N.

TO FLORISTS.—Re-engagement wanted by young Lady in a first-class Florist business.—FLORIST, *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W. C.

HOLLOWAY'S PILLS.—Good Digestion. Holloway's Pills are universally acknowledged to be the safest, speediest, and best corrective for indigestion; loss of appetite, acidity, flatulency, and nausea are a few of the inconveniences which are remedied with ease by these purifying Pills. They strike at the root of all abdominal ailments, they excite in the stomach a proper secretion of gastric juice, and regulate the action of the liver, promoting in that organ a copious supply of pure wholesome bile, so necessary for digestion. These Pills remove all distention and obstruction, and from their harmless composition are peculiarly well adapted for delicate persons and young children; whilst casting out impurities, these excellent Pills strengthen the system and give muscular tone.

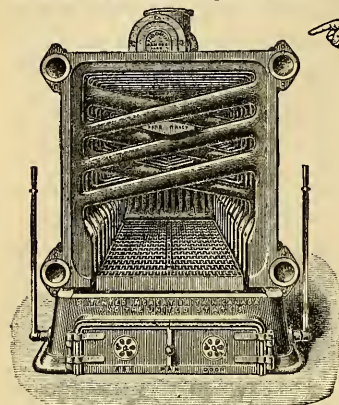
AWARDED TWENTY PRIZE MEDALS

AT INTERNATIONAL EXHIBITIONS AT HOME AND ABROAD.

KEITH'S PATENT BOILERS, THE "CHALLENGE," "VIADUCT," "PYTHON," &c.,

FOR HOT-WATER HEATING, "STAND FIRST," require no building work round them, are entirely water-jacketing, and heat from 50 feet up to 20,000 feet of 4-inch pipe respectively. Many thousands are in use all over the world, and the Boilers are unrivalled in power and economy.

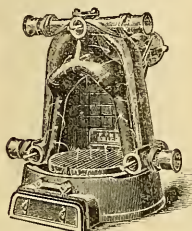
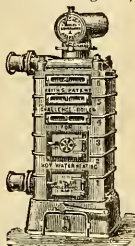
KEITH'S "PYTHON" BOILER, as illustrated below, has 1000 square feet of effective heating surface, with 17½ square feet of fire-grate area; heats about 20,000 feet of 4-inch pipe, and is the Most Powerful and Complete Sectional "Special" Hot-water Heating Boiler in the World.



This Engraving "illustrates the most powerful form of Boiler that has yet been made for Hot-water Circulation."—Extract from Hoon, on *Warming by Hot-water*, New Edition, 1891.

KEITH'S BOILERS

are almost exclusively used by Her Majesty's Government, at the Home Office, and for the Heating Work of the Prisons throughout the United Kingdom, in preference to all others.



Manufactured under thirty James Keith's Patents in Great Britain, United States, and Canada.

JAMES KEITH (C.E., Assoc. M.Inst.C.E.), Gas, Hydraulic, Heating, Ventilating, and Consulting Engineer. Established 1823. Contractor to Her Majesty's Government. 57, HOLBORN VIADUCT, LONDON, E.C., ALSO AT EDINBURGH AND ARBROATH.

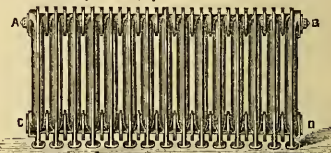
KEITH'S PATENT RAMS & Self-acting,



HYDRAULIC RAM-PUMPS, For Raising Water.



The very HIGHEST EFFICIENCY attained in Self-acting Hydraulics, by KEITH'S RAMS.



KEITH'S PATENT "UNIVERSAL" RADIATORS, For Hot-Water Heating. Made in One Piece, and in many Sizes and Modifications. No Joints to Leak. Thousands in use.

BY ORDER OF MESSRS. LINDEN, BRUSSELS.


FRIDAY NEXT, MARCH 11.

GREAT SALE.—NEW AND RARE ORCHIDS.

EXTRAORDINARY NEW ODONTOGLOSSUM IN FLOWER.

ODONTOGLOSSUM CÆLESTE (Linden).

Grand New Species. The entire Stock (about 200) will be offered.

 The PLANTS are ESTABLISHED and ONE in BLOSSOM. The flowers are mauve, and most attractive

Also a fine importation in perfect order and condition of

CYPRIPEDIUM INSIGNE VAR. MONTANUM.

The plants have been collected by the same men in and around the region from whence was obtained the exquisite CYPRIPEDIUM INSIGNE SANDERÆ, and other grand varieties, all in very fine masses.

Also some fine established plants of MORODES ROLFEANUM (new species), AGANISIA CÆRULEA, ODONTOGLOSSUM CORONARIUM, O. TRIPUDIANS, ANGRÆCUM SESQUIPEDALE, SACCOLABIUM CÆLESTE, GRAMMATOPHYLLUM SPECIES, from Madagascar; CORYANTHES LEUCOCORYS, DENDROCHILUM FILIFORME, &c., &c.

MESSRS. PROTHEROE & MORRIS have received instructions from Messrs. LINDEN, to SELL by AUCTION, at their Great Rooms, 67 and 68, Cheapside, London, E.C., the above grand lots, on FRIDAY NEXT, March 11.

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, March 5, 1892. Agent for Manchester—JOHN HEYWOOD.

The REFLECTOR CHRONICLE

ESTABLISHED 1841. No. 2672. No. 2672.

No. 272.—VOL. XI. {THIRD SERIES}

SATURDAY, MARCH 12, 1892.

{Regt. as a Newspaper. PRICE 3d. POST-FREE, 3d.

CONTENTS.

Alkaloid from Chrysanthemums, a new	333	Orchid roses and glan-	314
Apples, too many sorts of	330	Orchid sale, great	341
Artificial coloration of flowers, the	329	Potatoes in Ireland, last century's	342
Bananas v. Plantains as food	338	Potatoes, judging	342
Bordeaux Mixture and the Potato rot	339	Pruning Dendrobiums	342
Camellias	342	Rose La Verzonnoise	338
Case for the county council instructor	338	Rosey, the	340
Colonial notes	331	Work in the Rose-garden in March	340
Cultural analogies	341	School of Horticulture	339
Cultural notes	341	Remarks on vegetables	339
Cryptophanthus Dayanus	338	Small hobbings	337
"Dictionnaire de Botanique"	338	Societies	337
Diseases of the reproductive organs of plants	331	Birmingham Chrysanthemum	337
Eleagnus japonica variegata	342	Devon and Exeter Gardeners' Association	337
Emmenanthe penduliflora	339	Dutch Horticultural and Botanical	338
Fernery at Nant-y-Glyn	336	Leeds Flower and Gardeners' Association	339
Fruit from South Africa	339	Liverpool Amateur Gardening Association	339
Gardeners' Royal Benevolent Institution	339	United Horticultural Benefit and Provident	339
Gardening as a profession	342	Winder, Eton, and District	339
Grasses of the South-west U.S.A.	338	York Florists	339
Hedges for woods and plantations	341	Spring growth of trees	336
Hybrids and hybridism in Narcissus	331	Tasmanian fruit	339
International Horticultural Exhibition	339	"The Silva of North America"	333
Isle of Man, exhibition at Law notes	334	Vegetables	333
Mixtures for spraying fruit trees	330	Selected Peas	333
New or noteworthy plant	330	Sulham Prize Pink	333
Pelezia Travassosii	330	Celery	333
Nitrates in soils, the formation of	338	Week's work, the	334
Nursery notes	340	Apary	334
Cyclamen at Hanwell	340	Flower garden	335
		Fruits under glass	334
		Hardy Fruit garden	335
		Kitchen garden	334
		Orchid houses	334
		Plants under glass	335

ILLUSTRATIONS.

Emmenanthe penduliflora	339
Ferns at Nant-y-Glyn, Colwyn Bay	337
Hybrid Narcissus	333
Method of tying trees with straw bands	335

LAURELS.—CAUCASICUM, LATIFOLIA, ROTUNDIFOLIA, and COMMON, fine bushy plants, well-rooted, 2 to 6 feet.
PORTUGAL LAURELS, Standards, few buds, CATALOGUE on application.
H. LANE AND SON, Nurseries, Berkhamsd, Herts.

STANDARD ROSES, 14s. per doz.; Bush Rosa, 6s. per doz.; best named Clematis, 14s. per doz.; Ampelopsis Veitchii, 4s. per doz.; Variegated Ivies, 4s. per doz.; Mrs. Sinkins Pinka, 12s. per 100; Ferns, in pots, 15s., 24., and 48s. per 100. Catalogue, gratis and post-free.
H. ENGLISH, Clevedon Nurseries, Clevedon.

PANSIES, VIOLAS, and DAILLIAS.—We do as well as any firm in the Kingdom. Ten Gold and Silver Medals last season from leading Societies. Only standard exhibition varieties kept in stock. Prices from 2s. 6d. per dozen, carriage paid. Send for Catalogue and Competitor's Guide, 160 pages, post free, 3d. **DAHLIA CUTTINGS** supplied very cheap.—**DOBBIE AND CO.,** Rothsay.

STANDISH'S RHODODENDRONS.—Choice varieties, well-budded plants, 24s., 30s., and 42s. per dozen. Well-rooted and Bushy **PONTICUMS**, of all sizes. Price per 100 or 1000 on application.
ROYAL NURSERIES, ASCOT.

LOVEL'S YORKSHIRE STRAWBERRIES. We offer for Cash, good sorts in nice plants, carriage paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample Dozen, 4d. Descriptive LIST free.
W. LOVEL AND SON, Strawberry Growers, Driffield.

CHRYSANTHEMUMS.—CARTERS' ILLUSTRATED CATALOGUE of the FINEST COLLECTION in the COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—**The Queen's Seedsmen, 237 and 238, High Holborn, London, W.C.**

Seed Potatoes.
H. AND F. SHARPE invite the attention of the Seed Trade to their fine selected stocks of **SEED POTATOES**, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other growers.
Seed Growing Establishment, Wisbech.

BEGONIAS.—Davis's New, Rare, & Beautiful.
The Best **BEGONIA CATALOGUE** published. Enumerates a magnificent and unsurpassed Collection, with descriptions, illustrations, and much valuable information on this now popular flower; post-free. The first grower to issue a Begonia Catalogue was **B. R. DAVIS, Begonia Grower, Yeovil Nurseries, Yeovil, Somerset.**

W. D. BUNDAY, of Covent Garden Market, 37, E. and 37, E. Market, W.C., is open to SELL on COMMISSION, TOMATOES, GRAPES, &c. Good references.

HENRY E. MUNTON, FRUIT and VEGETABLE COMMISSION SALESMAN, Covent Garden Market, W.C. (twenty years' connection). Accounts and Cheques daily, or as desired. Empties supplied. Bankers and other references. A trial solicited.

MESSRS. SQUELCH AND WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOES, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

150,000.—Special Offer of Kentias.
W. ICETON has a large quantity of the above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well-established, at £30 per 1000.
W. ICETON, Putney, S.W.

WANTED, Six Standard PORTUGAL LAURELS, 24 to 3 feet stems. CHEAL NURSERIES, CRAWLEY.

WANTED, MAIDENHAIR FERN, ROSES, ORCHIDS, CARNATIONS, LILIU HARRISII, and other CHOICE FLOWERS, to SELL on COMMISSION. Boxes and labels supplied. Established 1870. Telephone No. 2939. R. EXP, Wholesale Florist, 28, Wellington Street, Covent Garden, W.C., and Crystal Palace, Sydenham.

WANTED, CUTTINGS of Miss Jolliffe and Germania, rooted or not; also OLD PLANTS of Double White Primula.—State price per 100 or 1000, to W. G. MILBORN, Nurseryman, Highgate, N.

WANTED BOOKS FOR GARDENERS' LENDING LIBRARY, New or Secondhand.—Apply to JAMES POUND, Hon. Sec. Reading Gardeners' Association, 61, Donnington Road, Reading.

WANTED, GARDENERS' CHRONICLE, Nos. 323 and 339, 1880; also VOL. XIV., July to December, 1880.—Price to Publisher, 41, Wellington Street, Strand, W.C.

WANTED, CHRYSANTEMUM CUTTINGS.—Elaine, Madame Lecroix, Mons, Astorg, Fulon, and Jardin des Plantes. Lowest price per 1000 for cash, to W. E. MARSHALL, Florist, Abbey Wood, Kent.

WANTED, CHOICE CUT FLOWERS, to SELL on COMMISSION in Covent Garden Market. Cheques weekly, all consignments. Good references. Communication to S. DENSON AND CO., The Nurseries, 22, Maiden Lane.

**WANTED, three to five hundred feet of 4-inch HOT-WATER PIPES, Rubber Joints preferred. Second-hand goods will do.
E. SMALL, The Cottage, Hampton Poyle, Kidlington, Oxon.**

THE BEST LAWNS are produced from—

SUTTON'S GRASS SEEDS, which should now be sown either to Make New Lawns or Improve Old Lawns. See full directions in—

SUTTON'S LAWN PAMPHLET, Sent post-free by—
SUTTON AND SONS, READING.

Fruit Trees a Specialty. APPLES, PEARS, PLUMS, STRAW-BERRIES, and all sorts of Small and Hardy Fruits grown in immense quantities. The best of the Old and New Varieties either to Grow for Market or Private Consumption. Special quotations for quantities. Descriptive CATALOGUE and GUIDE, the most complete issued, 6d. Ordinary LIST free.
JOHN WATKINS, Pomona Farm Nurseries, Withington, Hereford.

Many Acres of Lilies of the Valley!
T. JANNOCH, Largest Grower of LILIES in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.
T. JANNOCH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

For Exhibition! BROAD BEAN, BIDDLES' MONSTER LONGPOD.—Extra long, fine quality. Per quart, 1s. 6d.
CARROT, BIDDLES' SCARLET PRIZETAKER, Intermediate, the finest exhibition Carrot grown. Per oz., 1s.
ONION, BIDDLES' GIANT SPRING.—Too well known as a prize-winner to need further recommendation. Per 60 lbs.
BIDDLES AND CO., THE PENNY PACKET SEED CO., Loughborough, Leicestershire.

Seeds.—Carriage Paid.—Seeds. DICKSON AND ROBINSON'S DESCRIPTIVE CATALOGUE for 1892, Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOES; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application. COLLECTIONS of VEGETABLE SEEDS, from 5s. to 84s. COLLECTIONS of FLOWER SEEDS, from 2s. 6d. to 84s. Seed Warehouse, 12, Old Millgate, Manchester.

BARRE'S SEEDS, BULBS and PLANTS. VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION. FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION. BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION. PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Heliozels, Carnations, &c. LISTS FREE ON APPLICATION. **BARRE AND SON, 12, King Street, Covent Garden, London.**

FOWLER'S MEALY BUG DESTROYER. For the eradication of this most troublesome pest. It is easily applied; is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s., 6d., 5s., and 10s.; half gallon, 21s.; one gallon, 42s. each.
CORRY AND CO., Limited, 13, 15, 16, Finsbury Street, E.C.
Sold by all Seedsmen.

J. WEEKS AND CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.
King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney. **WM. THOMSON AND SONS, Clonelford, Galashiels, N.B.**

SALES BY AUCTION.

Wednesday and Saturday Next.

2500 Choice named Standard, Half-Standard, Dwarf and Climbing ROSES, from one of the first English growers and exhibitors, including many new varieties; 500 FRUIT TREES, 500 Ornamental SHRUBS and CONIFERS; a consignment of LILiums from Japan, comprising a new LILIUM ELEGANS, L. TIGRINUM, L. PEGAZUM, L. ALBUM KREITZBERG, L. S. RUBRUM; an extensive collection of BORDER PLANTS, TUBEROSES, and various BULBS and ROOTS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY and SATURDAY NEXT, March 16 and 19, at half-past 12 o'clock precisely each day.

On view mornings of Sale, and Catalogues had.

The Choice Collection of Established Orchids formed by A. SILLEM, Esq.

MR. J. C. STEVENS has received instructions from AUGUSTUS SILLEM, Esq. (who is medically forbidden to frequent the houses), to offer for SALE, by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY and THURSDAY, April 6 and 7, at half-past 12 o'clock precisely each day, without the least reserve, his entire COLLECTION OF ORCHIDS, which will be found in excellent health, and amongst them may be mentioned—

Phalaenopsis grandiflora	Vanda Teres
" amabilis	Cattleya labiata
" Staneriana	" Medelii
" Staneriana	" Achlandii
Angraecum sesquipedale	" Buxifolia
" Scottiana	Coleogyne cristata Lemoineana
Cypripedium Stonei	" pandurata
" Leavittianum	Lycaste Skinneri alba
" Lowi	Cymbidium eburneum
" Rothschildianum	" Lowi
Aërides Fieldingii	" Hookeri
" Sandersonianum	Odontoglossum Alexandrine
Phajus tuberosus	" vesaliatum
" Humboldtii	" Londesboroughianum
" Henryi	" hystrix
Vanda Staneriana	Dendrobium Ainsworthii
" Calcherti	" moniliforme
" Benoitii	" albo-sanguineum, &c.

On view mornings of Sale, and Catalogues had.

Monday Next.—Hardy Plants and Bulbs.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 14, at half-past 11 o'clock, many thousands of HARDY PERENNIALS, all being true to name; GLADIOLI, PEARL TUBEROSES, NAKES, a Collection of CARNATIONS, including a number of Continental varieties; HOLLOCKS, PISTACHES, PHLOXES, PEONIES, BEGONIAS, CYPRIPEDEUMS, SPECIALLY IMPORTED LILIES, a fine Collection of Home-grown LILIES, RESSERA ELEGANS, TROPICOLUM TUBEROSUM, Choice Hardy BULBS, CACTUS, POMPON and Single DALIAS, HARDY ANEMONES, and a quantity of beautiful HARDY CLIMBERS, &c.

On view morning of Sale, and Catalogues had.

Wednesday Next.

4000 PHALANX RUYL REEDS.

1500 CALAMUS LEPIDOPADIX SEEDS.

20,000 COCOS WEDDELIANA.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on WEDNESDAY NEXT, March 16, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

2000 LILIUM AURATUM

1800 " AURATUM PLATYLYLUM

3000 " LONGIFLORUM

1400 " SPECIOSUM KREITZBERG

2300 " RUBRUM

500 " COXCOLOR

400 " KRAKERI

100 " SPECIOSUM MACRANTHUM

250 " LEITCHII

50 " TIGRINUM FORTUNII

100 CYCAS REVOLUTA. TEA ROSES in pots, HERBACEOUS PLANTS, GREENHOUSE FERNS, PALMS in variety, GLADIOLI, PEARL TUBEROSES, PANCATUM ZEYLANICUM, 1500 GLADIOLI LEMOINEI, beautifully blotched with dark spots; 400 extra choice BEGONIAS; from one of the finest strains in England; 1600 Single Mixed BEGONIAS, 500 Standard and Dwarf ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 16, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

THE

STAND HALL COLLECTION OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

HIGHLY IMPORTANT SALE of the whole of this Renowned Collection

Including many plants matchless in point of rarity, the whole being unsuperseded for culture and condition.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of the late Thomas Statter, Esq., to SELL by AUCTION, early in May, on the Premises, Stand Hall, Whitefield, near Manchester, the whole of the above-named

CELEBRATED COLLECTION OF ESTABLISHED ORCHIDS. A list of the principal plants appeared in the *Gardener's Chronicle*, February 6, 1892.

The Catalogues will be prepared in due course, and the Auctioneers will be pleased to receive early application.

THE HOWICK HOUSE

COLLECTION OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

UNUSUALLY IMPORTANT SALE

OF THE

Whole of this Celebrated Collection of Orchids.

Formed by the late EDWIN GRUNDY WRIGLEY, Esq., the whole being in splendid condition, and including many Plants of exceptional merit and rarity.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of the late E. G. Wrigley, Esq., to SELL by AUCTION, on the Premises, Howick House, Preston, Lancashire (about 2 miles from Preston Station), early in APRIL NEXT, without the slightest reserve, the whole of the above-named and most important Collection of Established Orchids. Amongst the principal plants, the following may be specially mentioned—

Angraecum sesquipedale	Dendrobium Leechianum
" Arundinaceum	" Macfarlanei
Brassavola Digbyana, fine plant	" nobile nobiliss
Catasetum Birnborghii	" Cooksonii
Cattleya amabilis	" splendensissimum grandifolium
" Arundinaceum	" Venus
" aurea, in variety	Epidendrum Frederici
" Ballantianae	" virgatum
" crispum	" Buxifolia
" didorodo Wallisii	Grammophyllum Eliisii
" exoniensis	Lelia amanda
" Hardyana, F.C.C.	" Amesiana
" Lawrenceana (Howick House variety)	" ances, enormous specimen
" in variety	" atrosanguinea
" Massiana	" Barkeri
" Mendelii, two enormous	" Dawsonii
" pycnantha, one 3 feet and the other 2 feet 6 through respectively, and many others	" Sandersonia, 3 ft. 6 in. through
" Mossia, grand specimen, 3 feet 6 x 3 feet	" Schroderiana
" (several)	" Willsii
" alba, 2 plants	" antonmilla alba
" nobilior	" Iella (Mossia, Veitch's hybrid), with 8 bulbs
" Reineckiana, 3 plants, one a fine specimen, with 7 sheaths	" Buxifolia
" Rex	" callistoglossa, 31 bulbs
" Sandersonia (several)	" elegans alba
" Schilleriana	" prasinata
" Schofieldii	" Schilleriana
" Skinneri, grand specimen, 3 feet through	" Turneri
" alba	" grandis, fine specimen
" ovalata	" purpurata, 10 immense specimens
" speciosissima majus	" alba magnifica
" Trianae alba, 36 bulbs, extra fine and large variety	" Russelliana
" Trianae (several)	" superbus
" yuliana	" Lycaste Skinneri alba, 4 plants
" Wagneri, 60 bulbs	" Madevilliana, in variety
" Warneri	" Maxillaria Sandersoniana
" Warocqueana	" Odontoglossum (200) plants in variety
" flammea	" Andersonianum
" Cynogyne cristata alba	" ances, enormous specimen
" maxima	" baphianum
" Lemoineana	" cochlioda Nuttalliana
" Trentham variety	" crispum, grand 1 ms
" Massiana, F.C.C.	" Triglochinum
" pandurata	" Edwardsii
Cymbidium eburneum	" Rossii, fine variety
" Lowianum	" Ruckertianum
Cypripedium Ainsworthii	" Sandersonianum superbum
" Elliottianum	" Lawrenceana
" enryaundum	" Wilckeanum
" grande	" Oncidium macranthum
" hirsutissimum	" Phajus tuberosus
" Lathamianum	" Phalaenopsis amabilis
" Leeana superbum	" aurea grandifolia
" Morganiana	" casta
" Burckelliana	" gloriosa
" cananthum superbum	" grandifolia
" Sandersonianum	" Mare
" selligerum	" Staneriana
" Stonei	" Schilleriana
" vexillarium	" vestalis
" Wallisii	" Secolobium bellidum
	" Staneriana
	" Vanda Amesiana
	" Kinballiana
	" teres Andersonianum

It will be observed that some of the specimens are of enormous size.

The whole of the plants will be submitted to public competition, and nothing sold privately before the Sale.

Catalogues are now in course of preparation, and may be obtained Mr. HUGH, The Gardens, Howick House, Preston; and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

Milford Hill, Salisbury.

TWO DAYS' UNRESERVED SALE of the well-known COLLECTION OF EXHIBITION STOVE and GREENHOUSE PLANTS, formed by Lieutenant-Colonel PEPPER, and which have been so successfully exhibited at the principal shows.

MESSRS. PROTHEROE AND MORRIS are instructed by Lieutenant-Colonel Pepper (who is giving up exhibiting), to SELL by AUCTION, on the Premises, Milford Hill, Salisbury, about the end of April, the whole of the valuable collection of EXHIBITION STOVE and GREENHOUSE PLANTS, including specimen Crotons, Palms, Cycads, Ferns, Ericas, Ixoras, Allamandas, Clerodendrons, and a small collection of ORCHIDS.

Fuller particulars will appear in future advertisements.

FRIDAY NEXT.

GREAT UNRESERVED TRADE SALE OF

ORCHIDS.

Grand Lots of Imported and Established Plants, in Lots to suit the requirements of the Trade.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, March 18, at half-past 12 o'clock, by order of Mr. F. SANDER, a Grand Lot of

CATTLEYA LABIATA.

SWAINSON'S OLD LABIATA, Without Reserve.

A Grand Lot of the now famous CYPRIPEDEUM INSIGNE

MONTANUM.

A Grand Lot of DENDROBIUM WARDIANUM.

A Grand Lot of DENDROBIUM FORMOSUM GIGANTEUM.

A Grand Lot of DENDROBIUM NOBILE, from Upper

Burma.

VANDA TERES, the Waddesdon variety.

VORANTHES SPECIOSUM.

CANTHUS VESITIA FOURNIERII.

ARIDIS AFFINE ROSEUM.

Some exceptionally fine specimens of the noble DENDROBIUM

DAHOUSAUM.

A few plants of the new and highly interesting natural hybrid

Dendrobium described in last week's *Gardener's Chronicle*,

DENDROBIUM BARBA ULIO-CHLOROPUS, ROSE.

Together with a large number of other choice Orchids, named PEGAZO, HOLIA, GRANDE,

PESCATOREI, and VEXILLARIUM; CATTLEYAS GIGAS

(from the aurea country), and GASKELLIANA; ANSELLIA

LUTEA, DENDROBIUM INFUNDIBULUM, LYCASTE

STANERIANA, &c.

Also a fine lot of the charming GLORIOSA SUPERBA.

EVERY PLANT IS OFFERED WITHOUT RESERVE.

On view morning of Sale, and Catalogues had.

The Royal Victoria Nurseries, Holdenhurst Road

BOURNEMOUTH.

Estate of the late Mr. Enoch White.

SALE BY AUCTION of the valuable and extensive NURSERY STOCK OF STOVE and GREENHOUSE PLANTS, comprising many THOUSANDS OF SHRUBS, including varieties of Conifers, named HOLIA, Cypripediums, and many others. A very choice assortment of Roses, a large variety of Ferns, Azaleas, Bouvardias, well set with buds; Dracaenas, Ericas, Epacris, Genestas, Aucubas, and Crocuses in great numbers; many thousands of Polargiums and Geraniums, Cyclamen, Carnations, Petunias, Gloxinia, Cineraria, Calceolarias, Chrysanthemums; also a valuable collection of Palms, Ferns, and Orchids, and other Exotic Plants and Fruit Trees too numerous to mention. Together with the Live and Dead Stock, and a new Horizontal Tubular Boiler, capable of heating 12,000 to 15,000 feet of glass, which—

MESSRS. REBBECK BROS. are favoured with instructions from the executors to SELL by AUCTION, on the premises, Royal Victoria Nurseries, Holdenhurst Road Springbourne Bournemouth, on TUESDAY, WEDNESDAY, and THURSDAY, March 15, 16, and 17, at 11 o'clock each day.

May be viewed on Saturday, March 12, and Monday, March 14, Catalogues of the Auctioneers, "The Mart," and Gervis Place, Bournemouth.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

On view morning of Sale, and Catalogues had.

"L'HORTICULTURE INTERNATIONALE"

(LIMITED),

LEOPOLD PARK, BRUSSELS, BELGIUM.

ORCHID EMPORIUM.



THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.



AN UNIQUE SPECTACLE IN THE WORLD.

BOARD OF DIRECTION OF "L'HORTICULTURE INTERNATIONALE":—

PRESIDENT—J. DE LANSBERGE, Esq., late Governor-General of the Dutch Possessions in India.

DEPUTY DIRECTOR—J. LINDEN, Esq., Honorary Consul-General.

DIRECTORS—BARON DE BLEICHRÖDER, H.M. of Great Britain, Consul-General; Banker in Berlin.

COUNT ADRIEN D'OULTREMONT, M.P. for Belgium.

EDOUARD OTLET, Esq., Landed Proprietor in Brussels.

G. WAROCQUÉ, Esq., M.P. for Belgium; President of "L'ORCHIDÉENNE."

MANAGING-DIRECTOR—LUCIEN LINDEN, Esq., President of the Brussels Horticultural Board of Commerce.

COMMISSIONERS—N. FUNCK, Esq., late Manager of the Zoological Gardens in Brussels and Cologne.

G. JORIS, Esq., Solicitor in Brussels.

"No one can fail to be struck with the ADMIRABLE CLEANLINESS, ORDER, and ARRANGEMENT which characterise the Plant-Houses of 'L'HORTICULTURE INTERNATIONALE.'"—*T. L., in "Gardeners' Chronicle,"* October 24, 1891.

"The Nursery is a gigantic drawing-room, for it teems with beautiful objects, which may be inspected with perfect ease and enjoyment. In my opinion, THIS NURSERY IS ONE OF THE VERY BEST of the many attractions which the beautiful town of Brussels offers to visitors. . . . To those who want to look at all the best Orchids grown, as only a few can grow them, I WOULD RECOMMEND A VISIT TO MESSRS. LINDEN'S ESTABLISHMENT ("L'HORTICULTURE INTERNATIONALE"). ALTOGETHER, THIS NURSERY IS ONE OF THE MOST INSTRUCTIVE AS WELL AS ONE OF THE MOST DELIGHTFUL TO BE FOUND IN EUROPE."—*Garden and Forest,"* May 27, 1891.



IMPORTANT NOTICE.



We offer to each Visitor to our Establishment who purchases to the amount of £50, a discount of £5, which will cover the expenses of the journey to Brussels (Our Immense Stock at hand, and continuous large importations, enable us to make this exceptional reduction).

A Visit to our Establishment will prove most interesting and instructive. Amateurs and Orchid-growers will find at "L'HORTICULTURE INTERNATIONALE" a wonderful and immense stock of Orchids, grown in perfection, and at 50 PER CENT. LESS THAN ELSEWHERE.

ORCHIDS A GRAND SPECIALTY.

ORCHIDS, ESTABLISHED AND IMPORTED.

ORCHIDS FOR THE TRADE.

NEW AND RARE ORCHIDS.



The LARGEST and BEST STOCK of ORCHIDS in Cultivation.



For CATALOGUES and SPECIAL OFFERS, apply to—

MESSRS. LINDEN, L'HORTICULTURE INTERNATIONALE, BRUSSELS, BELGIUM.

Hewlett Road Nursery, Cheltenham.
SALE of a PORTION of the well-grown NURSERY STOCK.
MESSES. ENGALL, SANDERS AND CO.
are instructed by Mr. John. Hopwood to SELL by
AUCTION, at his No. 2 Nursery, situate as above, on THURSDAY
and FRIDAY, March 24 and 25, 1892, at 12 o'clock, a large quantity of NURSERY STOCK, comprising Evergreens and
Flowering Shrubs, English Yews, extra large oval-leaf
Privet, Ficus in Pots, Tree Box, Laurels, Beds of Thuja Lobbi,
American Arbor-vitæ, strong Spruce Firs, Standard and
Ornamental Trees, Dwarf Roses, strong Standard Fruit Trees,
including Apples, Apricots, Damsons, and Plums, Gooseberry and
Currant Trees, 2 large Mulberry Trees, &c.
Catalogues will be ready one week prior to Sale, on application
to Mr. HOPWOOD, at the Belle Vue Nursery, 55, High
Street, or the Auctioneers, No. 1, Promenade, Cheltenham.

WANTED, A SMALL NURSERY, six green-
houses and 1 acre of land. A Midland Town pro-
ffered.—J. W. *Gardener's Chronicle* Office, 41, Wellington
Street, Strand, W.C.

JOBBER and FLORIST BUSINESS for
DISPOSAL. Goodwill, Stock, &c., £20.
Apply, CULLEN, Gresham Road, Staines, Middlesex.

**To Noblemen, Gentlemen, Committees of Public
Parks, and others interested in Horticulture.**
TO BE SOLD by private treaty, owing to the
ground having been leased for building purposes.

**THE MAGNIFICENT CONSERVATORY OR WINTER
GARDEN AT HAMMARTON, EDINBURGH.**
The style of Building is suitable either for Public or Private
Grounds. The structure is principally of Iron. The frontage
of Main Building is 140 feet, the Dome rising to the height of
40 feet from the ground. The whole interior is paved with
encaustic tiles, and heated with water. There is an orna-
mental fountain, large mirrors, &c. The whole is in capital
condition and will remove with safety.

Offers will be received for the Conservatory as it stands.
Photographs and other information can be had from the
proprietors, Messrs. R. B. LAIRD AND SONS, Nursery and
Seedmen, Edinburgh; or Mr. DAVID MITCHELL, Horti-
cultural Valuator, 6, Comely Bank, Edinburgh.
A SALE BY AUCTION of the specimen and other Plants
in the above will be held at a date yet to be fixed.

Hampton-on-Thames, on the Marling Park Estate.
LAND FOR NURSERIES!!!
MR. F. G. HUGHES begs to call the atten-
tion of Nurserymen and Horticulturists about to com-
mence in Business, to the exceptional advantages offered by
this Estate. For full particulars apply—
The Estate Office, as above.

To Fruit Growers, Nurserymen, and Others.
GOOD ARABLE AND MEADOW LAND to
be LET or SOLD. Close to the main road at Ponder's
Ead (9 miles from London). Long leases granted. Rent, £12
per acre per annum, with option to purchase the Freehold any
time during the first nine years. Several large Market
Nurseries are established on the Estate. Full particulars of
A. and G. GUYER, Land Agents, Ponder's Ead.

**TO LET, A NURSERY, FLORIST, AND
SEED BUSINESS**, in central position. Ground and
Glasshouses in good order. Giving up owing to a death.
Apply, A. J. DAVIS, Brecon Road Nursery, Abergeenny.

To Builders, Florists, and Fruit Growers.
THE FREEHOLD, PRIORY NURSERY,
Acton Lane, Acton, near to four railway stations, com-
prising over 3 acres, having a frontage about 385 feet (The
Free, Land-Tax redeemed), property well-drained. Gas and
water laid on. Subsoil rich sand, of considerable value.
Stabling for four horses, two Coach-houses, Potting and Pack-
ing sheds, 23 well-built Greenhouses, 43,000 feet of Glass and
Woodwork, 8000 feet of Hot-water Piping, supplied by
14 Boilers, all in excellent order. Being an old-established
going concern, the property will be LET on Lease, or SOLD;
part of purchase-money can remain on mortgage on easy
terms of payment. Apply
Mr. HORSNAIL, 96, Newgate Street, City, London, E.C.

FOR SALE, GARDENERS' CHRONICLE,
unbound, in good condition, Eleven Volumes, from July,
1886, to the end of December, 1891; 634 and 635, and 636 to 636
of the First Volume of the year 1886; and Nos. 612 to 636 of
the Last Volume for the year 1885. Please state what offers
for the whole or any part of them to C. F. FRANKNELL,
Holloway Gardens, Virginia Water.

FRAMES! Half Price! Genuine Sale! (no
Catch). 6x8, 2-inch lights, 21 oz., 14 sides, 30s.;
(usual price half size).
G. BLUZE, 55, City Buildings, Liverpool.

THE TOWER FURNISHING COMPANY
(Limited), SUPPLY GOODS ON HIRE, direct from the
Manufacturers; one, two, or three years' Credit without
Security. Purchasers have the choice of 100 Wholesale Houses.
Call or write for prospectus.
Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Form-
ing Waterfalls, Lakes, and Streams, Ferneries, Winter
Gardens, Alpines, &c., as in hundreds of places about the
kingdom, including at Aldenham House, Elstree, so faithfully
illustrated in this journal of November 21, executed by
FULHAM AND SON, 50, Finsbury Square, London, E.C., and
Brockbourne, Herts. This Illustrated Book sent for inspection
on receipt of twelve stamps.

A. G. WATSON,
FRUIT & FLOWER SALESMAN, ABERDEEN.
Sale Days, Tuesday and Friday, at 9 A.M.
Consignments solicited of Pot Plants & Cut Flowers

FOR ORCHIDS, and GARDENERS
to Grow Them, apply to SANDERS, St. Albans. The finest
stock of Orchids in the World.—30 minutes from St. Pancras.
**NEW ZONAL PELARGONIUMS (GERA-
NIUMS).** LAST ready, free on application.
J. R. PEARSON AND SONS, Chilwell Nurseries, Notts.

SUPERB ORCHIDS, CHEAP.—Thousands
to select from. Write for List, free.—P. MCARTHUR,
The London Nursery, 4, Maida Vale, London, W.

G. C. PRIZE PAKETS, 4s. each, two for
7s., post-free, P.O. or I.D. stamps, contain 12 roots in
each packet, of SOMERSET SEEDLING GLADIOLI, all A.1.
carefully Hybridised Seedlings from First Prize Named Sorts;
therefore, all that are worthy may be named, as they will be
NEW AND ORIGINAL VARIETIES. These are the Prizes.
Plant during March, April, and May. Order early from—
ROBERT H. POYNTER, Nurseryman, Seedsman, and
Florist, Tauson, Somerset.

VINES.—VINES.—VINES.
We hold a fine Stock of the above, both Fruiting and
Planting Canes. Names and prices sent on application.
JOHN PEED AND SONS, Boupell Park Nurseries, Norwood
Road, London, S.E.

LAXTON'S SEEDS and STRAWBERRIES.
—Best novelties and best standard sorts. 100 Certifi-
cation. Send for Descriptive Price Lists.
T. LAXTON, Seed Grower, Bedford.

**FRUIT TREES.—APPLES, PEARS,
PLUMS, CHERRIES,** per 100 or 1000. Descriptive
CATALOGUES, post free, on application.
FLEICHER BROS., Ottershaw Nurseries, Chertsey, Surrey.

STANDARD SUPERIOR VARIETIES.
ROSES. Special Prices, with
CATALOGUE, on application.
DICKSONS NURSERIES CHESTER
(LIMITED)

"Come and See."
Nearly all the greatest critics say—
CANNELL'S CINERARIAS
200 ACRES
are certainly very much the finest they
have ever seen or ever expect to see.
SWANLEY, KENT.



ORCHIDS.
THE LIVERPOOL HORTICULTURAL CO.
(JOHN COWAN), Limited,
Have an immense stock of

ORCHIDS,
Both Established and Semi-Established, and
they are constantly receiving
IMPORTATIONS
from various parts of the world.
INSPECTION IS VERY EARNESTLY INVITED.

The Company's Prices are all fixed as low
as possible, with the view of inducing liberal
Orders.
PRICED and DESCRIPTIVE CATALOGUE
Post-free on Application to the Company.

THE VINEYARD and NURSERIES,
CARSTON, NEAR LIVERPOOL.

EXHIBITIONS.

**ROYAL BOTANIC SOCIETY of
MANCHESTER.**
SPRING FLOWER SHOW, at the Town Hall, Manchester,
on MARCH 15 and 16, 1892.

For Space, &c., apply to the undersigned—
Botanic Gardens, Manchester. BRUCE FINDLAY.

ROYAL BOTANIC SOCIETY
Gardens, Regent's Park, N.W.
SPRING FLOWERS.
THE FIRST EXHIBITION OF SPRING FLOWERS
will take place on WEDNESDAY, March 23. Gates open at
2 o'clock. The Band will play from 2 to 5.30.
Tickets to be obtained at the Gardens only by vouchers
from Fellows of the Society. Price, 2s. 6d. each.

CRYSTAL PALACE.
THE ANNUAL SHOW OF SPRING FLOWERS will be
held on SATURDAY, MARCH 26.
Schedules are now ready, and may be had on application to
Mr. W. G. HEAD, Superintendent, Gardens Department,
Crystal Palace, S.E.

Entries close March 19.
**BRIGHTON and SUSSEX HORTICUL-
TURAL ASSOCIATION.**
SPRING SHOW, March 29 and 30.
For Schedules of Prizes, apply to—
E. CARPENTER, Secretary.
96, St. James's Street, Brighton.

**A R B E Y P A R K,
LEICESTER.**
THE SEVENTH ANNUAL FLOWER SHOW and GALA
will be held on TUESDAY, August 2, 1892. For Schedules and
particulars, apply to—
Mr. JNO. BURN, Secretary.

EWING'S MILDEW COMPOSITION.—The
original certain and safe remedy. In bottles, 1s. 6d.
and 3s.; per gallon, 12s. CORRY AND CO., Limited, 13, 15,
and 16, Finsbury Street, E.C. Sold by all Seed-men.

ON SALE, FOUR SEAFORTH ELEGANS
and Two KENTIAS; very fine plants.
W. TROUGHTON, Nurseryman, Preston, Lancashire.

**FOR SALE, one splendid piece of PHŒNIX
RUPICOLA, 2 CHAMEROPS EXCELSA, and one large
ASPLENIUM NIDUS AUSTRALIUM.** For particulars
apply to H. J. WILLIAMS, The Lodge Gardens, Oakham.

CEOLOGNE CRISTATA, well-grown, with
blooms spikes. Cheap for cutting. Also the TRENTHAM
and MAXIMA VARIETIES.
TRUSTEES late J. STEVENSON, Timperley, Cheshire.

DWARF DUTCH BOX.—A large quantity
of Dwarf Dutch Box for present use or putting into
stock. Samples per post. Terms moderate to large purchasers.
JAS. WILKIE, Landscapist Gardener, Callander, N.B.

**LAXTON'S NOBLE STRAWBERRY
PLANTS** (true), and other good sorts, 2s. 6d. per 100.
D. GILBERT, Thompson's Library, Ashford, Kent.

ASPARAGUS.—This delicious vegetable does
not require half the expense often incurred. For
directions see Illustrated Seed List, free. Strong roots, 2s. 6d.
per 100; extra strong ditto, two years old, 4s. 9d. per 100.
RICHARD SMITH AND CO., Worcester.

GARDENIAS for Sale, in 48's. Free from
disease, and well set with buds. Price by the dozen
or 100 on application.
G. MAY, The Nurseries, Upper Teddington, Middlesex.

FOR SALE, 2000 GOLDEN EUONYMUS.
Good bushy stuff in large 60's, to be sold cheap.—Apply,
CHRISTMAS, 35, Grove Lane, Camberwell, S.E.

A RARE OFFER. Fifty packets of
A guaranteed Genuine FLOWER SEEDS, showy hardy
varieties, 1s. Also large parcel of assorted VEGETABLE
SEEDS, 2s., post free.
T. RICHARDS, 2, Cranham Street, Oxford.

STANDISH'S GARDENIAS.—Well-grown,
clean, and forward in Flower-bud, 21s., 30s., and 42s. per
dozen. Royal Nurseries, Ascot.

**1000 flowering Bulbs of GALANTHUS
ELWESII, CHIONODOXA LUCULE, and C.
SARDENIS,** will be sent on receipt of 10s. Orders are
requested to be sent not later than the end of April. Catalogues
gratis, post paid.
FRANZ SCHLOSSER, Kunst und Handelsgartner, Smyrna,
Asia Minor.

PERNS.—Pteris tremula and Pteris cretica
Cristata, two best market Ferns, good stuff in large thumbs,
each ready for 4s. 6d. 12s. per 100. Picking free for cash with
order.—GOWERS and EMBEYSON, Comely Bank Nursery,
Walthamstow, E.

20,000 GERANIUM CUTTINGS, F. V.
Raspail, 3s. 6d. per 100, 20s. per 1000.
10,000 RASPBERRY CANES, Carter's Prolific (true), 3s. 6d.
per 100, 30s. per 1000.
CUCUMBER PLANTS, Rolison's Telegraph, 5s. per dozen.
All packed free for cash.
JAMES GREEN, Reliance Nurseries, March.

Trade Order of Large Palms.
WICETON has a large Stock of the lead-
ing kinds of Decorative PALMS, from 6 to 25 feet
high, fit for Conservatory and House Decorations; Dracaenas,
Bamboos, & Foliage Plants. Lowest Prices quoted on application.
W. ICETON, Putney, S.W.

WM. PAUL AND SON respectfully invite inspection of the following TREES and SHRUBS, now on Sale. Prices (on application) very reasonable, and quality unexceptionable as to roots, tops, and stems:—

BEECH, purple, best variety	... 12 to 18 feet.
" common	... 12 feet.
BIRCH, Silver and others	... 12 to 14 feet.
ELMS, four sorts	... 12 to 18 feet.
LARURNUMS	... 9 to 10 feet.
LIMES	... 8 to 12 feet.
MOUNTAIN ASH	... 12 to 15 feet.
NORWAY MAPLES	... 12 to 15 feet.
PLAINS	... 12 to 18 feet.
POPLARS, six sorts	... 12 to 18 feet.
SYCAMORE	... 12 to 18 feet.
THORNS, Paul's Double Scarlet	... 12 to 14 feet.
(The finest Trees in the Trade.)	
FLOWERING SHRUBS, various	... 4 to 5 feet.
ARBOR-VITÆ, American	... 6 feet.
ACUCUBAS	... 3 to 4½ feet.
BOX, of sorts	... 3 to 5 feet.
CEDRUS ATLANTICA	... 5 to 10 feet.
DEODARA	... 8 to 12 feet.
CUPRESSUS LAWSONIANA	... 6 to 7 feet.
HOLLY, Variegated	... 6 to 12 feet.
Green, named sorts	... 8 to 12 feet.
FIR, Scotch	... 8 to 9 feet.
Austrian	... 8 to 8 feet.
LAURELS	... 3 to 7 feet.
OSMANTHUS	... 2 to 4 feet.
PICHA PINAFO	... 6 to 8 feet.
RHODODENDRUM, PONTICUM, off	
loam	... 2 to 4 feet.
Hybrids	... 2 to 4 feet.
Named sorts	... 2 to 4 feet.
YEW, Common and others	... 2 to 7 feet.
APPLES, PEARS, CHERRIES, and PLUMS, Standard and Pyramids.	
APPLES and PEARS, Horizontal-trained.	
CHERRIES and PLUMS, Fan-trained.	
ASPARAGUS for Forcing.	

PAUL'S NURSERIES, WALTHAM CROSS.
South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station;
Great Eastern Railway.

FERNS
If you wish to have a
**CHOICE, VARIED & BEAUTIFUL
COLLECTION OF FERNS**
different from those commonly seen
you can obtain such from
W & J. BIRKENHEAD.
FERN NURSERIES, SALES, MANCHESTER.
Who have 1,400 DIFFERENT KINDS to
select from on CATALOGUE on APPLICATION.

VERY FINE STANDARD ORNAMENTAL TREES.

ALMOND, fruit-bearing, 18. 6d. to 24. 6d.	
BIRCH, Fern-leaved, weeping (silver bark), 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.	
Silver weeping, 7 to 8 feet, 1s. 3d. each, 12s. per dozen; 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.	
CHERRY, double-blossomed, 18. 6d. to 2s. 6d. each.	
ELM, English budded, 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.	
Montana (Wych), 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.	
HOLLY (aquifolium, aquifolium weeping, bronze, elegantissima stricta, Gold Green, green in variety, Handsworth silver weeping, Milkmaid weeping, new golden weeping, variegated in variety, Waters's), very fine, 10s. 6d. to 42s.	
LARURNUM, English, 18. 6d. to 2s. 6d. each, 15s. to 24s. per dozen.	
LILAC, Persian, 2s. 6d. each.	
Siberian, 2s. 6d. each.	
MAPLE, colchicum rubrum, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.	
Norway, 10 to 12 feet, 2s. each, 15s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.	
Schwedleri, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. each, 30s. per dozen.	
virginicum rubrum, 12 to 15 feet, 3s. 6d. each, 36s. p. doz.	
SYCAMORE, 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 2s. to 3s. 6d. each, 30s. to 36s. per dozen; 15 to 18 feet, 4s. each, 42s. per dozen.	
purple-leaved, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.	
PLANE, occidentale, 30 feet and more, very fine, 10s. 6d. to 21s.	
PRUNUS PISSARDII (leaves richer in color than Purdie Beech, and hang much longer, has pretty pink flowers and nice fruit), 2s. 6d. to 3s. 6d. each, 24s. to 36s. p. doz.	
PYRUS FLORINDA, 10 to 2s. 6d. each, 15s. to 24s. p. doz.	
WILLOW, Kilmarnock weeping, 2s. 6d. to 3s. 6d. each, 24s. to 36s. per dozen.	

RICHARD SMITH & CO., Nurserymen and Seed Merchants,
WORCESTER.

ORCHIDS A SPECIALTY.

Many new, choice, and rare species and varieties always in stock.

HARDY HERBACEOUS PLANTS.

One of the finest collections of these plants known.

CHRYSANTEMUMS.

A grand collection, approved novelties, write for our new Descriptive

CATALOGUES, NOW READY,
and Post-free on application to

PITCHER & MANDA,

The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(BIDDLES & CO., Proprietors),
LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete Seed Catalogue and Guide, which will be sent gratis and post free on application.
3000 Varieties catalogued, 500 Illustrations.

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER, EXOTIC NURSERIES, CHELTENHAM.

Select VEGETABLE
Choice FLOWER.
The best qualities at
Moderate Prices.
Delivered Free
by Rail or
Parcel Post.
The Best
SEED
POTATOS,
Garden Tools,
Sundries, &c., &c.
Illustrated
Descriptive Catalogue, No. 403
POST FREE ON APPLICATION.
**Dicksons Seed
(Limited) Growers, Chester.**

FORBES' CATALOGUE FOR 1892.

Is the largest, best, and most comprehensive ever issued on
FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best
Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums,
Fuchsias, Paeonies, Fancies, Violas, Pelargoniums, Pentstemonas,
Petunias, Phloxes, Pinks, Patenillas, Primulas, Pyrethrums,
Verbenas, Herbaceous Plants, &c.; also of my true and reliable strain of

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now justly celebrated
all the world over. In 5 distinct sorts, crimson, purple,
scarlet, white, and Wallflower-leaved white, each sort, 1s.,
2s. 6d., and 5s. per packet.

It is an indispensable Reference-Book on all sections of
Florist's Flowers, and should be carefully perused by all buyers
of flowers. *Free on application.*

JOHN FORBES, Nurseryman, Hawick, Scotland.

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standards, Pyramids, and Wall-trained), Apples, Pears,
Cherries, Peaches, Filberts, and Plums; 20,000 noble tall
standard Victoria Plums and Damsons, six years old. The
Trees are without blemish, twice transplanted, apically
rooted, and intended for the tenants and hedgerows on the
Estate. Guaranteed true to name. The superb Rhododendrons:
2000 Maiden, Standard, and Dwarf Rows; 40,000 Black
and Red Currants, four years old; and forty kinds of Goose-
berries, 6000 Raspberries. In small or large quantities,
Purchased at Selection. Price half their value. See Catalogues,
Removing.—LAND STEWARD, Hon. GERTRUDE JONES,
Churchfield, Croydon, near Malvern.

32 ACRES of RHODODENDRONS, AND 170 Acres of Other Nursery Stock.

RHODODENDRON Ponticum, 9 to 12 inch	Per 100; per 1000.
" " " "	12s. ... 90s.
" " " "	12 to 18 ... 16s. ... 140s.
" " " "	18 to 24 ... 25s. ... 220s.
Catawbiensis Hybrids, 9 to 12	... 12s. ... 100s.
" " " "	12 to 18 ... 18s. ... 160s.
" " " "	18 to 24 ... 28s. ... 240s.

For other NURSERY STOCK, see CATALOGUES, free.
Rhododendrons make grand cover for Game: Hares and
Rabbits will not eat them; they will grow well under trees,
where many other trees perish. Smaller or larger sizes can be
supplied if required.

JAMES SMITH & SONS,
DARLEY DALE NURSERIES, near MATLOCK.



By Royal Appointment
Nurserymen & Seedsmen
to H.M. the Queen, and
His Royal Highness the
Prince of Wales.

Nurseries & Seed Farms

400 Acres.

**PURE & RELIABLE
GARDEN SEEDS**
CARRIAGE PAID. CATALOGUES FREE.

LITTLE & BALLANTYNE CARLISLE.

DANIELS BROS., TOWN CLOSE NURSERIES, NORWICH,

BEG to offer the following Plants, Bulbs, &c.,
which they can highly recommend:—

Roses, Hybrid Perpetual. A splendid collection, including all the choicest sorts,	per doz. ... s. d.
Fine Standards to name	... 18s. and 24 0
Dwarfs or Bushes	... 7s. 6d. and 10 6
Tea Scented, in pots, best sorts	... 15s., 18s., and 24 0
Clematises. Choice named sorts	... 18s. and 24 0

Carnations and Picotees. A very choice collection, including all the newest and finest sorts, 6s., 9s., and 12 0	
" Germania." Beautiful pure yellow.	
The best, fine plants	... 3 for 4s., each 1s. 6d.
New Garden Pink, "Her Majesty." Beautiful pure white, deliciously scented, 3 for 4s., each 1s. 6d.	
Delphiniums. Single and double-flowered, choice named sorts, strong plants	... 6s. and 9 0
Gaillardias. Large-flowered hybrids, in beautiful variety, to name	... 9s., 12s. and 18 0
Perennial Phloxes. A splendid collection. Established plants to name	... 4s. 6d., 6s., and 9 0
Pyrethrums, Double-flowered. A grand collection, including the newest and choicest sorts. Established plants	... 6s. and 9 0
Single-flowered, in brilliant variety	... 6 0
Peonies, Herbaceous. Double-flowered, choice named sorts	... 12s., 13s., and 24 0
Hardy Flowering Plants. We have a splendid collection of these, which we offer as follows, including such fine subjects as Anemone pulchra, Chrysanthemum maximum, Doronicum, Erigeron, Helianthus, Helenium, Senecio pulcher, &c.:	
100 in 100 choice varieties	... 30 0
50 " 50 " established	... 17 6
25 " 25 " plants	... 10 0
12 " 12 " "	... 8 0

Lilium auratum. Fine selected bulbs—6s., 9s., and 12 0	
" Rubro-vittatum. Pure white, with deep crimson bands, splendid—each 2s. 6d.	
" Wallichianum superbum. Immense primrose-yellow trumpets, magnificent, 6s. 3s. 6d.	
Lilies. Choice named, from our fine collection—	
6s., 9s., 12s., 18s., 2s., and 30 0	
Begonias, Tuberous-rooted. Large brilliantly coloured flowers of all the most beautiful shades. Good strong flowering tubers in splendid mixture	... 100, 100s., 30 0
Double-flowered, very fine mixed	... 9s. and 12 0
Glaudiola Gandavensis. Choice named sorts—	
4s., 6s., 8s., 9s., and 12 0	
In splendid mixture	... 100, 100s., 20s. 0
New hardy hybrid. A charming class with large, handsomely stained or bicoloured flowers. Very choice mixed	... per 100, 24s. 3 6
Tuberous, American Pearl. Fine bulbs—	
per 100, 17s. 6d. 2 6	

All carriage free with the exception of Tea Roses and Clematises, which are sent in pots.

NEW CHRYSANTHEMUMS FROM AMERICA.

A. LADENBURG, | ETHEL PAUL, |
ADA H. LE ROY, | MAMIE CRAIG, |
RUTH CLEVELAND, |
All Prize winners, and the finest lot ever introduced at one time.
Strong plants now ready, 4s. each, the set, 15s.
Send for Descriptions.
H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow. 74 ACRES IN STOCK.

See CATALOGUE for Simple Instructions, and kinds of Tree
to suit all Soils.

ROSES. Hundreds of Thousands.

BUSHES, Packing and Carriage Free
8s. per dozen, 60s. per 100. for Cash with Order.

ROSES in Pots, from 15s. per dozen.
ORNAMENTAL TREES, 91 ACRES.
4 ACRES OF GLASS.

CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS {VEGETABLE, FLOWER, and FARM. DESCRIPTIVE LIST, FREE. RICHARD SMITH & CO., WORCESTER.

THE OLD BROWN QUARRY EARLY POTATO. The Oldest Existing Sort in Ireland.

In existence here for 150 years; certainly, when I was a child, prior to the famine period. There was no other sort grown for harvest purposes when men worked with a sickle. I am enabled to offer it for redistribution—it never having made its way to England—from a stock preserved for years on peat land, resting on limestone, in a remote part of county Cork. There must be something in the soil that preserved it for 32 years. It is a first-class early June variety, of great substance. 7-lb. bag and postage for 2s. 9d.
WM. BAYLOR HARTLAND, F.R.H.S., Old Established Seed Warehouse, Cork, Ireland.

VINES {STRONG FRUITING AND PLANTING.—The best leading FIGS. kinds, thoroughly ripened without bottom heat. Particulars on application.

DICKSONS NURSERIES CHESTER (LIMITED) (400 Acres)

STRONG FOREST TREES AND PLANTS for COVERTS.

ASH, 2 to 3, and 3 to 4 feet.
BEECH, 2 to 3, and 3 to 4 feet.
LARCH, 2 to 2½, 2½ to 3, 3 to 3½, and 3½ to 4½ feet.
OAKS, 2 to 3, 3 to 4, 4 to 5, and 5 to 6 feet.
SCOTCH, 1½ to 2, 2 to 2½, 2½ to 3, and 3 to 4 feet.
SPRUCE, 1½ to 2, 2 to 2½, 2½ to 3, and 3 to 4 feet.
Together with a large Stock of HAZELS, MOUNTAIN ASH, BIRCH, LAURELS of sorts, RHODODENDRONS, BERBERIS AQUIFOLIA, and other COYED PLANTS, all of the best quality, and very reasonable in Price. Catalogues on application. Apply to—
JOHN HILL, Spot Ace Nurseries, near Stone, Staffs.

SEEDS! SEEDS!! SEEDS!!!

VEGETABLE and FLOWER SEEDS saved from CHOICE SELECTED STOCKS. Everyone with a garden and every market gardener should send for a Catalogue before purchasing elsewhere. Special Low Quotations to large buyers.

B. L. COLEMAN, Seed Merchant and Grower, SANDWICH, KENT.

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW
OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of
Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,
THE NURSERIES,
SAWBURIDGEWORTH, HERTS.

ANTHONY WATERER invites an inspection from intending Planters to the following well-grown TREES, having stout, clean stems, and from frequently transplanting are splendidly rooted, the girth of the stem is taken 4 feet from the ground.

ACACIA BRESSONIANA, 10 to 14 feet, girth 4 to 5 inches.
ACER DASYCARPUM, 14 to 20 feet, girth 4 to 6 inches.

" WIERII LACINIATUM, 10 to 14 feet, girth 3 to 5 inches.
" NEGUNDO ALLEGATA, Standards, 8 to 10 feet.

" REITENBA CHIL, 12 to 14 feet, girth 4 to 5 inches.
" SCHWEDLERII, 12 to 18 feet, girth 4 to 5 inches.

" WORLEYII, 12 to 14 feet, girth 3 to 6 inches.
ASH, Mountain, 12 to 14 feet, girth 4 to 5 inches.

BEECH, Purple, Pyramids, and Standards, 10 to 20 feet, girth 4 to 9 inches.
BIRCH, Silver, 12 to 14 feet, girth 3 to 5 inches.

CERASTUS SEROTINA (American Bird Cherry), 12 to 16 feet, girth 4 to 7 inches.
CHESTNUTS, Horse, 14 to 20 feet, girth 6 to 11 inches.

" Double White, 14 to 16 feet, girth 6 to 8 inches.
" Scarlet, 12 to 16 feet, girth 4 to 10 inches.

Spanish, 12 to 14 feet, girth 4 to 5 inches.
ELMS, English, 10 to 12 feet, girth 3 to 6 inches.

" Guernsey, 16 to 18 feet, girth 7 to 9 inches.
LIMES, 12, 16, and 20 feet, girth 3 to 10 inches.

" FICULORA or DASYSTYLA, 12 to 14 feet, girth 4 to 6 inches.
" Silver-leaved (Thilia argentea), 12 to 14 feet, girth 5 to 6 inches.

LIQUIDAMBAR, 6 to 10 feet.
MAPLE, Norway, 12 to 16 feet.

OAK, English, 12 to 14 feet, girth 4 to 5 inches.
Scotia American, 12 to 14 feet, girth 4 to 5 inches.

PLANES (English-grown), 12 to 16 feet, girth 4 to 6 inches.
POPLAR CANADENSIS NOVA (the true variety), 12 to 16 feet, girth 6 to 7 inches.

SYCAMORE, Common, 12 to 14 feet, girth 4 to 7 inches.
Purple, 14 to 16 feet, girth 4 to 7 inches.

THORN, Double Pink, 8 to 10 feet.
" Scarlet, 8 to 10 feet.

White, 8 to 10 feet.
TULIP TREES, 8 to 10 feet.

WALNUT, Common, 10 to 12 feet.

WEeping TREES.

BEECH, Weeping, Pyramids and Standards, 8 to 12 feet.
" Weeping, Purple, Pyramids and Standards, 7 to 12 feet.

BIRCH, Young's Weeping, Pyramids and Standards, 8 to 14 feet.
" Cut-leaved Weeping, Pyramids and Standards, 10 to 12 feet.

ELMS, Weeping, Pyramids and Standards, 7 to 14 feet.
LARCH, Weeping, Pyramids, 8 to 10 feet.

POPLAR, Weeping, Pyramids and Standards, 10 to 12 feet.
Knap Hill Nursery, Woking, Surrey.

CLEARANCE SALE OF PALMS, DRACENAS, &c.

Strong Small Palms, averaging 10 to 12 inches high, of SEAFORTHIA ELGANS, LATANIA BORBONICA, ARECA SAPIDA, CORFYA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of each, 14 plants in all, 5s.; 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.
Price per 100 or 1000 on application.

* LATANIA BORBONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.
* CHAMEROPS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.

* Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.
* DRACENA CANIFOLIA, 5 to 6 feet high, 21s. each.

* Ditto ditto 4 feet high, 15s. each.
* PHENIX TENIS, 3 feet high, 5s. each.

* Ditto ditto 2 feet high, 18s. per dozen.
* DRACENA INDIVISA, 3 feet 6 inches high, 5s. each.

* Ditto RUBRA, 2 feet high, 18s. per dozen.
* Ditto COENGETA, 2 feet high, 18s. per dozen.

* SEAFORTHIA ELGANS, in 60's, fit for 48's, strong, 8s. doz.
Price per 100 on application.
Those marked * are Packed Free, but not Carriage Paid.

W. OWEN, 105, Stamford Hill, N.

WILLIAM BARON and SON offer the following well-grown and finely-rooted, which they offer at very low prices—

ABIES, in variety, 3 to 6 feet.
CEDRUS ATLANTICA and DEODARA, 2 to 7 feet.

CUPRESSUS LAWSONIANA, in great variety, 2 to 8 feet.
NUTKANSIS, in variety, 2 to 7 feet.

PICEA NOBILIS, very fine, 1½ to 2½ feet, 8s. per 100.
" in variety, 2 to 10 feet.

PINUS AUSTRALIS, over 100,000, 1 to 8 feet.
Forest-tree sizes, very cheap, grand specimens, 6 to 8 feet.

PINUS, in variety, 1 to 8 feet.
RETINOSPORA, in variety, 1 to 8 feet.

THUYA OCCIDENTALIS, for hedges, 5 to 6 feet, 45s. per 100.
" in variety, 2 to 8 feet.

YEW, Common, many thousands, 1½ to 3½ feet.
" Golden, grand specimens, up to 8 feet.

HOLLIES, in great quantity and variety, 1 to 10 feet.
" Golden Queen, 2 to 4 feet, 1 to 7 feet, very fine.

AUCUBA, green and variegated, 1½ to 2½ feet.

AVENUE TREES.

ACER SCHWEDLERII (scarlet-leaved Maple), 10 to 14 feet.
NORWAY MAPLE, 10 to 14 feet.

SYCAMORE, from 12 to 14 feet.
HORSE CHESTNUTS, very stout, 10 to 12 feet.

POPLARS, in variety, 10 to 14 feet.
PURPLE BEECH, from 10 to 12 feet.

OAKS, Scarlet and other varieties, 10 to 12 feet.
ELMS, fine variety, 10 to 14 feet.

THORN, Scarlet, Pink, and White, fine standards.
LARCH, very fine, from 2 to 3 feet.

THORN (Quick), strong, 15s. per 1000.
Very strong, 30s. to 20s. per 1000.

FRUIT TREES, all kinds.
APPLES and PLUMS especially fine.

A visit from intending planters is respectfully invited. Elvaston Nurseries, Borrowash, Derby, only three minutes walk from Borrowash Station, Nottingham and Derby, Midland Line.

STRONG FRUITING VINES for SALE,
3 years old; 2) Alicante, 49 Muscat of Alexandria, 2s. each, or the lot cheap.—W. COMPTON, Lambly, Norfolk.

10,000 EUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 8s. to 15s. per dozen. Less by the 1000. Cash with Order.
J. J. CLARK, Goldstone, West Brighton.

KELWAY'S SEED MANUAL for 1892.

"Certainly the best of the series... the cultural directions are particularly good."—*Agricultural Gazette*.
1s. post-free (deducted from first order) to those unknown to us.
KELWAY AND SON, Langport.

NEW CHRYSANTHEMUM, Mrs. Robinson King, new Golden-Yellow Incurved sport from Golden Empress. Awarded six First-class Certificates. The true certified variety. 4s. each for 10s. 6d.
R. OWEN, Chrysanthemum Grower, Maidenhead.

PERENNIAL and ALPINE PLANTS.—My new CATALOGUE (No. 114), containing full Lists of these Collections, is just issued, and will be sent, post-free, on application. To this List, which includes some splendid Novelties, is added a very carefully composed List of the very best and finest Shrubs and Dwarf Conifers specially adapted for rockeries.

OTTO FROEBEL, The New Munster Nurseries, Riezbad, Zurich, Switzerland.

TRADE OFFER OF PALMS.

COCOS Weddeliana, in thumbs ... at 20s. per 100.
" " " in 60's, ... at 55s. per 100.

KENTIA Fosteriana and Belmoreana, in thumbs, at 20s. per 100.
" " " in 60's, ... at 60s. per 100.

" " " in 48's, ... at 24s. per doz.
" " " in 32's, ... at 48s. per doz.

SEAFORTHIA Elegans, in 60's, ... at 52s. per 100.
" " " in 48's, ... at 45s. per 100.

W. Icton has a fine Stock of Asparagus plumosus nanus, in 45's and 60's; Pandanus Veitchii, Dracena Lindenii, and Ficus elastica.—W. ICTON, Putney, S.W.

CLIMBING ROSES.

Marchal Niel, W. A. Richardson, Reine Marie Henriette, and Cheeknut Hybrid. Fine Canes, 7 to 10 feet, 30s. per doz. Strong Bushes (in pots) of Niphotes, Princess Beatrice, Bride, I. Sprunt, &c., 15s. to 30s. per doz.

CLEMATIS, All the Leading kinds, 12s. to 15s. per dozen.

RHODODENDRONS, Scarlet and other kinds to name, well-budded, 18s. to 38s. doz.

F. STREET, Hentherside Nurseries, CAMBERLEY, SURREY.

CINERARIA, DIXON'S SUPERB GIANT.

The Choicest Strain in the Country.
In Sealed Packets, 1s. 6d., 2s. 6d., and 5s. each.
Price to the Trade on Application.

For full Description and Illustration, see *Gardeners' Chronicle*, January 2, 1892.

E. P. DIXON & SONS, HULL.

SEEDS - SEEDS - SEEDS

Established 1793.
THE BEST and THE CHEAPEST.
Send for Catalogue. Free to all.

JOHN K. KING, ROYAL SEED GROWER,
COGGESHALL, ESSEX.

SEEDS - SEEDS - SEEDS

L'HORTICULTURE INTERNATIONALE

(Orchid Emporium), Leopold Park, Brussels.

THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN,

cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

SEAKALE, Extra strong Roots, for ASPARAGUS, Forcing. and SUPERIOR QUALITY. RHUBARB. Prices on Application.

DICKSONS NURSERIES CHESTER (LIMITED) (400 Acres)



RASPBERRY CANES.—Norwich Wonder, also Fastolf, strong and well rooted. At 15s. per 1000, cash with order. Not less than 1000 supplied. **ALBERT BATH**, Vine Court, Sevenoaks, Kent.

Share's Victor Potatoes.
W. W. JOHNSON & SON, SEED GROWERS and **MERCHANTS**, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

R. GILBERT, High Park, Stamford, is now offering the best of all RHUBARBS, "True Champagne," 3s. per dozen; also, King of the BRUSSELS SPROUTS, "Universal Savoy," "Late Victoria BRUSSELS," and "CHOU DE BURGHELEY," at 1s. per packet.

ORCHIDS A SPECIALITY.—Please write for Free Illustrated Price LIST of well-established, healthy, and easily-grown plants.

W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

BIRMINGHAM PRIMULAS.
Lady Churchill, The Queen, Marquis of Lorne, and all select sorts, 2s. 6d. per packet. Mixed, 2s. 6d. Usual Trade discount.

FOVE AND SONS, King's Norton, Birmingham.

CHRYSAANTHEMUMS, PELARGONIUMS, DAHLIAS, BEGONIAS, CANNAS, &c.—Our **CATALOGUES** will be sent free on application.
15 First Prizes (10 this year). 5 Gold Medals.
REID AND BORNEMANN, Sydenham, London, S.E.

RASPBERRY CANES.—**BAUMFORTH** SEEDLINGS, 40s. per 1000; Semper Fidelis, 30s. per 1000. Sample 100 of either sort, 6s. **RED CURRANT TREES**, 8s. per 100. Cash with Order. Free on Rail.
R. H. BATH, Wisbech.

Vegetable and Agricultural Seeds.
H. AND F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

Now is the Time to Plant
PEONIES, PYRETHRUMS, DELPHINIUMS, and GALLIARDIAS, the most showy of all Hardy, Easily-grown Perennial Plants. For Priced Lists, see **KELWAY'S SEED AND PLANT MANIFESTO** for 1892, 1s. post-free (deducted from first order), to those unknown to us. **KELWAY'S GLADIOLI**—Now is the time to plant! Price 1 Descriptive List, free.
KELWAY AND SON, Langport, Somerset.

ROSES! ROSES! ROSES!—Plant now, 100 strong dwarf, H.P. Roses for 25s.; or 210 per 1000. The finest in the Trade.
Send for Sample Dozen, 5s. Cash with Order.
CATALOGUES, free on application.
C. H. GORRINGE, Rosedale Nursery, Eastbourne.

Special Cheap Offer of Beans.
SCARLET RUNNERS—CANADIAN WONDER, NEGRO LONG POD, and others.
For Samples and Price, apply to:
MESSRS. PILKINGTON, BROWN, and CO., 226, York Road, Wandsworth, S.W.

BEGONIAS A SPECIALTY.—Awarded Four Gold Medals, and Gold Cup, and all First Prizes. Seed saved from Prize plants. Our Begonia Seed and Bulbs eclipse all previous years. Choicest mixed, single or double varieties, 1s., 2s., 6d., and 5s. per packet. Collections (Seed)—single, 12 named varieties, separate, 5s. 6d.; 6 ditto, 3s. Tubers, named singles, from 12s. to 42s. per dozen; unnamed seedlings, 12s. to 21s. per dozen; bedding, choicest, 4s., 5s., 6s., and 8s. per dozen; choicest named doubles, from 42s. per doz.; unnamed, choicest, 18s. to 30s. per dozen; choicest mixed, for bedding, 8s. and 12s. per dozen. Catalogues gratis.
JOHN LAING AND SONS, Begonia Growers, &c., Forest Hill, London.

HARDILY - GROWN
FRUIT TREES
TRUE TO NAME:
LARGEST STOCK
IN THE KINGDOM,
Including all
the most Popular and
Profitable
Kinds in Cultivation.
Descriptive Priced List Free on application.
DICKSONS The Nurseries, **CHESTER**
(Limited).

CHRYSAANTHEMUMS.

See our New DESCRIPTIVE CATALOGUE for all Novelties of the present Season, and all the best varieties in cultivation, post-free, on application to

PITCHER & MANDA,
The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

WHINHAM'S INDUSTRY GOOSEBERRY.
The Most Productive Gooseberry in Cultivation. Colour, dark dusky red. Of enormous Size. In Seven Successive Seasons we have sold nearly
ONE MILLION BUSHES OF THIS VARIETY.
Price: { 3-year Rushes, Strong ... 6s. per dozen,
" " Selected ... 8s. "
" " Extra Selected ... 12s. "
" " Strong ... 40s. per 100.
WM. FELL & CO., Royal Nursery and Seed Establishment,
HEXHAM, Northumberland.

GAME COVERTS.

ARBOR-VITÆ, American,	2½ to 3 feet, 28s. per 100.
do.	3 to 4 feet, 35s. per 100.
CUPRESSUS LAWSONIANA,	2 to 2½ feet, 30s. per 100.
do.	2½ to 3 feet, 50s. per 100.
do.	3 to 4 feet, 75s. per 100.
COTONEASTER SIMMONSHI,	2 to 3 feet, 20s. per 100.
HOLLIES, Green,	1½ to 2 feet, 40s. per 100.
do.	2 to 2½ feet, 60s. per 100.
MAHONIA AQUIFOLIA,	1½ to 2 feet, 20s. per 100.
YEW, English	1½ to 2 feet, 35s. per 100.
do.	2 to 2½ feet, 60s. per 100.

The above are all bushy and well rooted.

JNO. JEFFERIES & SON,
ROYAL NURSERIES, CIRENCESTER.

NEW SINGLE PYRETHRUM, "JUBILEE."

First-class Certificate, Royal Botanic Society, London, June 18, 1888.

One of the most beautiful Single Varieties in cultivation; dwarf in habit, bearing in abundance very deep Carmine flowers.

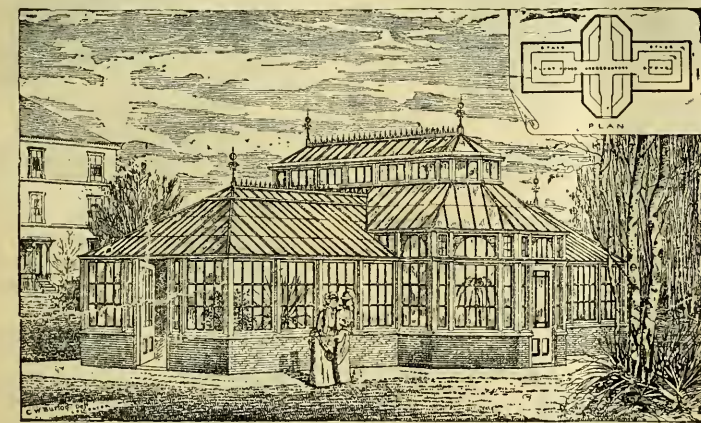
See Editor's remarks in *The Gardener*, June 20, 1891:—
"Flowers, deep carmine: the richest-coloured variety we have seen, and very handsome."

Well-established plants, ready for delivery in April, 2s. each (usual D. count to the Trade).

W. BALCHIN & SONS,
HASSOCKS NURSERY, SUSSEX.



REGISTERED No. 13195. Prices of 60-foot lengths, fitted with brass nozzle, branch-pipe, rose, and jet.
ARMOURD.—The Excelsior Wire Armoured Hose secures a PERFECT grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices:—
Diam. s. d. Diam. s. d. Diam. s. d.
1-inch, best quality ... 36 3 1-inch, ex. stout quality 52 0
1-inch, ex. stout quality 43 7 1-inch, best quality ... 52 7
1-inch, best quality ... 45 0 1-inch, ex. stout quality 60 0
All Hoses arranged paid, and despatched same day as order is received. Oldest and most reliable house in the Trade.
Awarded Ten Gold and Silver Medals. Maker of Hose for Liquid Manures; Delivery Steam, Fire, and Section Hose, &c.
Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 in use.
CATALOGUES of the above and all kinds of HOSE, BELTING, and RUBBERING FELTS post-free from—
ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.



MESSINGER & CO.'S New CATALOGUE of Greenhouses and Heating Apparatus.

Just issued, will be found the most complete, practical, and reliable guide to all about to build, alter, or heat Greenhouses. Illustrations of every description of Glasshouse, from the largest range of Winter Gardens to the simplest forms of Portable Greenhouses, Plant Protectors, and Garden Frames; also of all the best kind of Boilers, Hot-water Pipes, and all appliances for heating. This Catalogue, possessing hundreds of illustrations of all the latest improvements in greenhouse building and heating, is on a scale never before attempted. It should be in the hands of every one interested in gardening, as it contains many practical hints on the subjects of which it treats, the result of many years' experience. Price, 2s. post-free.

A large number of the illustrations are taken from greenhouses erected by us in various parts of the country; an inspection of this Catalogue shows, therefore, building the efficiency of which has been well tested by actual use. The advantages possessed by us enable us to carry out work with the utmost promptness, and in the very best style, at prices which defy competition. Surveys made, and gentlemen waited on in any part of the country. Plans and Estimates free on application.

MESSINGER & COMPANY, LOUGHBOROUGH.
London Office:—163, Palmerston Buildings, Old Broad Street, E.C.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by—

HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,

HIS ROYAL HIGHNESS THE PRINCE OF WALES,

THE KING OF THE BELGIANS,

The Late EMPEROR OF THE FRENCH. The EMPEROR OF RUSSIA,

And most of the Nobility, Clergy, and Gentry of the United Kingdom.

Upwards of 170,000 of these Machines have been Sold since they were first introduced in the year 1856,

And thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.

They have been submitted to numerous practical tests in Public Competitions, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER, With Improved Steel Chains and Handles.

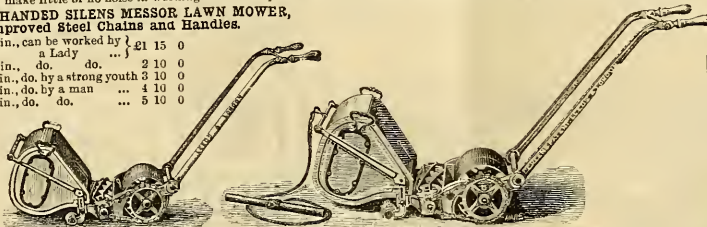
To cut 6 in., can be worked by 1 Lady ... £1 15 0

To cut 8 in., do, do, ... 2 10 0

To cut 10 in., do, by a strong youth 3 10 0

To cut 12 in., do, by a man ... 4 10 0

To cut 14 in., do, do, ... 5 10 0

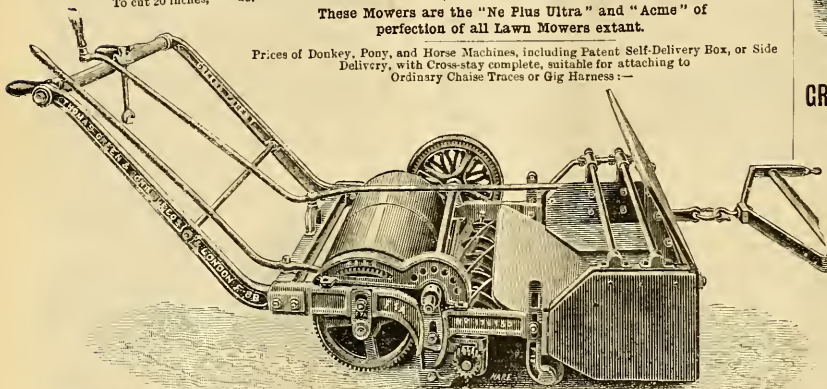


DOUBLE-HANDED LAWN MOWER.

To cut 18 inches, can be worked by one man on even lawn ... £3 10 0
To cut 20 inches, do, man and boy ... 7 10 0
To cut 22 inches, do, do, ... 8 0 0
To cut 24 inches, do, do, ... 9 0 0
To cut 26 inches, do, do, ... 10 0 0
To cut 28 inches, do, do, ... 11 0 0
To cut 30 inches, do, do, ... 12 0 0
To cut 32 inches, do, do, ... 13 0 0
To cut 34 inches, do, do, ... 14 0 0
To cut 36 inches, do, do, ... 15 0 0
To cut 38 inches, do, do, ... 16 0 0
To cut 40 inches, do, do, ... 17 0 0
To cut 42 inches, do, do, ... 18 0 0
To cut 44 inches, do, do, ... 19 0 0
To cut 46 inches, do, do, ... 20 0 0
To cut 48 inches, do, do, ... 21 0 0
To cut 50 inches, do, do, ... 22 0 0
To cut 52 inches, do, do, ... 23 0 0
To cut 54 inches, do, do, ... 24 0 0
To cut 56 inches, do, do, ... 25 0 0
To cut 58 inches, do, do, ... 26 0 0
To cut 60 inches, do, do, ... 27 0 0
To cut 62 inches, do, do, ... 28 0 0
To cut 64 inches, do, do, ... 29 0 0
To cut 66 inches, do, do, ... 30 0 0
To cut 68 inches, do, do, ... 31 0 0
To cut 70 inches, do, do, ... 32 0 0
To cut 72 inches, do, do, ... 33 0 0
To cut 74 inches, do, do, ... 34 0 0
To cut 76 inches, do, do, ... 35 0 0
To cut 78 inches, do, do, ... 36 0 0
To cut 80 inches, do, do, ... 37 0 0
To cut 82 inches, do, do, ... 38 0 0
To cut 84 inches, do, do, ... 39 0 0
To cut 86 inches, do, do, ... 40 0 0
To cut 88 inches, do, do, ... 41 0 0
To cut 90 inches, do, do, ... 42 0 0
To cut 92 inches, do, do, ... 43 0 0
To cut 94 inches, do, do, ... 44 0 0
To cut 96 inches, do, do, ... 45 0 0
To cut 98 inches, do, do, ... 46 0 0
To cut 100 inches, do, do, ... 47 0 0

These Mowers are the "No Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness—



DONKEY AND PONY MACHINES.

To cut 26 inches ... £14 0 0
To cut 28 inches ... 16 0 0
To cut 30 inches ... 18 0 0
To cut 32 inches ... 20 0 0
To cut 34 inches ... 22 0 0
To cut 36 inches ... 24 0 0
To cut 38 inches ... 26 0 0
To cut 40 inches ... 28 0 0
To cut 42 inches ... 30 0 0
To cut 44 inches ... 32 0 0
To cut 46 inches ... 34 0 0
To cut 48 inches ... 36 0 0
To cut 50 inches ... 38 0 0
To cut 52 inches ... 40 0 0
To cut 54 inches ... 42 0 0
To cut 56 inches ... 44 0 0
To cut 58 inches ... 46 0 0
To cut 60 inches ... 48 0 0
To cut 62 inches ... 50 0 0
To cut 64 inches ... 52 0 0
To cut 66 inches ... 54 0 0
To cut 68 inches ... 56 0 0
To cut 70 inches ... 58 0 0
To cut 72 inches ... 60 0 0
To cut 74 inches ... 62 0 0
To cut 76 inches ... 64 0 0
To cut 78 inches ... 66 0 0
To cut 80 inches ... 68 0 0
To cut 82 inches ... 70 0 0
To cut 84 inches ... 72 0 0
To cut 86 inches ... 74 0 0
To cut 88 inches ... 76 0 0
To cut 90 inches ... 78 0 0
To cut 92 inches ... 80 0 0
To cut 94 inches ... 82 0 0
To cut 96 inches ... 84 0 0
To cut 98 inches ... 86 0 0
To cut 100 inches ... 88 0 0

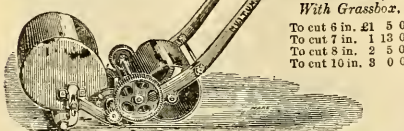
HORSE MACHINES.

To cut 30 inches ... £22 0 0
To cut 32 inches ... 24 0 0
To cut 34 inches ... 26 0 0
To cut 36 inches ... 28 0 0
To cut 38 inches ... 30 0 0
To cut 40 inches ... 32 0 0
To cut 42 inches ... 34 0 0
To cut 44 inches ... 36 0 0
To cut 46 inches ... 38 0 0
To cut 48 inches ... 40 0 0
To cut 50 inches ... 42 0 0
To cut 52 inches ... 44 0 0
To cut 54 inches ... 46 0 0
To cut 56 inches ... 48 0 0
To cut 58 inches ... 50 0 0
To cut 60 inches ... 52 0 0
To cut 62 inches ... 54 0 0
To cut 64 inches ... 56 0 0
To cut 66 inches ... 58 0 0
To cut 68 inches ... 60 0 0
To cut 70 inches ... 62 0 0
To cut 72 inches ... 64 0 0
To cut 74 inches ... 66 0 0
To cut 76 inches ... 68 0 0
To cut 78 inches ... 70 0 0
To cut 80 inches ... 72 0 0
To cut 82 inches ... 74 0 0
To cut 84 inches ... 76 0 0
To cut 86 inches ... 78 0 0
To cut 88 inches ... 80 0 0
To cut 90 inches ... 82 0 0
To cut 92 inches ... 84 0 0
To cut 94 inches ... 86 0 0
To cut 96 inches ... 88 0 0
To cut 98 inches ... 90 0 0
To cut 100 inches ... 92 0 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of its running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES, With Grassbox.
To cut 6 in. £1 5 0
To cut 7 in. 1 10 0
To cut 8 in. 2 5 0
To cut 10 in. 3 0 0

GREEN'S Patent LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made. Size with 1 wheel for Ordinary Courts, price 14s.

Do., with 3 wheels, 17s.

Size for Clubs and Large Grounds, price 21s.



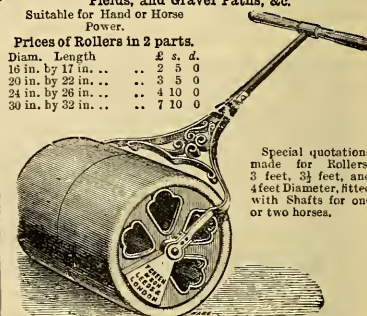
Small Bag of Marking Composition, 9d.

REDUCED PRICES OF GREEN'S Patent ROLLERS, For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam. Length £ s. d.
16 in. by 17 in. ... 2 5 0
20 in. by 22 in. ... 3 5 0
24 in. by 26 in. ... 4 10 0
30 in. by 32 in. ... 7 10 0



Special quotations made for Rollers, 3 feet, 3½ feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 ins. diam., £1 16s. Packing Case, 3s.

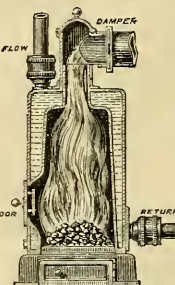
Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and to do away with the tedious operation of cutting with shears.

A very useful and serviceable Machine.



MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

HOT-WATER BOILERS



AND OTHERS WITH SHELVES, AND HOLLOW OR ORDINARY CAST-IRON GRATE BARS. VERTICAL SADDLE BOILERS, &c.

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c.

Descriptive Illustrated PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON; or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

WEBBS' NEW POTATOS.

WEBBS' NEW POTATO, "RECORD."

5s. per peck of 14 lb.; 17s. per bushel of 56 lb.
Now offered for the first time.

A white, kidney-shaped main crop variety, strong in habit of growth, and for cropping, cooking, and keeping qualities it will be found all that can be desired.

WEBBS' NEW POTATO, "COMPETITOR."

4s. per peck of 14 lb.; 14s. per bushel of 56 lb.
First offered in 1891.

This new Potato is a seedling from the well-known White Elephant, to which it is somewhat similar in character, but rather later in season and stronger in habit of growth. It is a prodigious cropper, and a first-rate keeper. The tubers, which are kidney-shaped, are very large, and in quality all that can be desired.

WEBB & SONS, WORDSLEY, STOURBRIDGE

CARTERS' HOLBORN PRIZE PRIMULA.

The Finest Strain in Cultivation.



Awarded FOUR PRIZE MEDALS by the Royal Horticultural Society and the Royal Botanic Society.
FINEST MIXED, all colours.

Price, 2s. 6d., 3s. 6d., & 6s. per packet, post free.
SEEDSMEN to H.M. the QUEEN and H.R.H. the PRINCE OF WALES.

237
238 HIGH HOLBORN, LONDON

As a Supplement
TO THE
GARDENERS' CHRONICLE

FOR
Next Week, March 19,
Will be Published an Ink-Photograph of
THE CONIFER GROUND

AT THE
CONIFER CONFERENCE,
R.H.S. Gardens, Chiswick.

THE Gardeners' Chronicle.

SATURDAY, MARCH 12, 1892.

THE ARTIFICIAL COLORATION OF FLOWERS.

THE excitement about blue Carnations led my neighbour, Mr. W. Dorrington, and myself, to endeavour to solve the mystery by imitating it, and we soon discovered that although flowers could not be tinted by immersing them in dye solutions, they could readily be coloured by placing their stalks in aniline solutions.

Aniline scarlet dissolved in water to about the transparency of claret, has a very rapid action on flowers, colouring them pink and scarlet. Indigo carmine produces beautiful blue tints. The two combined dye various shades of purple, with curious mottled effects, some parts of the flowers becoming pink and other parts blue and purple. Greens are produced by using the blue dye with yellow. We also tried indigo, and cochineal, with partial success. Lily of the Valley flowers became beautifully tinged with pink or blue in six hours; Narcissi are changed from pure white to deep scarlet in twelve hours, and delicate shades of pink are imparted to them in a very short time. Yellow Daffodils are beautifully striped with dark scarlet in twelve hours; the edges of the corona also become deeply tinged, and the veining of the perianth become very strongly marked. Cologne cristata, Lapageria alba, Calla aethiopica, Cyclamens, Snowdrops, Leucojums, Hyacinths, Christmas Roses, Solomon's Seal, Tulips, and many other flowers were successfully treated, and many leaves were found to become coloured very quickly by the process. I send you herewith a number of examples.

The more interesting question of how this rapid change is brought about soon attracted my attention, and proved extremely interesting. The coloration is mainly confined to the vessels.

There is a system of veins in plants, the vein-tubes being clearly seen under the microscope passing through the leaves, petals, and other parts of the flower. In these tubes the motion of the coloured water can be seen, and it became evident that it was by these that the colour is conveyed and left in every portion of the plants. In the case of cut flowers, the action is very rapid, the water-tubes beginning at once to absorb the fluid, which was passed along by either capillary attraction, contraction, or possibly by some more active life force acting within the veins. My experiments in proof of this were made at first entirely with cut flowers. I afterwards tried the experiment by taking a Roman Hyacinth very carefully out of the soil,

PLANTING SEASON.

HARDILY-GROWN
FOREST, FRUIT,
& ALL OTHER

TREES & PLANTS,
EVERGREENS, ROSES, &c.

NURSERIES 400 ACRES:

VERY EXTENSIVE STOCK. Inspection invited.
Priced Catalogues Gratia & Post Free.

DICKSONS THE NURSERIES
(LIMITED) CHESTER.

ROSES.

STANDARDS, from 21s. per dozen.

DWARFS, from 6s. per dozen.

CATALOGUES, post-free.

FRANK CANT, BRAISWICK NURSERY,
COLCHESTER.

EUCHARIS CANDIDA.

SPECIAL OFFER BEFORE POTTING.

A grand lot, sound Bulbs, flowering size, just received from our collector by sea. "Medway," in finest possible condition.

100s. and 150s. per 100.

HUGH LOW & CO.,
CLAPTON NURSERY, LONDON, N.E.

Williams'

AMARYLLIS.

Fine named Varieties from our grand Collection. Dry Bulbs may still be sent by Post. 42s., 63s., and 84s. p. doz. Unnamed Seedling, 30s. and 48s. per dozen. These are the most majestic and beautiful flowers for Conservatory Decoration during Spring.

ACHIMENES.

Our Collection is the finest and most complete in the Kingdom. Dry Corms may still be sent by Post, of all the leading kinds, at 4s. per dozen.

CALADIUMS.

We can still send by Post Dry Bulbs of most of the finest varieties in cultivation, our Stock being very large. We are offering them at unusually low prices. Our Selection, 24s., 30s., and 42s. per doz. Sorts all distinct.

BEGONIAS.

We hold a large Stock of most of the best kinds in cultivation. We can still send by Post our Selections in strong flowering Bulbs, fit either for Exhibition or for Decoration. Finest Named Single Varieties, 30s. and 42s. per doz. "Double," 30s., 42s., and 63s. p. doz. "Unnamed Seedling" in separate colours, 9s., 12s., and 18s. per dozen. Mixed Seedlings, all colours, 6s. and 9s. per doz. These Seedlings are unsurpassed for Bedding-out in the Flower Garden.

DAHLIAS.

Dry Roots by Post, from our magnificent collection of Show, Fancy, Single, Cactus, Bouquet, and Border, to be had at 6s., 9s., and 12s. per dozen.

TUBEROSE.

Finest American Pearl, Selected Bulbs, extra large, by Post, 3s. per dozen.

B. S. WILLIAMS & SON

VICTORIA AND PARADISE NURSERY,

UPPER HOLLOWAY, LONDON, N.

and placing the roots in aniline water. In twelve hours the petals began to colour, and the flowers gradually became pink tinted throughout. This experiment was repeated on many Narcissi and other bulbs. It cannot, however, be said that the root fibres were unbroken, probably they were so, as I have failed to colour any flower by merely watering the soil with coloured water. The filtering appendages to the roots evidently prevent the absorption of much of the colour, as the petals of the flowers do not become either so quickly or so deeply tinted when the plant has its root as with cut flowers. It was, however, clearly seen that the vein-tubes proceeded from the roots, thus completing the water system of tubes from root to flower.

The veins when coloured are beautifully seen under the microscope as clear tubes running in parallel lines, the interspaces filled by cellular matter. The tubes gradually branch out as they proceed, and as they approach the margins they are often finely branched. When the coloured water reaches the margins of the petals they thus become deeply tintured, especially in the Narcissi, illustrating the cause whereby the Daffodil so frequently obtains the deeper colour at the edge of the corona. It is the same with the Leucocum and the Snowdrop.

Very singular results were obtained in the variegated leaves of the Anouba and Ivy—plants which, at this winter season, one would suppose, had the leaves quite dormant. Single leaves, with their stalks placed in aniline dye-water, began to colour in about three hours, and in twelve hours had their margins deeply coloured. They were thus shown to have the absorptive power, quite apart from the stem.

Another remarkable instance was seen in *Lageria alba*, which has a very thin wiry stalk, and a large waxy flower. With the stalk placed in dye-water, the whole flower became beautifully veined with pink in three or four hours—a singular fact, when one considers the minuteness of the tubes through which the liquid has to be drawn. It is difficult to believe that this can be accomplished by capillary attraction only. In *Eucharis amazonica*, which has thick stalks, the flower does not become tinted at all, but the style is dyed a deep red. The pistils of flowers always become deeply coloured, which is an important fact, showing that the solid matter of the colouring solution is thus secreted [deposited in] by the fruiting vessels of the flower.

White Tulips furnish excellent illustrations of artificial colouring, as they can be readily tinted either pink, blue, green, or purple in a few hours. The vein tubes which are thus displayed in the petals agree with the strongly-marked features known as the "flamed" or "feathered" varieties of the florist. It is generally known that all Tulips raised from seed are self-coloured when they first bloom; they are then called "breeder Tulips," and the enthusiastic amateur-florist grows on his "breeders" for six or seven years until they "break" when they become either "flamed" or "feathered" varieties. Now a florist may ascertain in six hours whether his breeder Tulip will become a feathered or a flamed sort, and whether it will be worth growing on for the breaking time, because the veining of the petal is shown by the colour, and it is that which makes the feature when the Tulip is fully matured. Blue Tulips have always been desired, and they can thus be artificially produced for florist purposes.

Daffodils and Narcissi generally can be greatly varied in colour, and especially by showing their exquisite veining when thus treated. The tube and corona take a darker and richer tone of

colour than the perianth, thus agreeing with the fact that all Daffodils are more or less bicolor. The Christmas Rose is also an interesting flower when artificially coloured. Straight tubes cross the petals from base to point, with numerous cross tubes, and the main ones branch out angularly, thus dividing the snow-white petals into a network of red lines. The interspaces are filled with oval cellules, and as the tubes are permeable, the cellular spaces become suffused with a delicate shade of pink. Snowdrops and Leucocums are also very interesting when thus treated. Their petals are veined with about eight tubes at the base, which pass across the petal to its point in nearly parallel lines, strongly and clearly marked. These are branched near the tip of the petal in fan-like form, producing rich pink margins to the flower. The double-white Camellia is another very pretty illustration, as it easily assumes a pink shade throughout. It is difficult to imagine how this is done, as the Camellia has a small woody stalk; and in the case of a double flower, with forty or fifty petals, the attachment of each of them to the tubes in the stalk must be very slight, and yet every petal becomes tinted in a few hours.

White Lilac takes the colour perfectly, becoming either pink or blue at pleasure. The Abutilon has the calyx coloured, but not the petals. These are already strongly veined, and they seem to refuse the new colour. Primulas take the colour readily, but the common wild Primrose will not be changed. Forced leaves of the Swede Turnip, grown in the dark for culinary purposes, are extremely susceptible to coloration. They begin to colour in about three hours, and in twelve hours are beautifully fringed with red, and suffused with rich orange. Thus tinted, they are beautiful objects for table decoration. *Wm. Brockbank, Brookhurst, Didsbury, March 4.* [Botanists have long since availed themselves of coloured liquids to ascertain the course of the juices of plants, and the particular tissues through which the current passes, but our correspondent gives some details of much interest at the present time, and the specimens he sends exceed in interest any that we have before seen. To the botanist they are of special value as showing so clearly the course of the vessels. The value to the florist is also curiously illustrated in the case of the Tulip. Ed.]

NEW OR NOTEWORTHY PLANTS.

PELEXIA TRAVASSOSII, Rolfe, n. sp.*

OVER two years ago, Mr. A. H. Grimsditch, of 5, Clayton Square, Liverpool, sent to Kew a plant of a *Pelexia* which had been received from Senor Travassos, in Brazil. It has since flowered in the Orchid-house on two separate occasions, and as no description can be found which at all agrees with it, I propose for it the above name, in commemoration of the gentleman who sent it. The leaves are olive-green, with silvery nerves, and a few white spots, and are borne in a radical tuft. The erect raceme bears a number of medium-sized white flowers, which are prettily lined with brownish-red, one on either

* *Pelexia Travassosii*, n. sp.—Plant 1 to 1½ foot high, with a tuft of radical petiolate leaves, subspatulate-oblong in shape, obtuse, 4 to 5 inches long, 1½ to 1½ inch wide, olive-green, with silvery nerves, and a few white spots. Raceme with about a dozen medium-sized flowers. Dorsal sepal narrowly lanceolate, acute, joined with the oblique subulate lanceolate subobtusate petals into a cucullate hood about 10 lines long. Lateral sepals spreading, lanceolate, acute, 10 lines long, prolonged behind into a basal extension, which is decurrent along the spur. Lip entire, elliptical, 3 lines long, by 2 lines broad; spur 10 lines long, adnate to the ovary for half its length, the apex being free. Column 3 lines long, white, the two stigmatic lobes dull maroon.—Native of Brazil.

side of the petals near the margin, and several similar ones on the lip, and these anastomose on the sides near the base, forming a sort of network. The habit is, of course, similar to *Spiranthes*, of which it is a close ally. It is one of the prettiest species of the genus. What is evidently the same species was sent from Brazil as a dried specimen, with the number 14,297, by Dr. Glazion some time ago. *R. A. Rolfe.*

TOO MANY SORTS OF APPLES.

I, LIKE "Pomum," consider we grow by far too many varieties of Apples (unless it be those who can afford to have a hobby of that kind), when profit or a home supply of fruit for a long period are the chief points to be considered. Another fault that I have to find is in trade lists, which in many cases contain sorts which are not suitable for growing on every kind of soil. I think more regard should be paid to this matter.

In the absence of any knowledge of the nature of the soil, it is always safer to give the names of such varieties that succeed in unkindly soils, such as are, for instance, heavy and retentive of moisture, although not stagnant, a heavy subsoil being near the surface. Varieties which will grow well in this kind of land would not fail in a lighter one, hence the reason for selecting those varieties which flourish in unkindly soils. It is useless to depend over much on those which make good growth and carry fine crops on light soil, for planting in those of an opposite character. Take Lord Suffield Apple as a case in point; it is one of the best Apples grown in some places, whilst in another it is a failure. In place of this Codlin, I would substitute Lord Grosvenor, which succeeds where the other fails, and for good cropping, and size of fruit, it is its equal, and in one point its superior, in habit of growth; for while the branches of Lord Suffield spread wide, those of the other take an upright direction—an important fact in Apples for profit, as many more trees of an upright habit may be grown on the same amount of land than would be possible if the branches spread wide. The following list of seven Kitchen Apples contains the names of varieties that will supply fruit from the first week in the month of August till May, providing a sufficient number of trees be planted; it cannot be said that any variety is not of good quality and a free bearer:—Lord Grosvenor, Stirling Castle, Ecklinville Seedling, Warner's King, Lane's Prince Albert, Golden Noble, and Bramley's Seedling. The last but one named will succeed on a gravelly soil, and as all of them will not, it is as well for growers to know that this will do so. An equal number of dessert Apples will suffice for an equally long season, viz., Irish Peach, Devonshire Quarrenden, Lady Sudeley, Worcester Pearmain, King of Pippins, Cox's Orange Pippin, and Sturmer Pippin. 4.

MIXTURES FOR SPRAYING FRUIT TREES.

THE attention of English horticulturists and farmers has been called to the fact that the ruinous attacks of fungi and of insects upon our fruit trees may be effectively met by spraying the trees with certain mixtures and solutions. Among those which have been found most successful are the mixtures containing copper employed as fungicides, and those containing arsenic as insecticides. There is one important point in the preparation of the copper mixtures which I have not yet seen noticed. The sulphate of copper must never be dissolved in an iron or zinc vessel, else the copper will be removed from the solution, iron or zinc taking its place. As galvanised iron pails are now so generally employed, this caution is by no means needless. When the Bordeaux Mixture of sulphate of copper and lime is prepared, a wooden vessel, a barrel for instance, will best answer the purpose. When an ammoniacal solution of copper is required, a glass carboy, such as is commonly employed for carrying

acids, will be most appropriate, but if made on a large scale a barrel will have to be used.

The Bordeaux Mixture is the one most troublesome to prepare, but it has the advantage that Paris Green (arsenite of copper) may be mixed with it, so that both fungi and insects may be attacked in one operation. The ammoniacal solution of carbonate of copper has some advantages as a fungicide, but experiments in America show that the addition of Paris Green to this solution yields a compound having a decidedly injurious effect upon the leaves of the trees.

The mixture used with success in Ohio last summer for Apple and Pear trees was prepared as follows:—Four pounds of sulphate of copper were dissolved in 4 galls. of water; 4 lb. of fresh lime was slaked, made into a thin cream with water, and passed through a fine wire sieve; the milk of lime thus obtained was added to the solution of sulphate of copper, both being cold; the whole was repeatedly stirred for some time, and finally diluted with water to a bulk of 50 galls. To this weak Bordeaux Mixture 2 oz. of Paris Green were finally added.

The first spraying is to take place when the first leaves appear. The second shortly after the blossom falls. The times of the third and fourth spraying must be regulated by the appearance of the tree. In the last spraying the arsenite is omitted. When only a fungicide is needed, the simpler ammoniacal solution may be employed; it is prepared by dissolving 5 oz. of carbonate of copper in 2½ pints of strongest ammonia, and diluting to 50 gallons. Care must, of course, be taken in handling the ammonia. The operator should stand in the open air, and see that the wind carries the ammonia gas from him. *R. Warington, Harpenden.*

COLONIAL NOTES.

ADELAIDE.—For a comparatively new city, Adelaide is fairly well shaded with trees. The suburbs are attractive. North-east of the city proper, and within a few minutes walk from the principal streets, the University and the Botanic Garden are found near together.

The Botanic Garden occupies an area of about 40 acres, and adjoins park-lands which are used as an arboretum. From his entrance at the main gate, throughout his whole tour of the garden, the visitor is struck by the more or less successful attempts at decorative management of shrubbery and marble statuary, indicating that there has been a desire to make a place which is easily accessible, very attractive to the public. The result is generally pleasing; in fact, it is all good, except in the case of the water, which leaves much to be desired.

Australian plants are represented by pretty good specimens, but the conditions for culture are not favourable. The soil appeared thirsty and for the most part light; hence the fair success attained shows excellent judgment in cultivating. The large specimen trees would be a credit to any garden, and the groups of European florist-plants are about as good as one could expect to see anywhere. It was said to me that these European groups are among the main attractions of the garden to the citizens. The citizens with whom I conversed were justly proud of the establishment.

The Victoria regia house is one of the principal features of the garden, but the condition of the plants at the time of my visit was a disappointment. It seemed as if the method of heating by water from an open boiler might be at fault. It was not easy to see how the water could contain as much air as in the ordinary method of heating by pipes through the tank, and it appeared as if this was at the bottom of the mischief.

The other houses looked well for the season. The selections in them appeared judicious, and many individual plants were of exceptionally good growth. Considerable prominence was given to horticultural, and, one may say, utilitarian aspects of vegetation. This doubtless serves to augment the interest felt by

the general public, from whom directly or indirectly all the funds come.

A museum for economic botany, well-arranged, and full of good illustrations of the subject, occupies a conspicuous place in the grounds. Its most attractive department is a collection of the leguminous plants which have proved pernicious to stock. The carpological series is good, and the products of the useful plants are well displayed. In a separate apartment was seen the herbarium of the Director, Dr. R. Schomburgk, who was even then prostrated by illness which has since terminated fatally.

Although confined to his room and a great sufferer, the venerable director received me on two occasions, and conversed freely about his plans, all of which looked in the direction of increasing the local interest in botany and horticulture.

Very profitable botanical excursions can be made from Adelaide. The handbook for the neighbourhood is a recent flora by Professor Tate of the University. It is handy and accurate. Visitors



FIG. 45.—HYBRID NARCISUS: FLOWERS, WHITE. (See Text.)

who may have time for botanical studies in any of the Australasian colonies should be reminded that in almost every large city there can be found a botanist or two well acquainted with the most desirable localities for herborising. Judging from my own experience in obtaining their advice, these local botanists are not easily wearied in well-doing. Some of the local collections are enriched by notes taken on the spot, and possess great interest. *G. L. Goodale.*

REPEATED HYBRIDS AND RECIPROCAL HYBRIDISM IN NARCISSI.

The Hybrid Narcissi here figured (figs. 45, 46), possess points of interest apart from the beauty of their delicate white flowers:—

1. The inquiry whether, among plants in general, the same result can be repeated with precision by

crossing the same parents, has been answered in the affirmative by experiments among the Rhododendrons and in other families, but the instance now shown is, I think, the first which has been established in the Narcissi. Professor Michael Foster anticipated me by one year in flowering seedlings from *N. triandrus* by pollen of *N. Corbularia monophyllus*. Flowers raised here from the same cross do not differ from those which he has sent me, or from those produced by bulbs received from him. Both batches of plants run through the same narrow range of variation, it being possible in each to pick out flowers in which the influence of the male or of the female parent slightly preponderates. Thus both batches contain a few two-flowered or even three-flowered scapes, a character drawn from *triandrus*, and both have yielded some flowers which in the wide spread of the corona remind us more of the *Corbularia* or "Hoop-petticoat." But both Professor Foster's seedlings and my own may be said to stand, on the whole, just half-way between the two parent species. Fig. 45 is sketched from an average specimen of this hybrid.

2. The flowers show a distinguishable advance in size beyond either parent, a not unusual result in hybrids, from the added vigour which follows an infusion of fresh blood.

3. I have also raised a considerable number of seedlings from this same cross effected the reverse way, i.e., by making *N. c. monophyllus* the seed-bearer. The plants differ scarcely at all from those grown from seed of *triandrus*, and, like them, are nearly all truly intermediate in feature between father and mother. The specimen drawn (fig. 46, p. 333) was taken from one of the first flowers to open, and would have become more pendulous and more like to the other figure as it aged. Among those which subsequently bloomed I could select some precisely similar to flowers of the former cross. The exertion of the style, so curiously variable in degree in *N. triandrus*, appears to be reduced to greater fixity in the latter cross than in the former, and the plants from seed of *Corbularia* show a smaller proportion of two-flowered scapes than those from seed of *triandrus*. But the differences are so slight in comparison with the general resemblance, that it is not inaccurate to state that, in this case, "reciprocal crosses give identical results." This rule, however, does not always hold good in the Narcissi. Thus from crosses made first one way and then the other between the small rush-leaved *N. triandrus* and large varieties of *N. pseudo-Narcissus*, I have obtained plants which respectively follow the mother most markedly in stature and size of all their parts. *G. H. Engleheart, Appleshaw, Andover.*

DISEASES OF THE REPRODUCTIVE ORGANS OF PLANTS, CAUSED BY FUNGI.

(Continued from p. 302.)

INCREASED VEGETATIVE GROWTH AS A CONSEQUENCE OF PARASITES.—There is another important manner in which the reproductive parasites may influence the propagation of their hosts, that is, by favouring their increase, not by their seed, but by their roots. When one reflects upon the fact that many of these reproductive parasites cause well-nigh total destruction of the reproductive organs of their host-plants, so that the extermination of the host seems almost to be a mere matter of time, one is naturally led to consider how such an extermination can be obviated, and whether by any compensatory effort on the part of the host it will be enabled to propagate itself. It is a well-known fact that some of the commonest species of flowering plants, common not only in their wide distribution geographically, but common also in the sense of numbers in which the individuals are met with, where the plant occurs at all, seldom produce perfect fruit. Such plants as the common field Thistle, and the Twitch-grass, although rarely producing perfect fruit, are terrible pests to the agriculturist, by reason of the rapid

manner in which they spread themselves amongst the crops on cultivated land, and by the extreme difficulty of uprooting them. In the first-named, the development of the flower-heads takes place with great freedom, and immense quantities of Thistle-down may be encountered wafted about in the air during the late summer and autumn. But this Thistle-down, if it is examined on the head before it has begun its aerial voyage, will be found, in most cases, attached to barren seed.

With the other plant (*Triticum repens*), the common Twitch-grass, the bane of our arable land in like manner, perfection of its seeds seldom takes place. The flowering heads are extremely common in our hedges late in the year, standing up amongst the thorns like heads of giant Rye-grass; but upon examination it will be found, that although the ear appears to be perfect, yet rarely does it contain any seeds capable of germination. Both these plants have lost more or less completely their seed-producing power, as we meet with them in this country at the present day.

With regard to the Twitch, it is remarkable that although the production of perfect seed by it is so rare that the ovaries are not developed, yet the ovaries are frequently the seat of disease, by which they become enlarged and converted into ergots through the action of the same reproductive parasite, *Claviceps purpurea*, to which we have previously referred; but more than this, the ovaries of *Triticum repens* are the seat of attack of two species of Bunt, *Tilletia controversa* and *calamagrostis*.

Another root-spreading species, the common Reed (*Phragmites communis*), even more rarely than *Thrift* perfects its seed, but it is pretty widely distributed in England, and abundant wherever it is found. In some districts, so freely does it grow in the ditches, that they have to be cleared out every year or two, yet this does not seem to diminish in the least degree the vigour of its growth. From the ditches, if the land be sufficiently damp, it extends into the corn-fields; and here, although its underground-stems are cut to pieces by the annual ploughing to which the land is subjected in the ordinary course of tillage, the plant flourishes so that its flowering-heads are often as tall as the corn. No grass is more subject to ergotisation than the reed is. The ergots, although very small, are extremely abundant, so that the plume-like heads are often quite bent down by the weight of them.

Here, then, we have three examples of common plants in which sexual maturity fails, as a rule, to occur, and in two of them the sexual organs (the ovaries) are the site selected by parasitic fungi. How far the parasite has been the cause of the plants in question availing themselves of the power they inherently possessed of spreading themselves by their roots, rather than by their seeds, no one can positively say; but the fact remains, that two of our commonest plants, which are essentially root-spreading, are also peculiarly liable to have their sexual reproduction destroyed by special reproductive parasites.

INCREASE IN NUMBER OF BLOSSOMS.

With some species of reproductive parasites, in which the floral organs are the seat of disease, we find another compensatory effort is made by the host-plant. Although the plant is unable to produce perfect flowers and seeds, yet we find that it blossoms more freely than do healthy plants. For some years past, I have had growing in my garden various plants affected with fungoid parasites; amongst them the pink *Lychnis diurna*, affected with *Ustilago violacea*, as well as healthy plants of the same host-plant. These plants were growing within a few yards of one another, and practically under the same conditions. It was quite obvious that the diseased specimens were the finest flowers, and I am inclined to think the colour was brighter. The same is true of *Scabiosa arvensis*, when affected with *Ustilago scabiosa*, so far as the number and size of its flowers are concerned. To a less extent, perhaps, the same phenomenon is observable with *Scabiosa Columbaria* when attacked with *U. floecolorum*. The plant of

Scabiosa arvensis which has been growing with me for several years, is a remarkably luxuriant specimen, producing hundreds of flowers during the season.

PROTECTION OF HOST-PLANT.

Apart from the fact that root-spreading plants have an advantage over those which are entirely dependent upon seed for their increase in the struggle for existence, it is clear that any cause which operates by making a plant less acceptable as food to plant-eating animals will be of advantage to that plant, and to plants sufficiently closely resembling it. We find certain of the reproductive parasites modify their hosts, so as to render them very unattractive in appearance; particularly is this the case with the *Ustilagineæ*, where the affected plants have their floral organs converted into a mass of black powder; but more than this, some of the species have a very repugnant odour, notably, several species of Bunt.

The odour itself has been variously described, but may be taken as recalling a mixture of rancid oil and fish. So powerful is it, that all persons connected with the corn trade, in examining a sample of Wheat, test it by their sense of smell, even when the amount of disease is so small as not to be readily recognised by the eye. Now, man is not endowed with nearly so acute a sense of smell as some of the lower animals, and if to us, with our comparatively obtuse power of discriminating odours, a sample of Wheat is rejected on this account, how much more readily must the lower animals recognise its deterioration by the fungus.

Other reproductive parasites contain active poisons, as the ergot; now, this it will be remembered, attacks only a certain proportion of the seeds on each plant, the others being uninjured, so that it is well suited to protect its host. Animals feeding upon ergoted grasses are known, as a matter of fact, to suffer in a very serious way from so doing. Although to the untrained eye an ergoted grain may not be very readily recognisable, yet it must be remembered that we are not herbivorous animals. But more than by its appearance, ergot possesses a markedly characteristic odour, which chemists tell us is due to Trimethylamine, a substance found in the brine in which fish have been pickled. In point of fact, ergot has a fishy odour.

But we have just seen that Bunt has also a fishy odour. Curiously enough, both these fungi attack the same part of the host-plant—the ovary; in one it is metamorphosed into a blackish hypertrophy; in the other, the whole interior is transformed into fetid black dust. But the connection does not end here, for it has been found that the same kernel of Wheat has been attacked simultaneously by both parasites, the ergot having established itself at the base of the grain, while the rest of its interior has become converted into a mass of black dust.

Here, then, we have two diseased products, both having a fishy odour, one of which is highly poisonous to animals; so it is not so very surprising that the fishy odour should be sufficiently repugnant to animals as to be protective to the host-plant.

We now come to consider more in detail the various ways in which reproductive parasites affect their hosts; their action may be either direct or indirect.

INDIRECT ACTION: ABORTION OF THE FLORAL ORGANS.

The number and quality of the seeds produced by any plant are subject to the operation of many causes, such as the influence of season, of soil, of sunshine, and especially of such conditions as cross-fertilisation demands. All flower growers know that too great luxuriance of the foliage of plants is prejudicial to the production of flowers, and that many plants bloom more freely when they are to some extent pot-bound than when they have less limited room for root development. Then, again, the amount of flower and seed is not proportionate; no more common axiom being heard from the lips of the flower grower, as he removes the fading flower-heads, than that a plant "cannot produce both seeds and flowers."

In order to produce seeds freely, the plant must be healthy; it may be stunted in growth, and partly starved by want of sufficient root-room, but its tissues must not be permeated by the spawn of a parasite, nor must its foliage be injured beyond a certain point by parasitic fungi, even although they cause only local mischief. It has long been noticed that the plants permeated with the mycelium of those species of *Uredinæ* which have perennial mycelia seldom blossom at all. Such, for instance, as *Euphorbia amygdaloides*, when it is infected with the mycelium of *Eodophyllum Euphorbiæ*, although the parasite manifests its presence by the production of spore-beds on the foliage only, yet the affected plants seldom produce flowers. The same is true of *Glyceria fluitans* when it contains the mycelium of *Ustilago longissima*, the spore development of which takes place only on the leaves. *Cnicus arvensis* when deformed by the perennial mycelium of *Puccinia suaveolens* does not blossom, although plants bearing the teleutospores flower as freely as those free from the parasite; the mycelium of this last-named spore being local.

Numerous other instances might be quoted of constitutionally diseased plants failing to develop seeds. In them the health of the plant does not seem to suffer; the foliage is usually somewhat altered in form, but it is produced freely, and the plants live as long as their healthy neighbours, but their reproductive organs are abortive. It would appear that the constitution of the plant is in some way modified by the presence of the mycelium, that the plant never attempts the formation of reproductive organs, or if it does the attempt is abortive.

(To be continued.)

A TRAVELLER'S NOTES.

[We have been privileged to read some of the letters of Mr. James H. Veitch, now travelling in India, and proposing to visit Java, Japan, and other countries for purposes connected with horticulture. From these letters we have been permitted to extract those portions likely to be interesting to our readers, and we do so with the more interest in that some thirty years since we were enabled to print, in the same way, a selection from his father's letters from Japan. Those who are conversant with the history of garden plants, will remember what valuable results followed from the travels of John Gould Veitch. Travelling under most favourable auspices, we trust the son of John Veitch, and the grandson of James Veitch, may achieve as well-founded a reputation as the father and grandsire. Ed.]

Ceylon.

"Three days after arrival I went up to Peradeniya by the 7.30 A.M. train. In the low country there was not much to see, large tracts being under water, the recent heavy rains having quite flooded the district. As soon as the train reached the hilly country, things improved, and the scenery was very fine. On the road we passed numerous gangs of coolies, clearing away the recent landslips. There is scarcely any tunnelling on the line, the train creeping round the sides of all the hills, one getting magnificent views of the country beyond and beneath. Peradeniya is 1700 feet above sea-level, but I did not see much of it on my first visit, having to return by the 2 o'clock train, the last in the day. Two days after, with a portion of my luggage, I went to stay at Kandy.

"On the way up from Colombo one sees numerous Paddy fields. This is the name given to Rice in its growing condition. Owing to partial submersion being essential, it is grown on earth terraces or banks apparently a few feet wide, one tier rising above another to an endless extent; the falls from the hills supply the necessary water. Two crops a year are obtained, chiefly by sowing; though if a piece be thin, transplanting is resorted to. Ceylon does not produce anything like the amount of Rice it requires, on account of the large Tamil population imported from South India for the tea plantations. Interrupted communication with the interior causes great distress. The recent landslips on the railway, whereby the goods traffic

was blocked for eight days, was, I am told, felt in some districts.

"Peradeniya is only 4 miles from Kandy, so I soon paid another visit there, and spent some time with Dr. Trimen. The vegetation in the gardens is certainly very fine, nearly all being left to Nature. The most interesting plant in the garden is *Lodoicea seychellarum*, the double Coconut of the Seychelles; with the exception of the few plants Dr. Trimen has, he tells me it does not exist out of those islands. I was naturally much interested, as I had seen the seeds at Kew, and heard of the failure to raise it. Dr. Trimen has one large plant, and, I think, two or three small ones. The large one, planted by Dr. Thwaites, is forty years old, and is about to flower; it has leaves somewhat like those of a *Sabal*, larger than I have ever seen on any Palm, even here. The plants in the Seychelles are said to be 100 to 150 feet high, and their age must be immense if they grow at the same rate as this one does, which it only some 15 feet high. The seeds

Crotons grow well, though in parts are apt to be aticky. I saw one splendid bed, about 13 yards through, in Colombo; there was a large variety, and the shape of the bed was almost perfect. *Dracenas* are well coloured, but get very sticky. *Acalyphas* make splendid bushes, with highly-coloured foliage, often 10 and 12 feet high. *Amherstia nobilis* is a fine tree; it is now in flower, in fact I think it is more or less so all the year round. Its long racemes bear some eight or ten large flowers, most brilliantly coloured with vermilion and yellow. It was imported here from the Burmese temples, round which it grows, but Dr. Trimen tells me it is never found wild. It seeds in Burmah, but rarely, very rarely, here.

"*Tradescantia discolor* and *Conoclinium* grow well, particularly the former, when once it gets a footing. Ferns also do well. I saw in different parts some really fine plants of *Nephrolepis rufescens trippinatifida*. *Aracaria Cookei* forms handsome trees, and one or two *Dammara*s are very tall. *Ficus elastica* and *Bamboos* are two of the finest sights in the gardens.

Judge Laurie, the District Judge of Kandy, I was able to put up at the Club—a very considerable advantage, as the Grand Hotel was full of tourists, Nuweya Eliya is about five hours' train from Kandy, the line gradually rising all the time; on either side are tea plantations, with a little coffee. It was raining hard and was rather cold when I arrived, thick blankets being required at night and a fire in the smoking-room. It is the great health resort of Ceylon, and is full of English in the hot season—now it is nearly empty.

"The gardens at Hakgala are very remarkable—in extent they are some 550 acres, but only 8 acres are really kept up. The Tree Ferns and *Acacias* are fine, and such plants as the following: *Fuchsia corymbosa*, *Gladioli*, *Arums* and *Heimerocallis fulva*, grow and flower profusely; *Gorse* forms bushes, 3 to 4 feet high; *Vincas*, *Bocconia frutescens*, 8 feet high; *B. cordata* will not thrive. *Cryptomeria japonica* is now much planted, as is *Grevillea robusta*; the latter is also used on the tea estates for shelter. *Spiraea Reevesiana* is used for hedges all round Nuweya Eliya, and answers the purpose admirably. Vegetables succeed more or less; the English Blackberry and the Wilson Junior grow, but do not fruit; our English Cherries form fine trees, but also yield no results.

"The great weed in the low country is *Lantana*; this is everywhere, and I am told, in some parts it covers miles; it is, however, being supplanted by a large yellow Composite, with *Broussonetia*-like foliage, by name *Trithonia*, introduced from California. Another weed is *Mimosa pudica*; this is most difficult to eradicate, as burning has no effect—it springs up through the ashes of burnt jungle with the first shower. *Oxalis* is the chief weed of the hill districts; this, like *Trithonia*, has acclimatised itself. On my return to Kandy, I went to stay with Judge Laurie, who received me most kindly; he grows a great many Ferns, and is very proud of them—also some Orchids.

"I went over tea, coffee, and cocoa estates, and have explained the method of culture in my journal which I will forward from Calcutta.

MADURA.

"Vanilla and Pepper are both cultivated to a limited extent here, the former being grown along the road sides on *Erythrina indica*—the Vanilla clings well to its spiny bark. Owing to the insect necessary to its fertilisation (which is found in the Mauritius) being here absent, it has to be fecundated by hand. Its production is said not to be very profitable.

"Squirrels and white ants are the great pests in the animal world. I went over a cocoa estate belonging to a gentleman, who gives a gratuity for every squirrel skin brought to him, and who also keeps a man employed expressly to shoot these animals.

"The languid muggy heat of this place is not inspiring. I shall be glad to get north, where, though hot, it will be dry. A dry heat I enjoy, but such places as this and Colombo, which are now receiving the end of the rains, rather take it out of one. From 6 to 8 A.M. the weather is perfect, but after that, and when the rain comes down, one might as well be in diluted marmalade." *J. H. F.*

(To be continued.)

VEGETABLES.

SULHAM PRIZE PINK CELERY.

WE grow no other variety, and it lasts in good condition from the first week in September till the beginning of May. Where many persons make a mistake, I think, with their late crops of Celery is in growing the heads too large, these large heads not keeping nearly so well as smaller ones. *E.*

SELECTED PEAS.

Opinions differ according to locality and soil as to the best varieties of Peas to yield a constant supply without unduly multiplying varieties, and I think all things considered, that no three better



FIG. 46.—HYBRID NARCISSEUS; FLOWERS WHITE. (SEE P. 331.)

used to be found floating in many parts of the ocean, and in the Middle Ages before the discovery of the Seychelles they were considered to be a marine product. The seed takes ten years to ripen, and in germinating descends 8 feet. *Corypha umbraculifera*, the Talipot, is another of the floral wonders. This Palm grows with great rapidity, quite straight up until it produces an immense terminal raceme of white flowers, visible in some places for miles; it then seeds and dies. They flower usually when from forty to fifty years old, though one has been known to flower when but thirty-five years old. I was fortunate enough to see two in flower from the railway, and one in seed in the Peradeniya gardens. *Oreodoxa regia* (Cabbage Palm) and *Caryota urens* form noble trees; the latter flowers freely, its pendulous racemes being several feet long. *Artocarpus incisa* (bread fruit) and *A. nobilis* (jack fruit) form fine large foliage; the fruit of the latter, though edible, is not worth much.

"In the gardens some of the undergrowth is handsome. *Sanchezia nobilis variegata* and *Heliconia aurea striata* form, especially the latter, bushes from 4 to 5 feet high. *Heliconia* is certainly one of the handsomest plants I saw in the island.

There is a splendid avenue of the former near the gate, the roots rising often more than 1 foot above the soil, and covering many yards of the surrounding ground. The Bamboos are very thick, and grow some 70 feet in height, especially on the banks of the Kelani-Ganga, the largest stream of water in the island; they are used for a great variety of purposes, from making a curry downwards. Dr. Trimen has formed a kind of house by stretching coarse canvas netting over Bamboos; in it he is able to grow some Orchids and Ferns, which would not do in the open. The former do fairly well, *Cattleyas* and *Lælias* being the weakest point. I suppose it is because it is almost impossible to give a period of rest.

"It is curious to see in flower side by side within a few square yards *Cypripedium Sedeni* and *Haynaldianum*, *Angræcum sesquipedale*, *Oncidium Lancæanum*, *Phalaenopsis Schilleriana*, and others, *Dendrobium macrophyllum Veitchii*, very fine *Chysis bracteescens*, and several others.

" NUWEYA ELIYA

is some 6200 feet above sea-level. Hakgala being a few hundred feet lower. Through the kindness of

ones could be chosen than those named by Mr. Coomber. There are some good selections made by different nurserymen which may be a little earlier than William the First; I think Veitch's Exonian is one of them that would run William the First hard for the first place. However, at the present time, William the First is a tried Pea, and it remains a longer time in bearing. Mr. Smith, on p. 278, mentions four different Peas. Autocrat is an excellent Pea, but for general use, I prefer Success, or Sturdy, if a fourth be added. I have grown Autocrat, Sturdy, and Success each year since they were sent out, and sowed them on the same day in a fully exposed plot, and Success yielded pods a long time after the other two were over. All three do well on strong land. The seeds number from eight to ten in a pod of Success, which boil of a nice green colour, and the flavour is excellent. *John Chinnery.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Castle Howard, York.*

PEACHES.—Late Peaches now coming into bloom had better be allowed to carry a fair proportion of their flower-buds, especially if the wood was not thoroughly matured last autumn. Fumigate if thrip or green-fly be about the house. When the object is to have late fruit, undue forcing should not be resorted to, yet, as a certain degree of warmth aids fertilisation, it will be advisable to maintain a temperature of 55° to 60° at night during the flowering period. In the absence of any heating apparatus, the ventilators of the structure may be closed early in the afternoons, and the temperature allowed to rise to 80° if it will. In both cases, keep the atmosphere dry, and shake the trellis frequently daily to distribute the pollen. When the trees are nailed to a wall, draw an old ostrich feather along the shoots from the base upwards. Disbud trees which have passed their blooming, and in the manner indicated in a former calendar. It is generally necessary to give a watering at this period, but no border should be watered until its condition is either ascertained or its requirements understood. A good dressing of wood-ashes and a stimulant may be employed to trees of rather weakly growth when water is applied. The same temperature as advised above should be maintained until the stoning period is reached, the borders and paths well damped in sunny weather, and the plants syringed with tepid water mornings and afternoons. Thin the fruit when they have attained the size of thrush eggs. This is a process which should be regulated by circumstances. If an exceptionally large number is on the trees, remove about a third at first, and leave the most promising and best fruit; in the course of a week remove another third, and give the final thinning six days later. But where the fruits are sparsely distributed over the trees, little thinning will be necessary, and may be done in once, or at most twice. The number of fruits to leave for a crop will depend on the condition of the trees. Exceptionally vigorous trees may be allowed to carry fruit at 9 inches apart; but 1 foot will be sufficient to leave them free of ordinary growth, while for weakly trees the fruit should be at least 15 inches asunder. The stoning period is the most critical time for Peaches, and a temperature of 55° at night, with air admitted when solar heat raises the thermometer to 60° and above it, will be congenial to their well being. When the weather is mild, a chink of air may be left on all night.

THE APIARY.

By EXPERT.

SPRING FEEDING.—In districts where there is much fruit blossom, it is necessary to get stocks in strong condition earlier than in those places where white Clover is the first plant in blossom that yields honey. It takes about six weeks in spring to build up a colony to the necessary strength to take advantage of a honey-flow, therefore, where Gooseberries, Raspberries, fruit, and other early-flowering subjects are a source of income to the bee-keeper, stimulative feeding should be commenced quite by the middle of March. This should take the form of flour-candy to begin with, which is made by boiling 6 lb. of sugar in three quarters of a pint of water, as directed in a previous number, p. 270; and when taken off the

fire, stir in 1 lb. of pea flour, which serves as a substitute for pollen, the nitrogenous food of the colony. As soon as the candy is consumed by the bees, more must be afforded, it being of importance to keep up a continuous supply, or a cessation of breeding will result. Later on, when the weather gets warmer, so that the hive can be opened without fear of chilling the brood, the cappings of the sealed stores can be bruised, a few at a time; or falling this, syrup can be given in one of the many slow feeders sold for the purpose. If it should happen that any stocks are not strong enough when the honey-flow arrives to put sections on, it pays to unite two together, and divide them again later in the season if necessary. Some bee-keepers contract hives in spring to the number of frames the bees are able to cover, with the idea of assisting them to maintain the necessary temperature for brood-raising, but experience has proved that little is gained by so doing, as a frame of comb is almost, if not quite as good a non-conductor as a division-board or dummy would be. In districts where white Clover is the first honey-yielding plant of the year, it is often not necessary to take much trouble to stimulate stocks, as they will generally come along quickly enough, and be ready at the right time with the stimulation afforded naturally by flowers that do not exist in sufficient profusion to yield a surplus, but serve the purpose of keeping up a supply of food that is better than any artificial feeding.

QUEENLESS STOCKS.—Any stock that is found to be queenless in spring, should be united to another having a queen. Queens are dearer to buy at this season than any other, and indeed are not often obtainable at any price, let alone the risk of their travelling without getting killed. It sometimes happens that queens get killed early in the year by being "halled" by the bees; and generally this is caused by injudicious handling by the bee-keeper. If bees get much excited while under examination, it is always better to shut up the hive, and defer it to some future period.

THE KITCHEN GARDEN.

By G. WYTHES, *Gardener, Syon House, Brentford.*

HINTS ON GENERAL WORK.—This month is a busy one in the kitchen garden. One of the first things to be done is to go over the ground and allot spaces for the season's various crops; and when that is performed, delayed work of all kinds should be pushed on with a finish. I do not advise the gardener to be in a hurry to get his seed sown, as this may be sown with greater advantage in a week or two; still, this work should be kept well in hand, so that there may be no delay when sowing or planting are performed. The great point to be observed in kitchen garden work is, to sow frequently such things as last but a short time at their best; and by always doing this, much anxiety is spared the gardener, and the chance of a failure in supply is averted. In sowing seeds of Peas, Beans, salad plants, little and often is the better rule, and sowing thinly, unless the germinating quality of the seed is doubtful, and then thick sowing is to be recommended. The repairing of the Box edging, or relaying it, should be finished at an early date. Box laying requires well doing, and only those who are expert at it should be entrusted with a big job. The other edgings used, as Thrift, Saxifrage umbroses, require much the same annual attention as Box. Edging tiles, if they have got out of position, should be made good; walks should be regravelled and raked, after affording a light coating of new gravel. Before the walks are touched, all wheeling of manure on to the vacant plots should be finished, and tree mulching and heavy groundwork brought to a finish. And so that the garden presents a tidy appearance, the stems of Brassicas should be cleared off and burnt, and the ashes used on the ground.

CAULIFLOWERS.—Those that were wintered in frames in pots, and in hand-glasses, will be ready for planting, those in pots furnishing the earliest heads, whilst those which were planted thickly under hand-glasses will succeed them. Plant on richly manured land, and on a border facing south. Those which may have been sown in heat early in the year need protection after planting, as they are scarcely so hardy as the others. The ball of earth as possible, planting being performed with a trowel, and the soil made firm about them. After finishing the planting draw a little soil round about the stems with a hoe, as a protection against frost and wind. Good soil, rather light than heavy, and well manured,

is necessary for the early crop. A few of the larger plants if put out at the foot of a south or east wall between the fruit trees, and covered for a time with hand-glasses, will come into use earlier than the rest.

PEAS IN POTS.—These should be planted out if they have been thoroughly hardened off. I sow these early Peas in pots which are larger than those commonly employed, and give little or no heat, so that when planted early in the present month hard weather injures them but little. When they are planted on a south border by preference, or in the open quarter when necessitated, some of the crumbs of the soil should be drawn up close to the rows, and a row of twigs or small Spruce branches placed so as to protect them; even the very dwarf varieties should always be supported by a few twigs. If birds give trouble, the lines of Peas must be protected by means of netting or black thread. Where game-birds abound, wire-netting bent over the rows is the best protector, and it may be used to support mats or litter in the event of very severe weather coming.

BEANS AND PEAS.—Broad Beans raised in heat will require similar attention to the Peas, but will not require any protection if they have been grown on slowly. Lift in clumps of three or four plants if in boxes, and make the soil firm, planting them in rows 2 feet apart, as they will not grow so robust as later sowings. A succession may be sown in rows 3 feet apart of Broad Windsor, or if for exhibition or extra large pods, Bunyard's Long-pod. Peas may be sown, and if possible, in widely separated lines to allow of crops between. As the season advances draw the drills deeper. For present sowing choose Veitch's Perfection, Huntingdonian, Duke of Albany, Prodigy, and Champion of England.

SPINACH should be sown on rich land in small quantities at intervals of three weeks. The Victoria Improved Round is an excellent variety that does not run to seed so soon as some others.

THE ORCHID HOUSES.

By H. A. BURBERRY, *Orchid Grower, Highbury, Birmingham.*

MANURE FOR ORCHIDS.—I feel indebted to your amateur correspondent, and hasten to explain matters so that he may not be perplexed any longer. The sentence which is misleading occurs in the calendar for January 9, where, under the head of *Odontoglossum Alexandræ*, I wrote, "I cannot conscientiously recommend the general use of liquid manure to these Orchids;" the word "these" being accidentally omitted in printing. Now, as I advised the use of manure for species above and below this sentence in the same calendar, I naturally thought it would be considered generally to refer to the *Odontoglossums* under notice, and took no steps to correct the omission, as at that time of the year at least very little manure is required. I intended when the time arrived for affording liquid manure to these plants with safety and success, to recommend its use on those species only which I have found to be strengthened by it. Rather than discourage the use of manure in the Orchid houses, I would say to every grower, experiment therewith, and find out what is wanted and how to apply it, proceeding cautiously, or great mischief may result. I think that manure may be used in a liquid state on the floors and under the stages, or in evaporating troughs, to the advantage of all species of Orchids during the growing season, taking care that it is not too strongly charged with ammonia.

Odontoglossum vexillarium, which have been treated as advised in previous calendars, should now be in vigorous health, and about commencing to push forth their flower spikes; and as the flowering season is the most exhaustive one, the waterings with manure water, as before advised, should not be discontinued on any account until after flowering. The *Masdevallias* are now becoming active, and these also I have commenced to water with liquid manure. I always use farmyard manure, in other words, that which drains from the manure-heap into a tub or tank. To be successful with liquid manure, it should be applied frequently, but weak; and as a general guide in this concern, I may add that I use it to the extent of from 2 to 6 per cent, according to its strength.

CALANTHES AND THUNIAS.—These are now starting to grow and should be potted, using for *Calanthes*, of the Veitchi and vestita varieties, fibrous loam, peat, and sand, to which chopped sphagnum and leaf soil are added; but I find they thrive equally as well

in the first-named compost. The crocks, with a layer of sphagnum moss over them, should half fill the pot, the remaining half being filled up with the compost, in which I prefer to slightly bury the base of the pseudobulb—say half an inch—and steadying the mass with sticks, and not pressing the compost too firmly, nor employing pots that are too large. One large pseudobulb, or two or three smaller ones, may be placed in a 32-sized pot. Potting finished, a suitable position may be found for these plants on a shelf near the roof glass in the warmest house, and where they have the full sunlight. Very little water will be necessary till new roots have taken hold of the compost, after which time it may be applied more freely, and in due time recourse may be had to liquid manure. The *Thunias Marshalliana* and *Bensoni* varieties, I always think, flower best if grown in small pots, three or four strong pseudo-bulbs being placed in a 32-pot, the compost and mode of potting and watering being similar to the species above mentioned, only it is not necessary to grow them in the warmest house, the warmth of the Cattleya-house is ample, providing they are well exposed to the sun; yet as *Thunias* do not last a long while in perfection, it is well, perhaps, to grow some in both houses, so that the flowering period may be prolonged. It should be said that before potting the old skin must be removed, and the stems well washed, for fear that red spider be present.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Ferriess Gardens, Swansea.

FERNS.—Now that most of the species of Ferns have commenced to grow, the general repotting may take place, and the compost should be prepared, pots washed, and crocks got in readiness, so that once the work is begun there will be no delay. All plants which require repotting should be prepared, that is, if the soil is in a too wet state, water should be withheld for several days, until the soil in the pots has become rather dry. *Davallias* and *Gleichenias*, being surface-rooters, should be grown in shallow pots or pans, having them half filled with crocks, and a compost used that consists of two parts fibrous peat and one of fibrous loam, with the addition of broken charcoal, and sand in sufficient quantity to keep the soil sweet and porous. The rhizomes of these Ferns will require to be pegged down to the soil, which will assist them to form roots quickly. The different species and varieties of *Adiantum* and *Pteris*, which may have got too large, may be divided, and given fresh pots in accordance with their size, employing good drainage, and a compost consisting of two parts fibrous loam, one of peat or leaf-mould, with plenty of sharp sand. Specimens of *Alsophila*, *Dicksonia*, *Cyathea*, *Lomaria*, &c., requiring root-space, should have attention, but it is not necessary to shift them annually; in fact, when growing in large tubs or pots, they will keep in health for a number of years without disturbance, if afforded the proper amount of water, and occasionally a small quantity of weak manure-water. In the case of very large specimens of Tree Ferns, syringing the stems or trunks daily with tepid water during the growing season [Or pouring water on the top of the stem. En.] will greatly assist them. In case any plant has to be retubed or repotted, it will be necessary to keep it in a close house for a few weeks afterwards, and syringe it slightly overhead once every day. The species that are most suitable for baskets are *Adiantum Woodwardianum* radicans and *Goniophlebium subariculatum*; and during the growing season much care is necessary in preserving the proper amount of root moisture. The best method of supplying it to established plants is to immerse them in a tub of tepid water every day. Ferns in borders should have a portion of the surface-soil removed, replacing it with fresh compost. Slugs do much harm to the tender fronds of Ferns, and precautions must be taken in having them trapped before damage is done.

CLERODENDRON FALLAX.—Old plants should be cut back to within 2 or 3 inches of the old wood, and when they commence to break again and have made short shoots, a little of the old soil should be shaken off them before shifting them into pots two sizes larger than those they were previously in. The best way to propagate this plant is by sowing seed at this season in a hotbed, as by that means a long season of growth is obtained. A good compost for this species consists of equal parts loam and leaf-mould, with a largish quantity of silver sand; both potted specimens and smaller plants should be placed in the stove or on a hotbed.

ASPARAGUS PLUMDSUS AND ITS VARIETIES NANUS AND TENUISSIMUS.—No wonder these plants have become so popular when we take into consideration how useful their sprays are for bouquets, and the florist's work generally. The plants may be grown in small pots, when they make very useful subjects for table and other decorations. If grown in an intermediate temperature, the plants grow with great freedom. Now that they are commencing to make fresh growths, those requiring more root space should be repotted. Use equal parts of fibrous peat and loam, to which should be added broken charcoal, and sharp sand in sufficient quantity to keep the compost open. If required to furnish a wall or the roof of the structure, they may be planted out in a prepared border, some 4 feet in length by 2½ and 18 inches deep, placing 4 inches of drainage at the bottom, afterwards filling in with the above-named compost. The variety *tenuissimus* may be propagated freely by cuttings, if these be placed round the sides of a 4-inch pot, in a sandy compost, and placed in the propagating frame. When well rooted, pot them into 5 or 6-inch pots, without dividing, when they will quickly form useful plants for furnishing purposes.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, Gardener, Barham Court, Maidstone.

RE-LABELLING FRUIT TREES.—During bad weather, when the gardeners cannot work out-of-doors, this kind of work should get attention, as it is of no small importance to have all trees correctly named for reference at any time, and more especially at this season when scions are wanted for grafting, or when trees have to be removed, and there is only the label to inform the gardener what the variety is. Where trees have lost their labels, it will be necessary to wait until the fruits are fully developed, when the variety may get correctly named, by send-

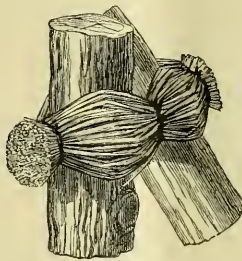


FIG. 47.—METHOD OF TYING TREES WITH STRAW BANDS.

ing selected examples, with a number attached corresponding to one fastened to the tree from which the fruit was gathered, to the office of this paper. To fasten the tickets on the specimens sent for naming, the margins of postage stamps make an excellent material, first writing the numbers legibly thereon. Various are the materials employed for labels on the trees, but the most simple, and one which any one may make, is to cut ordinary laths into 6-inch lengths, having previously made them smooth for writing upon. One end should then be rounded, and a small hole made in it with an awl for a piece of copper wire to pass through wherewith to fasten it to the tree. A small quantity of white lead paint should be rubbed on the smooth side, and allowed to get partly dry before being written on. After the name is written, allow the paint to get quite hard, and then varnish it all over with a soft brush. These labels will last for many years.

STAKING FRUIT TREES.—Newly-planted trees should now have the supporting stakes examined, and be securely fastened with withes or tarred cord, taking care to place a pad of hay, straw, or leather between the stake and the bark of the stem. [We give another method, see above, fig. 47. En.] Trees that are much exposed to wind need to have two stout stakes instead of one, placed deeply in the

earth, and standing about 9 inches from the stem of the tree, and facing each other with a cross-piece 1 foot long, nailed on close under the top of the stakes, to which the tree must be securely fastened with hay or straw bands. In the case of pyramid trees, one stake will, in a general way, be found sufficient, but it should be firmly fixed in the soil, several feet away from the tree, and in a slanting position, securing the stem about the middle to a point some three-quarters of the way up.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

ANNUAL FLOWERS THAT ARE BEST RAISED UNDER GLASS.—There are many annual flowers which, when properly grown, form an attractive feature during the summer and early autumn months, and I will therefore mention a few of the best. Foremost among these are *Stocks*, *Asters*, *Salpiglossis*, *Sweet Scabions*, *Zinnias* (double and single varieties), *Phlox Drummondii*, *Saponaria calabrica*, *Limnanthes Douglasii*, and *Clarkia Carteri*. "Morning Glory." The last is a decided acquisition; the flowers are reddish-purple tipped with white, and the habit of the plant is compact, being 9 inches to 12 inches high. *Gaillardias* deserve to be more extensively grown than they are at present; their long-blooming period and splendid colours are particularly sure to make these half-hardy perennials popular. Everlastings, such as *Acroclinium album*, *Ammobium alatum*, *Heliclysums*, and *Rhodanthes* should also be sown.

Plants of the above-mentioned and similar subjects may be easily raised by sowing the seed thinly in pans or shallow boxes, filled with finely-sifted soil, covering with a little of the same compost, watering gently, and then placing them in a close pit or frame, admitting a little air when the seedlings appear, to ensure a sturdy growth. With this object in view, the plants should be pricked out, before they get crowded, into a sifted mixture of three parts light loam and one of leaf-mould and sand, laid 4 or 5 inches deep on a hard bottom, in shallow frames placed in a sunny situation, allowing a distance of 4 or 5 inches between the young plants. Press the soil gently about the roots with the pointed stick in pricking out, and water through a fine-sprayed rose, to settle the soil, and shade from bright sunshine until the roots have taken to the soil. At this stage admit air, and gradually increase the ventilation, to secure sturdily-grown plants. The seeds may also be sown direct in the frames, in drills about 4 inches apart, and a quarter of an inch deep. This last method of procedure is to be commended; the seed takes longer to germinate, but ultimately the best plants are thereby secured. In most places the necessary number of boards or bricks for forming the sides and ends of improvised frames are at hand, as well as the odd sashes wherewith to cover them. If a little sifted coal-ashes are placed outside, and close up to the brick or board temporarily-made walls, a greater degree of warmth will be maintained inside.

TREES AND SHRUBS.

CHOISYA TERNATA.

A few days ago, in looking through Chancellor Swayne's very pretty and highly interesting garden in the Close, Salisbury, I noticed a fine plant of the above very desirable evergreen, which was struck from a cutting received some twelve years ago from a friend residing in the Isle of Wight. It is growing in a narrow border at the foot of a south wall in ordinary garden soil of a light texture, and covers a space of wall 15 feet long by 6 feet high; and I have no doubt, had the wall been twice that height it would have been covered to the top within the time specified. The plant is in fine condition, being literally smothered with large trusses of flower-buds, which, when fully open in July and August, will be a veritable sheet of white fragrant flowers. Here, as also planted against a south wall at Longford Castle (three miles south-east of Salisbury), this so-called "Brazilian Orange" is perfectly hardy; and, therefore it may safely be grown in similar situations in all southern and western counties in England and Ireland. H. W. Ward.

EDITORIAL NOTICES.

LECTURES ON PRACTICAL HORTICULTURE.—As we have advocated the course now being followed for years past, we are naturally interested in its success, and we should be obliged if the several lecturers, in connection with the County Councils, would communicate to us their names, the districts in which they are at work, and a general indication of the method pursued by them.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, MAR. 17.—Lidoenae.

SHOWS.

TUESDAY MAR. 15. Manchester Royal Botanic, First Spring Show (two days).

WEDNESDAY, MAR. 16.—Bath Bull Show (two days).

SALES.

MONDAY, MAR. 14. Hardy Plants Bulbs, Cypripedium spectabile, Tropaeolum tuberosum, Cacti, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, MAR. 16. 10,000 Lilliums of sorts, Cypas, Oldfield, Palms, 4000 Phoenix rupicola Seeds, &c., at Protheroe & Morris' Rooms. 2500 Roses and Fruit Trees, &c., at Stevens' Rooms.

FRIDAY, MAR. 18. Trade Sale of Orchids, at Protheroe & Morris' Rooms.

SATURDAY, MAR. 19. Border Plants, Lilliums, &c., at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—42°·6.

WE shall shortly be looking for the unfolding of the buds, the rapid current of water through the plant, perhance "the bleeding," and all those striking phenomena which attend the increased length of days and the corresponding increase of temperature. The subject is still shrouded in mystery, but it is not so much so as gardeners who stioek to the obsolete phraseology of a century ago would lead the uninitiated to imagine. The wonderful things that the "sap" does, or is said to do, by gardeners are susceptible of a very different interpretation from what they attribute to them. When we get schools of horticulture, and duly qualified teachers, we may hope that mediæval physiology will no longer be accepted as gospel by the practical gardener, and that he will be enabled, by the facilities he enjoys, to render intelligible much that is now ill-understood, or not understood at all. Mere routine practice will not, however, lead to this result. We have been led to make these remarks by the perusal of an article in the *Comptes Rendus* by an eminent French botanist connected with the Forest Department of France. M. MER, in discussing the renewal of growth that takes place in the growing tissues (cambium) of plants in spring, makes some observations, from which we condense what follows.

M. MER says that, "among the many questions raised by the study of the spring growth of trees, there is one which is peculiarly interesting—that which relates to its periodical rise and cessation. At the end of winter," he asks, "does growth begin in all parts of the tree at the same time, or does it not rather do so at different parts in succession? and in this case, does it follow any regular order? Again, at the end of summer, is the activity suspended in all the organs simultaneously, or successively, and if so, in what order? Lastly, is the rise and fall liable to variation?"

To answer these questions, M. MER examined specimens of different species and ages (Oak, Beech, Hornbeam, Lime, Poplar, and Silver Fir), growing in various positions, and consequently of very different constitutional powers.

In the case of young trees of twenty-five years and under, growing in plantations, M. MER noticed that growth commenced in the youngest shoots of the branches and stem, thence spreading, sometimes successively, sometimes simultaneously to the oldest parts of the branches, as well as into the centre and base of the stem. It did not commence in the roots until ten or fifteen days later, appearing first at the commencement of the largest, then in the lesser ones, and finally in the rootlets. It may be said then, that in the aerial parts the progress of growth is from above downward, basipetal, while in the subterranean parts it is from below upwards, basifugal.

In the case of young trees in isolated positions, the results of M. MER's observations were almost the same as with trees in plantations. However, he noticed one interesting peculiarity. Owing to their isolation, the branches were usually well developed, and at the point of emergence from the trunk was a moderately large swelling. Now, in this swelling the growth was almost simultaneous with that which takes place at the extremity of the branch. In young trees, especially those growing in plantations, the woody rings are often wider in the central and upper part than at the base. This is not the case with older specimens, especially during the season of greatest growth. The branches and roots have at that time attained great size, and almost invariably, except when the plantation is too dense, the growing layers enlarge from the top towards the base of the trunk; which proves the great activity of growth in this latter region. It is interesting to learn what is the method of the rise of growth. For this purpose, M. MER examined trees growing singly in clearances made some years ago; others grown in plantations so thin that their woody layers had become wider at the base; and finally, others in copses of twenty-five to thirty years' growth, having their heads above the plantation, and consequently thick, while their trunks were buried in it. In all these trees he found that growth begins at the base in the swollen portion of the trunk, almost at the same time as at the extremities of the upper branches, and in the swelling at the base of these when this was sufficiently well-marked. It was only developed in the lower branches of the head afterwards. Later on it appeared in the central branches and trunk, later still in the large roots, and finally in the rootlets; therefore, the centres of development were multiple. Hence it follows, that the general progress at the ends of the branches, as in the trunk, is from above downwards, but from below upwards, at the base of the trunk, remaining entirely basifugal in the roots. When the growth of trees, especially Silver Firs, is impeded, either because they grow under shelter, or for some other cause,

the woody rings are very narrow in the lower part of the trunk and branches. M. MER ascertained that in such specimens growth shows itself but tardily, commencing in the tips of the branches. Its course is thus from above downwards.

Just as it increases gradually in the various parts of a tree, so does the growth progressively diminish at the end of the summer, but in a different order. It ceases in the branches before it does so in the trunk. In trees in plantations, it fails first in the lower branches, which are less vigorous than those of the head, and in the lower and central parts of these branches before it ceases in their extremities. Only after this does it come to an end in the upper shoots. In the thick branches of an isolated tree, it ceases sooner at the extremities than in the centre. It is at the level of the basilar swelling that it remains active longest. In the trunk it stops first at the top, then in the middle, and finally at the base. When the vegetation is not very active, it, on the contrary, ceases in the lower portions first. In the roots it sometimes persists for fifteen days longer than in the trunk. It cannot be said that this is because it was slow to arise there, as before it ceased in the larger roots, it failed in the rootlets, where, as has been said, it manifested itself later still. It is in that part of the trunk which is immediately under the soil that the activity of growth is manifested latest. While in the aerial part of the tree, growth ceases from above downwards—it is from below upwards that it ceases in the subterranean part. The stock being the region where growth began, and the place where it ends, is therefore that where the longest duration of activity occurs. This explains the great development which woody layers acquire in that situation. It is plain that it is in the parts of the trunk where vegetable activity is most pronounced, either because they are the youngest, or because they are the best nourished, that growth begins (in the tips of the branches and the crown, the basilar swellings of the branches and the lower portions of the trunks of healthy trees). There also, usually, it ceases last. Contrarily, when any circumstances retard growth, we see the cambial action proceeding sluggishly and ceasing sooner (as in the lower parts of the branches and trunks of trees in plantations, over-shadowed trees, &c.). Hence there is an evident connection between the duration of cambial action and its intensity.

FERNERY AT NANT-Y-GLYN.—The accompanying illustration (Fig. 48) represents a Fernery at Nant-y-Glyn, Colwyn Bay, the residence of ALFRED O. WALKER, Esq. The Ferns most conspicuous in the engraving are *Osmunda Claytoniana* in the centre foreground, *Polystichum munifolium* behind to the right of centre, *Lastrea thelypteris* to the left of the centre, *Osmunda gracilis* to the extreme left, *P. angulare* var., and *Lomaria chilensis* in the back row, and *Rodgersia podophylla* left foreground centre.

FLORISTS' VAGARIES.—Considerable attention was recently excited by the display, in the shop window of a florist in a West End suburb, of some button-hole bouquets composed of Lilies of the valley, and some strange-looking flowers of a deep orange-yellow colour. At first sight it was not easy to say what these yellow blossoms were, for though they were much larger and stiffer, they bore a slight resemblance to the single flowers of the Lilies of the valley. On looking closely they were proved to be the coronas of *Narcissus tazetta*, from which the segments of the perianth had been ruthlessly shorn. It is to be hoped there is sufficient good taste abroad

now-a-days to discountenance this cruel mutilation of a beautiful flower. It is prompted by a different motive to that which clips the anthers from the stamens of white Lilies, whose purity would soon be sullied by the pollen were they to be allowed to remain, and is done merely for the sake of manufacturing a flower of a fashionable colour small enough to be used for button-hole bouquets. The abundance of cut flowers to be had just now for a moderate price in the shops and at the street corners calls forth universal admiration, and surely there is variety enough to satisfy the demands of all reasonable people, without recourse to mutilation or dyeing.

laws to obtain the necessary money? If they borrow it, do not they run the risk, all but inevitable, of being crushed, more or less speedily, by a load of debt? Now, our Tuscan labourers, a very shrewd fraternity, appreciate this problem, and they get round it in this way—they go halves with the capitalists, big or little. 'You buy the land,' they say, 'stock, and plant, and drain it; you pay the taxes and other outgoings, we will give you our labour, skill, and experience, and then we will equally share the produce in kind.' Thousands of holdings are based on this principle. The system succeeds, and has succeeded for genera-

case, a frugal thrifty fellow, in his turn, gets on. He is free from debt and other burdens, and he puts money, as a rule, into the savings bank. His wife and daughters go to mass on Sundays clad in bravery; he can give the latter dowry. He is a contented respectable citizen. One may smile at his primitive plough, at his slow white oxen, at the shallow furrows scratched between Olives, vines, and fruit trees. But he is ploughing land which is dug by the great three-cornered, long-handled Italian spade the *vaiga*, 'with its point of gold,' according to the proverb, every three years. Full of wise economies, clever adaptations of means to ends,



FIG 48. — HARDY FERNS IN THE GARDEN OF A. O. WALKER, ESQ., NANT-Y-GLYN, COLWYN DAY, N. WALES. (SEE P. 376)

SMALL HOLDINGS.—A correspondent writing from Tucany, where the *métayer* system is in operation, says:—"Your short paragraph on this subject on p. 274, presents food for reflection. Why did the class of small cultivators and yeomen 'disappear?' Was it not because from want of capital they could not contend against the difficulties of the situation? How are these to be created by the new legislation likely to be better off? You say by adopting 'the methods employed by horticulturists, rather than by farmers.' But the methods of horticulturists are expensive [the area to be cultivated is less], and where is the class intended to be benefited by the proposed

tions, because it is founded on a just and equitable co-operation between capital and labour. The 'capitalist' is very often a very humble one indeed, a small tradesman or artisan in town or village. He likes to invest his savings in a tiny farm. He likes to spend his money in stocking and planting it, and thence to draw his wine, his oil, his fruit and fresh vegetables in return. He knows that the labourer, who is working on his own account as well as for him, the proprietor, will put his talents into the enterprise without too much looking after. The labourer, being by nature and the necessities of the

frugality and sobriety, he is the creature of a just, durable, and highly-organised system well worth the study of those who would improve the condition of the English labourer." T. C. H., Florence.

LINNEAN SOCIETY.—At the evening meeting to be held on Thursday, March 17, at 8 P.M., the following papers will be read:—1. "On the Vitality of Spores of *Bacillus megaterium*," by ALLAN P. SWAN, F.L.S.; 2. "Notes on the Zebras," by BERTRAM RICHARDSON.

BIRMINGHAM CHRYSANTHEMUM SOCIETY.—It may be interesting to exhibitors and committees

of other societies to know that the committees of the above-named Society have decided to divide their class for forty-eight blooms into two classes, viz., one class for twenty-four incurved varieties, and one for twenty-four Japanese, their usual liberal prizes likewise being equally divided between the two classes. The open class for twenty-four blooms, too, will be divided in a similar manner; this, it is anticipated, will facilitate competition, and simplify the judging, inasmuch as it will be simply Japanese against Japanese, and incurved against incurved, whilst it will afford opportunities for competition to exhibitors who cannot manage to stage forty-eight, but who can manage twenty-four, at the same time admitting, as before, those who are able to exhibit both. The committee have further decided to introduce a rule making the use of gum or other adhesives in cut blooms, or blooms on plants, a disqualification; and further, that all Orchids exhibited at their next Chrysanthemum show and their spring show in 1893 shall be *bona fide* specimens exhibited in the pots as grown, and not made up for the occasion.

GREAT ORCHID SALE.—One of the most important sales of Orchids which has been held for a long time was that of Friday, 4th inst., at PROTHORP & MORRIS' Rooms, Chesham. About 600 plants of the remarkable *Cypripedium Chamberlainianum*—the entire stock imported by Messrs. SANDER, of St. Albans—were sold without reserve. The prices were the reverse of "fancy," owing to the unusually large stock. The best price was paid for a superb specimen, consisting of three very strong growths with eleven broad and long leaves, and one strong break, the amount realised being 11½ guineas. In two cases 11 guineas were paid for exceptionally vigorous plants, and 9 guineas were twice paid for fine specimens. For comparatively inferior plants, but all strong growths, the prices ranged downwards to a guinea. For a fine plant with large bulbs of *Odonoglossum crispum* lilacium, 22 guineas were paid; and three plants of the golden-yellow *Cypripedium* realised an aggregate sum of 70 guineas. The very fine new *Cypripedium* *Kimballianum* was offered for sale for the first time, and the best specimen fetched 40 guineas; two others 30 guineas each, and another pair 21 and 20 guineas respectively.

THE "SILVA OF NORTH AMERICA."—Professor SAROENT's transcendent work grows apace. The third volume, comprising plates 98 to 147, extending from Anacardiaceæ to Leguminosæ, has just been published by Houghton, Mifflin & Co., of Boston. For the moment, we must confine ourselves to the mere mention of its publication, and defer a more lengthy notice.

"DICTIONNAIRE DE BOTANIQUE."—With the thirty-fourth fascicle, M. BAILLON concludes his serviceable and richly-illustrated Dictionary. The labour and care bestowed on the work are beyond praise, though it is impossible to resist the impression that the latter portions have not been quite so fully worked up as the earlier ones. The coloured plates add to the appearance of the book, and have thus, doubtless, a value in the eyes of the publishers (HACHETTE & Co.), but their utility to the botanist is not proportionate to their cost. The work forms four quarto volumes, which the botanist will find he cannot easily dispense with.

"THE GARDEN ORACLE."—This is a year-book, the successive issues of which have served to mark time in a very profitable manner, if not always without a feeling of regret at the rapid efflux of time. The text contains, in addition to the usual calendarial matter, articles on gardening, both retrospective and prospective; a list of new plants of various kinds of the past year; articles on garden-foes, lists of the horticultural societies of the kingdom, and of the principal parks in the provincial towns; and a variety of other information useful to gardeners.

A SCHOOL OF HORTICULTURE, such as that we are still talking of, has been a reality in Belgium since 1849! Our Belgian friends are as "practical"

as we are, but none the less they have seen that intelligence is a better guide to practice than experience alone, which often means routine and stagnation.

DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—At a meeting of the above on Wednesday, February 10, the Floral Committee awarded a first-class certificate to Mr. C. G. VAN TUBERGEN at Haarlem for *Lachenalia Garnet* (L. quadricolor × L. Nelsoni), new plant; and botanical certificates to Messrs. E. H. KREZLA & SON at Haarlem for *Crocus Korolkowii*, Rgl. (insufficiently-known plant); *Galanthus Fosteri*, Baker (new plant).

FRENCH CUT FLOWERS.—One of the chief trades at this time of the year between France and Russia, according to the *Daily News*, is that in natural flowers, which, being brought to Paris from the south and from suburban hothouses, are arranged by professional florists in fanciful and tasteful manner in baskets, posies, and floral ornaments, and then packed with as much care as though they were costly millinery. Each stem is rolled in wadding, and a ball of Moss is fastened on the end to keep flower and foliage fresh. The Imperial and Grand Ducal Courts are the great customers at St. Petersburg, and the old and wealthy aristocracy at Moscow.

BOMAREA SORORIA.—In the *Illustration Horticole*, February 13, 1892, Mr. N. E. BROWN describes a new species under the above name. It has the habit and general appearance of *B. Carderi*, but the flowers are considerably smaller. Considering the great beauty and easy culture of these plants, it is rather remarkable that they are so little grown.

CRYPTOPHORANTHUS DAYANUS.—If gardeners continue to call this Masdevallia Dayana, they may fairly plead extenuating circumstances. The sepals remain in union, except at the base, where they are free; an interval is left between them, which gives the appearance of the head of a bird, with empty orbits. The plant was figured in our columns, 1887, ii, p. 693, f. 134. *Illustration Horticole*, t. 146.

ISLE OF MAN.—International exhibitions, so called, are the fashion of the day. The Isle of Man, which may be said metaphorically to fall on its feet whichever way you turn it, is to have a display of the kind at Douglas in the ensuing summer. Many of the local magnates are patrons of the exhibition, the general manager being Mr. H. W. PEARSON, of Bellevue, Douglas, Isle of Man, the manager of the exhibitions at Glasgow and Dublin. Section II. of the programme is devoted to horticulture, and includes classes for garden implements, buildings, &c., as well as for trees and flowers. We are surprised to see no mention of fruit, and still more so to note the absence of reference to forest products, and the afforestation of the island, but perhaps these will come later on.

GRASSES OF THE SOUTH-WEST.—Dr. GEORGE VASEY, the Botanist to the Department of Agriculture of the United States, has published a second part of plates and descriptions of the grasses of the desert regions of Western Texas, New Mexico, Arizona, and Southern California. The plates are very characteristic, and the details very clear, so that the book will not only be of great botanical value, but of much importance to agriculturists. The mode of growth—a point too much neglected by botanists, but a knowledge of which is essential to cultivators—is not overlooked in this work, which reflects credit on all concerned in it.

BANANAS v. PLANTAINS AS FOOD.—The general opinion of botanists is that the Banana and Plantain are but forms of one species, this opinion being founded upon the identity of the morphology in both. As a food product, however, the former, according to the *Report on the Agricultural Work in Botanical Gardens*, British Guiana cannot be compared to the latter. The Banana is a pleasant, agreeable, and much appreciated fruit, but the Plantain is regarded as one of the most valuable natural food products in the world, being very rich in starch

and glucose. Plantains are chiefly used by the natives while still green, and are cooked either by boiling or roasting, generally the former. Green Plantains are also used for making foo-foo (an African term, pronounced fufufu on the Gold Coast), by being boiled, pounded in a mortar, and then put into soup. In a mature but green stage, Plantains are delicious when roasted and eaten with butter, pepper and salt, or cheese. If gathered green, dried and ground or pounded, a nutritious meal or flour is produced, which makes delicious custards, puddings, &c. To peel green Plantains, the operation must be performed with wet hands, or the fruit immersed in water. When boiled in a metal pot, the Plantain has a tendency to turn a dark colour; but this may be prevented by boiling a small piece of fat with it. Baked ripe Plantain has much the taste of baked Apple. When not in flower or fruit, it is difficult to distinguish the Banana from the Plantain, but when fruiting it is a much easier matter. In the Banana, after the fruit has set and begun to develop, the succeeding clusters of flowers are deciduous, having a clear naked stem or axis, hanging tail-like 2 or 3 feet beyond the fruit, with the firmly-compacted mass of unopened bracts of flowers at the end; while in the Plantain, the stem ceases to extend more than 12 or 18 inches beyond the fruit, the succeeding clusters of the flowers and bracts all opening to the very end, and remaining attached to the stem. In the Banana, too, the axis continues to grow as long as the fruit hangs, while in the Plantain the growth of the axis is arrested soon after the fruit sets.

ROSE LA VIERZONNAISE.—An extraordinarily floriferous variety, flowering continuously from June to October, in bouquet-like trusses, with fresh green foliage; it is graceful in habit, and fragrant. Raised by M. CHAS. ANDRÉ in Vierzion, and soon to be sent into commerce by M. LEVEQUE, of Ivry (Seine). *Revue Horticole*, No. 3, t. 93.

A CASE FOR THE COUNTY COUNCIL INSTRUCTOR.—We append a letter we have received, which illustrates the need for something more than space-craft in the training of gardeners:—"To The Editor, Gentleman Kindly allow me to ask—through you Columns—is *Moss*—A Plant or an Animal and by what means do moss live as this was a question Discussed a short time Since but the Discision was not satisfactory i beg to be allowed to ask your opinion or Public opinoin. i take your Paper weekly."

THE FORMATION OF NITRATE IN SOILS.—Nitrates are only found in soils in very small quantities, and under exceptional circumstances; whilst, on the other hand, when the nitrifying organisms are introduced, large quantities of nitrates are formed. If calcium-nitrite is added to a soil which has been previously heated for half an hour at 100° Centigrade, in order to kill the nitrifying organisms without killing those which produce carbonic acid, the nitrite, after a few days, is completely converted into nitrate. These experiments are due to that well-known authority, A. MUNTZ (*vide Comptes Rendus*, cxii., pp. 1142—1144), who has recently been describing them in detail before the Paris Academy of Science. He deduces the following conclusion from his investigation. It seems highly probable that the nitrifying organism converts the nitrogen into nitrates, and the latter are converted, without any further action of any organism, into nitrates, by the simultaneous action of the oxygen and carbonic acid which are always present in soils.

A NEW ALKALOID FROM CHRYSANTHEMUM FLOWERS.—Signor F. MARINO TUCCI has recently been exploring the constituents of the *Chrysanthemum* blossoms, and he made the important discovery of an alkaloid. The latter can be obtained in quantity by boiling down the blooms with water and extracting in the usual way amongst chemists. The new alkaloid has been named *chrysanthemine*; it is a heavy, bright red, crystalline powder when in combination, and a colourless syrup full of silky tufts of needle-like crystals when pure. Unlike most

alkaloids it is physiologically innocuous. Many of the alkaloids form valuable adjuncts to pharmacy, and some of them are virulent poisons; it is by no means impossible that chrysanthemum may prove to be valuable medicinally. Perhaps the Chrysanthemum may some day, like its near ally the Pyrethrum, which constitutes the famous insect powder of KEATING, become a valuable crop to grow, apart from the beauty of its blossoms. There is a long account of it in a German scientific contemporary, but the original paper appeared in the *Gazette*, xxi, pp. 516-554.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—On the occasion of the fifty-third annual festival, to be held on Wednesday, June 29, at the Hôtel Métropole, Charing Cross, Sir JULIAN GOLDSMID, M.P., has consented to preside. The Secretary of the Institution, Mr. G. J. INGRAM, will be glad to hear from any gentlemen who are willing to act as stewards on the occasion.

GARDENERS' ORPHAN FUND.—We are informed that Alderman Sir JAMES WHITEHEAD, Bart., will preside at the dinner of the Gardeners' Orphan Fund, to be given at the Hôtel Métropole, Charing Cross, on Tuesday, May 17.

THE BORDEAUX MIXTURE AND THE POTATO ROT.—M. AIME GIBAUD contributed a paper to the "Comptes Rendus de l'Académie des Sciences" (Feb. 1), detailing his "researches concerning the adhesion of preparations of copper to the leaves of plants and especially the leaves of Potatoes when applied as a remedy against disease." He arrives at the following conclusions:—1st, That the preparations of copper intended to resist the Potato disease have very different powers of adhesion to the leaves; 2nd, That it is owing to heavy rains and mechanical agencies that the copper, after having been deposited for some time, partly disappears; 3rd, That among such preparations the one which wastes most is the Bordeaux Mixture; that the diminution in the proportion of lime slightly increases the solidity, and finally, that the addition of aluminous compounds does not produce any appreciable amelioration; 4th, That the soda-copper preparation on the one hand, and that of verdigris on the other, have an adherent power almost twice as great as that of the compounds mentioned, and that the saccharine copper-lime compound advised by M. MICHEL PERRET resists the action of rain in a remarkable degree. Therefore one or other of these three compounds, preferably that which best suits their personal convenience, should henceforth be used by such cultivators as wish to secure their Potato-grounds from disease.

LIVERPOOL AMATEUR GARDENING ASSOCIATION.—The members of this association—a newly-formed branch of the National Association of Amateur Gardeners—it is stated by the *Liverpool Post*, held a meeting on the evening of Friday, March 4, at the Common Hall, Hackins-hey. Professor J. HARRY GIBSON, of University College, attended by invitation; and upon the motion of Mr. D. E. YATES, seconded by Mr. James Smyth, jun., was unanimously elected president. In thanking the society, Professor Gibson remarked that he regarded the association as one worthy of every support, and as fulfilling, in promoting a taste for gardening, a most useful object. In conclusion, he promised for the May meeting a paper on "A Neglected Aspect of Gardening." Mr. W. A. ARDRAN afterwards made some observations on "The Successes and Failures of an Amateur Gardener," uttering especially a warning against the purchase of cheap and inferior seeds as the great cause of disappointment. At the next meeting of the association, Mr. J. M. SMYTH will read a paper on "Our Dangers and Possibilities."

TASMANIAN FRUIT.—The Peninsular and Oriental Steamship Company, says the *Daily News*, have arranged that their steamers shall make twelve visits to Hobart, Tasmania, for the purpose of bringing to England a consignment of 240,000 bushels of Apples. The first lot has been despatched, and will arrive in London towards the end of the present

month. The fruit is packed in cool chambers during the voyage.

DEVON AND EXETER GARDENERS' ASSOCIATION.—Mr. F. W. MEYERS, landscape gardener to Messrs. R. VEITCH & SONS, read a paper on "Alpine Plants" before the members of the above association at the Exeter Guildhall on Wednesday, March 2. There was a large attendance, and the lecture, which was of a practical and interesting nature, was highly appreciated. Before the members of the association separated, it was announced that the proprietor of the *Journal of Horticulture* had offered to give a medal to the gardener who would write the best essay on "The Principles of Pruning," and that the committee had accepted the offer.

CHEAP FRUIT.—Very fine Oranges, said to be from Valencia, have been hawked about the streets of Plymouth during the past week at three a penny. The hawkers have had large barrowfuls.

ANCIENT SOCIETY OF YORK FLORISTS.—A monthly meeting of this Society was held on Friday 1st, Mr. JAMES KEY presiding. There was a good attendance of members. Mr. MCINTOSH read a paper on the "Fertilisation of Flowers, &c.," in relation to their development, which was of a highly interesting



FIG. 49.—EMMENANTHE PENDULIFLORA: HEIGHT, 12 INCHES; FLOWERS, GREEN COLOURED OR YELLOW.

character, and spoken of at its close in very appreciative terms by Mr. W. R. ROBINSON, who moved a vote of thanks to Mr. MCINTOSH.

WINDSOR, ETON, AND DISTRICT CHRYSANTHEMUM OR HORTICULTURAL SOCIETY.—The first annual exhibition of the above Society will be held on Thursday, November 10, at Windsor.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The annual meeting of the above Society will take place on Monday evening next, at 8 o'clock, at the Caledonian Hotel, Robert Street, Strand, when Mr. R. CANNELL will preside.

LEEDS PAXTON SOCIETY.—The members of this Society held their sixth annual dinner at the "Wheatheaf" Hotel on Thursday evening, March 3, the Mayor of Leeds presiding. There were about eighty members present.

INTERNATIONAL HORTICULTURAL EXHIBITION.—The General Committee, in connection with the Exhibition to be held at Earl's Court, S.W., during the coming summer, met on Tuesday last, Mr. W. MARSHALL presiding. A substantial amount of money has been allocated in prizes, those for the great show to be held in May, amounting to about £750. Rapid progress in forwarding the preparations is being made.

FRUIT FROM SOUTH AFRICA.—The Union Steamship Company's R.M.S. *Mexican*, which arrived

at Southampton on the 6th inst., has brought a further consignment of fruit from South Africa, consisting of Grapes, Pears, Apples, and Melons. This fruit was placed on sale at Covent Garden Market, on Wednesday, 9th inst., when the Grapes realised the highest prices yet obtained for importations from South Africa, boxes containing about 20 lb. fetching 15s. each. The Apples and Pears turned out in first-class condition, boxes containing 30 to 35 of the former realising 7s. 6d., the Pears also obtaining high prices, one case of 42 being sold for 34s. The Melons realised about 3s. 6d. per box.

PUBLICATIONS RECEIVED.—*Report on Experiments made for the Prevention and Cure of the Potato Disease.* By R. VEITCH & SONS, Exeter.—*Sunderland and District Gardeners' Mutual Improvement Society, Annual Report.*—*Reading and District Gardeners' Mutual Improvement Association, Annual Report.*—*Les Fleurs à Paris*, par Philippe de Vilmorin.

EMMENANTHE PENDULIFLORA.*

UNDER the name of California Yellow Bells, a dwarf, bushy annual has been introduced, for the opportunity of illustrating which, we are indebted to Messrs. R. Veitch & Sons, of Exeter (fig. 49). The foliage is deeply cut, covered with sticky hairs; the cream-coloured or yellow bell-shaped flowers are in loose panicles, and resemble in structure those of *Eutoca* or *Phacelia*. The seeds should be sown in heat in boxes, and planted in the open ground when danger from frost is over; or sown in the open ground later.

SCOTLAND.

REMARKS ON SOME KINDS OF VEGETABLES.

AT this season of the year there is in all gardens some anxiety among cultivators (especially if the ground is cold and low-lying) regarding the safety of vegetable crops. Though they may have weathered the elements fairly hitherto, it is during March, and onward to May, that real difficulties often have to be met. Since the severe frost set in during February much damage is observable; after the thaw only, however, can the amount of mischief be noted. Some counties in Scotland have suffered much more than this fertile one (Stirling), but none can say that their crops are unscathed. Those least affected are Borecoles; our own are mostly sound and plentiful, though they are on ground through which a sluggish river winds. Among a number of selections sent us for trial, two of the best are Sutton's Exquisite Green, and Sutton's Extra Curled, a dwarf variety similar to the former, but which grows close to the ground. I hope to save seed of the latter, as I think its general excellence cannot be surpassed.

A purple variety—Sutton's Purple—is uninjured, and would be of value for its hardiness if it could find favour in the culinary department. The Purple Sprouting Broccoli loses caste because of its colour, and I think this purple Borecole will be the same. Downie's Selected, and Veitch's ditto, were in capital order for first cuttings, all Cabbaging Kales being less hardy than the ordinary forms of Kale. A Russian variety, of somewhat ornamental appearance, is very hardy, and of fair quality. To have good Kales at this season of the year, the land should not be manured heavily at planting-time. We generally plant after crops of early Potatoes, the ground being carefully levelled, and trodden firmly. Autumn sowings are generally coarse, and of strong flavour.

Celery.—The Celery crops have passed the damp weather during autumn and early winter remarkably well, and the tops stood up green and robust throughout January and till the second week in February, when they received a severe check, but none, I am glad to find, are injured in the stems

* *E. penduliflora*, Watson, *Botany of California*, I., 1876, p. 514.

below the surface of the soil. Much covering with litter in frosty weather often does more harm than good, especially if the protection is left on after the weather has become genial. We hope to have useful Celery to the end of the month of May. The varieties valued most are Veitch's Pink and Major Clarke's Red. The first-named is grown for furnishing a supply from September to the end of the year, and the latter for the main late crop. In our heavy and low-lying ground the plants are placed nearly on the surface, which not only gives a great depth for the roots, but saves the crop from being injured by damp and severe frost. The ridges are formed to take three to five rows, thus economising much space. I object strongly to the use of loose manure being used for Celery, and always tread the soil firmly before planting, mulching immediately after with half-rotted manure or mowings of lawns. One good soaking of water at planting time is nearly all the moisture given, till a soaking is administered just before earthing-up takes place. I have never found any material difference in the cultivation of Celery in the south of England or midlands of Scotland.

Brussels Sprouts.—Cultivated similar to Borecole (except the earliest crop, ready for use by September), are grown on richer land than those to supply the kitchen during winter and onwards into April. Among selections familiar to us, Downie's for earliest supply, and, for later crop, Veitch's Aigbarth and Dalkeith, have done best this season; but others grown under different names do not differ in habit or usefulness.

Broccoliis for spring and early supply can hardly be fairly judged yet, but many are damaged by frost; Cattell's Eclipse and Gordon's Niddrie are least injured.

Cabbages.—Those who know the value of Drumhead Cabbages, especially the dwarf Glen Drumhead, which forms compact neat heads, and of very fine quality, can always be sure of wholesome vegetables during the winter, but they must be cultivated specially for culinary use; at present, and for weeks to come, they are much valued in the north. Grown in firm soil, not too highly-manured, they are tender and sweet.

Savoy are still in fine condition. Dwarf Green Curled always finds a place in northern gardens, and well it may, as it is hardy, of fine quality, and deep green in colour. Dwarf and large Drumheads have stood well, and are also useful. Most of the early kinds began to die off after the middle of January. The colour of Golden Globe is against it, but its quality is excellent.

Lettuces have suffered considerably, but Brown Bath Cos has stood best, and has been the favourite here for some years for late and early supplies; it seldom gives trouble during summer by running to seed. Many spurious sorts of this old favourite are abroad.

Leeks have been extra good, but I am contented with two kinds only, viz., the best selection I have seen for some years of Musselburgh is our best; Lyon is also good, but not so large as it has often been grown. Leeks are planted rather thickly on well-trenched ground from which Celery has been removed, and they always do well. I have grown nearly every known variety, but none is here equal to the two varieties indicated above. Leeks are more valued in Scotland than in the south, and consequently the cultivation receives more attention. French cooks use Leeks all the year round, and I have had to supply them when not larger than goose quills.

Turnips from late summer sowings are still tender and sweet. These were lifted during November and replanted, covering the bulbs over with the soil. Two kinds which I most favour are Veitch's Red Globe and Golden Ball. Golden coloured Turnips are much valued in Scotland by reason of their fine flavour and pulpy texture. Turnip Tops are little valued in the north. Swede Turnips are turned to good account by blanching the tops, and sending them in for use as one would Seekale. *M. T., Stirlingshire.*

THE ROSERY.

WORK IN THE ROSE GARDEN IN MARCH.

The first part of this paper must be given to seasonable work among these popular flowers under glass. Very few subjects are more easily managed, or so pleasing and suitable for a cool house as Roses, and they are able to stand the severest winters when afforded the slight protection of a cool house. In many places where a lean-to has been built against a dwelling, no means of heating it exist, and it is here that the Rose is seen to great advantage. A cool Rose-house of this kind devoted entirely to these flowers is easily managed, and will soon give the owner pleasing results. Of course, Roses in pots or borders have already been pruned, although, as a rule, the most suitable varieties for this purpose are those that grow and flower without much spring pruning being necessary. *Maréchal Niel*, *W. A. Richardson*, *Madame Bérard*, *Climbing Niphetos*, *Reine Marie Henriette*, and *Gloire de Dijon*, are six of the grandest Roses possible for this purpose, and will give a great number of flowers in spring, if treated as I will describe. Grow them turned out into borders, or else in boxes or large pots. Turned-out plants are much the best, as the varieties named require plenty of space for the roots, to do them justice. Prune hard back the first season, and thus get good wood upon established roots. These shoots must be got well ripened before the winter sets in; then, in the early part of the year, prune off their tips, mulch the roots, and let the plants come along as steadily as possible. I will suppose this is already done for this season. Now comes the trial and test of skill in growing Roses in such structures. It is during the months of March and April that the greatest difficulties occur; for, the house being unheated, it will be found a hard matter to keep the temperature uniform, and a proper temperature for Roses in a cool-house during March should range from 50° to 60°. This degree of warmth can generally be secured with a little care and judgment; the hardest matter being to keep them cool enough upon bright days, when cutting winds from the north and north-east blow, and great care is needed in affording ventilation at such times, and yet the thermometer must not rise too high, or mildew will soon be attacking the young growths; nothing brings this enemy on sooner than sudden changes of heat and cold. The Roses should be carrying shoots of some 3 to 6 or 9 inches in length, and must now receive a good syringing every morning when the weather is suitable for so doing. Always have a small quantity of insecticide in the syringing-water, and let this be about 70° at all times. The plants should be well watered, and when they are a little more forward, liquid-manure is of great advantage. The ammonia from this is a splendid thing for Roses under glass, and will also check the fly to a considerable extent. I prefer the drainings from a cow-stall. Where the smell of natural manures is much objected to, use a little Standen's manure or guano.

A point that cannot be pressed upon amateurs too closely, is not to use these manures so freely. A very weak solution given often is of far greater value than the same amount of manure given during the same time but in stronger doses.

Roses are gross feeders, but their roots are more tender than many suppose. A slight overdose of manure, and the tips of the feeding roots are crippled; naturally this affects the plants very much, and one may often see them looking badly from this cause.

If the weather is very bright, I should advise a slight shading towards the end of the month. By the middle of April, one should have a quantity of good blooms upon plants growing in a cool house, and these will often be of far superior colour and substance to those grown in heat. *Maréchal Niel* in particular comes much deeper in colour when treated in this manner.

As soon as the flowers are secured, I prefer to cut

away the rods that have been carrying the blooms; cutting them back to the strongest eyes breaking from the base of the shoots or plant, applying a little mastic to the wound at once. I do not advise cutting away two or three strong shoots from a plant at one time, but that these be removed gradually. Such treatment will result in some grand shoots being made during May and June, especially if weak liquid-manure be often afforded. From this time onwards the plants may receive air in greater abundance, and soon after the signs of ripening should appear. It is at that time not prudent to keep them dry enough to cause any check. The first autumn frosts will not harm them, and it is these that do so much damage to unripe growths of the strong growers in the open air. After September, water may be withheld, and the plants will get well ripened before frosts sufficiently severe occur to harm them. Even in cool houses that are not devoted entirely to Roses, a few plants of these strong-growing varieties, and grown upon the lines indicated, are a very pleasing feature, with little trouble.

In the outdoor department, there is also a fair amount of work to be done. All litter that was employed as a protection against frost, should have the larger portions carefully collected from among the branches, no further protection being needed. Indeed, for the rest of this month I would allow cold air access to the plants, as the more backward they can be kept until the early part of April, the better it will be. Dress the plants with well-decayed manure, and dig this in at once. You will thus retain the whole of its beneficial qualities, and at the same time give your beds a tidy appearance.

A few of the hardiest of the Hybrid Perpetuals may be pruned towards the end of the month, but as a general rule I prefer the early part of April for this operation. *A. P.*

NURSERY NOTES.

CYCLAMEN AT HANWELL.

For some time past, the collections of Cyclamen staged by the St. George's Nursery Company at the meetings of the Royal Horticultural Society, and other metropolitan exhibitions, have attracted considerable attention; but to see what has really been done in the matter of Cyclamen culture, a visit to the nursery of the above company at Hanwell is necessary. There thousands of plants are grown, and on a recent visit we noted many houses were devoted to their culture. The plants were, without exception, in the best of health, and noteworthy for the immense quantity of bloom they produced. The flowers, too, were remarkable for their size and substance, and afforded ample evidence that the strain is one of the best.

Hitherto the majority of the plants were grown principally for market purposes, but latterly the production of seed has received more than ordinary attention. To facilitate this, and effect improvements in the size, shape, and colour of the blooms, careful selections of the plants are made, the best and most perfect varieties only being retained. These are grouped in sections, according to their colour, in various structures, and fertilisation is now being actively carried on, with a view to obtaining new and improved forms. Last year, it was computed that fully 150 oz. of seed were gathered, but this year's harvest, it is anticipated, will far exceed that quantity.

Regarding the named varieties, it may be of interest to enumerate a few of the best. The whites were specially good, and among these *Mont Blanc*, with long broad petals, was most conspicuous. *Baroness Burdett-Coutts* is another capital white kind, of sturdy habit, with short broad petals, while the same may be said of *Dame Blanche*, which had petals 1½ inches across, and of pearly whiteness. The coloured varieties were also very fine, and comprised shades from the most delicate pink to the deepest purplish-crimson. The most beautiful of

this section was undoubtedly Princess May, a charming pink hue. This is a new variety, and when placed before the public it will, no doubt, become very popular. Another new kind, named Mauve Queen, was noticeable for its distinct colour; while Excelsior, a white, with deep crimson base, is a decided improvement on *Grandiflorum roseum*, the flowers being not only larger but of a better form.

The bulk of the *Cyclamen* at this nursery are raised from seed sown annually, very few old corms being flowered a second year. The seed is sown in August, or as soon as it is ripe, and the resulting plants grown on in a genial temperature till they flower, generally some fourteen months or so from the time of sowing. About 18,000 plants are raised annually, and apart from those now in bloom, there were that number of seedlings coming on for flowering next season.

In addition to *Cyclamen*, various other subjects receive special attention. White Arums are grown extensively for market purposes, as also is *Asparagus tenuissimus*, a large span-roofed house being devoted to the culture of the last-named plant.

ORCHID NOTES AND GLEANINGS.

CATTLEYA ALEXANDRE, Lind.

M. LUCIEN LINDEN states in the *Lindenia* that the collectors of the Horticulture Internationale announce the discovery of a new and most striking *Cattleya*, "which we have dedicated to H.R.H. the Princess of Wales"—a delicate attention, no doubt, accompanied, as it is, by some sympathetic remarks, and by some compliments to English Orchid growers. We cannot, however, but regret that M. Linden should have given a botanical name which will have to be registered in all the botanical catalogues of the future, to a plant which he has never seen (at least, there is no indication that he has done so), and about which he knows nothing but what his collectors tell him. Had he called it *Cattleya Princess of Wales*, that would not have been so objectionable, and would have caused no botanical and literary difficulties; but even then, gardeners do not usually name their offspring before they see them.

DISAS, &c., AT THE CAPE.

In last September the Bathurst-Kowie flats, presented, owing to the splendid season, masses of bloom of hundreds of different kinds of flowers of varied hues, the *Disas*, and other terrestrial Orchids, being especially gay. The altitude is not very much above sea level, and there is abundance of fine white sand in the spongy soil. As I understand many fail to cultivate these plants in England, a few remarks as to their conditions here may be of service. The *Satyrium militare* here are very robust and handsome, and so are the *Eulophias*, which grow in the bush veldt near the coast in an abundance of sand. *Lissochilus speciosus* grows on the sand hills along the entire Bathurst division of the coast line, where they rear their tall spikes of yellow flowers amid the stunted bush. The fragrant *Disa cornuta* grows near the base of the hills, and on undulating flats; they seem to like a fine open situation, and plenty of sand in the soil. *Disa lugens*, a most beautiful species, unlike *D. cornuta*, seems invariably to grow on higher elevations swept by the prevalent S.W. winds, and like many other *Disas*, in very stony places, a knowledge of which may help cultivators. As an instance of this, I noticed that a strip of ground where no stones were to be found was perfectly free from *Disas*, while on either side where the ground was stony, I found *D. lugens* and others in abundance. Many times, in the crevices of huge rocks, with scarcely any soil, *Disas* are found. *Disa sagittalis* is one of the prettiest white Orchids we have; it likes to grow on shelving rocks with a very thin covering of decayed vegetable matter. They flourish best at the edges of the dense bush, and seldom come to perfection when in the open veldt. *Satyrium maculatum*, a local plant, is very pretty, and has pinkish-white blotched flowers, which are very

fragrant. It flowers in December, and grows chiefly on the summits of hills in rocky ground.

Observations on these and other species seem to indicate that those who fail to grow these beautiful plants successfully, fail mainly by not making provision for their partiality to a stony or rocky compost in which to grow. G. S., Grahamstown, South Africa.

CULTURAL NOTES.

TABERNÆMONTANA CORONARIA.

I do not think it is generally known how readily this very desirable stove-flowering evergreen shrub recovers itself after being subject to severe pruning. Looking round a garden in this neighbourhood a short time ago, my attention was drawn to two or three large plants in the open air, which I was informed were stood outside to take their chance, as they occupied too much room in the house. I will relate my experience respecting the management of overgrown plants. Plants that are too large for general requirements, will, if judiciously cut down, become useful for general purposes. They should be kept dry for two or three days, and then all the leading shoots cut down to within one or two joints, then keep the plants well syringed two or three times a day. Watering must be carefully performed till the young shoots begin to appear, when it will be necessary to repot the plants. The old soil should be reduced, and the plants put back in the same-sized pots. Good lumpy loam, fibry peat, dried cow-manure, a fair portion of silver-sand, and small pieces of charcoal, will form a most suitable compost for them. I may say in conclusion, that I served several plants in the manner described about eighteen months ago, and they have now formed some capital plants, and are covered with flowers. Mealy-bug is very troublesome to these plants, but if syringed about once a fortnight with petroleum, in proportion of a wineglassful to 3 gallons of water, they are easily kept in check. G. Parrant, Ashby St. Ledgers, near Rugby.

CLIANTHUS DAMPIERI.

It does not seem possible to bloom this plant successfully by the usual routine of sowing seeds and growing on the young seedlings by successional pottings, and the cause of failure generally is owing to persistence in such practices. My own success, a solitary one, was the result of a trial based on what I had read of others' observations. Having a large one-light frame upon a hot-bed, which had been used in striking cuttings, and which was at liberty in the first week in the month of May, I turned it to account in this wise: having obtained a packet of good seeds of this showy subject, I had a largish mound made, consisting of two parts fibrous loam, one part peat, with a little leaf-mould and sand, and a few bits of charcoal placed upon the bed in a sloping manner from the middle to the back and to front of the frame. I sowed the seeds along each side of the ridge thus formed, but not upon its apex; this was done thinly, and in two rows. From the time when the seeds were sown until the young plants were well through, the sash was kept closely shut, and for a month subsequently air was afforded the frame very freely during the day. On dull cold days the sash was elevated at the back, and on fine days it was tilted at the side, and always on that side whence the wind did not blow. Afterwards the sash was drawn off, and only replaced on the few cold nights that were experienced. The rains which fell sufficed generally for root waterings, as only during one hot fortnight was water afforded artificially. In about four months the plants had made fine growth, being assisted by the partly-decomposed materials below them, and about the middle of the month the clusters of large heavy flowers freely formed. It is only necessary to add that the frame faced the south, and was at the foot of a high south wall.

It would seem, therefore, that the seeds resemble those of the *Perilla*, germinating best in moderate heat with uniform moisture, and that the roots, being impatient of confinement, handling, and injury, prefer an uninterrupted growth, and definitely a highly-enriched, cool, moist base to ramify into. William Earley.

HERBACEOUS PHLOX.

These bright-flowering plants, which have a good effect in the borders, and whose flower-heads are so useful for cutting, and especially the white-flowered varieties, should be grown largely where space exists. The old mode of increasing the plants by divisions of the roots is still followed, but cuttings are better, the plants carrying finer heads of bloom. Cuttings may be taken as soon as they can be obtained, and put five to seven in pots filled with sandy soil, and stood in a moderately warm frame where they soon take root, and when hardened off properly, may be put out into the borders without disturbance. Though gentle warmth hastens the rooting, cuttings will root readily under hand-lights without bottom-heat. I have been successful by lifting the shoots with a heel, and dibbling them in on a warm border at a few inches apart. In all cases the cuttings should be made firm in the soil and well watered, and finally put out on a well, tilled and manured piece of ground. H. Markham, Mereworth Castle.

HOME CORRESPONDENCE.

CULTURAL ANALOGIES.—The Rev. Canon Fleming must have been alluding to the passage in Mrs. Beecher Stowe's most interesting and entertaining work, *The Minister's Wooing*, chapter xxiv.:—"It is said that gardeners sometimes, when they would bring a Rose to richer flowering, deprive it, for a season, of light and moisture. Silent and dark it stands, dropping one fading leaf after another, and seeming to go down patiently to death. But when every leaf is dropped, and the plant stands stripped to the uttermost, a new life is even then working in the buds, from which shall spring a tender foliage and a brighter wealth of flowers. So, often in celestial gardening, every leaf of earthly joy must drop, before a new and divine bloom visits the soul." Strange to say, I saw, when in Russia, something of the same culture carried out with the Rose as here mentioned; also many customs and beliefs regarding seed-sowing, cuttings, and plant-growing, some of them practised by our forefathers, as we read of in old gardening books. C. D. A.

—May not the illustration used by Canon Fleming in his sermon, referred to in your last issue, p. 306, be an allusion to the *Dendrobium* of the *Wardianum* and *Devonianum* type, slightly distorted by the imperfect memory of the preacher? We have in their culture the withholding of water as growth matures, and indeed of light too, if we take into account the waning autumn days, the gradually drooping and decay of the leaves till there remain only the naked stalks—to the ignorant the very corpse of a plant, but to the gardener still a thing of beauty, because he has the power to foresee the wealth of flowers which will shortly spring forth from the scar of every fallen leaf. Can a better analogy be found to enforce the lesson that it, the gate of apparent death, must be passed to reach the higher possibilities of life. L. C., Rugby.

FORCED LILAC.—It would be instructive to have the experience of gardeners in forcing the purple Lilac. In my own, that which is done in the light has no comparison with the whiteness obtained in the dark. C. D. A.

SUITABLE HEDGES FOR WOODS AND PLANTATIONS.—Replying to the enquiry on this matter, which appeared in the *Gardeners' Chronicle* last week, it must be said that much depends upon the situation and aspect of the fences. Whitehorns should always have the preference over any other plant for fencing work, especially if the plantation is new, planting it at the same time as the trees, and 16 feet from the outside line of hardwood trees, the intermediate spaces being planted with under-

wood to within 4 feet of the fence. The Quicks should be planted by preference in double rows, 9 to 12 inches between the rows and 12 inches from plant to plant, done in zig-zag, which will give an average width of about 10 inches. If the soil is good, the plants will grow freely, but it is indispensable that the hedge be kept free of weeds by hoeing from time to time, and not dug between if it can be avoided, as the latter process generally weakens the roots. Now in regard to an established plantation which overshadows a fence, and it is desirable to plant a living fence, Quicks will not grow in the shade of trees, and they should be dispensed with, unless it be in a partially open place where the sun penetrates, where it may be planted with a few common Privet intermixed, say, at intervals of 3 or 4 feet. For a hedge directly under trees, I cannot recommend anything better than the common Hornbeam, which adapts itself to the habit of hedge culture admirably, and forms an almost impenetrable fence. As it retains its leaves all through the winter, it is not unpleasant to the eye, and its dense appearance at that season makes it a good fence against cattle. *J. Garbett, Hale Park, Hants.*

GARDENING AS A PROFESSION.—As an old Aberdeenshire boy, I read with much interest Sir Arthur Grant's lecture to the members of the Aberdeen and North of Scotland Horticultural Association, which was given in the last number of the *Gardeners' Chronicle*, p. 304. All honour to the present proprietor of Monymusk for the encouragement he is giving both to forestry and gardening. I wish that there were more like him who would give their attention to arboriculture and horticulture. By way of encouragement, Sir Arthur gives examples of two young gardeners trained in the gardens of Monymusk, who now hold responsible situations abroad, and he quotes Sir Joseph Paxton as a remarkable instance of ability and success; but I would give him yet another example—Robert Marwick; born of comparatively poor parents, and apprenticed some eighty years ago at a small place called Pittodrie, and near Monymusk, where all the glass in the garden consisted of a three-light pit or frame, and yet this boy, notwithstanding such a small beginning, by dint of perseverance and industry, unaided, rose in his profession till he became noted, not only as a practical gardener, but the best landscape gardener of his day and generation; was for years the Curator of the Botanic Garden, Regent's Park, and the editor of the *Gardeners' Gazette*; and, better than all, he left a name honoured and respected by all who knew him. *J. Rust, Erldrie Castle.*

ELÆAGNUS JAPONICA VARIËGATA.—I find that this species of the Oleaster is not quite hardy in South Hants. We have two plants growing in a somewhat sheltered position, yet fully open to the sun the greater part of the day, and the soil is of a heavy nature. During the summer of 1890, the plants grew very fast, making vigorous shoots, but the succeeding winter's cold killed the branches back to the base, so that even now, after a season's growth they form poor outcrops compared with what they once were. *E. Molyneux.*

CYCLAMENS.—The specimen Cyclamen figured in the *Gardeners' Chronicle* of March 5 reminds me of a fine batch I saw in flower a few days since, when paying Mr. Perkins a visit at Greenlands, Henley-on-Thames. They were remarkable for the quantity and quality of their flowers, and were some of the many things that were well done at that place. *T. H. S.*

PEAS: CHAMPION OF ENGLAND AND SUCCESS.—I was much pleased to see Mr. Markham's note (p. 237) on Peas, in which he states that the above first-named kind for late purposes is always good. On our light soil it is excellent for general cropping. I have tried most of the newer and larger Peas, but cannot find one more reliable than Champion of England. For late purposes I grow Ne Plus Ultra and Success, but on light dry soils these need special treatment. Champion of England is one of the freest-bearing green-wrinkled Peas I know, and is of excellent flavour. Ne Plus Ultra needs no recommendation, being one of the best late kinds. Success is not well-known, being a new wrinkled marrowkind. The pods are much like Ne Plus Ultra in colour, and the Peas are of excellent quality. It may be termed a dwarf Ne Plus Ultra, and those who object to tall Peas should give it a trial. We grow our late Peas in trenches with plenty of manure, for without this, late Peas on very light soils are not always reliable. To get size and abundance of

pods, sowing thinly, topping the haulm, and giving plenty of moisture in dry seasons are the essentials. *G. Wykes.*

PRICE OF LILIUM AURATUM.—That this popular Lily is steadily rising in the public estimation, goes without saying, and of recent years it has been procurable at very low rates, but this season, through the increasing demand, together with rather lessened supplies, prices have gone up tremendously; and the last consignment of 3000 bulbs from Japan, which were sold at Protheroe & Morris' Central Auction Rooms, Cheapside, were keenly competed for by the buyers—not a single bulb being unsold—at prices ranging from 2s. per bulb to the smallest at 75s. and 80s. per 100. It was freely asserted, that never was *Lilium auratum* in such demand, nor met with a better sale. *F. Ross.*

CARNATION. WINTER CHEER.—I can endorse all that Mr. Divers says on the above at p. 217, although I was not well pleased with the first blooms that opened with us. The short sturdy growth soon gives flowers; it is easily propagated, and is altogether a good thing. *T. H. Stale, Morgwell Gardens.*

FUELS AND STOKING.—I am much obliged to Mr. E. Jenkins for his remarks on p. 278, as they go a long way to prove that anthracite coal is not only the best of fuels, but one of the easiest to use in a properly-constructed boiler. The flues which I recommend to be cleaned out two or three times a week are the furnace-flues, or they would get blocked with ash and coal, and stop the draught so necessary to a bright fire of anthracite coal. I still recommend to those who find any difficulty in using anthracite "to pull out their fire," and make all clean; and I maintain that there will be less loss of heat, and less waste of labour and fuel, than if poked and stoked, as one must do, to a sluggish fire. I have one boiler which does not require any such treatment, one that goes month after month, and never requires to be "pulled out." It may interest your correspondent to know that my boiler-flues have only been cleaned once in two years, another saving of labour by the use of anthracite. *H. J. Southgate, Morpeth House Garden, Ipswich.*

—Will Mr. E. Jenkins state the length of piping on his "heavily handicapped" boilers, and the sizes of the latter, for to boil the water madly in less than two hours is a marvellous performance? Either the boilers must be lightly handicapped, or the length of piping very short for any fuel to perform that feat. *R. C.*

PRUNING DENDROBIUMS.—I read with great interest the letter of "B. P." on p. 217, in answer to Mr. Burberry on Dendrobiums. The marvellous plant of D. noble, 7 feet across, with growths 3 to 4 feet long, and others carrying 1000 racemes, each of which would represent between 4000 to 5000 flowers, are exceptional specimens, and I think it would be of great interest to Orchid growers to know the grower's name, and where these marvels of cultural skill exist. *J. S. T.*

LAST CENTURY'S POTATOS IN IRELAND.—I do not think there is one now existing, unless it is the "Brown Quarries," and I do not know that this would have existed unless for certain conditions of soil. What your correspondent, Mr. J. Miller, says is very interesting. It is a matter of great surprise to me, and to many others, as to the origin of the sorts which were in the country prior to 1846. We have never had better ones since. As for the red and black Mignons, White Eyes, Black Coppers, Red Apples, these are late-keeping tubers, and nothing introduced since, from either America or England, could match them; and for harvest work, when men used the sickle to cut the corn, and worked from 6 a.m. to 6 p.m., there was no other food than Potatoes taken three times daily. There were no sorts to compare with the red, white, and brown Quarry. These varieties must have been raised in Ireland long ago in the days of sailing ships and stage coaches, and when we were practically much hemmed in, in our intercourse with our neighbours. I write as one remembering Ireland prior to the famine years. There are no modern Potatoes which have originated from Potato-Apples in this country. *W. Baylor Hartland, Ard Cairn, Cork.*

A BRIGHT WINTER SHRUB.—It is curious how little the Dogwood (*Cornus sanguinea*) is used in the planting of shrubberies. The shrub has a very

telling effect, both at a distance and at close quarters, in mid-winter. If grown in a clump, the contrast given by the blood-red colour of the branches and stems is a great relief to the sombre green of the Laurels and Yews, and brightens the foreground of high deciduous trees in a very eye-pleasing way. There are two places to which my tramps have taken me, where the Dogwood is used extensively; they are Brockleby Park, in North Lincolnshire; and Reigate Priory, in Surrey. In the former, it is used with the brightening effect just mentioned, and seems to extend in a circle in the foreground of the high trees, into which the magnificent lawns there disappear. At Reigate it is planted in dense masses round the lake, and when, as now, there is often a silvery gleam on the water, the contrast with the crimson gariture forms a lovely cynosure. *Vagabond.*

TREGULLOW.—To most persons Cornwall, so far as gardening is concerned, is an unknown part of the country, nevertheless it is the home of many rarer half-hardy exotics, and the district around Tregullow, Mr. Conybear's residence, can show many luxuriant specimens. There the Camellias assume the dimensions of trees, and the *Desfontainia spinosa* is a common free-flowering shrub; there also are the finest trees in England of *Banthamia fragifera*, as well as a famous specimen of the *Sciadopiety verticillata*, whilst *Azalea indica* is quite hardy in the sleepy dells. In addition to these, I have noted some of the most noteworthy plants, which, when planted in favourable positions, thrive in the open air in those parts, as follows: *Agaves*, *Aloxya citrodora*, *Aponogeton distachyon*, *Buddleia globosa*, *Chamaerops humilis*, *Choisy ternata*, *Giantus panicurus*, *Colletia cruciata*, *Daphne indica*, *Diplolappus chrysophylla*, *Dracena indivisa*, *Eleagnus japonica* var., *Embothrium coccineum*, *Eriobotrya japonica*, *Escallonia*, *Erythrina Crista-galli*, *Eulalia japonica*, *Eurybia Gunniana*, *Fabiana imbricata*, *Griselinia littoralis*, *Hedychium Gardenerianum*, *Lapageria rosea*, *Lardizabala biterata*, *Lycesteria formosa*, *Magnolias*, *Metrosideros foribunda*, *Mitrasia coccinea*, *Myrtles*, *Olearia*, *Haastii*, *Orange trees*, *Ozothamnus rosmarinifolius*, *Philasia buxifolia*, *Photinia serrulata*, *Phormium*, *Pittosporum*, *Swammerdamia antennaria*, *Ugenia ugni*, &c. *W. Napper, Chelsea.*

JUDGING POTATOS.—Should Sutton's Satisfaction be classed as a round or a kidney Potato? The variety in question is, as most persons are aware, an excellent Potato, either for exhibition purposes or the table. It was sent out as a round variety, but its shape varies so much that tubers of a kidney shape may be selected and exhibited as such; hence confusion and unpleasantness occur at shows, as was the case at a show where I was a judge last season, in company with two other gardeners. It was a village flower show in Sussex, held in August, and on our coming to the Potato classes it was seen that the best dish of any White Kidney was one of Satisfaction, and although the competition was strong, this dish was a long way ahead of any other, and it was proposed to give it the 1st prize; but I objected to that being done, and the President of the Society was appealed to, and without hesitation, said that in his opinion it should be disqualified, which was eventually done. Passing on to the next class, that for any white round Potato, we again found Satisfaction, and in this case in its true form, and it easily took the 1st place in that class. If my memory serves me aright, both dishes were shown by the same person. Still, another case. A week later I was again acting as judge at a show with two colleagues, and on coming to the Potatoes this same difficulty occurred, and I again demurred, but was overruled, after an appeal had been made to the committee, and in the end we actually awarded 1st prizes to the same variety in both the kidney and round classes. Query—who was right? I feel there was an injustice done somewhere. I should like to hear the opinion of some one in the matter, and, if possible, to settle the point of class. *H. Harris.* [The raisers call it a round variety, but it is not truly round, as they say; also that it is pebble-shaped. *En.*]

CAMELLIAS.

In a general way much disappointment is experienced in the forcing of Camellias, but that is owing to the forcing being carried out at the wrong time, which is after the plants have formed their buds, when heat, by many, is expected to help to

open them and bring on the flowers; instead of which any unnatural excitement at this time referred to, generally ends disastrously, and causes the buds to drop—or if they do not fall, the blooms when they expand always look puny and poor from being so small and thin in the petals. If Camellias are wanted early, the way is to force them into growth at this season of the year, as instead of being impatient of artificial heat now, or immediately the blossoms fade, they like it, and besides it is almost essential to enable them to break freely and make their growth. The heat, however, must not be dry but moist, and that even to saturation, as when the heat is great the moisture must be in proportion; and, therefore, to maintain the atmosphere in the condition referred to, the plants should be syringed twice daily, and the floors or other surfaces kept damped down frequently, and if this is done the growths will be rapid and strong. Shading, of course, is an important matter, as Camellias will not bear the full sun's rays during the middle of the day, but when the house is closed, and syringing has been performed in the afternoon, what they get then will do good, and helps to run up the temperature.

The places where we get our early Camellias are on the back walls of two lean-to vineries, where they are planted out in narrow borders, and get forced with the Vines, and are now full of growth, the situation being very suitable; as besides the natural shade they have, the treatment requisite for the Vines being just what the Camellias require, and we get blooms from October onwards, all through the winter, and that in a position where hardly anything else could grow or do well. If plants are in pots or tubs, the way to manage them is to prune back if they are straggly or too big, and remove as much surface soil as can be done without unduly disturbing the roots, and replace it with fresh turfy loam, when they should be stood in a house where they can be subjected to the conditions mentioned above. I have seen Camellias so managed that were in a bad state before they were taken in hand, that they recovered rapidly and made free growth, and bloomed profusely when flowers were of the greatest value, as they always are in the dead of winter; but there are some sorts that are more adapted for coming in at that season than others, and the old double white is among them, and Lady Hume is also one of the most valuable, although now rarely seen in collections. J. S.

SOCIETIES.

ROYAL HORTICULTURAL.

MARCH 8.—Notwithstanding the low temperature which prevailed on Tuesday last, accompanied by a keen north-easterly wind, there was a nice display of bloom at the Drill Hall, James Street, S.W., while the attendance was larger than usual. Spring flowers naturally formed the bulk of the exhibits, but Orchids, of which mention is made elsewhere, were well represented. Fruit and vegetables were not numerous.

The Lecture.

At the afternoon meeting of the Royal Horticultural Society on Tuesday last, a paper on "Plants for House Decoration," by Mr. J. Wills, was read, and Mr. G. Bunyard occupied the chair. Mr. Wills was prevented being present himself, owing to illness, but the paper was read by Mr. J. Weather, the Assistant-Secretary.

Mr. Wills called attention to the fact that previous to twenty years ago, little in the way of floral decoration had been accomplished, but since then enormous strides had taken place. In 1871, Sir Edward Scott set the ball rolling by placing his house in the hands of the florists for three days. This was followed by elaborate decorations at the town residence of the Marquis of Bristol, at which, among other things, no less than 6 tons of Ivy were used. Rivalry in floral decoration ensued amongst the aristocracy during the next few years, and to such an extent was the fashion carried, that Lady Sutton spent £1000 in one month with the florist; and on another occasion, a gentleman had his mansion in

Belgravia decorated with flowers at the cost of £1400.

Referring to the matter commercially, Mr. Wills in his paper stated, on good authority, that there were at the present time, at least 300 home-growers for Covent Garden Market alone, whereas twenty years ago there were not more than thirty. It was also asserted that 20,000 vanloads of plants for decorative purposes were sent into the Flower Market, Covent Garden, last year, and that Mr. Wills' firm purchased an enormous quantity of plants from that source. Lists of the most suitable plants for house decoration were included in the paper, Palms being specially mentioned. Of these *Latania borbonica*, *Corypha australis*, *Kentia Belmoreana*, and *Cocos Weddelliana*, were, amongst others considered admirably adapted for the purpose, and the last-named was specially mentioned owing to its graceful habit, and Mr. Wills asserted that it may be kept in a cold room for several months without injury, but this does not concur with our experience. Other plants mentioned included *Asparagus plumosus*, *Dracenas* of kinds, *Aspidistras*, *Hydrangea variegata*, *Ferns*, *Crotons*, and others. Stress was laid on the fact that *Crotons*, *Dracenas*, *Palms*, and similar foliage plants might be used for the embellishment of window-boxes, and to illustrate the remarks, photographs of boxes containing such plants were shown. Mr. Wills said that by adopting this plan, window boxes, in addition to affording relief to those containing ordinary flowering plants, could be kept fresh from July till October, but admitted that the plants would require renewing occasionally.

Dr. Masters, in a brief discussion which followed, remarked that an object-lesson in floral decoration such as Mr. Wills could have furnished, would have been appreciated, and regretted that such could not have been arranged. He deprecated the excessive extravagance which had been referred to in Mr. Wills' paper, and hoped that those present would not go away with the idea that any large outlay was necessary to ensure tasteful floral decoration in the home. By judiciously selecting plants which will stand the gas and vitiated air of rooms, such as *Aspidistra lurida* and its variegated form, it was possible to make a good display for a few shillings. Mr. Bunyard concurred, and said that, in his opinion, many of the graceful-habited Conifers, such as *Cupressus Knightii*, might be advantageously used for house decoration.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. James O'Brien, Dr. M. T. Masters, E. Moon, G. R. Le Dux, De B. Crawshaw, Baron Schroder, T. B. Haywood, E. Hill, J. Douglas, H. Williams, F. Sander, C. Pilcher, H. M. Pollett, C. J. Lucas, and J. Jaques.

The following communication was read:—"On February 9, Messrs. Jas. Veitch & Sons exhibited a hybrid *Cypripedium* under the name of *C. Hera* ×, and for which they received a First-class Certificate. They have since ascertained that another hybrid had been previously put into commerce under that name, which they were not aware of; they therefore requested the committee to agree to the name of their plant being changed to that of *C. Adrastus* ×, and that the list of awards be altered accordingly." The committee unanimously agreed to the proposal.

Messrs. F. Sander & Co., staged a fine group, made up of good varieties of *Odontoglossum* triumphans, *O. crispum*, many and varied forms of the fine *Dendrobium Phalaenopsis* *Schroderianum*, *D. nobile*, *Sobralia xantholeuca rubina*, *Dendrobium Brymerianum*, *D. Cassiope* ×, *Phalaenopsis Cooksoni* ×, *Angraecum sesquipedale*, with eight flowers; *Cypripedium Carlieri* ×. Some fine *Odontoglossum* *Edwardi*, *Lelia barphylla*, *L. cinnabarina*, *Masdevallia Estradae* × *Shuttleworthii*; a curious *Dendrobium* intermediate between *D. Farmeri* and *D. thysiflorum*, and a charming series of varieties of *Oncidium Phalaenopsis*.

Messrs. Pitcher & Manda, The United States Nurseries, Hextable, Swanley, Kent, had a group consisting chiefly of rare varieties of *Cypripediums*, together with *Cattleya Trianae*, *Cologne cristata* alba, *Lycastes*, &c. Prominent were a noble form of *Cypripedium Boxalli superbum*, *C. Pavonium* ×, the noble *C. villousum albo-marginatum*, and *C. Schroderae*.

Messrs. Jas. Veitch & Sons, Royal Exotic Nurseries, Chelsea, exhibited *Cypripedium Brysa* × (*Sedeni* candidulum × *Boissierianum* ♂) like a large form of the seed-bearing parent, with a greenish tinge; *C. lanthe* × (*Harrisianum* × *venustum* ♂); *Dendrobium Wardiano-japonicum japonicum* ♀

Wardianum ♂; and *D. eusomum leucopteryum* (noble ♀ *endocharis* ♂).

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, with some fine *Anthuriums*, staged a grand specimen of *Phalaenopsis Cooksoni*, with two spikes; *Dendrobium chrysidatum* ×, *Calanthe Williamsii*, and *Lycaste Skinnerii* delicata.

J. F. Jackson, Esq., Bourne Place, Bexley (gr., Mr. G. Dowsett), sent the pretty purple-spotted *Odontoglossum Pescatorei*, Jackson's var. W. L. Barclay, Esq., The Briars, Keigate (gr., Mr. I. Bailey), exhibited *Oncidium Chrysomorphum*. From Messrs. Hugh Low & Co. came the amethyst-lipped *Dendrobium amethystoglossum*.

F. Wigan, Esq., Clare Lawn, East Sheen (grower, Mr. W. H. Young), sent a form of *Odontoglossum Andersonianum*, with yellowish-white flowers exhibiting but very few spots.

Messrs. Heath & Son, Cheltenham, again sent their hybrid *Cypripedium Swinburnei* ×. W. R. Lee, Esq., Beech Lawn, Ardshaw, Manchester, exhibited a fine form of *Dendrobium nobile* and *D. Brymerianum*, and cut flowers of a similar variety of *Dendrobium* came from J. G. Wood, Esq., Theddle Grange, Alton, Hants (gr., Mr. N. Campany).

Messrs. Lewis & Co., of Southgate, sent a handsome yellow and orange *Disa*—*D. incarnata*, flowering with them for the first time in cultivation.

F. W. Nixon, Esq., Edward Street, Leek, sent a fine four-spiked plant of *Odontoglossum maculatum* near to *O. m. anceps*, and cut flowers of many rare Orchids came from Reginald Young, Esq., Setton Park, Liverpool; Mr. J. W. Wilson, South Cave, East Yorks, a fine series of *Odontoglossum Rosei majus*; and a spike of the same, with fifteen flowers, from Philip Crowley, Waddon House, Croydon.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. B. Wynne, F. Bause, H. Herbst, R. Dean, H. B. May, W. Furze, W. C. Leach, R. B. Lowe, G. Phippen, H. H. D'Umbraun, T. W. Girdlestone, W. Bain, C. J. Salter, N. Davis, T. Baines, C. Noble, H. Turner, J. Fraser, G. Paul, R. Owen, C. T. Drury, G. Gordon, G. Nicholson, and F. Ross.

Numerous exhibits were brought before this committee, the largest being a collection of bulbous and other plants, staged by Mr. G. Phippen, Reading. These comprised *Hyacinthus*, *Tulips*, *Lily* of the Valley, *Scillas*, &c., set up in groups, with a background of Palms. Several new *Tulips* and *Hyacinthus* were staged, and a few pans of the pretty *Hyacinthus botryoides* alba were noticeable. The whole collection presented a very gay appearance.

A nice group of *Narcissus* came from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, conspicuous amongst which were the large kinds, such as *Sir Watkin*, *Emperor*, and *Golden Spur*. Some pots of *Iris reticulata* and *I. alata* were also staged by the same exhibitor.

Mr. G. R. Davidson, The Gardens, Iwerne Minster, Blandford, sent a group of *Clivias* with fine trusses of bloom. The best varieties were *Her Majesty*, *Duke of Clarence*, *Princess May*, and *Lord Wolverton*.

As on the occasion of the last meeting, Messrs. Hugh Low & Co., Clapton and Bush Hill Park, Enfield, staged a collection of New Holland plants, which attracted some attention. Amongst these were many of the old favourites, now so seldom seen in private gardens.

From Sir Trevor Lawrence's gardens at Burford Lodge, Dorking (gr., Mr. Baines), came some remarkably fine *Anthuriums*. The spathe was of an enormous size, as also were the leaves. *A. Lindenii* flore carminea was most noticeable, the colour of the spathe being a rich dark carmine, and scarcely less can be said of *A. Lawrenceanum*, a bright scarlet variety. Others, specially good, were *A. Leodiense*, *A. Burfordense*, and *A. Andreanum sanguineum*, the latter receiving a first-class certificate.

Messrs. W. Paul & Sons, Waltham Cross, showed twelve boxes of cut *Camellia* blooms, amongst which *Princess Charlotte* (white), *Countess of Derby* (pink), *Reine des Fleurs* (pink), and *Fimbriata* (white fringed edges), were most conspicuous.

Amaryllis were shown by Messrs. G. Paul & Sons, The Old Nurseries, Cheshunt, and Messrs. Veitch & Sons, Chelsea. The first-named firm staged a very fine variety named *Mars*, of a rich crimson colour. One variety, designated *Diores*, a dark self, was particularly noticeable in Messrs. Veitch's collection. Messrs. Veitch likewise staged flowering branches of *Amygdalus Davidiana* alba, and a box of undressed *Cineraria* blooms.

From Messrs. Cutbush & Sons, Highgate, came a

collection of *Richardia aethiopica* Little Gem, a dwarf-growing plant, with small blooms.
Messrs. F. Barr & Sons, King Street, Covent Garden, sent *Iris alata alba*; Messrs. B. Williams & Sons, Upper Holloway, *Dracena Princess May*; and B. Field, Esq., Beech Lea, Sevenoaks (gr., Mr. Edwards), spathe of *Anthurium Andreanum* giganteum.

The Rev. G. H. Engleheart, Appleshaw, Andover, sent blooms of a hybrid *Narcissus* (*N. monophyllus* × *N. triandrus*, see pp. 331, 333); and Mr. J. Crookes, gr. to W. H. Evans, Esq., Forde Abbey, Chard, Violets, Begonias, and *Primula obconica purpurea*, the latter being darker than the type.

Fruit and Vegetable Committee.

Present:—P. Crowley, Esq., in the chair; Messrs. J. Lee, S. Ford, C. Ross, F. Rivers, G. Bunyard, J. Cheal, G. Taber, W. Warren, J. Wright, A. Dean, W. Bates, G. H. Sage, J. A. Laing, G. Cliffe, G. Wythes, J. Hudson, H. Balderson, F. N. Lane, J. Smith, A. H. Pearson, and H. Weir.

Very few exhibits were brought to the notice of this committee. Messrs. J. Veitch & Sons showed two dishes of Apples, named *Welsh Beauty* and *St. David*, selected seedlings from Alfriston, though differing considerably in appearance.

Mr. J. Watkins, Pomona Farm, Hereford, sent a dish of Improved Ashmead's Kernel Apple, which appeared to be a useful kind; and Sir T. Farrer, Abinger Hall, Dorking (gr., Mr. Payne), showed good samples of Apple Annie Elizabeth. Mr. W. H. Divers, Ketton Hall, Stamford, sent some fine Florida Oranges.

Mr. C. W. Leach, Albury Park, Guildford, exhibited clusters of ripe and unripe fruit of Tomatos named *Lady Bird*, which is said to set freely in November to December, also to ripen in the open air in July. The fruits were rather small. From the same source came firm bulbs of Main Crop Onions; and Mr. Poupart, Twickenham, sent some fine samples of Seakale as grown for market.

List of Awards.

ORCHID COMMITTEE.

MEDALS.

Silver Flora.

To Messrs. F. Sander & Co., St. Albans, for a group of Orchids.

Silver Banksian.

To Messrs. Pitcher & Manda, Hextable, Kent, for a group of Orchids.

Awards of Merit.

To J. F. Jackson, Esq., J.P., Bourne Place, Bexley, Kent, for *Odontoglossum Pesentorei*, Jackson's var.
To Messrs. J. Veitch & Sons, Chelsea, for *Cypripedium lanthe* x, and *C. Brya* x.

Botanical Certificates.

To Messrs. Hugh Low & Co., Clapton, for *Deudrobium amethystoglossum*.

To Messrs. Lewis & Co., Southgate, for *Disa incarnata*.

To Mr. W. L. Barclay, for *Odontidium chrysomorphum*.

Cultural Commendation.

To Mr. F. W. Nixon, Leek, for *Odontoglossum maculatum*.

FLORAL COMMITTEE.

MEDALS.

Silver Gilt Floral.

To Mr. G. Hippen, Reading, for a group of Bulbs, &c.

Silver Gilt Banksian.

To Messrs. W. Paul & Sons, Waltham Cross, for a collection of Camellia blooms.

Silver Floral.

To Messrs. Hugh Low & Co., for a group of New Holland plants.

Silver Banksian.

To Mr. T. S. Ware, Tottenham, for a group of *Narcissi*.
To Mr. G. R. Davieson, for a collection of *Cilveias*.

First-class Certificates.

To Messrs. Veitch and Sons, for *Amygdalus Davidiana alba*.
To Sir Trevor Lawrence, for *Anthurium sanguineum*.

Award of Merit.

To Messrs. G. Paul & Sons, Cheshunt, for *Anaryllis Murs*.

FRUIT AND VEGETABLE COMMITTEE.

Cultural Commendation.

To Mr. Poupart, Twickenham, for samples of Seakale.

Award of Merit.

To Mr. J. Watkins, Pomona Farm, Hereford, for Apple Improved Ashmead's Kernel.

NOTES FROM NORMANHURST COURT.

THE pleasure grounds of Lord Brassey's place are full of interesting trees and shrubs, and the beauties of the situation have been the most of by the landscape gardener. From the terrace in front of the house splendid views of the surrounding country and the sea are obtained, the latter being about

6 miles distance. The crowning features at Normanhurst are the magnificent masses of healthy and vigorous *Rhododendrons*, which are planted on a large scale, and in nearly every direction. There are many other flowering shrubs which do well at Normanhurst, and although I visited the place at the dull season, it could be seen that flowers are abundant in their season. *Camellias* trained on the walls here are never injured by frost, and the only drawback is that of earliness of flowering, a very slight degree of frost injuring the blooms. But Mr. Allen, by affording the plants some slight protection, gets many fine flowers. Hardy *Ericas*, *Ghent Azaleas*, and *Andromedas* flower splendidly in a soil that needs hardly any preparation. *Abies Douglasi*, *A. grandis*, *A. Albertiana*, *A. Menziesi*, *Cedrus atlantica glauca*, *Thuja*s of species, and many other plants too numerous to be mentioned in this short note are fine examples, and, standing as they do, at a good distance apart, they show their habits and characteristics in a way seldom seen in private gardens. It is found on this poor soil that all the flowering shrubs, and especially the *Rhododendrons*, are greatly benefited by mulching with cowshed manure. *Pinus insignis* was injured by the frosts of last winter, and some specimens were killed. The soil is but little adapted to fruit growing, nevertheless I observed some fine healthy trees of the Pear, Peach, Nectarine, &c., full of promise for the present year. Mr. W. Allen, who has been gardener at Normanhurst for many years, finds great advantage in keeping the roots of his plants near the surface. The Vines and Peaches under glass have every appearance of yielding excellent crops, and they are in good condition. I would mention that Lord Brassey, unlike many owners of fine houses, has made ample provision for extinguishing fire, there being a steam fire-engine, and a strong body of trained firemen at hand on the place who could be utilised in a very short space of time. Neither is anything lacking that could add to the comfort of workmen, who have a well-furnished reading-room and library, billiard-table; and instrumental music is also provided. *H. Markham.*

LAW NOTES.

A CLAIM FOR WAGES BY A GARDENER.

BEFORE Judge Edge, at the Exeter County Court on Tuesday, the case was heard of Frederick Parker v. Mark Joseph Freeman. The plaintiff, a gardener, formerly employed by the defendant, a gentleman, residing at the Grange, Withycombe, claimed £4 for wages in lieu of notice. Mr. Orchard, Exeter, appeared for the plaintiff, and Mr. Crompton, Exeter, defended. Mr. Orchard said the plaintiff was engaged by the defendant in October last, and worked for him up to January 11 of the present year. There was snow on the ground at the time, and the defendant ordered the plaintiff to clear it away. Parker was ill, and because he did not commence the work at once, his master lost his temper, and told him to "clear out." The plaintiff did not do so, and the police were called in, but could not interfere. The defendant offered the plaintiff £1, but the money was refused. As the police refused to act in the matter, Mr. Freeman applied for a warrant, and the plaintiff was subsequently brought before the magistrates for using threats of personal violence, he having threatened to make Mr. Freeman "pay for it." The case was, however, dismissed. The plaintiff corroborated this statement, and denied using any threats towards his master.

By Mr. Crompton: Mr. Freeman had complained to him previously about his work. Witness did not tell his master that he ought to have six months. What he said was, that he would rather have six months than work for the defendant. Witness had been treated very badly since he had been with Mr. Freeman.

The defence was, that the plaintiff was dismissed because he refused to clear away the snow. He

said to the defendant, "You should have six months; I'll make you pay for this."

Mr. Crompton considered that the defendant had a perfect right to dismiss his servant under these circumstances.

The defendant, who caused some amusement whilst giving his evidence, said the plaintiff refused to do work that he was told to. Such a proceeding, the defendant added, "spell-bound him." The plaintiff then told him that he ought to have six months, and witness, who considered he knew English as well as anyone, construed that into a threat.

His Honour gave a verdict for the plaintiff for the amount claimed, with costs, and added to Mr. Freeman, "I am sorry you get into these squabbles."

The defendant then left the Court, remarking to Mr. Crompton, "I'll close the shop, and get out of the country as soon as I can." *Devon Weekly Times, March 4.*

VARIORUM.

A NATURAL APPLE ORCHARD.—The wilderness of Koolan, in the Sandwich Islands, contains a forest of native wild Apple trees, countless in number, stretching from the sea far up the mountain sides. The trees vary from 40 to 50 feet in height, and in the harvest season, from July to September, are loaded down with fruit, some white, but mostly red. A person standing in the midst of this orchard can look around him for miles, up the mountains and towards the road, and the only thing in view will be one vast grove of Apple trees, literally red with ripe and ripening fruit, the branches of the trees bending to the ground with the bounteous harvest. The crop of this extensive Apple orchard, which Nature planted in the solitary waste, would fill a fleet of 100 steamers. The orchard stretches over a country from 5 to 10 miles wide by 20 miles long and many of the larger trees bear at least 100 bushels apiece. *South Wales Daily News.*

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

WILL some of our readers kindly inform "W. P." if a gardener has the right to claim a legacy left to each of his domestic servants? We fear not. Ed.

Obituary.

MR. THOMAS HOPGOOD.—We regret to announce the death of Mr. T. Hopgood, head gardener to Sir Julian Goldsmid, M.P., Somershill, Tunbridge, Kent, which occurred quite suddenly, on Tuesday, February 28, in the parish church. The deceased was well known as a gardener, and was greatly respected by all who knew him.

MARKETS.

COVENT GARDEN, March 10.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

MARKET quiet, but prices are well maintained. Large consignments of Tomatos, Potatos, and Beans, from the Canary Islands and Madeira to hand, at lower values. *James Webber, Wholesale Apple Market.*

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.			s. d. s. d.		
Apples, Canadian and			Kent Cobs, 100 lb.	40	0
Nov. Scotian, per			do. per cask	8	0
harrel	10	0	Pine-apples, St. Mi-	8	0
chael, 3-sieve	10	0	chael, each	2	0
Apples, 3-sieve	10	0		2	0
Grapes	10	0		2	0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d.	s. d.
Acacia, or Mimosa	Narcissus, paper-
French, per doz. 1 6-2 0	white, Fr., p. bun. 2 6-4 0
Arum, per doz. bl. ... 0 6-0 0	Narcissus (various),
Azalea, per doz. spray 0 6-0 0	Schily, doz. bunches 2 0-4 0
Camellias, white, doz. 2 0-3 0	Orchids—
— red, per doz. ... 1 0-1 6	Cattleya, 12 blms. 6 12-10 0
Carnations, 12 blms. 2 0-3 0	Odontoglossum
Cinerarias, per doz. ... 0 6-0 0	crispum, 12 blms. 3 0-6 0
— bun. 9 0-12 0	Pelargoniums, scar-
Daffodils, double per	let, per 12 bun. 6 0-9 0
dozen bun. 3 0-4 0	— 12 sprays ... 0 8-10 0
— single ... 0 6-0 0	Picus chalcis, each 1 6-7 6
— various ... 6 0-9 0	Primroses, doz. bun. 1 6-3 0
Eucharis, per dozen 4 0-6 0	Primula, sing. 12 bun. 4 0-6 0
Freestias, per dozen 2 0-4 0	Roman Hyacinths, 12
Gardenia, per doz. 4 0-9 0	French, bunches 12 0-4 0
Heliotrope, 12 sprays 0 6-0 0	Roses, Tea, per dozen 1 0-3 0
Jonquils, per dozen 1 6-3 0	— coloured, doz. 2 0-4 0
Lilac white (French)	— yellow (Maré-
per doz. 3 0-6 0	chalis, per doz. 4 0-9 0
Lilium Harrisii, doz. 6 0-10 0	— red, per dozen ... 4 0-8 0
Lily of the Valley, per	Snowdrops, doz. bun. 1 0-3 0
doz. sprays ... 0 6-1 0	Tuberoses, 12 blms. 1 0-2 0
Maiden Hair Fern	Tulips, p. doz. blms. 0 8-1 6
12 bunches ... 6 0-12 0	Violets, Parme, per
Marguerites, per doz.	bunch ... 2 0-3 0
bunches ... 3 0-4 0	— Car, per bunch 1 6-2 0
Mignonette, per doz.	— English 12 bun. 1 6-2 0
bunches ... 4 0-8 0	Wallflowers, French,
per dozen bunches 2 0-4 0	

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d.	s. d.
Adiantum, per doz. 4 0-12 0	Ferns, per 100 ... 8 0-15 0
Arum, per dozen ... 9 0-12 0	Ficus chalcis, each 1 6-7 6
Aspidistra, per doz. 18 0-63 0	Gemstias, per dozen 9 0-15 0
Azalea, per doz. ... 38 0-63 0	Hyacinths, Dutch, doz. 6 0-9 0
Begonias, per doz. ... 6 0-12 0	Lily of the Valley, pot 2 0-3 0
Camellia, per doz. 8 0-10 0	Lily of the Valley, 6 0-12 0
Cyclamens, per doz. 12 0-18 0	Primula sinensis, doz. 4 0-6 0
Cyperus, per dozen 4 0-10 0	Palms, various, each 2 0-21 0
Dracenas, each ... 1 0-5 0	— specimens, each 8 0-84 0
Erica lyoniensis, per	Pelargoniums, Scar-
dozen ... 12 0-18 0	let, per dozen ... 6 0-9 0
Erica gracilis, doz. 8 0-12 0	Solanums, per dozen 9 0-12 0
Ferns, various, doz. 4 0-9 0	Tulips, per doz. pots 6 0-8 0

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d.	s. d.
Artichokes, Globe, each ... 0 4-0 8	Lettuces, per doz. ... 1 6-2 0
Beans, French, lb. ... 1 6-2 0	Maize, per bushel ... 2 0-5 0
Beet, red, per dozen 2 0-3 0	punnet ... 0 4-0 0
Carrots, per bunch ... 4 0-6 0	Parsley, per bunch ... 0 3-0 0
Cauliflowers, each ... 0 3-0 6	Sauerkraut, p. basket ... 2 0-3 0
Celery, per bundle ... 1 0-3 0	Shallots, per lb. ... 0 6-0 0
Cucumbers, each ... 0 9-1 3	Spinach, per bushel 3 0-6 0
Endive, per dozen ... 2 0-3 0	Tomatoes, per lb. ... 0 6-1 0
Herbs, per bunch ... 0 2-0 0	Turkeys, per bunch ... 4 0-6 0

POTATOS.

The expectations of last week have been fulfilled, and a perceptible rise in the prices of best qualities has taken place. Good Imperials are worth 80s. to 95s.; Abundance, 95s. to 105s.; Bruce, 80s. to 10s.; Magnum, 60s. to 80s.; Blackland Magnum, 55s. to 65s. per ton; all supposed to be free from frost, and a good sample. J. E. Thomas.

FRUITS AND VEGETABLES.

BOROUGH, March 8.—Quotations:—Broccoli, 7s. 6d. to 12s. 6d.; Savoy, 3s. 6d. to 7s. 6d. per tally; Sprouting Broccoli, 1s. 6d. to 2s.; Turnip tops, 2s. 6d. to 3s. per bag; Spinach, 2s. 6d. to 3s. per bushel; Brussels Sprouts, 1s. 6d. to 2s. per half sieve; Greens, 2s. to 3s.; Turnips, 1s. 6d. to 1s. 9d.; Carrots, 1s. 3d. to 1s. 9d. per dozen bunches; English Onions, 6s. to 7s. 6d. per cwt.; Apples, 2s. 6d. to 8s. per bushel; Canadian do., 1s. to 20s.; Newtown Pippins, 15s. to 25s. per barrel.

STRAITFORD, March 8.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done as under:—Savoy, 4s. to 5s. per tally; Greens, 2s. to 2s. 6d. per dozen bunches; Cauliflowers, 1s. 6d. to 2s. per dozen; do., 4s. to 7s. per tally; Celery, 4s. to 6s. per dozen bundles; Horseradish, 1s. 3d. per bundle; Turnips, 2s. to 2s. 6d. per dozen bunches; do., 30s. to 40s. per ton; Carrots, household, 30s. to 40s. do.; do., cattle-feeding, 2s. to 3s. do.; Parsnips, 10s. to 6s. do.; Mangels, 16s. to 19s. do.; Swedes, 15s. to 20s. do.; Onions, English, 120s. to 140s. do.; Apples, English, 3s. 6d. to 5s. per bushel; do., Canadian, 15s. to 20s. per barrel.

SEEDS.

LONDON:—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, E.S., write that regarding the quality of the seeds of the great-fruited American Redclove seed, in particular, continues the favourite article, and the strong and remarkable advance on the other side of the Atlantic—rendering it possible to ship seed back again to New York—coupled with the astonishing smallness of the stocks held in England, have caused a further substantial advance on current prices here. British farmers have for the most part sent to meet all their cover seeds. There is no change this week in either Alsike, White, or Trefoil. Favourite articles are being very dear, move off slowly. Italian Ryegrass is in good request. Tares meet a free sale. Sanfins keep moderate in price. Mustard and Rape seed are unaltered. Stocks of Canary seed prove surprisingly small. The Board of Trade returns give the imports into the United Kingdom of Clover and Grass seeds for the first two months of this year as 95,572 cwt., value £217,912, as against 79,224 cwt., value £179,052 for the corresponding period of 1891.

POTATOS.

BOROUGH: March 8.—Quotations:—Imperials and Elephants, 70s. to 90s.; Imperators, 60s. to 90s.; Bruce Magnums, 60s. to 90s.; Dunbar do., 90s. to 105s. per ton.

STRAITFORD: March 8.—Quotations:—Dark land, 52s. to 65s.; light land, 60s. to 85s.; Scotch do., 70s. to 90s. per ton.

CORN.

Averages.—Official statement of the average prices of corn, for the week ending March 5, and for the corresponding period last year:—1892: Wheat, 33s. 3d.; Barley, 27s. 9d.; Oats, 20s. 5d. 1891: Wheat, 32s. 7d.; Barley, 27s. 7d. Oats, 18s. 5d.

HAY.

Averages.—The following are the averages of the prices at the various metropolitan markets during the past week:—Clover, prime, 80s. to 105s.; inferior, do., 45s. to 75s.; hay, best, 60s. to 91s.; do., 25s. to 50s.; and straw, 20s. to 35s. per load.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.							
	Mean for the week ending March 5.							
	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean Jan. 3, 1892.	Below 42° difference from Mean Jan. 3, 1892.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 3, 1892.	Total Fall since Jan. 3, 1892.	Percentage of possible Duration of Rain since Jan. 3, 1892.
Above (+) or below (—) the Mean for the week ending March 5.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths of an Inch.	Ins.	Ins.	
0 4	0	51	— 11	119	9	48	9 4	20 19
1 5	0	61	— 21	117	4	35	13	12 20
2 5	0	53	— 14	95	2	36	32	11 19
3 6	0	62	— 22	102	1	36	28	5 19
4 7	0	60	— 22	107	4	35	34	9 19
5 7	0	55	— 25	63	3	30	26	17 21
6 5	0	49	— 18	88	9	38	71	31 21
7 6	0	50	— 28	78	6	35	52	25 22
8 7	0	50	— 38	69	7	38	52	26 27
9 6	0	47	— 47	62	6	38	50	24 19
10 7	0	37	— 37	74	7	38	64	26 21
* 7	0	29	— 25	19	5	42	59	31 20

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts:—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts:—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending March 5, is furnished from the Meteorological Office:—

"The weather during this week was very cold and the air dry in all parts of the Kingdom. In the E. and S.E. the sky was generally overcast, and frequent but very slight falls of snow were experienced; in the W. and extreme N., however, there were many intervals of sunshine.

"The temperature was below the mean, the deficit ranging from 4° in 'Scotland, N.' to as much as 7° in 'England, S. and S.W.' the 'Midland Counties,' 'Ireland, S.' and the 'Channel Islands.' The highest of the maxima were recorded either on February 28th or 29th, and varied from 50° in 'Ireland, S.' to 42° in 'England, E.' During the greater part of the time the daily maxima (except in the extreme W. and S.W.) were very little above the freezing point. The lowest of the minima were recorded in most cases on March 5th, when the

thermometer fell to 10° in 'Scotland, E.' (at Braemar), to 14° in 'Scotland, N.' (at Lairg), and elsewhere to between 22° in 'England, N.W.' and 28° in the 'Channel Islands.'

"The rainfall was less than the mean in all districts. At most of the W. and N. stations no measurable amount of rain was recorded.

"The bright sunshine exceeded the normal value in some of the W. districts, but showed a deficiency elsewhere—especially over E., N.E., and central England. The percentage of the possible duration ranged from 36 in 'England, S.W.,' 31 in the 'Channel Islands,' and 30 in 'Scotland, N. and W.,' to 17 in 'England, S.,' and to only 5 in 'England, E.'"

NOTICES TO CORRESPONDENTS.

ANDRUCUM LEONIS: R. G. The temperature was too low for the plants in bud. Their health will not be permanently injured.

BETTER IN BROAD BEAN SEEDS: A. D. C. The beetle which came out of the Bean was Bruchus granarius. The egg was laid on the pod whilst it was still scarcely a pod; from this a grub was formed, which pierced the growing Bean, where in course of time it became a chrysalis, and later a beetle which does not always leave the Bean as soon as developed.

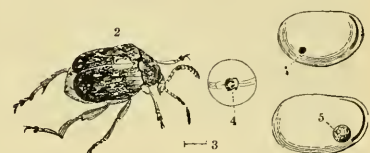


FIG. 53.—DEAN WEEVIL (BRUCHUS GRANARIUS).

The insect does harm to the seed by consuming the sub-stance that should go towards forming the future plant. Sort over your seed Beans, and any seed which is infested by the grub, or a nascent beetle, burn. These are known by a round depression, duller in colour, and rather less opaque than the neighbouring parts. A hole in a Bean shows that a beetle has escaped from it.

CANARINA CAMPANULA: C. W. A seedling variety, not worth a name.

CARPENTARIA CALIFORNICA: A. P. It is quoted by some of the larger nurserymen amongst evergreen shrubs; answers to other questions next week.

CLIANthus PUNICEUS: A Constant Reader. The best soil is firm loam, peat, burnt earth, and sand just sufficient to make it porous if the loam be stiff—sandy loam would scarcely require any, if the drainage is good, as it should be. Repot your plant now, reducing the ball a little by pricking off the old soil. If the roots at the bottom of the pot are much matted, cut them off. Keep it close for ten days, afterwards give more air by degrees. Be careful about water, afford enough at first, but do not sodden the soil by frequent waterings; syringe daily in bright weather, it being the only way to keep red-spider at bay.

CORRECTION: California as a Home. Our correspondent who sent us the above, wishes to say that he made a mistake in reference to the poll tax, it should have been 2 dollars, i.e. 8s. 4d. English currency.

DOUBLE FLOWED GLOXINIA: H. B. Could you send the flower-stalk and flowers for inspection?

FLORIST: F. C. B. You could not do better for the boy than to communicate with some large general nurserymen and seed merchants. At a florist's establishment, special knowledge might be gained, but there is a far wider range of subjects, and fuller knowledge would be gained at the former. Modern languages are very useful. If the youth has good physique, a little digging will do him no harm; but it is not so very necessary.

GERANIUMS: *Enquirer.* The Pelargoniums you send have the appearance of the cuttings having been plunged too deep in the soil.

HOT-WATER PIPES IN A GREENHOUSE: *W. W.* For your district three rows of pipes will provide heat sufficient for all purposes, without having to unduly heat them. There should be placed along the front of the house two rows, and one, the return pipe, running from these along one end of the house towards the boiler.

INSECTICIDE: *Marshall Bros.* A wineglass of petroleum to 1 gallon of warm water; and, to assist the incorporation of the oil with the water, add 2 oz. of soft-soap.

LIME IN WATER TO EXPEL WORMS FROM THE SOIL IN POTS: *Amateur.* It will not matter how much you put in a gallon of water, the latter being capable of taking up a certain quantity only. The lime may be used many times if it be shaken up each time that fresh water is added. It will do no harm if used of full strength, and clear.

NAMES OF FRUITS: *C. Ayres, Cape Town.* The fruit resembles *Beurri superfin* somewhat highly coloured.

NAMES OF PLANTS: *A Correspondent* who sent us a *Crinum* from Madagascar, but whose letter has unfortunately been mislaid, is informed that his plant is *C. firmifolium* of Baker. See "Baker's Handbook of Amaryllideae," p. 78.—*S. L.* *Pittosporum undulatum*.—*G. W. E.* *Acacia dealbata*.—*F. P. A.* species of *Strelitzia*.—*E. D. L. I.* *Poly-podium esfolium*; 2, *Adiantum hispidulum*; 3, *Selaginella Brownii*; 4, *S. Helvetica*; 5, *Aloe scotrina*.—*C. W.* *Psoralea pinnata*.—*E. T.* *Laelia (Brassavola) glauca*.—*J. C. C.* *Crinum Mooreanum*.—*J. P. I.* *Retinospora dubia*; 2, *Cryptomeria elegans*; 3, *Thuja Nutkaensis*; 4, *Thuja Standishii*; 5, *Cupressus Lawsoniana*.—*R. C.* *Dendrobium Pierardi*.—*R. G.* *Eria bractescens*, *Pittosporum undulatum*; *G. C. I.* *Primula alysinica*; 2, *Clivia miniata*; 3, *Dendrobium Wardianum*.

ONTOGLOSSUM CRISPUM: *Importer.* The most prized features are broad petals and sepals, of great substance and size, with a ground-colour of the purest white, which may be suffused with lilac, and spotted with big or little spots of chocolate-brown. If the edges of these parts of the flower are elegantly frilled, that is also a desirable feature. The lip should be broad, and the crest well developed, and the orange or yellow crest a prominent part of the flower, as seen in front.

ONCIDIUM JONESIANUM: *R. G.* Grow on a block in a warm house.

PEACH TREES IN POTS: *Amateur.* If the house is heated the trees may be syringed twice daily in bright weather, and early in the afternoon when it is dull.

PHALENOPSIS SCHILLERIANA. *J. C. A.* very fine specimen.

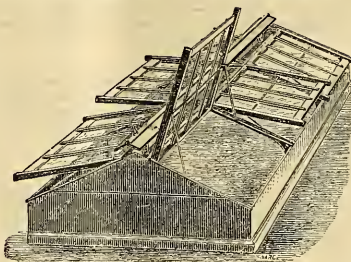
SLUGS AND MAIDENHAIR FERNS: *Amateur.* Fruit and vegetables failing to attract them, you should try the effect of little heaps of bran placed about among the Fern pots. Examine these heaps in the early morning, and by persistence you will greatly thin their numbers. Keep a few loads in the fernery; see that no slugs harbour in the plants. Very choice or delicate species of Ferns should be stood over pane of water, not in them; they will then be beyond the reach of the slugs. Salt strewn round about the pots is a deterrent.

VAPOUR CONES: *L. & S.* Some accident in the manufacture. It should be analysed.

YOUNG GARDENER: *F. S.* Your questions are so numerous, that we should prefer to answer them by letter, if you will send your full address.

COMMUNICATIONS RECEIVED.—*G. Fenech.*—*J. H.*—*Lincoln Society.*—*T. H.*—*E. S.*—*E. C.*—*W. B. Hemley.*—*W. A. C.*—*W. E.*—*M. J.*—*S. J.*—*Bagley.*—*R. A.*—*R. W.*—*S. H. C. P.*—*J. T. Normau.*—*R. C.*—*W. T.*—*E. H. Woodall.*—*H. M.*—*J. C. T. C.*—*W. D.*—*E. H. W.*—*W. R. W. L.*—*Grasse.*—*W. R. D. T. F.*—*J. U. G.*—*H. W. B. R. M.*—*G. H.*—*Canes.*—*E. P.*—*A. R. E.*—*R. V. & Sons.*—*C. De B.*—*T. M.*—*P. G. S.*—*J. A. (1).*—*J. C. C. P.*—*O. J.*—*J. A. (2).*—*J. G. B.*—*H. W.*—*A. E. S.*—*H. E. M.*—*J. G. W.*—*W. J. C.* and *Mat B.* (next week).

RICHARDSON'S IMPROVED GARDEN FRAMES.



WITH ADJUSTABLE RIDGE VENTILATION.

Lights can be instantly removed or fixed open at any angle without interfering with the plants.

CARRIAGE PAID TO ANY STATION.

W. RICHARDSON & CO.,
Horticultural Builders and Hot-water Engineers,
DARLINGTON.

NEWMAN'S EXTENSION LADDERS
VSUPUR LADDERS
THOUSANDS IN USE.

PRICE LISTS
FREE
CARRIAGE PAID
TO ANY STATION
IN UNITED KINGDOM

2837
ENGEL STREET
LONDON,
W.C.

**FORESTATES,
GARDENS,
PLUMBERS,
PAINTERS,
FACTORIES,
WAREHOUSES,
SHOPS,
HOTELS,
INSTITUTIONS,
DWELLINGS,
THE MOST
USEFUL
LADDERS
MADE, AND
THOROUGHLY
SAFE.**



And for all Glass Structures that require Shading. Sold in packets, 1s each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—**CORRY AND CO. (Ld.)**, Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE and **SMITH'S COKE** delivered in Truck-loads to any Station in England and Wales.—Address,
G. J. EVESON, 26, Corporation Street, Birmingham.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt. and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.;
and **BACHELOR'S WALK, DUBLIN.**—Discount for Cash.

BOULTON & PAUL, Manufacturers, NORWICH.

WIRE ESPALIER TRAINERS.



4 ft. high, with Standards 16 ft. apart, and six lines of galvanised Wire, per yd., 6d. Terminal Posts and Radisseurs, each 9s.

Prices of other sizes on application.

No. 405. **WROUGHT IRON TREE GUARDS.** No. 406.

Made to any design and size.

No. 405.—6 ft. high, 12 in. diameter.

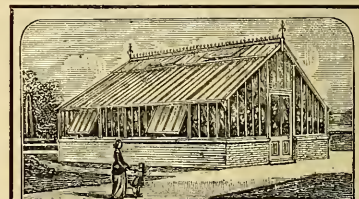
Price, 7s. 8d. each.

No. 406.—6 ft. high, 12 in. diameter.

Price, 8s. 4d. each.

Descriptive Catalogue of all our Manufactures, including Iron Buildings for Shooting and Fishing Lodges, Stabling, Huts, Kennels and Poultry Appliances, Greenhouses Garden Frames, &c., free on application.

BOULTON & PAUL, NORWICH.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid.—1-light frame, 4 x 6, 36s. 6d.; 2-light frame, 6 x 8, 55s.; 3-light frame, 12 x 6, 85s. 6d. Span-roof Frames, 12 x 4, 24s. 6d.; 9 x 5, 23s. 10s.; 15 x 6, 25s. 10s.

HARDY BRUIIN & CO., Graham LEICESTER Street.

JAS. BOYD & SONS,

HORTICULTURAL BUILDERS
and HEATING ENGINEERS,

PAISLEY.

HORTICULTURAL STRUCTURES

of every description,
in either Wood or Iron,
or both combined.



Woolen Chapels,
Shooting Lodges,
Tennis Courts,
Cottages, &c.

Hot-water Apparatus
for warming
Buildings of every
description.

Illustrated Circulars
Post-free.

Complete Catalogue, 3s.

CHAS. FRAZER'S EXORS.—Conservatories,
Orchid-houses, Vinerys, Greenhouses, Plant and Forcing-
houses. Best Materials and Workmanship guaranteed, at Moderate
Prices. Intending Purchasers waited upon by appointment.

HOT-WATER BOILERS and HEATING APPARATUS, for
large or small Greenhouses. Great variety of Garden Frames
and Handlights kept in stock. All kinds of Garden Requisites,
Poultry Appliances, Portable Summer-houses, Tool-houses,
Figen Cotes, Dog Kennels, and Rabbit Hutches. Profusely
illustrated CATALOGUE, post-free, for six stamps.

PALACE PLANT HORTICULTURAL WORKS, NORWICH.

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raftia, Mats, Bamboo

Canes, Rustic Work. Manufactured at the lowest Prices of
WATSON AND SULL, 89, Lower Thames Street, London, E.C.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack; 5 for 18s.; and 3s. per sack; 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included. Send Postal Order for Sample Sack. Special terms to the Trade. For Price List apply to THE FORESTER, Jorden Wood, near Bexley, Kent.

RICHARDS' NOTED ORCHID and other

SELECTED PEATS (Cut from his Own Grounds), SOILS, MANURES, and every description of GARDEN SUNDRIES. G. H. RICHARDS, The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Write for Samples and Price List, Post-free. CHIEF PEAT DEPOT: RINGWOOD, HANTS.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS, Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in shovels, Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter. The Original Peat Depot, RINGWOOD, HANTS.

BROWN and BLACK FIBROUS PEAT, 25s. per Ton, or £5 per Truck of 4 Tons; Bags, 5s. each; 10 Bags, 45s. PEAT for forming Rhododendron, Beg., and American Plant Beds, 21s. per Ton, or £4 4s. per Truck of 4 tons; Bags, 5s. each; 10 Bags, 45s. THOMAS WALKER, Tekels Park, Camberley, Surrey.

GARDEN REQUISITES, as supplied to the Royal Gardens.—COCOA-NUT FIBRE REFUSE, 1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton truck, 30s., free on rail near works. FINE ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS do., 5s. per sack, 5 for 22s. 6d. BLACK do., 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. Coarse SILVER SAND, 1s. 6d. per bushel, 14s. 4 ton, 25s. per ton. CHARCOAL, 8s. per sack. SPHAGNUM, 7s. 6d. per sack; all sacks and bags, 2s. each. RUSSIA MATS, 10s. 6d. to 18s. per dozen. RAFFIA, VIRGIN CORK, STAKES, &c. BONES, 1-inch, 11s. per cwt. Pure BONE-DUST, 11s. 6d. TOBACCO-PAPER, Spéialité, 10d. per lb., 28 lb. for 21s. CLOTH, 1s. per lb., 28 lb. for 25s. Price List, free. W. HERBERT and CO., Hop Exchange Warehouses, Southwark Street, London, S.E.

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

If you fail to obtain this Valuable Canvas from your local Seedsman, send a post-card to—

BENJ. EDGINGTON, (LIMITED), 2, DUKE STREET, London Bridge, S.E.,

Who will reply by return, with Samples and full Particulars.

"FRIGI DOMO" CANVAS.

ORCHID BASKETS, RAFTS, BOATS, AND CYLINDERS, AND ALL GARDEN SUNDRIES.

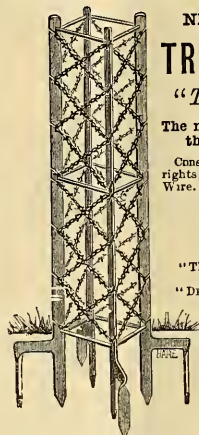
PRICE LIST

from the Largest Manufacturer in the Trade,

H. C. SMYTH, 21, GOLDSMITH STREET, DRURY LANE, W.C.

HILL & SMITH,

BRIERLEY HILL, STAFFORDSHIRE, And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN

TREE GUARD,

"The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Up-rights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire, Dec. 28, 1887."

"DEAR SIRS,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 50 more as before. I enclose cheque for your account."

Yours truly, RICH. GREEN, Messrs. Hill & Smith.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM, With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant. Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.



FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers, CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO THE LONGFORD WIRE CO. (LIMITED), WARRINGTON.



PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.



GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in latter from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

THREE MILLIONS

HAVE BEEN PAID BY THE

RAILWAY PASSENGERS ASSURANCE COMPANY, FOR ACCIDENTS OF ALL KINDS. 64, CORNHILL, LONDON.

W. D. MASSY, Secs.
A. VIAN,

BOILING WATER OR MILK.

EPPS'S GRATEFUL-COMFORTING. COCOA BREAKFAST-SUPPER.

HORTICULTURAL SHADINGS and NETTINGS, TIFFANY, COTTON WOOLS, and WADDINGS. Supplied Wholesale by—JOSEPH COOKSON, 21, New Cannon Street, Manchester.

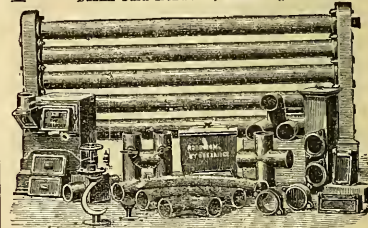
SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 6s. Stamp size, 2d. for 1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal order, and in about ten days you will receive Highly-finished Copies, with Original—FRANCIS AND CO., 29, Ludgate Hill, London.

TO MUSHROOM GROWERS.—For disposal, a quantity of pure HORSE DROPPINGS. Would be put free on rail in South London. Offers per ton to be addressed to FUNGUS, Messrs. Street & Co., 30, Cornhill, E.C.

NICOTINE SOAP.—An effectual and speedy Eradicator of Scale, Thrips, Green Fly, Mealy Bug, Red Spider, American Blight, and all Parasites affecting Plants, without injury to Foliage. Price 1s. 6d., 3s., and 5s. 6d.; 14 lb., 15s. 6d.; 28 lb., 15s.—GOREY AND CO., Limited, 13, 15, and 18, Fenchurch Street. To be obtained through all Seedsmen and Florists.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER and CO., Fernborough, Hants.

THOS. W. ROBINSON Darnley Park Ironworks, Stourbridge.



EXPANSION JOINT HOT-WATER PIPES, SOCKET HOT-WATER PIPES. Illustrated revised Price List on application, free.

GARDENING APPOINTMENTS.

MR. E. J. SAYERS, as Gardener to the Rev. H. E. TROTTER, Ardington Vicarage, Wantage, Berks.
MR. R. AITKEN has been appointed Head Gardener to Colonel HANKEY, Beaulieu, Hastings.
MR. TULLETT, as Head Gardener at Raby Castle, Staindrop, Durham.
MR. H. BENITZEN, of the Plant Department, Kensington Gardens, has been appointed Head Gardener to Baron KNUTH, Ryegard, Copenhagen, Denmark.
MR. J. WILLIAMS, until lately a Foreman at the Gardens, Melbet Court, Romney, Hants, as Head Gardener to the Rev. G. H. DAVENPORT, Foxley Hall, Hereford.
MR. THOMAS WILLIS, late Manager of Redland's Nursery, Edinworth, Hants, as Manager to E. F. SUTCH, F.R.H.S., The Nurseries, Maidenhead, Berks.

CATALOGUES RECEIVED.

E. P. DIXON & SONS, Hull—Agricultural Seeds.
J. R. PEARSON & SONS, Chilwell Nurseries, Nottingham—Show and New Zealand Felagnum.
S. STEPHENSON, Prospect House, Belper—New and Choice Florists' Flowers, &c.

WANTED, a HEAD GARDENER, married, where six are kept. Must thoroughly understand growing Grapes, Raspberries, and late forcing. Also Gardening in all its branches. Apply in first instance by letter, giving particulars of experience, capabilities, age, family, how long in last situation, to **BAILIFF**, Walpole Grove, Esq., Marden, Kent, Surrey.

WANTED, as GARDENER, a thorough good MAN, one used to growing Fruit, Flowers, &c., for market preferred.—Write **X. V. Z.** Messrs. South and Botwright, 29, Tabernacle Street, Finsbury, E.C.

WANTED, a GARDENER, for a Single-headed place, Conservatory, Vineyard, and small Kitchen Garden.—Apply, with references, to **W. FISHER**, Nurseryman, Burton-on-Trent.

WANTED, a married MAN, with small family, as **SECOND GARDENER**.—Must understand Vines, Cucumbers, Melons, Peaches; wages, 15s. per week.—Apply to **A. HOAKE**, Wolverhampton.

WANTED, a GARDENER (Single), for Natal.—Age about 30; some experience with Orchids desirable.—Apply, by letter, stating wages wished, to **B. S. WILLIAMS and SON**, Victoria and Paradise Nursery, Upper Holloway, N.

WANTED, a SECOND GARDENER, (married, no children), to take charge of Kitchen Garden, Pigs, and Poultry. Wife must be a skilled Nurse, for which extra pay. A good house offered. First rate character most essential.—Apply, stating wages, to **J. P. WAX**, Warwick.

WANTED, a young MAN, unmarried, as **SECOND GARDENER**, experienced in Out and In-door work. Wages to commence at 15s. per week. Furnished room, with firing and light. There are a Head Gardener and two Ins. Address, stating full particulars, age, and character, to **MRS. GOUGH NICHOL**, Holmwood Park, Dorking, Surrey.

WANTED, a GARDENER.—To make him- self useful. Window cleaning, Boots, &c.—Apply, 156, High Street, Fulham, before 10 or after 8 o'clock; or 64, Haymarket, during the afternoon.

WANTED, a good GENERAL GARDENER.—Glass, &c. Churchman and abstarner desired. Married, without family. Nice house. Wife to take Gentleman Lodger.—Address, A. B., Mr. Clark, Bookseller, Dorking.

WANTED, a PROPAGATOR and GROWER of Grapes, Cucumbers, Tomatoes, Plants, Cut Flowers, &c. The experience, references, and wages, to **J. FERGUSON**, Whitgate Lane Nursery, Blackpool.

WANTED, two active young MEN, one as general Fruit and In-door, the other well up in Wreath and other Floral Work. State age, wages, and references to **FLORIST**, Messrs. **HURST and SON**, Seed Merchants, 152, Houndsditch, London, E.C.

WANTED, a PROPAGATOR of Clematis, Roses, Conifers, and Rhododendrons.—**F. STREET**, Heathcote Nurseries, Camberley, Surrey.

WANTED, a PROPAGATOR and GROWER of Soft-wooded Stuff; ten miles from London; married, steady, and experienced; wages required.—**B. C.**, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, IMMEDIATELY, for the Propagating Houses, a young MAN that has been accustomed to propagate and turn out successfully a large quantity of soft-wooded plants for wholesale and parcels post work. Preference given to one that can keep and grow his stock well. None need apply whose character will not bear the strictest investigation, and who has not held a similar position.—**FLETCHER, SON, and CO.**, Nurserymen, Seadenham, and Florists, Chesham.

WANTED, a young MAN accustomed to Grafting, Budding, and General Nursery work, to proceed to the Cape, on a guaranteed three years; £3 first year; £1 and £3 for remaining two years. Passage paid to any really suitable and practical man. Send full particulars. None need apply unless used to such work, also of an unblemished character.—**H. CANNELL & SONS**, Swanley.

WANTED, a good GROUND FOREMAN, for a Private Asylum. One with good taste for Laying-out Grounds, and capable of Managing a Large Staff, not less than 26 years of age. Wages, 25s. per week. Good character for sobriety and perseverance indispensable.—**C. F. PRAGNELL**, Holloway Gardens, Virginia Water.

WANTED, a FOREMAN for Houses, about 25 years of age. Must be well up in the cultivation of all kinds of flowers and fruit. Wages, £1 per week, and bothy. First-class character required. Write, stating age and full particulars to **Mr. W. CATTLEY**, Beedingwood, Horsham, Sussex.

WANTED, an Experienced FOREMAN for Powerscourt Gardens, Rosiskerry, Ireland. Only those with a thorough knowledge of growing Fruit, Flowers, &c. for market and house need apply. Age not under 27. Wages, 18s. per week. Bothy. Apply, with copies of Certificates, to **D. CROMBIE**, Gardener.

WANTED, as FRUIT FOREMAN, a practical MAN, who has had experience in the growing of all kinds of Out-door Fruit trees, and is capable of managing a staff of men. A thoroughly competent man is required, to whom a good salary will be given.—**WM. PAUL and SON**, Waltham Cross.

WANTED, a good WORKING FOREMAN, one who is well up in Growing Cucumbers and other Stuff for Market. Must be steady, and have good references, or need not apply.—**T. OAKMAN**, Scotland Green, Pooder's End.

WANTED, a thorough practical Man, as **FOREMAN for the Houses**.—Cut Flowers a speciality. Apply, stating age, wages required, and experience, to **W. TROUGHTON**, Nurseryman, Preston, Lancashire.

WANTED, a good GENERAL ALL-ROUND MAN, honest and sober, for a Small Market Nursery. Well up to growing the usual stuff for a Retail Trade. Wages to commence at 21s. per week.—Apply with reference and age to **B. FORTESCUE**, East Avenue Nursery, Cowley Road, Oxford.

WANTED, a young MAN, having had some experience in Growing Plants and Flowers for Market; also a young WOMAN, as Junior Assistant in making Wreaths, &c.—**ROBT. FEATHERSTONE**, St. Ann's Nursery, Kirkstall.

WANTED, an active experienced young man, as **JOURNEYMAN**, chiseller, in the Garden to commence 15s. per week. Bothy, milk, and vegetables.—Apply, stating full particulars, to **G. TANSON**, Orchardleigh Park Gardens, Frome, Somerset.

WANTED, TWO or THREE respectable Young MEN, for the General Work of a Market Nursery. Address letter to **W. H. R.**, care of **J. W. Vickers**, 5, Nicholas Lane, E.C.

WANTED, THREE active young MEN for Jobbing Work; must have a knowledge of Trees and Shrubs, also Pruning and Nailing of Fruit trees; and be neat and quick at work. Wages, 18s. per week, and overtime. Apply, with references, to **W. FISHER**, Nurseryman, Burton-on-Trent.

WANTED, a sharp, active MAN, for the Kitchen and Flower Garden. One with a good knowledge of Fruiting and Nailing of Fruit trees; and be neat and quick at work. Wages, 18s. per week, and overtime. Apply, with references, to **J. HUGHES**, Wentworth, Woodhouse, Rotherham.

WANTED, a young MAN, quick at Watering and Potting; will also be required to help in Propagating-house. State wages, reference, &c., to **CRANE and CLARKE**, Hildsire Nursery, March, Cambs.

WANTED, a young MAN, well up in Budding, Grafting, &c., and who has a general knowledge of Out-door Nursery Work. References and wages expected, to **GEORGE HAVELOCK**, Abbey Wood, Kent.

WANTED, a Single MAN and MOTHER.—Man to work in Garden, 15s. a week, and house.—Apply to **Mrs. LEVISON-GOWER**, Bill Hill, Wokingham, Berks.

WANTED, a trustworthy and experienced young MAN, to look after small Kitchen Garden, Cow, and Poultry. Bothy, light and firing provided. State wages, &c., to **E. WHELEIGH**, The Gardens, Moray Lodge, Campton Hill, Kensington, W.

WANTED, a young MAN, for Inside and Outside Work, in the Kitchen, bothy, milk, and vegetables. Apply by letter only.—**G. KING**, Canon's Park Gardens, Edgware.

WANTED, a HANDY MAN, for Out-door Nursery Work.—Particulars to **JOHN E. KNIGHT**, Nurseryman, Wolverhampton.

WANTED, an APPRENTICE, not under 18, with some experience preferred.—To live in bothy. Premium required, for two or three years.—**P. Q.**, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED a YOUTH for the Plant Houses.—About 18 years of age; active; one with market experience preferred.—Apply to **Mr. BOWMAN**, Hylands, Chelmsford, stating wages expected, and references.

WANTED, a good GENERAL HAND, in a small Nursery. Must be a good Budder and Grafter, and able to act as Suburban when required.—Apply, with full particulars, **CHARLES RYLAND**, Bold Lane Nursery, Aughton, near Ormskirk.

To Florists.
WANTED, an energetic, pushing young LADY, good at Wreaths and Crosses, for a Suburban Business. Must be a good Saleswoman, and have excellent references.—**SKELTON**, High Street, Leyton.

FLORIST—Young Lady IMPROVER REQUIRED. Out-door. State age and all particulars.—**M. J.**, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 p.m. on Wednesday will, in all probability, be held over to the next week.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

B. S. WILLIAMS and SON beg to intimate that they have at present in their Nursery and on their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, where the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

Gardeners, Farm-Bailiffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"**DICKSONS, CHESTER**."

Head Gardener.
JOHN LAING and SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

RICHARD SMITH and CO.
beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars.—Apply to **THOMAS BUTCHER**, Seed Merchant and Nurseryman, Croydon.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, The Vineyard and Nurseries, Garston, near Liverpool, wish to recommend to any Nobleman or Gentleman who may require a thoroughly competent and reliable HEAD GARDENER, David Lindsay, who was Head Gardener for the last twelve years to the late Sir Thomas Howard Moss, Bart., of Otterspool, near Liverpool.—Full particulars on application to the Company.

GARDENER (HEAD).—Life experience in Early and Late Forcing, and the general requirements of large Establishment. Establishment must be of proved and previous employers.—**E. WILES**, Edgware, Bury.

GARDENER (HEAD), where two or more are kept.—Age 34, married. Thoroughly experienced in Stove, Greenhouse, Flower and Kitchen Gardens, Pleasure Grounds, &c. Leaving through breaking-up of Establishment. Excellent characters from present and previous employers.—**JAMES SHEPHERD**, 15, Church Road, Bromley, Kent.

GARDENER (HEAD), or **GARDENER and BAILIFF**.—A GENTLEMAN can highly recommend his late Working Gardener to any Lady or Gentleman requiring the services of a thorough practical man; please state wages and full particulars.—**ALPHA**, Messrs. Cutbush, Seed Merchants, Southgate, N.

GARDENER (HEAD); age 33, married.—**J. R. MCLEAVE**, eight years Head Gardener to R. Heywood Jones, Esq., Badsford Hall, is open to re-engagement with any Nobleman or Gentleman requiring a thoroughly practical Gardener. Has had sixteen years' experience in all branches; is thoroughly conversant with the requirements of a good and established. Testimonials of the highest order.—Oatsclough, Winsford, Cheshire.

GARDENER (HEAD).—A Lady wishes to recommend her late first-class Head Gardener. Thoroughly understands his duties. Several years' excellent character.—Address, **MRS. FULLER MAILLAND**, 39, Phillimore Gardens, Kensington, London, W.

GARDENER (HEAD), where two or three are kept.—Age 30; married, no family; well acquainted with glass and kitchen-garden, table decoration; near London preferred.—**W. BULLY**, The Hatch, Sunninghill, Berks.

GARDENER (HEAD), in good establishment. Married, no family. Abstainer. Life experience in Early and Late Forcing all kinds of Fruit, Flowers, Vegetables, Mushrooms, also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' good character from late employer and sixteen years' references.—**J. D.**, Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD), where two are kept; age 27.—**ANDREW**, Gardener, Chapman Dean, Broadwater, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD).—Age 42; married, no family. Life experience in all branches. Fourteen years' Head, Land and Stock if desired.—**F. W.**, 31, Bridge Street, Witney, Oxon.

GARDENER (HEAD).—Age 30, married, no family; at present head of five. Disengaged May 1st; fourteen years' practical experience in large and well-stocked Gardens; all departments Under Glass and Outside; soundly recommended.—**H. E.**, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD).—Age 33. Leaving present situation to get married. Good character from present and previous employers. Stansteads Stock and Farming.—**J. B.**, Bridge Road Nursery, Gray's, Essex.

GARDENER (HEAD), where two or three are kept, or good SINGLE-HAND.—Age 35, married. Ten years' experience in large establishments; good references; abstainer.—**G. M.**, 13, Clifton Terrace, Ashville Road, Leytonstone, Essex.

GARDENER (HEAD), where three or four are kept.—Age 30, single; sixteen years' practical experience. Good references.—**A. GILLITT**, Hasing Park Gardens, Alton, Hants.

GARDENER (HEAD).—Age 43, married; 16 years Head to the late Lord Cottesloe. Twenty-nine years' experience; good reference.—**A.**, Pond Square, Highgate, London, N.

£10 will be paid to any one furnishing the Addresser with information of any gardening chances that will lead to obtaining an engagement as HEAD GARDENER, where six or more are kept. Well versed in every branch of Horticulture. Age 39, married. Open house for leaving. Highly recommended by present and previous employers. — LAWRENCE, Mr. J. Heath, Coxwell Road, Faringdon, Berks.

GARDENER (HEAD).—W. WELCH, twenty years Head Gardener to R. Toomer, Esq., High Grove House, Reading, will be pleased to communicate with any Lady or Gentleman in want of a practical man. Good character. — W. WELCH, High Grove Gardens, Reading.

GARDENER (HEAD), where one or more are kept. — A. SILEN, Esq., will be pleased to recommend Henry Clark to any Lady or Gentleman requiring the services of a thoroughly experienced man. — H. CLARKE, 9, Woodbine Cottage, Churchy Road, Upper Sydenham.

GARDENER (HEAD), where two or more are kept; age 26. — J. BOWDEN, Gardener, Kenton Court, Sunbury, wishes to recommend G. Saunders, who has been with him for six years, to any Lady or Gentleman requiring a good all-round Gardener. Life abtainer.

GARDENER (HEAD WORKING), where two or more are kept. — Age 37, married, twenty years practical experience in Vines, Stove and Greenhouse Plants, Fruit, Flower, and Kitchen Garden. Seven years' excellent character. Lett through Gentleman giving up. — A. B. CRATHORNE, Chislehurst.

GARDENER (HEAD WORKING).—Fourteen years' practical experience in all branches. Two years Focumio to present situation. Good character from present and previous employers. — J. SIMPSON, Gardens, Marton, R. S. O., Yorkshire.

GARDENER (HEAD WORKING). — Understands Vines, Peaches, Cucumbers, Tomatoes, Flower and Kitchen Garden. Married, no family. Good references. Disengaged March 25. — MOSS, Harold Court Nurseries, Romford, Essex.

GARDENER (HEAD WORKING), where one or two are kept. — Age 27, thoroughly experienced in Vines, Peaches, Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Excellent character and testimonials. — W. D., 40, East Street, Reading, Berks.

GARDENER (HEAD WORKING), where two or three are kept. — Age 28, single at present; thirteen years' experience in large establishments. — G. W., East Ornelton Lodge, Fembroke.

GARDENER (HEAD WORKING, or good SINGLE-HANDED). — Married, no family; good all-round practical experience. — Excellent character through life. — GARDNER, Star Hill, Newport, Essex.

GARDENER (HEAD WORKING). — Age 33, married. Sixteen years' practical experience in the Early and Late Forcing of Plants, Fruits, and Vegetables. Well recommended from last and previous situations. — L. MATTHEWS, 10, Faulkner Street, Hoole, Chester.

GARDENER (HEAD WORKING), where help is given. — Abtainer. Thirteen years' practical experience both inside and Out. Excellent references. — E. E., Casino House, Herne Hill, Surrey.

GARDENER (HEAD WORKING). — Thoroughly understands Forcing, Stoves, Greenhouses, and Conservatories, Pleasure and Kitchen Gardens. First-class testimonials. — W. BENNETT, 254, Milkwood Road, Herne Hill.

GARDENER (HEAD WORKING); age 32, married; abtainer. Eighteen years' experience in large establishments. Early and Late Forcing Vines, Peaches, Melons, Cucumbers, Tomatoes, Mushrooms, Orchids, Stove and Greenhouse Plants, Fruit, Flower, and Kitchen Gardening, House and Table Decoration. Messrs. WILLS & SEGAR, The Royal Exotic Nursery, South Kensington, S.W., can with every confidence recommend C. TAYLOR, as above to any Lady or Gentleman requiring the services of a reliable and trustworthy man.

GARDENER (HEAD WORKING). — Age 35; no family; thoroughly good all round man; life experience. Wife could manage Dairy. Good testimonials and character. — R., 1, Darwin Road, Noel Park, Wood Green.

GARDENER (HEAD WORKING). — Age 32; sixteen years' experience in Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse, Flower and Kitchen Gardening; highly recommended. — A. CHEESEMAN, 107, Queen's Road, East Grinstead.

GARDENER (HEAD WORKING). — Age 28, married; fourteen years' practical experience in all branches. Excellent references as to character and ability. Nine years in present situation, over three years as Head. Leaving through a death. — H. UNDERWOOD, Gardener, Stapleford, Notts.

GARDENER (HEAD WORKING), where one or more are kept. — Age 29, married. Fourteen years' experience. Good references. Abtainer. Wife good Dairy-woman. — A. HAYWELL, Cranmer, Dorchester.

GARDENER (HEAD WORKING), where others are kept. — Age 40, married, no family; life experience in Vine, Flower, Fruit and Kitchen Gardening. Excellent character. — J. HIGGINS, The Gardens, Shepton Mallet, Somerset.

GARDENER (HEAD WORKING). — Single; trustworthy, intelligent, and thoroughly practical in all branches, including Decorating and Laying-out. Abtainer. High testimonials. — J. H., 90, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING); age 33, married when suited. — C. J. GOLDSMITH, High Trees, Redhill, will be pleased to recommend his Foreman, Joseph Mead, to any Lady or Gentleman requiring the services of a thoroughly practical man. He has had sixteen years' experience in all branches.

GARDENER (HEAD) AND ORCHID GROWER. — Age 29; married; thoroughly practical in all branches; twelve years in last situation as above where one of the largest collections of Orchids was cultivated; very successful hybridizing and raising seedling Orchids; excellent reference as to character and abilities. — H. G., Acacia Cottage, Bichhurst Road, Tooting, S.W.

GARDENER (HEAD WORKING), where three or more are kept. — Age 45, married, no family; thoroughly understands Vines, Stove, Greenhouse Plants, all kinds of Fruit. Good character from last and previous employers. — S., 1, Kent Road, St. Albans.

GARDENER (HEAD WORKING), where two or three are employed. — Age 28, single; thoroughly experienced in all branches. Good character. Abtainer. — Z., 29, The Grove, Homerton, London, N.E.

GARDENER (HEAD, or good SINGLE-HANDED). — Age 37, married, three children; seventeen years' experience in all branches. Good character. — H. ATRILL, Rose Hill, Hampton, Middlesex.

GARDENER (HEAD OF SINGLE-HANDED); age 23. — Thoroughly experienced in all branches; excellent references from previous employers; disengaged. — E. S., Granville House, Rodney Street, Pentonville, N.

GARDENER (HEAD, or good SINGLE-HANDED). — Age 28, single. Leaving through a death. Over eight years' character from present situation. — H. ELLIOTT, 7, Alexandra Street, Stapleford, Notts.

GARDENER (HEAD), or FOREMAN. — Age 28. Well up in all branches of Gardening; good references. Two years' Foreman. — CLARKE, 35, Stamford Road, Fulham.

GARDENER (SINGLE-HANDED, or where help is given). — Age 28, single. Six years' good character. — G. FLETCHER, South Hill Park, Bracknell, Berks.

GARDENER (SINGLE-HANDED). — Age 27, married; understands all branches of Gardening. Good character. — GARRATT, F. Kiddle, Weedon, Northamptonshire.

GARDENER (SINGLE-HANDED or otherwise). — Age 24; abtainer. Experienced in Flower, Fruit, and Kitchen Gardens, Stove and Greenhouse. Can be highly recommended. — J. VICKERS, Morcles, Ryfield, Northamptonshire.

GARDENER (SINGLE-HANDED). — Age 23, single; well up in Vines, Peaches, Melons, Stove and Greenhouse Plants. Highly recommended. Disengaged now. — A. S., 25, Balham Grove, S.W.

GARDENER (SINGLE-HANDED). — Age 24; eight years' thorough experience, inside and Out. Twelve months' good character, seven years' previous. — T. UMPLBY, Bolmore Cottage, Hayward's Heath.

GARDENER (SINGLE-HANDED), or where help is given. — Age 40, married, no family; practical and experienced. — GARDNER, South Bank, The Avenue, High Barret, Herts.

GARDENER (SINGLE-HANDED, or where help is given). — Age 25, single; good experience in Glass, Flower and Kitchen Gardens. Three years and seven months' good character from present employer. — A. H. DUFFIN, Normansfield, Hampton Wick, Middlesex.

GARDENER (SINGLE-HANDED, or where two or three are kept). — Age 26, married. Thoroughly experienced in the cultivation of Vines, Peaches, Cucumbers, and Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Good references. — C. BOWYER, Eucalyde Terrace, Cherryinton Road, Cambridge.

GARDENER, good SINGLE-HANDED. — Age 20; married; understands Vines, Melons, Cucumbers, Tomatoes, and Flower and Kitchen gardens; fourteen years' experience in all branches. — W. FLEET, The Gardens, Aspen Lodge, Sudbury, Hurrew.

GARDENER. — Age 33, married, no family. Experienced in Orchids, Stove and Greenhouse Plants, Choice Fruits, Flower and Kitchen Gardens. Nearly seven years' good character. Disengaged. — J. BRYANT, 15, Mason's Hill, Bromley, Kent.

GARDENER AND ORCHID GROWER. — Mr. HILL, Trig Park Gardens, can confidently recommend his Foreman as above. Seventeen years' practical experience in all its branches. For full particulars, apply to J. PHILCOX, Trig Park Gardens.

GARDNER (First), where two or three are kept. — Age 23, married when suited. Understands Melons, Cucumbers, Stove and Greenhouse Plants, Kitchen and Flower Garden. Good references. — G. JOSLIN, Hale Street, Staines, Middlesex.

GARDENER in a Small Nursery, or Foreman in the Houses in a private Establishment. — Good character; experienced in all branches. — W., 34, Croyham Road, South Croydon.

GARDENER; middle age. — N. PEPPER, Head Gardener to the late G. Burnard, Esq., for eleven and a half years, seeks situation as above. — N. PEPPER, The Gardens, Trarie Water, Welwyn, Herts.

GARDENER (SECOND), Inside, where six or seven are kept; age 21; nine years' experience. — Mr. GAYMER, The Gardens, Waverley Abbey, Farnham, Surrey, will be pleased to recommend W. Boxall as above.

GARDENER (SECOND), where three or four are kept. — Age 24, single; ten years' experience, Inside and Out. Good references. — H. B., Kingham, near Post-office, Totteridge.

GARDENER (SECOND), in the Rose-houses. — A Young man seeks situation as above; age 21; six years' character from present employer. — W. A., 22, Railway Cottages, Newhaven Wharf, Sussex.

GARDENER (SECOND or UNDER), where three or four are kept. — Age 26, single. Three years in last place; Inside and Out preferred. — L. S., High Street, Balcomb, Sussex.

GARDENER (UNDER). — Age 19; three and a half years' good character. Wages 12s. to 14s. Bothy preferred. — E. O., 25, Adland Street, Burdett Road, E.

GARDENER (UNDER), Outside. — Age 21, where two or three are kept. — Five years' good character from present situation, four years' previous. — J. PAYNE, The Gardens, Orchardleigh Park, Frome, Somerset.

GARDENER (UNDER). — Age 23; ten and a half years' experience. Used to Glass, Flower and Kitchen Gardens. — H. BARTON, 19, Queen Street, Crook Place, Norwich.

GARDENER (UNDER). — A Lady wishes to recommend a respectable Lad, aged 17, as above, two and a half years' good training. Abtainer. — M., Hazelhurst, Nutfield, Redhill, Surrey.

GARDENER (UNDER). — Respectable young man, age 21. Last place two years. Excellent character. — J. F., S. Rutland Villas, Perry Vale, Forest Hill, S.E.

GARDENER (UNDER) in Kitchen and Flower Gardens. — Age 23. Single. Used to Scrubs and Lawn Mowers. Good character. — H. K., Holmbush Poteries, Fygate, Sussex.

GROWER of general Soft-wooded Staff. — Good references, and experience in Market Work. — Please state wages to J. K., 51, Thorne Street, Wandsworth Road.

ROSE GROWING. — Well up. A first-class and very successful exhibitor. First-class references. — C. H., *Gardeners' Chronicle*, Office, 41, Wellington Street, Strand, W.C.

PROPAGATOR and GROWER of Roses. — Inside or Out. — Age 23, married; eleven and a half years' experience. Successful Budder and Grafter. — T. NASH, The Cottage, Coombe Wood Nursery, Kingston Hill, S.W.

FOREMAN, in a good Establishment; age 25. — EDWIN BECKETT, Aldcham House Gardens, Elstree, can with every confidence recommend his First Journeyman, H. Naylor, as above.

FOREMAN (Houses). — Age 25; practical experience in early and late Forcing of Plants and Fruit. Strong, willing, and active; will be highly recommended for ability and trustworthiness. Two years with Mr. Bowman, Herts, Chelmsford. Abtainer. — R. LLOYD, Church Green, Shrewsbury.

FOREMAN, Inside, in a good establishment. — Age 28; thoroughly experienced in Plants, Fruit, and Orchids. Good references. — F. W., 122, Malham Road, Forest Hill, S.E.

FOREMAN, in a good establishment. — Age 27. Well up in Stove and Greenhouse Plants; Fruit Culture. Eleven years' experience. Good character from present and previous employers. — For references, apply J. AMOS, Pavilion Gardens, Folkestone.

FOREMAN, in the Houses. — Age 22. Thoroughly understands Plant and Fruit Houses, Early Forcing, &c. Good character from last and previous places. Abtainer. — W. COLBOURN, Neville Court, Tunbridge Wells.

FOREMAN. — Nine years' experience in plant and fruit Houses in good gardens. — G. THOMPSON, Park Gatehouse, Westwell, near Ashford, Kent.

FOREMAN, in a good establishment. — C. FURZE can with every confidence recommend his Foreman, F. Lupton, as above. — Scamper Hall, Billington, Yorks.

FOREMAN, in good establishment. — Age 24; eleven years' experience in Fruit and Plant-houses; also House Decorations. Good recommendations. — J. GODDARD, Woolham Lane, Woking, Surrey.

FOREMAN. — Age 24. Good experience in Stove and Greenhouse Plants, Vines, Peaches, Melons, Cucumbers, Chrysanthemums, &c. First-class references. — W. SUMMONS, 4, Princes Road, Ealing Dean.

FOREMAN, Inside, or Inside and Out. — Age 22; nine years' experience in good all-round work. Two and a half years in present situation. Good character. Abtainer. — W. BOALCH, The Gardens, Creech Graze, Wareham.

FOREMAN (GENERAL), in a good Establishment. — Has a thorough knowledge of Fruit and Plant Growing. Can be highly recommended. — A. COLEMAN, Cedar Cottage, Churley Wood, Hert.

FOREMAN, in the Houses. — Age 26; eight years' experience, four in present place as second; good character. — C. CLARKE, Barrell's Park, Henley-in-Arden.

FOREMAN.—Age 26; eleven years' experience. Good references.—W. DODWELL, Waddenden, Aylesbury.

To Nurserymen.

FOREMAN (HOUSE), PROPAGATOR, and SALESMAN.—Twenty-five years' practical and successful experience in principal London and Provincial Establishments, wholesale and retail.—H. W. REED, 2, Kirby Villas, Fletcher Road, Chiswick, W.

FOREMAN.—R. HONEY, The Briery, Sunderland, can with confidence recommend to any Gardener an energetic and thoroughly trustworthy young man as above. Abstainer.

FOREMAN, in the Houses.—Age 27; ten years' first-class experience; good fruit and plant grower; excellent character and testimonials.—J. DEAN, Lower Eaton, Hereford.

FOREMAN, age 24.—Mr. STEVENS, Stanage Park, Brampton Brian, Herefordshire, can with confidence recommend S. Hallett as above. Experienced in Vines, Fines, Plants, &c. 15 years in present situation. Good testimonials.

FOREMAN; age 25.—J. CHANDLER wishes to recommend to present Foreman, J. Stevens, to any Gardener requiring a thorough competent man in Houses or General. Eleven years' experience.—Rya Park Gardens, Potter's Bar, Middlesex.

To Nurserymen and Florists.

FOREMAN or MANAGER.—Age 45; thirty years' experience in all branches of the Trade. Good salesman; could take landscape and jobbing department furnishing or market salesman. Disengaged March 12. Five years' character from present employer.—W. M. C., 2, Clifton Villas, Castle Hill, Maidenhead.

JOURNEYMAN in Houses. Six years' experience in Fruit and Plant-houses. Bothy preferred. For character apply to MR. DAVIDSON, Head Gardener, Iwerne Gardens, Blandford.

JOURNEYMAN, Inside.—Age 23; good characters.—WEST, Eastry, Dover.

JOURNEYMAN, in the Houses.—Age 22; seven years' experience in general, stove, and greenhouse plants, Chrysanthemums, Vines, &c.; good recommendations.—H. ASHDOWN, Eastbury Manor, Guildford.

JOURNEYMAN, in the Houses.—Age 20; six years' experience. Three years' good character.—GEORGE CAPSNOCK, Elstree, Herts.

JOURNEYMAN, in the Houses.—Age 22; nine years' experience. Three and two years' excellent character. Abstainer. Bothy preferred.—W. FOSSEY, Brook Street, Brentwood, Essex.

JOURNEYMAN (First) in a good Establishment.—Age 23. Nine years' experience, abstainer. Good references.—G. HAMLIN, Hookfield Grove, Epsom, Surrey.

JOURNEYMAN (under a Foreman).—Age 19.—MR. HAIGT wishes to recommend A. Hinchliffe as above. Four years' experience.—A. HINCHLIFFE, Jowett House, Cawthorne, Barnsley, Yorkshire.

JOURNEYMAN, in the Houses; Fruit Department preferred.—Age 22; eight years' experience. Two years' good character.—H. WORMAN, The Gardens, Elylands, Lake, Isle of Wight.

JOURNEYMAN in a large Establishment.—Age 21.—MR. ROGERS, gardener to Lord Rendlesham, Rendlesham Gardens, Woodbridge, Suffolk, would be pleased to recommend a young man as above to any gardener requiring a strong, willing, and active man, well up in the branches of the profession, including Orchids, &c.; seven years' experience.

JOURNEYMAN, in the Houses.—Age 23. Good references. Seven years' experience Inside and Out.—J. HARDY, The Gardens, Ruxley Lodge, Esher, Surrey.

JOURNEYMAN, in the Houses.—MR. MASTON, Gardener to the Countess of Cambridge, can with confidence recommend a smart, active, and intelligent young man, age 22. Three years in present place.—Weston House Gardens, Shipston-on-Strour.

JOURNEYMAN, Inside, in a good Establishment.—Age 22; seven years' experience. Well recommended. For particulars, apply to R. GILBERT, High Park Gardens, Stamford.

JOURNEYMAN (First), in the Houses in a good establishment.—Age 23. Two years' in present place. Good reference. Bothy preferred.—T. KIPPING, Ashridge Park Gardens, Great Berkhamstead, Herts.

JOURNEYMAN, in the Houses.—Age 21; good character. Can be well recommended.—E. CARTER, The Gardens, Lockrey Hall, near Romney.

JOURNEYMAN, in the Houses.—Age 20; seven years' experience. Inside. Good character. Bothy preferred.—E. CHALKLEY, The Gardens, Wood Hall Park, Hertford.

JOURNEYMAN, to any Gardener in a good Establishment.—Age 23.—MR. HILL, Ebritham Gardens, Cambridge, wishes to recommend a good and respectable man as above.

JOURNEYMAN, or IMPROVER.—Age 18; four years' good character, Inside and Out, from present situation. Bothy preferred.—G. JONES, Brasted, Sevenoaks, Kent.

JOURNEYMAN, in the Houses; age 22.—Two years and a half in present situation. Mr. BOYES will be pleased to recommend a young man as above. Bothy preferred.—R. ORCHARD, Tower House Gardens, Chiswick.

JOURNEYMAN, under a good Foreman; age 20.—A strong, active, and pushing young man; well recommended.—F. MOSS, Clermont Gardens, Watton, S. O., Norfolk.

JOURNEYMAN (First), Inside, or Inside and Out in a good establishment.—Age 23; nine years' experience; good characters; eighteen months in present situation.—H. FAWCETT, The Gardens, Norris Green, West Derby, Liverpool.

JOURNEYMAN (SECOND), Inside, in a large Private Establishment.—Age 19; five years' experience; three under Glas. Excellent character.—H. ROUSE, Malpas' Brompton, York.

JOURNEYMAN (First).—MR. T. ROBINSON, Elsfeld Gardens, can highly recommend a young man (age 21) as above. Seven years' experience. Well up in Chrysanthemums, Plants, Fruits, &c. Good references. Abstainer.—E. PARLOW, Elsfeld Gardens, Hollingbourne, Kent.

JOURNEYMAN (First) in the Houses of a good Establishment.—Age 21. Two years' experience. Good character, and can be well recommended.—H. F., Mr. Smith, Church Road, Ascot, Berks.

JOURNEYMAN (INSIDE).—Age 21; four and a half years' in present situation. Has been used to fires, &c.—A. BAILEY, 35, St George's Square, Maidstone, Kent.

JOURNEYMAN, Inside, under a Foreman.—Age 20.—J. TRIGGER, Milton Gardens, Peterborough, can highly recommend John Samworth, who has been under him four years.—Bothy preferred.

JOURNEYMAN (First) in the Houses in a good Establishment.—Age 23; excellent character from present and previous situations.—H. BRADLEY, The Gardens, Dyffryn Park, North, Glamorganshire.

JOURNEYMAN, in the Houses.—Age 20; six years' experience. Three years' good character.—G. GATRELL, The Gardens, Elylands, near Sandown, Isle of Wight.

JOURNEYMAN, Inside and Out.—Age 20; four years and ten months' experience. Good character. Total abstainer. Bothy preferred.—C. PAXTON, Edgcote Gardens, Banbury.

IMPROVER, in a Gentleman's Garden.—Age 19; some experience Inside and Out. Obliging and willing. Bothy preferred.—J. JOHNSON, Jr., Shipton, Brough.

IMPROVER, in the Houses.—Age 19; strong and healthy; four years' experience Inside and Out, with good character.—E. A. COLE, Westbury-on-Trym, Bristol.

IMPROVER.—A young Man, age 20; six years' experience Inside and Out. Good character. Bothy preferred.—E. CALVER, Brookfield, Norfolk.

IMPROVER, under a good Gardener.—Age 16; strong and willing, not afraid of work. One year's excellent character.—JACKSON, Claydon Park, Winslow, Bucks.

IMPROVER, Inside, or Inside and Out.—MR. H. DROVER can highly recommend a young man (age 19), as above, who has had four years' experience with him chiefly Inside.—W. ROWSON, 31, West Street, Ventnor, Isle of Wight.

IMPROVER, in the Houses, in a good Establishment.—Age 22; excellent character from present and previous situations. Will give premium.—E. REES, The Gardens, Wylfryn Park, Meath.

IMPROVER, under a good Gardener, Inside and Out.—Age 18. Strong, active, willing. Three years' good character.—Apply, CHARLES LAWRENCE, Stone House Farm, Drimpton, near Reading.

IMPROVER.—Inside and out, in Large Establishment, or Gentleman's Garden; Bothy preferred. A young Man (age 20). Three years' good character.—A. SCOTT, Swarland Gardens, Felton, Northumberland.

IMPROVER, Inside; age 19.—A. GOODEN, Shipwyke House, Chichester, would be pleased to recommend a willing young man as above; four years' good character.

To Gardeners and Florists.

APPRENTICES.—Applications are invited from respectable young men willing to take a boy as an indoor apprentice. A premium not exceeding £25 and suitable outfit is offered. Apply to JOSEPH BOND, 49, Poland Street, London, W.

To Gardeners.

A GENTLEMAN wishes to recommend a YOUTH of 18 as Assistant in Garden. Nineteen months good practical experience in a good fruit firm; would give altered arrangements for a good milker, and can help with stock.—Adrie seither JAMES ROBERTS, Mrs. Duke, 55, Cardington Street, Hampstead Road, N.W., or T. J. EDWARDS Esq., Dulwich Common, S.E.

TO FRUIT FARMERS, &c.—A Horticultural Student, after twelve months' training, desires to obtain fruit practical experience in a good fruit firm; would give his services in exchange for thorough practical experience in fruit farming.—Address, with full particulars, W. F. STIFF, Hextable, Swanley, Kent.

TO FLORISTS or CAPITALISTS.—Manager of a first-class Florist of Paris wishes to find re-engagement as above, or to meet with Gentleman Capitalist to establish a first-class business (with a view to the working of Paris). Advertiser has had fifteen years' experience in the best Continental Houses. First-class certificates and diplomas from France, Germany, and England. Three years in London, where he took several first prizes for Table Decorations, &c. (R. B. Garden), connected with the principal Flower Growers of France. Can furnish undeniable references.—Apply to ANDRE, 38, Faubourg St. Honoré, Paris.

TO FRUIT GROWERS under Glass, or FRUIT FARMERS.—Young man, age 23, strong and willing, offers his services.—O. M. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO HEAD GARDENERS.—W. WARD, Little Aston Gardens, Sutton Coldfield, wishes to procure a place for his son, a respectable youth, age 17 years, as IMPROVER. He has been under me Two years in the Houses, and in charge of fires. Will pay a small premium. Bothy preferred. Clean, steady, and willing.

TO GARDENERS.—Wanted to place a Youth (age 18) to learn under a good Gardener. Has been out before. Can have a good character.—H. WALKER, Kiaver, Stourbridge, Worcestershire.

TO GARDENERS, &c.—A young Man seeks a situation to look after Herbaceous Borders, Wall Trees, and Pleasure Grounds. Five-and-a-half years' character.—G. KING, Mars Hill, Dover Street, Ryde, I. W.

TO GARDENERS, &c.—A GENTLEMAN strongly recommends a young Devonshire man, age 22, of excellent character; an abstainer; used to cows, and a gardener; strong, willing, and intelligent; five and a half years' under gardener with vicar of his parish.—S. The Gabriels, 61, North Side, Clapham Common, London.

TO GARDENERS, &c.—Situation wanted, in a Gentleman's garden preferred; willing to make himself useful. Abstainer. Age 20; good references.—A. DIX, 7, Queen's Road, Winchester, Hants.

TO GARDENERS.—A young Man, age 24, seeks re-engagement as UNDER GARDENER, Inside, or Inside and Out. Nine years' experience; good character.—J. J. J. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS.—Wanted by a steady young man, age 22, a situation as JOURNEYMAN (First). Six years' experience; good references.—W. GREIFFETS, Hillside Cottage, West Felton, Oswestry, Shrop.

TO NURSERYMEN.—Situation wanted, by a young man (age 21), had six years' good experience, and character.—A. LANE, Orchard Road, Wellington Road, Hounslow, Middlesex.

TO NURSERYMEN.—Situation wanted, in a Market or Trade Nursery.—Used to Roses, Pelargoniums, Ferns, Fuchsias, &c.—Age 23; several years' experience.—BUSS, Amwell Street, Huddersfield, Herts.

TO NURSERYMEN.—Situation wanted in a Nursery. Age 23. Well acquainted with Tomatoes, Cucumbers, Palms, and general nursery work.—A. S., 30, Oriental Street, Poplar, E.

TO NURSERYMEN.—Situation wanted in a Nursery, in London or Suburbs, as JOBBING GARDENER, by an honest, trustworthy man, age 28. Good character. State wages and particulars to F. M., Mr. H. Moss, Charlton, Banbury.

TO NURSERYMEN.—Situation wanted in a London Market Nursery, by a young man (age 23) well up in the work. References from leading firms.—SMITH, 1, Fourty Avenue, Enfield Park, Enfield.

TO NURSERYMEN.—A young Man (age 21) seeks situation in a Nursery. Used to Fruit and Flowers.—E. TINKLER, Kingwood Cottage, Shortlands, Kent.

ESTATE CARPENTER, PAINTER, and GLAZIER.—Age 23, married; good allround hand wants re-engagement; gentleman's character. Has just est at in repair.—B. Mrs. Creasey, Cockfosters, New Barnet.

To Nurserymen and Gardeners.

HANDY MAN seeks employment.—Painter, Glazier, Handy at Repairs, Carpentering, Hot-water Joints, Own tools. Any District. Job not objected to. Good character.—G. Baker, 10, Secretan Road, Camberwell, S.E.

SHOPMAN, SALESMAN, or MANAGER.—Age 28, married; well up in Wreaths, Bouquets, Plants, Seeds, Sundries, Book-keeping, &c. Good Salesman. Excel ent references.—SHOPMAN, 93, Acre Lane, London.

SEED TRADE.—A young Man, age 30, seeks a situation. Many years' experience in General Trade nursery not objected to. Good references from last situation.—A. B., 2, Alfred Place, Tottenham Court Road, W.C.

HOLLOWAY'S PILLS.—For the cure of debility, bile, liver and stomach complaints this inappreciable medicine is so well-known in every part of the world, and the cures performed by its use are so wonderful, that it now stands pre-eminent above all other remedies, more particularly for the cure of bilious and liver complaints, disorders of the stomach, dropsy, and debilitated constitution. In these diseases the beneficial effects of the Pills are so permanent that the whole system is renewed, the organs of digestion strengthened, and a free respiration promoted. They expel from the secretory organs and the circulation the matter which produces indigestion, pain, fever, debility, and physical decay—thus annihilating, by their purifying properties, the virulence of the most painful and devastating diseases.

AWARDED TWENTY PRIZE MEDALS

AT INTERNATIONAL EXHIBITIONS AT HOME AND ABROAD.

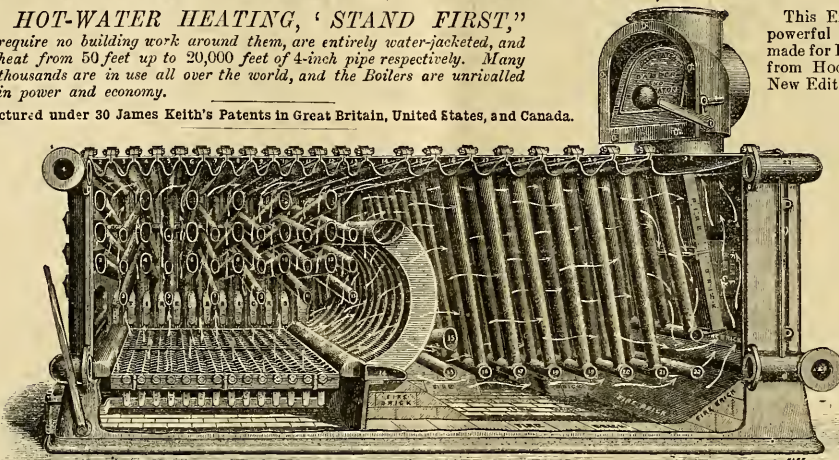
KEITH'S PATENT BOILERS, THE "CHALLENGE," "VIADUCT," "PYTHON," &c.,

FOR HOT-WATER HEATING, 'STAND FIRST'

require no building work around them, are entirely water-jacketed, and heat from 50 feet up to 20,000 feet of 4-inch pipe respectively. Many thousands are in use all over the world, and the Boilers are unrivalled in power and economy.

Manufactured under 30 James Keith's Patents in Great Britain, United States, and Canada.

This Engraving "illustrates the most powerful form of Boiler that has yet been made for Hot-water Circulation."—Extract from Hoob, on *Warming by Hot-water*, New Edition, 1891.



KEITH'S "PYTHON" BOILER, as illustrated, has 1,000 square feet of effective heating-surface, with $17\frac{1}{2}$ square feet of fire-grate area, heats about 20,000 feet of 4-inch pipe, and is the Most Powerful and Complete Sectional "Special" Hot-water Heating Boiler in the World.

JAMES KEITH (C.E., Assoc. M.Inst.C.E.), Gas, Hydraulic, Heating, Ventilating, and Consulting Engineer. Established 1823. Contractor to Her Majesty's Government. 57, HOLBORN VIADUCT, LONDON, E.C., ALSO AT EDINBURGH AND ARBROATH.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, Etc.; VENTILATING GEAR AND VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, is, **PRICE LIST FREE.**

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London." Telephone. No. 4765.

STOCK	SIZES
	Inches.
14x12	20x15
16x12	20x16
18x12	22x16
20x12	24x16
16x14	20x16
18x14	22x16
20x14	24x16

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*

SANKEY'S famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

Editorial communications should be addressed to the "Editor," Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Eminent of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, March 12, 1892. Agent for Manchester—JOHN HENWOOD.

GARDENERS' CHRONICLE

ESTABLISHED 1841.

No. 2673.

No. 273.—VOL. XI. {THIRD SERIES.}

SATURDAY, MARCH 19, 1892.

{Regt. as a Newspaper.} PRICE 3d.
{WITH SUPPLEMENT.} {POST-FREE, 3½d}

CONTENTS.

Apple Ashman's kernel	374	Orchid treatment	364
Improved	374	Orphium frutescens	372
Racteria	370	Plant portraits	371
<i>Da acical Magazine</i>	370	Potato, round and kidney	374
<i>Celsia arctura</i>	373	Snowdrops and Snowflakes	374
Chicago Exhibition	370	Societies	375
Cinerarias, white	374	Hortford Horticultural	370
Conifer garden at Chiswick, the	369	Mutual Improvement Luncheon	370
Diseases of the reproductive organs of plants caused by fungi	373	Manchester Royal Botanical	375
"Grevillea"	374	National Chrysanthemum	371
G. monogrammas	365	Royal Horticultural	371
Holme Memorial Fund, the	370	The Orchidæenne	371
Horticultural club	370	United Horticultural Benefit and Provident	369
Journal of the Scottish Meteorological Society for 1890	369	Stock-taking: February Strawberry tea	370
Kew Bulletin	371	Ten and coffee substitutes	372
Mangroves from Colombo	370	Traveler's notes	374
Manuring Holly hedges	375	Trichodesma physaloides	363
New or noteworthy plant	382	Two famous gardeners, London and Wise	361
Nomenclature of plants	368	Week's work	364
Orchid notes and gleanings	364	Flower Garden	367
<i>Cirripetalum Amansinum</i>	334	Forestry	367
<i>Cypripedium insignis</i>	364	Fruit under glass	366
Le Doux's var.	363	Hardy fruit garden	367
Odontoglossum Pescatorei, a fine	364	Kit-ken garden	366
Lycaste lasiocarpa	364	Orchid-houses	366
Orchids at Bromfield	364	Plants under glass	367
Orchids at Earlcliffe	364	Window plants	374
Saccolabium Hendersonianum	361	Worms in garden pots	375
Staubopea Wardi	364	<i>Arenia Orchidacea</i>	371

ILLUSTRATIONS.

Bladder Plum	363
Comifer ground at the Conifer Conference. (Supplement.)	375
<i>Gynogramma decomposita</i>	365
Orphium frutescens	363
<i>Trichodesma physaloides</i>	362

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

ROSES! ROSES! ROSES!—Plant now, 100 strong dwarf, H.P. Roses for 25s.; or 210 per 1000. The finest in the Trade. Send for Sample Doses, 5s. Cash with Order. CATALOGUES, free on application. O. H. GORRINGE, Roseland Nursery, Eastbourne.

Sed Potatoes. H. AND F. SHARPE invite the attention of the Seed Trade to their fine selected stocks of SEED POTATOES, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other growers. Seed Growing Establishment, Wisbech.

Now is the Time to Plant PÆONIES, PYRETHRUMS, DELPHINIUMS, and GAILLARDIAS, the most showy of all Hardy, Easily-grown Perennial Plants. For Priced Lists, see KELWAY'S SEED AND PLANT MANUAL for 1892, 1s. post-free (deducted from first order), to those unknown to us, KELWAY & GLADIOLI.—Now is the time to plant. Priced Descriptive List, free. KELWAY AND SON, Langport, Somerset.

VICTORIA PLUM, cheap, rough trees for market work, £15 to £25 per 1000. WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

THE BEST LAWNS are produced from—

SUTTON'S GRASS SEEDS, which should now be sown either to Make New Lawns or Improve Old Lawns. See full directions in—

SUTTON'S LAWN PAMPHLET, Sent post free by SUTTON AND SONS, READING.

BARR'S SEEDS, BULBS AND PLANTS. VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION. FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION. BULBS.—Gladoli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION. PLANTS.—Michelman's Daisies, Perennial Sunflowers, Double and Single Fescues, Irish, Oxford Hellebores, Carnations, &c. LISTS FREE ON APPLICATION. BARR AND SON, 12, King Street, Covent Garden, London.

Seeds.—Carriage Paid.—SEEDS. DICKSON AND ROBINSON'S DESCRIPTIVE CATALOGUE for 1892. Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOS; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application. COLLECTIONS of VEGETABLE SEEDS, from 5s. to 51s. COLLECTIONS of FLOWER SEEDS, from 2s. 6d. to 51s. Seed Warehouse, 12, Old Millgate, Manchester.

Prize Cob Filbert Trees. MR. COOPER, F.R.H.S., of Western Elms, Reading (date of Calcut Garden), is the Largest Grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good Trees now ready for distribution. Descriptive Price LISTS, &c., on application.

10,000 EUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 6s. to 15s. per dozen. Lean by the 1000. Cash with order. J. J. CLARK, Oldstone, West Brighton.

Trade Offer of Large Palms. W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliate Plants, Lowest Prices quoted on application. W. ICETON, Putney, S.W.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION TOMATOS, GRAPES, &c. Good references. ARTHUR L. BULLEN, FLOWER SALESMAN, 23, Exeter Street, W.C.; and 271 and 272, Flower Market, Covent Garden, W.C. CONSIGNMENTS of CHOICE FLOWERS SOLICITED.

MESSRS. SQUELCH AND WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best growers in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empty and labels supplied. Reference, London and County Bank, Covent Garden Branch.

WANTED, MAIDENHAIR FERN, ROSES, ORCHIDS, CARNATIONS, LILUM HARRISII, and other CHOICE FLOWERS, to SELL on COMMISSION. Boxes and labels supplied. Establish 1814. Telephone No. 2939. R. END, Wholesale Florist, 25, Wellington Street, Covent Garden, W.C., and Crystal Palace, S.E. 14th.

WANTED, 1000 ALPINE AURICULA, 1000 Seeding PRIMROSE, and 500 WALLFLOWER, CLAUD COOPER, West Norwood Vicarage, S.E.

WANTED, choice CUT FLOWERS for SALE in COVENT GARDEN MARKET; good prices made. No. of Stands, 169 and 170. Cheques weekly.—S. DENSON AND CO., The Nurseries, 23, Maid Vale, Edgware Road, W.

CHRYSANTEMUMS.—CARTERS' ILLUSTRATED CATALOGUE of the FINEST COLLECTION in the COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—The Queen's Seedsmen, 237 and 238, High Holborn, London, W.C.

Grape Vines—Grape Vines—Grape Vines. B. S. WILLIAMS AND SON have some extra strong Fruiting and strong Planting Canes still on hand. Full particulars as to Prices and Varieties on application. Victoria & Paradise Nurseries, Uppt Holloway, London, N.

PERENNIAL AND ALPINE PLANTS.—My new CATALOGUE (No. 114), containing full Lists of these Collections, is just issued, and will be sent, post-free, on application. To this List, which includes some splendid Novelties, is added a very carefully composed List of the very best and finest Shrubs and Dwarf Conifers specially adapted for rockeries. OTTO FROEHL, The New Munster Nurseries, Rieselbach, Zurich, Switzerland.

PANSIES, VIOLAS, and DAHLIAS.—We do as well as any firm in the Kingdom. Ten Gold and Silver Medals last season from leading Societies. Only standard exhibition varieties kept in stock. Prices from 2s. 6d. per dozen, carriage paid. Send for Catalogue and Competitor's Guide, 100 pages, post free, 3d. DAHLIA CUTTINGS supplied very cheap.—DOBBIE AND CO., Rothsay.

For Exhibition! BROAD BEAN, BIDDLE'S MONSTER LONGPOD.—Extra long, fine quality. Per quart 1s. 6d.

CARROT, BIDDLE'S SCARLET PRIZETAKER, Intermediate, the finest exhibition Carrot grown. Per oz., 1s. ONION, BIDDLE'S GIANT SPRING.—Too well known as a prize-winner to need further recommendation. Per oz., 1s. BIDDLES AND CO., THE PENNY PACKET SEED CO., Loughborough, Leicestershire.

G. C. PRIZE PACKETS, 4s. each, two for 7s. post-free. P.O., or 4d. stamps, contain 12 roots in each packet, of SOMERSET SEEDLING GLADIOLI, all A.1, carefully Hybridised Seedlings from First Prize Named Sorts; therefore, all that are worthy, may be named, as they will be NEW AND ORIGINAL VARIETIES. These are the Prizes. Plant during March, April, and May. Order early from—ROBERT H. POYNTER, Nurseryman, Seedsmen, and Florist, Taunton, Somerset.

LOBELIA, Royal Blue, trailing large bronzed foliage, the best ever raised for Baskets and Boxes, Strong-rooted Cuttings, 1s. per dozen; Emperor William, 2s. 6d. per 100. ADIANTUM CUNEATUM, in 60, good stuff, 12s. per 100. CHRYSANTEMUM CUTTINGS, Elaine, F. Percy, M. Lecroix, M. Lemoine, 2s. per 100. SHEPHERDS, Nurserymen, Tolworth, Surbiton.

TO NURSERYMAN AND OTHERS.—Strong, well-rooted plants of the following for Sale. THUIA GIGANTEA, 3 to 4 feet, 50s. per 100; do., 4 to 5 feet, 80s. per 100; THUIA OCCIDENTALIS, 2 to 3 feet, 40s. per 100. DOUGLAS FIR, 3 to 4 feet, 30s.; SILVER FIR, 1 to 2 feet, 40s. per 1000. Apply, FORESTER, Home Farm, Bowdod, Calne, Wilts.

POOLEY'S WORM DESTROYER.—For eradicating every kind of Worm from the roots of large Specimen Plants, Pots, Lawns, &c. It is easily and cheaply applied, and will not harm the most delicate Plant. In Parks, &c., 2s. 6d., 1s. and 12s. 6d. each. CORRY AND CO., LIND, 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

J. WEEKS AND CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tabular Rollers. King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE AND PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us, 1 cwt. and over carriage paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney. WM. THOMSON AND SONS, Clonsford, Galashiels, N.B.

WANTED, to RENT, near a good town, 400 to 600 feet run of good GLASS, and about an ACRE of LAND. No Stock.—Particulars to A. K., 70, Alexandra Road, Newland, Hull.

FOR SALE, a small FREEHOLD NURSERY containing 1 acre of Land, 8 Greenhouses, and 36 Lights, Potting and Van Sheds.—Apply on the Premises, to Mr. ORWOOD, Tangle Park, Hampton, Middlesex.

ORCHID EMPORIUM—"L'HORTICULTURE INTERNATIONALE," Limd.

Directors—MESSRS. J. LINDEN and LUCIEN LINDEN, LEOPOLD PARK, BRUSSELS, BELGIUM.

CATTLEYA REX. (JAMES O'BRIEN.)

CATTLEYA—"THE KING."

THE GRANDEST ORCHID EVER INTRODUCED.

MESSRS. LINDEN have much pleasure in Offering to AMATEURS a few Good Plants of the above MARVELLOUS NEW ORCHID. PRICE ON APPLICATION.

IMPORTANT NOTICE.—Some other importers assert they have introduced, or will shortly introduce, the CATTLEYA REX in large quantities. "They count their chickens before they are hatched." They shall not do so. MESSRS. LINDEN engage themselves to take back at the price paid every plant they may sell from this day forth, in case the same species, THEIR CATTLEYA REX, should be directly introduced by another firm in the course of the present year.

We offer to each visitor to our Establishment, who purchases to the amount of £50, a discount of £5, which will cover the expenses of the journey to Brussels (Our Unrivalled Stock at Hand, and Continuous Large Importation, enable us to make this exceptional reduction).

MESSRS. J. McLACHLAN and SONS, AUCTIONEERS, Clapham Common, S.W., are instructed to **SELL PRIVATELY** the LEASE of LAYENDER HILL NURSERY, with GREENHOUSES, &c., as fitted. Small premium. Apply for particulars to the Auctioneers as above.

FOR SALE, the long LEASEHOLD (old-established) NURSERY, consisting of Five Large Greenhouses and one in course of construction; having a frontage to and adjoining the Dockyard Station (S. E. B.), within easy distance of London; together with a three-roomed Cottage and two large Tool Sheds. For terms, &c., apply to—R. PECKITT, House and Estate Agent and Valuer, 31, Wellington Street, Woolwich.

TO BE SOLD, the LEASE and STOCK of a SMALL NURSERY, consisting of a Six-roomed Dwelling House, two Greenhouses, one 90 feet by 22 feet, and the other 41 feet by 13 feet, with about 1 Acre of Land; large House fully Stocked.—Apply to MR. BYATT, Ross Villa, Buckingham Estate, Hampton; or MR. G. PIKE, Conway House, Hanworth, Middlesex.

Hampton-on-Thames, on the Marling Park Estate. LAND FOR NURSERY!!!

MR. F. G. HUGHES begs to call the attention of Nurserymen and Horticulturists about to commence in business, to the exceptional advantages offered by this Estate. For full particulars apply—
The Estate Office, as above.

TO NURSERYMEN, FLORISTS, &c.—Capital Nursery Premises, in Turner Road, Lee, to be Let on lease, at a small nominal price; the premises consist of thirty-eight greenhouses, dwelling house, stabling &c., occupying about an acre of land, and are situated 6 miles from Covent Garden, London. May be viewed upon application to Mr. A. RUSSELL, 51A, Turner Road, Lee, S.E.

FREEHOLD NURSERY, to be LET or SOLD.—Acre of Ground, Cottage, 6 Greenhouses, 140 feet long, all well-heated, in full work. Ill health cause of leaving. Apply to Mr. J. H. A. Bray, Floral Hall, Richmond.

To Fruit Growers, Nurserymen, and Others.
GOOD ARABLE and MEADOW LAND to be LET or SOLD. Close to the main road at Ponder's End (9 miles from London). Long leases granted. Rent, £12 per acre per annum, with option to purchase the Freehold any time during the first nine years. Several large Market Nurseries are established on the Estate. Full particulars of A. and G. GUIVER, Land Agents, Ponder's End.

TO LET, a NURSERY, FLORIST, and SEED BUSINESS, in central position; Ground and Glasshouses in good order. Giving up owing to a death. Apply, A. J. DAVIS, Brecon Road Nursery, Abergevenny.

FLORIST BUSINESS, near Bath; 7 Greenhouses and several Pits, about 3 Acres of Land. Rent £15 per annum, good Cottage. The Glass and Stock may be purchased for about £250 at a very low price. An excellent opportunity for starting Business.—Apply, POWELL and POWELL, 18, Old Bond Street, Bath.

PROTHEROE and MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 47 and 48, Chesham Road, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 45, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by PULHAM and SON, 50, Finsbury Square, London, E.C., and Broxbourne, Herts. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

FOR ORCHIDS, and GARDENERS to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

A. G. WATSON,
FRUIT & FLOWER SALESMAN, ABERDEEN.
Sale Days, Tuesday and Friday, at 9 A.M.
Consignments solicited of Pot Plants & Cut Flowers

A RARE OFFER. Fifty packets of guaranteed Genuine FLOWER SEEDS, showy hardy varieties, 1s. Also large parcel of assorted VEGETABLE SEEDS, 2s., post free.
T. RICHARDS, 2, Cranham Street, Oxford.

LAXTON'S SEEDS and STRAWBERRIES.
—Best novelties and best standard sorts. 100 Certificates. Send for Descriptive Priced Lists.
T. LAXTON, Seed Grower, Bedford.

The Best Present for a Gardener.
VINES and VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
New Edition.
Price 5s., post-free, 5s. 6d.
A. F. BARROW, Royal Horticultural Society, Chiswick.

VINES.—VINES.—VINES.
We hold a fine Stock of the above, both Fruiting and Planting Canes. Names and prices sent on application.
JOHN PEED and SONS, Roupell Park Nurseries, Norwood Road, London, S.E.

ORCHIDS.
THE LIVERPOOL HORTICULTURAL CO.
(JOHN COWAN), Limited,
Have an immense stock of

ORCHIDS,
Both Established and Semi-Established, and they are constantly receiving
IMPORTATIONS
from various parts of the world.
INSPECTION IS VERY EARNESTLY INVITED.

The Company's Prices are all fixed as low as possible, with the view of inducing liberal Orders.

PRICED and DESCRIPTIVE CATALOGUE
Post-free on Application to the Company.

THE VINEYARD and NURSERIES,
CARSTON, NEAR LIVERPOOL.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY
Gardens, Regent's Park, N.W.

SPRING FLOWERS.
THE FIRST EXHIBITION OF SPRING FLOWERS will take place on WEDNESDAY NEXT, March 23. Gates open at 2 o'clock. The Band will play from 2 to 5.30. Tickets to be obtained at the Gardens only by vouchers from Fellows of the Society. Price, 2s. 6d. each.

CRYSTAL PALACE.
The ANNUAL SHOW OF SPRING FLOWERS will be held on SATURDAY, MARCH 26.
Schedules are now ready, and may be had on application to Mr. W. G. HEAD, Superintendent, Gardens Department, Crystal Palace, S.E.

Entries close March 19.

BRIGHTON and SUSSEX HORTICULTURAL ASSOCIATION.
SPRING SHOW, March 29 and 30.
For Schedules of Prizes, apply—
E. CARPENTER, Secretary,
90, St. James's Street, Brighton.

BRIGHTON and SUSSEX "NEW" HORTICULTURAL and MUTUAL IMPROVEMENT SOCIETY, The Dame and Corn Exchange, Royal Pavilion, Brighton, TUESDAY and WEDNESDAY, APRIL 5 and 6. Entries close March 28.
Schedules, &c., may be obtained of the Hon. Sec.—
MARK LONGHURST, 15, Church Road, Hove.
(This Society is in no way connected with any other.
N.B.—SUMMER SHOW, AUGUST 30 and 31.

WOLVERHAMPTON FLORAL FÊTE,
JULY 12, 13, and 14, 1892.
OPEN CLASSES for PLANTS, ROSES, FRUITS, &c.
OPEN AMATEUR CLASSES for ROSES.
Schedules on application to W. A. GREEN, Junr., Horticultural Secretary, Corporation Street, Wolverhampton.

SHREWSBURY GREAT FLORAL FÊTE,
AUGUST 17 and 18, 1892.
Schedules for 1892 are now ready. SIX HUNDRED and SEVENTY POUNDS in PRIZES.
ADMITT and NAUGHTON, The Square, Shrewsbury.

FWLER'S LAWN SAND.—For destroying
Daisies and other Weeds on Lawns, &c., at the same time acting as a Fertiliser, and improving the growth and colour of the grass. Price, in tins, 1s., 2s. 6d., and 5s.; kegs, 8s. 6d., 16s., and 30s.
CORY and CO., LIND., 13, 15, and 16, Finsbury Street, E.C.
Sold by all Seedsmen.

Fern Spores! Fern Spores!!
B. S. WILLIAMS and SON beg to offer
FERN SPORES saved from their large and unique Collection—

Greenhouse Varieties, mixed, per packet, 1s.
Store varieties, mixed, per packet, 1s.
Greenhouse and Store Varieties, mixed, per packet, 1s.
VICTORIA and PARADISE NURSERIES, UPPER HOLLOWAY, LONDON, N.

DAVIS'S BEGONIAS.—Superb in Quality.
Doubtless, 12s. to 63s. per doz.; Single, 3s. to 30s. per dozen. For Bedding, Double, 6s. to 18s. per doz.; Single, 4s. to 6s. per doz. Two of the best Doubles grown are *Altheaflora*, 5s.; and *Mauvette*, 3s. each. My Catalogue, the best published, describes nearly 300 of the best Varieties, free.
B. K. DAVIS, Begonia Grower, Lyovill, Somerset.

TRADE OFFER OF PALMS.
COCOS Weddeliana, in thumbs ... at 20s. per 100.
" " " in 60's, " at 55s. per 100.
KENTIA Fosteriana and Belmoreana, in thumbs, at 20s. per 100.
" " " in 60's, " at 40s. per 100.
" " " in 48's, " at 24s. per doz.
" " " in 32's, " at 18s. per doz.
SEAFORTHIA Elegans, in 60's, " at 32s. per 100.
" " " in 48's, " at 25s. per 100.
W. Icton has a fine Stock of *Asparagus plumosus* nanus, in 48's and 60's; *Pandanus* V. *Dracena Lindenii*, and *Ficus elastica*.—W. ICTON, Putney, S.W.

WELL-ROOTED PARADISE STOCKS
FOR SALE.

Apply, W. GREGORY, Nurseryman, Fimwell, Hawkhurst.
DOUBLE PINK IVY-LEAF GERANIUM,
Madame Crocne, fine strong cuttings, 5s. per 100.
W. H. DIVERS, Ketton Hall Gardens, Stamford.

NEW ZONAL PELARGONIUMS (GERANIUMS), LIST ready, free on application.
J. R. PEARSON AND SONS, Chilwell Nurseries, Notts.

SUPERB ORCHIDS, CHEAP—Thousands
to select from. Write for List, free.—P. MCARTHUR,
The London Nursery, 4, Malda Vale, London, W.

FRUIT TREES, —APPLES, PEARS,
PLUMS, CHERRIES, per 100 or 1000. Descriptive
CATALOGUES, post free, on application.
FLETCHER BROS., Ottersham Nurseries, Chertsey, Surrey.

RASPBERRY CANES—Norwich Wonder,
strong and well rooted.
At 15s. per 1000, cash with order. Not less than 1000 supplied.
ALBERT BATH, Vine Court, Sevenoaks, Kent.

DWARF DUTCH BOX—A large quantity
of Dwarf Dutch Box for present use or putting into
stock. Samples per post. Terms moderate to large purchasers.
JAS. WILKIE, Landscape Gardener, Cullander, N.B.

ASPARAGUS—This delicious vegetable does
not require half the expense often incurred. For
directions see Illustrated Seed List, free. Strong roots, 2s. 6d.
per 100; extra strong ditto, two years old, 4s. 9d. per 100.
RICHARD SMITH AND CO., Worcester.

R. GILBERT, High Park, Stamford, is now
offering the best of all RHUBARBS, "True Cham-
pagne," 4s. per dozen; also, King of the BRUSSELS
SPROUTS, "Universal Savory," "Late Victoria," "BROCK-
COLL," and "CHOU DE BURGHELEY" at 1s. per packet.

ORCHIDS A SPECIALITY—
Please write for New Illustrated Price List of well-
established, healthy, and easily-grown plants.

W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate,
London, N. Nursery, Orchard Road.

CHRYSAANTHEMUMS, PELARGONIUMS,
DAHLIAS, BEGONIAS, CANNAS, &c.—Our CATA-
LOGUES will be sent free on application.
15 First Prize (10 this year). 5 Gold Medals.
REID AND BORNEMANN, Sydenham, London, S.E.

RASPBERRY CANES. —BAUMFORTH
SEKDLING, 40s. per 1000; Semper Fidelis, 30s. per
1000. Sample 100 of either sent free. RED CURRANT TREES,
8s. per 100. Cash with Order. Free on Rail.
R. H. BATH, Wichech.

STANDARD ROSES, 14s. per doz. Bush
Roses, 6s. per doz.; best named Clematis, 14s. per doz.;
Ampelopsis Vetchia, 4s. per doz.; Variegated Ivies, 4s. per
doz.; Mrs. Sinkins Pinks, 12s. per 100; Ferns, in pots, 15s.,
21s., and 45s. per 100. Catalogue, gratis and post-free.
H. ENGLISH, Chelsea Nurseries, Clevedon.

BIRMINGHAM PRIMULAS,
Lady Churchill, The Queen, Marquis of Lorne, and all
select sorts, 2s. 6d. per packet. Mixed, 2s. 6d. Usual
Trade discount.
POPE AND SONS, King's Norton, Birmingham.

LOVEL'S YORKSHIRE STRAWBERRIES.
—We offer for Cash, good sorts in nice plants, carriage
paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample
dozen, 6d. Descriptive LIST free.
W. LOVEL AND SONS, Strawberry Growers, Driffield.

A PRIVATE COLLECTION OF CATTLEYS
AND ODONTOGLOSSUMS, and other kinds of ORCHIDS,
several hundred plants, about half unfloowered, must be sold;
open to best offer. Can be seen upon appointment.
Address, C. W., Clarendon Villas, Chislehurst.

FOR SALE, 100 Bushels of SCARLET
RUNNER BEANS, New Beans and Good, at 6s. 6d. per
Bushel. Send Sacks and Cash. Apply—
GEO. DEEKS, Kelvedon, Essex.

150,000—Special Offer of Kentias.
W. ICKTON has a large quantity of the
above to offer, very reasonable, at from 27 10s. per
1000. Thumbs, well-established, £10 per 1000; in 60's, well-
established, at £20 per 1000.
W. ICKTON, Putney, S.W.

W. W. JOHNSON & SON, SEED GROWERS
AND MERCHANTS, Boston, offer a few tone of this
excellent First Early POTATO. True Stock and good sample.
Price, per cwt. or ton, on application.

1000 flowering Bushes of GALANTHUS
ELWESI, CHIONODOXA LUCILLE, and C.
SARDENIS, will be sent on receipt of 10s. Orders are
requested to be sent not later than the end of April. Catalogue
gratis, post paid.
FRANZ SCHLOSSER, Kunst and Handelsgartner, Smyrna,
Asia Minor.

Many Acres of Lilies of the Valley!
T. JANNONCH, Largest Grower of LILIES
OF THE VALLEY in the Kingdom, offers 3-year-old
flowering Crowns for forcing, and 2 and 1-year-old Crowns for
planting out, of unsurpassed quality. Hundreds of testi-
monials. Time of sending out, November 1 to May 1. Prices
and terms on application.

T. JANNONCH (Clay of the Valley Grower) by special appoint-
ment to H.R.H. the Prince of Wales, Dersingham, King's
Lynn, Norfolk.

For PLEASURE and PROFIT.**FRUIT.** Nothing so Profitable
and Easy to Grow.
74 ACRES IN STOCK.

See CATALOGUE for Simple Instructions, and kinds of Trees
to suit all Soils.

ROSES. Hundreds of
Thousands.

BUSHES. Packing and Carriage Free
for Cash with Order.
ROSES in Pots, from 15s. per dozen.

ORNAMENTAL TREES, 91 ACRES.
4 ACRES OF GLASS.

CLEMATIS (80,000), from 15s. per dozen.
N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS { VEGETABLE, FLOWER,
& FARM.

DESCRIPTIVE LIST, FREE.
RICHARD SMITH & CO., WORCESTER.

PRIVATE SALE.
FRUIT TREES.**80,000 VERY CHOICE TREES.**

(Standards, Pyramids, and Wall-trained), Apples, Pears,
Cherries, Peaches, Filberts, and Plums; 20,000 noble tall
standard Victoria Plums and Damsons, six years old.
Trees are without blemish, twice transplanted, splendidly
rooted, and intended for the tenants and hedgerows on the
Estate. Guaranteed true to name. The superb Rhododen-
drons; 8000 Maiden Standards, and Dwarf Roses; 40,000 Black
and Red Currants, four years old; and forty kinds of Goose-
berries, 8000 Raspberries. In small or large quantities,
Purchaser's selection. Price half their value. See Catalogues.
Removing.—LAND STEWARD, Hon. GERTRUDE JONES,
Churchfield, Cradley, near Malvern.

FOREST TREES—Alders, 2 to 3 feet, 16s.
per 1000; Ash, 3 yr., 2s. 6d. per 1000; 1½ to 2 feet, 13s.
per 1000; 2 to 3 feet, 16s. per 1000; 3 to 4 feet, 20s. per 1000;
Ash, Mountain, 3 to 4 feet, 24s. per 1000; Beech, 2 to 2½ feet,
22s. per 1000; 4 to 5 feet, 40s. per 1000; Chestnut, Horse,
2 feet, 16s. per 1000; Spanish, 1½ to 2½ feet, 16s. per 1000;
Elm, Wych, 2 to 2½ feet, 16s. per 1000; Larch, 12 to 18 inch,
14s. per 1000; 1½ to 2 feet, 20s. per 1000; 2 to 2½ feet, 24s.
per 1000; Spruce Fir, 1½ to 2 feet, 14s. per 1000; Scotch Fir, 2 yr.,
2 yr., 1s. 18s. per 1000; 2 feet, 20s. per 1000; Hazels, 2 to 3
feet, 20s. per 1000; Hornbeam, 2 to 3 feet, 16s. per 1000; Oak,
English, 1½ feet, 12s. per 1000; 2 feet, 14s. per 1000; 2½ to 3
feet, 18s. per 1000; Privets, Oval, 1½ to 2 feet, 20s. per 1000;
Private Common, 1½ feet, 12s. per 1000; Sycamores, 1½ to 2
feet, 12s. per 1000; 4 to 5 feet, 40s. per 1000; Thorns, 2 feet,
10s. per 1000; 2½ feet, 12s. per 1000; 3 feet, 15s. per 1000;
3 to 4 feet, 17s. per 1000.

GARLIES MITCHELL, Nurseryman, Stranraer.

STANDARD { SUPERIOR VARIETIES.
ROSES. Special Prices, with
CATALOGUE,
on application.**DICKSONS NURSERIES CHESTER**
(LIMITED) (400 Acres)**NEW CHRYSAANTHEMUMS**
FROM AMERICA.

A. LADENBURG, ETHEL PAULE,
ADA H. LE ROY, MAMIE CRAIG,
RUTH CLEVELAND.

All Prize winners, and the finest lot ever introduced at one time.
Strong plants now ready, 4s. each, the set, 18s.
Send for Descriptions.

H. J. JONES, Ryscroft Nursery, Lewisham, S.E.

32 ACRES OF RHODODENDRONS,
AND
170 Acres of other Nursery Stock.

RHODODENDRON Ponticum, 9 to 12 inch	Per 1000
" " " " " "	12s. 90s.
" " " " " "	12 to 18 " 16s. 140s.
" " " " " "	" " " " 25s. 220s.
" " " " " "	" " " " 12s. 100s.
" " " " " "	" " " " 18s. 140s.
" " " " " "	" " " " 8 to 24 " 20s. 180s.

For other NURSERY STOCK, see CATALOGUE, free.
Rhododendrons make grand cover for Game: Hares and
Rabbits will not eat them; they will grow well under trees,
where many other trees perish. Smaller or larger sizes can be
supplied if required.

JAMES SMITH & SONS,
DARLEY DALE NURSERIES, near MATLOCK.

THE SOCIETY OF APOTHECARIES have
decided that a course of TWELVE LECTURES on
BOTANY shall be delivered by T. G. BAKER, F.R.S. and
F.L.S., at their Garden at Chelsea, on the SATURDAYS of
April, May, June, and July next, at 3 P.M.

The Lectures will be open to all Medical Students and
other Gentlemen being desirous to attend.
Tickets of admission to be obtained of the Curator at the
Gardens, and of the Bookstall at Apothecaries Hall.

J. R. UPTON, Clerk to the Society.
Apothecaries Hall, March, 1892.

Wiltshire County Ground Company, Limited.
TENDERS are invited for STRIPPING
TURF, EXCAVATING, and LEVELLING, &c., and RE-
LAYING TURF, on the CRICKET PITCH, about 5 acres in
extent. Plans and specifications can be seen at the offices of the
undersigned, the Company's Architects, to either of whom
tenders must be delivered by noon on MONDAY, the 28th inst.
No pledge is given to accept the lowest or any tender.

W. H. READ, M.S.A., Co. Exchange, Swindon.
ELLIS H. FITCHETT, F.S.I., Regent Circus, Swindon.
Dated March 15, 1892.

Vegetable and Agricultural Seeds.
H. AND F. SHARPE'S SPECIAL PRICED
LIST of the above-named SEEDS comprises all the
finest varieties of 1891 growth, and at prices very favourable
to purchasers. Those in the Trade who have not yet received
a copy can have one on application to Wisbech.

KELWAY'S SEED MANUAL
for 1892.
"So full, well-arranged, and practical, that amateurs will
know what to buy and find in the 'Manual.' A book of refer-
ence for all the year round."—The Queens.

1s., post-free (deducted from first order) to those unknown to us.
KELWAY AND SON, Langport.

CARNATIONS—Germania, Pride of Pens-
hurst, Mrs. Reynolds Hole, and Mrs. Frank Watts, good
strong stuff and fresh potted up for flowering, 9s. per dozen;
Mrs. Sinkins, 6s. per dozen. LOBELIA, Empress William,
true from cutting, strong stuff in pots, 2s. 6d. per 100;
F. V. Russell cuttings, 1s. per 100.

A. MOORE, Nurseries, Spalding.

NEW CHRYSAANTHEMUM, Mrs. Robinson
King, new Golden-Yellow. Incurred sport from Golden
Empress. Awarded six First-class Certificates. The true
certificated variety. 4s. each, 3 for 10s. 6d.

R. OWEN, Chrysanthemum Grower, Maidenhead.

Quality not Quantity.
THE PENNY PACKET SEED COMPANY,

(BIDDLE'S & Co., Proprietors),
LOUGHBOROUGH, LEICESTERSHIRE.
We invite those about to purchase garden seeds to send
for a copy of our complete Seed Catalogue and Guide, which
will be sent gratis and post free on application.

3000 Varieties catalogued, 500 Illustrations.

L'HORTICULTURE INTERNATIONALE
(Orchid Emporium), Leopold Park, Brussels.

THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN,
cordially invite Amateurs and Nurserymen to visit their
Establishment. They will collect in Horticulture International
the Finest, Healthiest, and Largest Stock of New, Rare, or
Popular Orchids in Cultivation. Grand Importations every
week. LISTS and CATALOGUES on application.

EUCHARIS CANDIDA.
SPECIAL OFFER BEFORE POTTING.

A grand lot, sound Bulbs, flowering size, just received from our
collector by ss. "Medway," in most possible condition.
100s. and 500s. per 100.

HUGH LOW & CO.,
CLAPTON NURSERY, LONDON, N.E.

NEW SINGLE PYRETHRUM, "JUBILEE."
First-class Certificate, Royal Botanic Society, London,
June 18, 1888.

One of the most beautiful & fine Varieties in cultivation;
dwarf in habit, bearing in abundance very deep Carmine
flowers.

See Editor's remarks in *The Garden*, June 20, 1891:—"Flowers, deep carmine; the richest-coloured variety we have seen, and very handsome."

Well established plants, ready for delivery in April, 2s. each
(usual D account to the Trade).

W. BALCHIN & SONS,
HASCOCKS NURSERY, SUSSEX

H. CANNELL & SONS'
CINERARIAS.
First named Collection in the
World for seed; row grand.
"CAME AND KENT."
SWANLEY, KENT.

ENOUGH FOR THE WISE.

CARTERS' INVICTA LAWN SEEDS

Forms beautiful
VELVET LAWNS
In 8 to 12 Weeks.

For making a New Lawn, order 4 lb. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 14 lb. of Carters' Lawn Manure, costing 1s. 6d., for every 1000 square feet—delivered free.

4 bushels of Carters' Invicta Lawn Seed, costing 97s. 6d. (sack included), and 5 cwt. of Carters' Lawn Manure, costing 90s., will sow an acre of Lawn—delivered free.

For Small Lawns order a 1s., 1s. 6d., or 2s. 6d. packet (sent post-free). A 1s. 6d. packet will sow 150 square feet of New Lawn or renovate double that area.

To Renovate or Improve a Lawn, order 4 lb. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 28 lb. of Carters' Lawn Manure, costing 7s., for every 2000 square feet—delivered free.

Carters' Pamphlet upon the Management of Lawns, 2s. for two stamps.

ROYAL SEEDSMEN BY SEALED WARRANTS,
237 HIGH HOLBORN, LONDON

CHRYSANTHEMUMS.

See our New DESCRIPTIVE CATALOGUE for all Novelties of the present Season, and all the best varieties in cultivation, post-free, on application to

PITCHER & MANDA,

The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

Select VEGETABLE,
Choice FLOWER,
The best qualities at
Moderate Prices.
Delivered Free
by Rail or
Parcels
Post.

SEEDS

The Best
SEED
POTATOS,
Garden Tools,
Sundries, &c., &c.
Illustrated
Descriptive Catalogue, No. 403
POST FREE ON APPLICATION.

Dicksons Seed
Growers, Chester.
(Limited)

SPECIAL CULTURE OF

FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW
OFFERED FOR SALE.

The Illustrated and Descriptive Catalogue of
Fruits, post-free, 3d.

The Descriptive Catalogue of Roses, post-free.

THOMAS RIVERS & SON,
THE NURSERIES,
SAWBRIDGEWORTH, HERTS.

WM. PAUL AND SON respectfully invite
inspection of the following TREES and SHRUBS,
now on Sale. Prices (on application) very reasonable, and
quality unexceptionable as to roots, tops, and stems:—

BEECH, purple, best variety ...	12 to 18 feet.
" common ...	12 feet.
BIRCH, Silver and others ...	12 to 14 feet.
ELMS, four sorts ...	12 to 18 feet.
LABURNUMS ...	9 to 10 feet.
LINES ...	8 to 12 feet.
MOUNTAIN ASH ...	12 to 16 feet.
NORWAY MAPLES ...	12 to 18 feet.
PLAINS ...	12 to 18 feet.
POPLARS, six sorts ...	12 to 18 feet.
SYCAMORE ...	12 to 18 feet.
THORNS, Paul's Double Scarlet (The Finest Trees in the Trade.)	12 to 14 feet.
FLOWERING SHRUBS, various ...	4 to 5 feet.

ARBOR-VITÆ, American ...	8 feet.
ACUBAS ...	3 to 4½ feet.
BOX, of sorts ...	3 to 5 feet.
CEDRUS ATLANTICA ...	5 to 10 feet.
DEODARA ...	8 to 12 feet.
CUPRESSUS LAWSONIANA ...	8 to 7 feet.
HOLLY, Variegated ...	8 to 12 feet.
" Green, named sorts ...	8 to 12 feet.
FIR, Scotch ...	8 to 9 feet.
" Austrian ...	3 to 8 feet.
LAURELS ...	3 to 7 feet.
OSMANTHUS ...	2 to 4 feet.
PICEA PINSAPO ...	6 to 8 feet.
RHODODENDRON PONTICUM, off loam ...	2 to 4 feet.
" Hybrida ...	2 to 4 feet.
" Named sorts ...	2 to 4 feet.
YEW, Common, and others ...	3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and
Pyramids.

APPLES and PEARS, Horizontal-trained,
CHERRIES and PLUMS, Fan-trained.

ASPARAGUS for Forcing.

PAUL'S NURSERIES, WALTHAM CROSS.

South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station,
Great Eastern Railway.

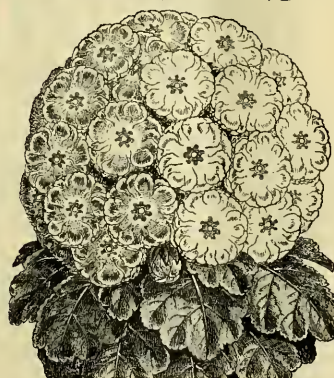
ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

WEBBS'



NEW PRIMULAS.

Per Packet, Post Free.

WEBBS' NEW FIRE-FLY ...	2/6 & 5/-
WEBBS' PURITY ...	2/6 & 5/-
WEBBS' ROSY MORN ...	2/6 & 5/-
WEBBS' SCARLET EMPEROR ...	2/6 & 5/-
WEBBS' EXQUISITE (mixed) ...	1/6 & 2/6
WEBBS' MODESTY ...	2/6 & 5/-

From Mr. R. GREENFIELD, Gardener to
Thos. Lloyd, Esq., The Priory.

"Your Red and White Primulas are AI, the
flowers being large, and of great substance; they
have been greatly admired by all who have seen
them. You have got very fine strains."

WEBB & SONS, WORDSLEY, STOURBRIDGE.

Williams' Shading Materials.

THE MOST SUITABLE FOR
SHADING ORCHIDS, FERNS,
Palms, and Stove and
GREENHOUSE PLANTS.

It is a strong, durable Cotton
Netting, woven in squares so
close as to exclude the
direct rays of the sun,
but admitting the
greatest amount
of light attain-
able through
shading.

It with-
stands the
weather better
than any other
class of Shading,
and may be bene-
ficially used on account of
the thickness of its texture,
during cold weather, to keep
the frost out. The leading
Orchid and Plant Growers in
the country have used this material
for some years, and speak very highly
of it, pronouncing it to be the very best
material for Plants they have ever used.

Blinds made up and fixed complete.
Sold in pieces, 30 yards long by 12 yard wide.
Price 6s. each. Samples submitted gratis.

This new shading is in the form of a white powder,
and is prepared for use by applying boiling water
to the compound, and allowing it to cool,
when it can be applied by means of a brush.
It dries instantaneously, and can be
rubbed off easily when moist. This
shading may be used for GREEN-
HOUSES, SKYLIGHTS,
WINDOWS, &c.

Sold in 1 lb. packets,
with directions for
use, price 1s. each.
1 lb. free by
parcel post for
1s. 4d.

B. S. WILLIAMS & SON,
Victoria and Paradise Nurseries,
Upper Holloway, London, N.

JOHN GREEN, F.R.H.S., Has Now Ready 1,000,000 Good Things.

THE
J.G.
SEEDS
DEREHAM
FOUNDED 1803

SEND FOR
ILLUSTRATED
CATALOGUE
OF ALL
THE BEST THINGS.

THE
J.G.
PLANTS
DEREHAM
FOUNDED 1803

THE ABOVE PRICES ARE FOR J. G.'S SELECTION; PURCHASERS WISHING
TO SELECT FOR THEMSELVES, SHOULD SEND AT ONCE FOR CATALOGUE.

JOHN GREEN, NURSRIES, DEREHAM.

ROSES.

STANDARDS, from 21s. per dozen.

DWARFS, from 6s. per dozen.

CATALOGUES, post-free.

FRANK GANT, BRAISWICK NURSERY,
COLCHESTER.

ANTHONY WATERER invites from intending Planters an inspection of the following well-grown and finely-rooted EVERGREENS:—
ABIES CANADENSIS (Hemlock Spruce), 5 to 8 feet.
 " **DOUGLASSII**, 8 to 12 feet.
 " **OLAUCA**, 5 to 8 feet.
 " **HOOKERIANA** (Pattoniana), 3 to 6 feet.
CEDRUS ATLANTICA, 4 to 5 feet.

" **GLAUC**, 3 to 6 feet.
 " **LIBANI** (Cedar of Lebanon), 4 to 10 feet.
CUPRESSUS LAWSONIANA ERECTA VIRIDIS, 4 to 8 feet.
 " **LUTEA** (Golden), 3 to 6 feet.
JUNIPERUS CHINENSIS, 3 to 10 feet.
 " **AUREA** (Golden Chinese Juniper), 3 to 5 feet.
PICEA CONCOLOR, 3 to 7 feet.
 " **GRANDIS**, 5 to 8 feet.
 " **LASTOCARPA**, 4 to 5 feet.
 " **MAGNIFICA**, 3 to 5 feet.
 " **PUNGENS**, 1½ to 4 feet.
 " **GLAUC** (Blue Spruce), 1½ to 4 feet.

PINUS AUSTRIACA, 3 to 7 feet.
LARICIS, 3 to 4 feet.
THUOPSIS BOREALIS, 4 to 7 feet.
DOLARRATA and **VAREIGATA**, 3 to 8 feet.
THUJA LOBBII (giantes), 5 to 9 feet.
 " **OCCIDENTALIS LUTEA** (Golden), 3 to 5 feet.
WELLINGTONIA GIGANTEA, 3 to 7 feet.

YEW, Common, 3, 4, 5, and 6 feet.
 " **Golden**, of all sizes up to 10 feet, in various forms, Pyramids, Globes, and Standards, in point of variety, size, and quality unequalled.
 " **Golden Seedlings**, 3, 4, to 8 feet.
 " **Irish**, 5 to 10 feet.
 " **Golden**, 3 to 6 feet.
ATOUBA JAPONICA, 2½ to 4 feet.
RAMBUSA METARKE, fine clumps, 4 to 7 feet.
BOX, Green and Variegated, 3, 4, 5, and 6 feet.
HOLLIES, Common, from 3 to 10 feet.

" **ALTALIBERENSE**.
 " **HODGINS** or **NOBILIS**,
 " **LAURIFOLIA**,
 " **MYRTIFOLIA**,
 " **SCOTICA**.
 " **Yellow berried**, and other sorts
 " **Variegated**, of sorts, 2, 5, up to 10 feet.
 " **Golden Queen**, 3, 4, 5, up to 10 feet.
 " **Silver Queen**, 4, 5, up to 10 feet.
 " **Weeping**, **Pendula** (Silver Variegated), on straight stems, with heads of 10 to 15 years' growth.
 " **New Golden Weeping**.
RHODODENDRONS, 3 to 8 feet.
 Kasp Hill Nursery, Woking, Surrey.



WHINHAM'S INDUSTRY GOOSEBERRY.

The Most Productive Gooseberry in Cultivation. Colour, dark dusky red. Of enormous size. In Seven Successive Seasons we have sold nearly

ONE MILLION BUSHES OF THIS VARIETY.

PRICE.—3-year Bushes, Strong 6s. per dozen.
 " " " Selected 3s.
 " " " Extra-Selected 12s.
 " " " Strong 40s. per 100.

WM. FELL & CO., Royal Nursery and Seed Establishment,
 HEXHAM, Northumberland.

HARDILY - GROWN

FRUIT
TREES

DICKSONS

The Nurseries, CHESTER (Limited).

TRUE TO NAME:
LARGEST STOCK
IN THE KINGDOM.
 Including all
 the most Popular and
 Profitable
 Kinds in Cultivation.

Descriptive Priced List Free on application.

SHRUBS AND CONIFERÆ.—American Arbor-vite, 2½ feet, 20s. per 100; Berberis aquifolium, 1 foot, 18s. per 100; Box Tree, 1½ foot, 12s. per 100; Cotoneaster microphylla, 2 feet, 12s. per 100; C. Simonsii, 3 feet, 12s. per 100; Escallonia macrantha, pot, 2 feet, 24s. per 100; Laurel, Common, 1½ foot, 10s. per 100; 2 to 2½ feet, 14s. per 100; 3 to 3½ feet, 18s. per 100; reticulata, 2 to 2½ feet, 18s. per 100; Portugal Laurel, 2 to 2½ feet, 22s. per 100; Rhododendron ponticum, 1½ to 2 feet, 25s. per 100; 2 to 2½ feet, 32s. per 100; 3 feet, 50s. per 100, full of buds; Yew, English, 1½ to 2 feet, 10s. per 100; 2 to 2½ feet, 30s. per 100; Araucaria imbricata, 3 to 3½ feet, 30s. per doz.; 4 feet, 40s. per doz.; Cupressus Lawsonii, 2 to 3 feet, 20s. per 100; 3 to 4 feet, 30s. per 100; Erecta viridis, 2 to 2½ feet, 30s. per 100; 3 to 3½ feet, 40s. per 100; Picea Norwinnia, 2 feet, 60s. per 100; 2½ to 3 feet, 12s. per dozen; Retinospora plumosa, 2½ feet, 30s. per 100; 4 to 4½ feet, 50s. per 100; Thuja Lobbia, 3 to 4 feet, 30s. per 100; 5 feet, 50s. per 100; 6 feet, 70s. per 100; 7 feet, extra, 80s. per 100; Thuopsis dolabrata, 2 feet, 40s. per 100; 2½ feet to 3 feet, fine specimens, 24s. per dozen; 4 to 5 feet, 4s. each.

GARLIES MITCHELL, Nurseryman, Stranraer.

DENDROBIUM WARDIANUM LOWII.

ALBUM, in Flower.
ODONTOGLOSSUM CRISPUM.
RENANTHERA LOWII.

MESSRS. PROTHEROE AND MORRIS will **SELL** by **AUCTION**, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on **TUESDAY NEXT**, March 22, at half-past 12 o'clock precisely, by order of Messrs. HUGH LOW & Co., a grand lot of **DENDROBIUM WARDIANUM LOWII**, the large-flowered variety, from Upper Burma, just received in fine condition; also a quantity of the Golden-yellow fringed **DENDROBIUM BRYMERIANUM**, a plant of the rare **DENDROBIUM WARDIANUM ALBUM**, in flower; **DENDROBIUM SUPERBUM GIGANTEUM**, many with flowering bulbs; a grand lot of **ODONTOGLOSSUM ALEXANDRÆ**, just to hand, per ss. "Atrato," in finest possible condition, from Pacho district.

At the same time will be offered **CATTLEYA GIGAS IMPERIALIS**, **CATTLEYA MOSSIÆ**, all with sheaths, yet unflowered in this country; **DENDROBIUM JAMESIANUM**, in bud; a few fine Established Plants of **RENANTHERA LOWII**, and other choice ORCHIDS.

On view morning of Sale, and Catalogues had.

INFERIOR SEEDS.

There are lots of failures this season, and as soon as discovered do not hesitate to write for "**CANNELL'S KENTISH PERFECT GOLDEN SEEDS**," carriage free; or for whatever else is required for the Garden. Testimonials for our Seed supplied this season are fast coming in. See the following:—

Mr. J. MASON, BERKELEY STREET, EYNEBURY, February 24, 1892.
 I find your seeds grown in the South produce the strongest plants.

T. WAITE, Esq., HREAMOOR, PENZANCE, March 3, 1892.
 The Vegetable Seeds arrived. The Peas are up, and looking splendid.

Mr. H. HALE, TROED-Y-RHIEW HOUSE, MOUNTAIN ASH, South Wales, March 3, 1892.
 Your vegetable seeds are fast gaining favour in this district.

Mr. THOMAS PARKES, NEW BARN FARN, CONSFLEY WOOD, WADHURST, March 1, 1892.

I have much pleasure in sending you another order, as the seeds I had of you last year were quite as good as you represented them to be. I believe every seed grew. The Beds of Onions are the best I ever grew.

CANNELL'S SEEDS

NONE PERFECT ONLY FROM CANNEL, KENT

POTTER'S EXCELSIOR WIRE ARMOUR HOSE

AWARDED TEN GOLD AND SILVER MEDALS.

PRICES of 60-foot LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
ARMOURD.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices—
 1-in. dia., best quality ... 38/3 | 1-in. dia., ex. stout qual. ... 52/0
 " ex. stout quality 43/7 | " best quality ... 52/0
 " ex. stout qual. 60/7 | " ex. stout quality ... 40/10
PLAIN.—Unkinkable Smooth-Surface Hose, will not crack. Is made of pure rubber and canvas. Quality guaranteed. 1-in. dia., specially cheap 19/3 | 1-in. dia., best quality ... 28/0
 " best quality ... 21/5 | " ex. stout qual. 33/0
 " ex. stout qual. 27/5 | " best quality ... 33/0
 " 2-inch diameter, ex. stout quality ... 40/10
 All Horse Carriages Paid and despatched same day as order is received.
 OLDEST and MOST RELIABLE HOUSE in the TRADE. Maker of Hose for Liquid Manures, Delivery, Steam, Fire, and Suction Hose, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use.
Catalogues of above and all kinds of HOSE, BELTING, and ROPEING FELTS Post Free from
ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

SMALL SHRUBS and CONIFERÆ.—*Abies orientalis*, 4-yr., 40s. per 1000; *Cupressus macrocarpa*, 1-yr., 30s. per 1000; *O. Lawsoniana*, 1 foot, 40s. per 1000; *C. creta viridis*, 8 to 9 inch, 30s. per 1000; *Cotoneaster Simmondsii*, 1 foot, 30s. per 1000; *Escallonia macrantha*, 8 inch, 8s. per 100; *Ivy*, Irish, 2-yr., 80s. per 1000; *Lilac*, purple, 2-yr., 30s. per 1000; *Laurestinus*, 6 to 8 inch, 7s. per 100; *Oaks*, evergreen, 3-yr., drilled, 10 inch, 50s. per 1000; *Ficus cambr.*, 3-yr. transplanted, 40s. per 1000; *P. Nordmannia*, 2-yr. transplanted, 60s. per 1000; *P. nobilis*, 2-year transplanted, 6s. per 100; *Privets*, oval, 9 inch, 8s. per 1000; ditto, 10 to 12 inch, 14s. per 1000; *Retinospora plumosa*, 8 inch, 100 transplanted, 40s. per 1000; *R. aurea*, 5 to 8 inch, 8s. per 100; *Rhododendron ponticum*, transplanted, 4 to 6 inch, 40s. per 1000; 8 to 9 inch, 55s. per 1000; *Veronica Traversii*, 8 inch, 7s. per 100; *V. Pinguifolia*, 8 inch, 8s. per 100; *Yew*, English, 2-yr., 1-yr. transplanted, 20s. per 1000; Irish Yew, 8 to 9 inch, 8s. per 100.

GARLES MITCHELL, Nurseryman, Stranraer.

THE OLD BROWN QUARRY EARLY POTATO. The Oldest Existing Sort in Ireland. In existence here for 150 years; certainly, when I was a child, prior to the famine period. There was no other sort grown for harvest purposes when men were so scarce. I am enabled to offer it for redistribution—it never having made its way to England—from a stock preserved for years on peat land, resting on limestone, in a remote part of county Cork. There must be something in that soil that preserved it for years. It is a first-class early June variety, of great substance. 7-lb. bag and postage for 2s. 6d.

WM. BAYLOR HARTLAND, F.R.H.S., Old Established Seed Warehouse, Cork, Ireland.



By Royal Appointment
Nurserymen & Seedsmen
to H.M. the Queen,
and His Royal Highness the
Prince of Wales.

Nurseries & Seed Farms
400 Acres.

PURE & RELIABLE GARDEN SEEDS
CARRIAGE PAID. CATALOGUES FREE.

LITTLE & BARTLANDYNE CARLISLE.

SEEDS! SEEDS!! SEEDS!!!

VEGETABLE and FLOWER SEEDS saved from CHOICE SELECTED STOCKS. Everyone with a garden or flower garden should send for a Catalogue before purchasing elsewhere. Special Low Quotations to large buyers.

B. L. COLEMAN, Seed Merchant and Grower, SANDWICH, KENT.

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Fæonies, Pæonies, Violas, Pelargoniums, Petunias, Petunias, Phloxes, Pinks, Pentstemons, Primulas, Pyrethrums, Verbenas, Herbaceous Plants, &c.; also of my true and reliable strain of

EAST LOTHIAN STOCKS, which, by the force of their merit, are now justly celebrated all the world over. In 5 distinct sorts, crimson, purple, scarlet, white, and Wallflower-leaved white, each sort, 1s. 2s. 6d., and 5s. per packet. It is an indispensable Reference-Book on all sections of Florists' Flowers, and should be carefully perused by all buyers of flowers. Free on application.

JOHN FORBES, Nurseryman, Hawick, Scotland.

VINES AND FIGS. **STRONG FRUITING and PLANTING.**—The best leading kinds, thoroughly ripened without bottom heat. Particulars on application.

DICKSONS NURSERIES CHESTER
(LIMITED) (400 Acres)

FERNS A SPECIALITY
The finest & most interesting Collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy Exotic & British
EVERY ONE interested in FERNS SHOULD
SEND FOR OUR partially descriptive
CATALOGUE FREE ON APPLICATION.
also our ILLUSTRATED CATALOGUE No. 21.
Price 1/6 post free.
W. & J. BIRKENHEAD
FERN NURSERY, SALE, MANCHESTER.

DANIELS BROS., TOWN CLOSE NURSERIES, NORWICH,

BEG to offer the following Plants, Bulbs, &c., which they can highly recommend:—

Roses, Hybrid Perpetual. A splendid collection, including all the choicest sorts. ... per doz.—s. d.
... 18s. and 24 0
Dwarfs or Buses ... 7s. 6d. and 10 6
Tea Scented, in pots, best sorts 15s., 18s., and 24 0
Clematises. Choice named sorts ... 18s. and 24 0

Carnations and Picotees. A very choice collection, including all the newest and finest sorts, 8s., 9s., and 12 0
Carnation, "Germania." Beautiful pure yellow. The best, fine plants ... 3 for 4s., each 1s. 6d.
New Garden Pink, "Her Majesty." Beautiful pure white, deliciously scented, 3 for 4s., each 1s. 6d.
Delphiniums. Single and double-flowered, choice named sorts, strong plants ... 6s. and 8 0
Gaillardias. Large-flowered hybrids, in beautiful variety, to name ... 9s., 12s., and 18 0
Perennial Phloxes. A splendid collection. Established plants to name ... 4s. 6d., 6s., and 9 0
Pyrethrums, Double-flowered. A grand collection, including the newest and choicest sorts. Established plants ... 6s. and 8 0
Single-flowered, in brilliant variety ... 9s. and 12 0
Pæoniae, Herbaceous. Double-flowered, choice named sorts ... 12s., 18s., and 24 0
Hardy Flowering Plants. We have a splendid collection of these, which we offer as follows, including such fine subjects as *Antennaria pallida*, *Chrysanthemum maximum*, *Dracunculus*, *Ergasterium*, *Helianthus*, *Heuchera sanguinea*, *Senecio pulcher*, &c. ... s. d.
100 in 100 choice varieties ... 30 0
60 " 50 " established ... 17 6
25 " 25 " plants ... 10 0
12 " 12 " " 6 0

Lilium auratum. Fine selected bulbs ... 6s., 9s., and 12 0
" **Rubro-vittatum.** Pure white, with deep crimson bands, splendid ... each 2s. 6d.
" **Wallichiana superbum.** Immense primrose-yellow trumpets, magnificent, ea. 3s. 6d.
Lilies. Choice named, from our fine collection—
... 9s., 12s., 18s., 24s., and 30 0
Begonias, Tuberous-rooted. Large brilliantly-coloured flowers of all the most beautiful shades. Good strong flowering tubers in splendid mixture ... 9s. and 12 0
Double-flowered, very fine mixed ... 9s. and 12 0
Gladiolus Gandavensis. Choice named sorts—
... 4s. 6d., 6s., 9s., and 12 0
In splendid mixture ... 9s. and 12 0
New hardy hybrid and flowering class with large, handsomely-stained or blotched flowers. Very choice mixed ... 9s. and 12 0
Tuberosee, American Pearl. Fine bulbs—
... per 100, 17s. 6d. 2 6

All carriage free with the exception of Tea Roses and Climax times, which are sent in pots.

ROSES, ROSES.

12 acres of Roses, 100,000 magnificent plants to select from. 22 Choice Standards, 21s.; 24 Half-Standards, 21s.; 12 Standards, 12s. 6d.; 12 Half-Standards, 10s. 6d.; 50 Choice Dwarfs, 50 sorts, 21s.; 24 choice dwarf Tea and Noisettes, 12s. 6d.; 12 choice climbing, 6s.; 12 beautiful Tea and Noisettes, 9s.; 6 lovely yellow Roses, 4s. 6d.; 6 Marchal Niel, 4s. 6d.; 6 Gloire de Dijon, 4s. 6d.; 6 choice New Roses 3s. 6d.; 6 old Cabbage Roses, 3s. 6d.; 6 Old-fashioned Roses, 3s. 6d.; 6 crimson Monthly Roses, 3s. 6d.; 6 pink Monthly Roses, 2s. 6d.; 6 white Monthly Roses, 3s. 6d.; 8 quick growing Climbing Roses, 2s. 6d.; 12 Sweet Briars, 3s. My selection, each with order. Thousands of Testimonials. Catalogues free.

JAMES WALTERS, Rose Grower, Exeter.

CLEARANCE SALE OF PALMS, DRACÆNAS, &c.

Strong Small Palms, averaging 10 to 12 inches high, of SEAFORTHIA ELEGANS, LATANIA BORBONICA, ARECA SAPIDA, CORYPHA AUSTRALIS, LACINIA BELMORIANA, K. POSTERIANA, and DRACÆNA KENTIA INEQUA, sample 2 of each, 14 plants in all, 6s.; 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.

Price per 100 or 1000 on application.
* LATANIA BORBONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.
* CHAMÆROPS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.
* Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.
* DRACÆNA CANIFOLIA, 5 to 8 feet high, 15s. each.
* Ditto ditto 4 feet high, 15s. each.
* PHENIX TENUIS, 3 feet high, 6s. each.
* Ditto ditto 2 feet high, 12s. per dozen.
* DRACÆNA INDIANA, 2 feet 6 inches high, 5s. each.
* Ditto RUBRA, 2 feet high, 18s. per dozen.
* Ditto CONGESTA, 2 feet high, 18s. per dozen.
* SEAFORTHIA ELEGANS, 90% in flower, strong, 6s. doz.
Price per 100 on application.
Those marked * are Packed Free, but not Carriage Paid.
W. OWEN, 106, Stamford Hill, N.

VERY FINE STANDARD ORNAMENTAL TREES.

ALMOND, fruit-bearing, 1s. 8d. to 2s. 6d.
BIRCH, Fern-leaved, weeping (silver bark), 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
Silver weeping, 7 to 8 feet, 1s. 3d. each, 12s. per dozen; 8 to 10 feet, 1s. 8d. each, 15s. per dozen; 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
CHERRY, double-blossomed, 1s. 6d. to 2s. 6d. each.
ELM, English budded, 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
Montana (Wych), 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
HOLLY (aquifolium), aquifolium weeping, bronze, elegantissima stricta, Gold Queen, green in variety, Handsworth silver weeping, Milkmaid weeping, new golden weeping, variegated in variety, Waterers', very fine, 10s. 8d. to 42s.
LABURNUM, English, 1s. 6d. to 2s. 6d. each, 15s. to 24s. per dozen.
LILAC, Persian, 2s. 6d. each.
Siberian, 2s. 6d. each.
MAPLE, colchicum rubrum, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
Norway, 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
Schwedleri, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. each, 30s. per dozen.
virginicum rubrum, 12 to 15 feet, 3s. 6d. each, 36s. p. doz.
SYCAMORE, 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. to 3s. 6d. each, 30s. to 36s. per dozen; 15 to 18 feet, 4s. each, 42s. per dozen.
purple-leaved, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
PLANE, occidentalis, 20 feet and more, very fine, 10s. 6d. to 21s.
PRUNUS PISSARDII (leaves richer in colour than Purple Beech, and hang much longer, has pretty pink flowers and nice fruit), 2s. 6d. to 3s. 6d. each, 24s. to 36s. p. doz.
PYRUS FLORENDIA, 2s. to 3s. 6d. each, 18s. to 24s. p. doz.
WILLOW, Kilmarnock weeping, 2s. 6d. to 3s. 6d. each, 24s. to 36s. per dozen.

Nurserymen and Seed Merchants,
RICHARD SMITH & CO., WORCESTER.

PLANTING SEASON.
HARDILY-GROWN
FOREST, FRUIT, & ALL OTHER TREES & PLANTS, EVERGREENS, ROSES, &c.
NURSERIES 400 ACRES:
VERY EXTENSIVE STOCK. Inspection invited.
Priced Catalogues Gratis & Post Free.
DICKSONS NURSERIES (LIMITED) CHESTER.

WILLIAM BARRON and SON offer the following well-grown and finely-rooted, which they offer at very low prices:—
ABIES, in variety, 3 to 6 feet.
CESTRIS ATLANTICA and DEODARA, 2 to 7 feet.
CUPRESSUS LAWSONIANA, in great variety, 2 to 8 feet.
NUTKAENSIS, in variety, 2 to 8 feet.
PICEA NOBILIS, very fine, 1 to 2½ feet, 65s. per 100.
in variety, 2 to 10 feet.
PINUS AUSTRICA, over 100,000, 1 to 8 feet.
Forest-tree sizes, very cheap, grand specimens, 6 to 8 feet.
PINUS, in variety, 1 to 8 feet.
RETINOSPORA, in variety, 1 to 8 feet.
THUYA OCCIDENTALIS, for hedges, 5 to 6 feet, 2s. per 100.
in variety, 2 to 8 feet.
YEW, Common, many standards, 1½ to 3½ feet.
Golden, grand specimens, up to 8 feet.
HOLLIES, in great quantity and variety, 1 to 10 feet.
Golden Queen Specimens, 4 to 7 feet, very fine.
ACUBA, green and variegated, 1½ to 2½ feet.

AVENUE TREES.
ACER SCHWEDLERII (scarlet-leaved Maple), 10 to 14 feet.
NORWAY MAPLE, 10 to 14 feet.
SYCAMORE, from 12 to 14 feet.
HORSE CHESTNUTS, very stout, 10 to 12 feet.
POPLARS, in variety, 10 to 14 feet.
PURPLE BEECH, from 10 to 12 feet.
OAKS, Scarlet and other varieties, 10 to 12 feet.
ELMS, fine variety, 10 to 14 feet.
THORN, Scarlet, Pink, and White, fine standards.
LARCH, very fine, from 2 to 3 feet.
THORN (Quick), strong, 15s. per 1000.
very strong, 20s. to 25s. per 1000.
FRUIT TREES, all kinds.
APPLES and PLUMS especially fine.
A visit from intending planters is respectfully invited. Elvaston Nurseries, Borrowash, Derby, only three minutes walk from Borrowash Station, Nottingham and Derby Midland Line.

INTERNATIONAL
HORTICULTURAL EXHIBITION,
EARL'S COURT, S.W.

Opening Day, May 7th, 1892.

INTENDING EXHIBITORS
SHOULD MAKE IMMEDIATE
APPLICATION FOR SPACE,
WHICH IS RAPIDLY BEING TAKEN UP.

THE EXHIBITS WILL INCLUDE—CONSERVATORIES and FORCING HOUSES—
BOILERS—LAWN MOWERS, ROLLERS, and GARDEN TOOLS—GARDEN TENTS
and SEATS—FLOWER STANDS and SUMMER HOUSES—ORNAMENTAL IRONWORK
and FENCES—FERNERIES and ROCKWORK—GARDEN POTTERY, STATUARY,
FOUNTAINS, &c.—PAINTS, LABELS, FIBRES, MANURES, INSECTICIDES—PEATS
and FUEL—TREE TRANSPLANTING MACHINES—BOUQUET HOLDERS, PAPERS,
TUBES, &c.—MACHINERY for SEED-CLEANING and EXTRACTING ESSENTIAL
OILS—PERFUMES, FRUIT EVAPORATORS, PUMPS—COLLECTIONS of SEEDS of all
KINDS—DESIGNS for ESTATES and GARDENS—PHOTOGRAPHS of TREES, &c.—
ESSAYS on GARDENING and FORESTRY.

There will be, in addition to the above, displays of every branch of Industry of interest to

PRACTICAL & SCIENTIFIC HORTICULTURISTS.

ADDRESS—THE SECRETARY,

INTERNATIONAL HORTICULTURAL EXHIBITION,

EARL'S COURT, LONDON, S.W.



PAULS' NURSERIES, WALTHAM CROSS.

South Entrance, four minutes' walk from Waltham Cross Station (G.E.R.); West Entrance, three minutes' walk from Theobald's Grove Station (G.E.R.).



ROSES.

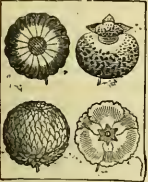
The Largest and Finest Stock in the Country.

NEW ROSES A SPECIALTY.

Also Books on Roses, by Wm. Paul, F.L.S.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



SEEDS & BULBS OF BEST QUALITY.

ALSO

MUSHROOM SPAWN, GARDEN MATS, MANURES, INSECTICIDES, and all other GARDEN REQUISITES.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



FRUIT TREES AND GRAPE VINES.

An enormous Stock of Fruiting and Other Trees unsurpassed in quality, being vigorous, clean, and true to name.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



HARDY TREES AND SHRUBS.

EVERGREEN, DECIDUOUS, and CONIFERS, in endless variety, kept constantly transplanted.

RHODODENDRONS off Loam. HARDY CLIMBING PLANTS a specialty.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



CAMELLIAS

The Largest Stock in the Country.

Plants well set with Bloom-buds.

Also,

AZALEAS, LAPAGERIAS, and other GREENHOUSE CLIMBERS.

Descriptive Priced CATALOGUE Free by Post.

^W Prices strictly moderate; reduced rates for large quantities. Inspection of stock invited. Goods packed by experienced hands for all parts of the world. Gardeners of character and experience recommended.

Important: Observe the Christian Name and Address—

**WM. PAUL & SON,
WALTHAM CROSS,
HERTS.**

SUTTON'S



SUPERB CINERARIA

We believe our strain of Single Cineraria to be unsurpassed by any other in cultivation.

"I gained 1st Prize for six Cinerarias grown from your seed, also Special Prize for the same plants as the best exhibited at the Eastbourne Show."—Mr. G. WATSON, Gardener to C. H. Simmouss, Esq.

"I was awarded 1st Prize at the Shropshire Spring Show for the best Cinerarias. They were grown from your seed and were greatly admired."—Mr. S. BREMMELL, Gardener to Mrs. H. F. Hayhurst.

Price of Seed, mixed colours, 5s. & 2s. 6d. per packet, post-free.

SUTTON & SONS, READING.

BEAUTIFUL LAWNS

AND

TENNIS GROUNDS

BEST OBTAINED BY SOWING

VEITCH'S FINEST MIXED LAWN GRASS

Carefully prepared from the finest Dwarf Perennial Grasses only.

Per Pound, 1s.; per Bushel, 25s.

VEITCH'S FINEST MIXED GRASSES

FOR

CRICKET GROUNDS.

Per Pound, 1s.; per Bushel, 21s.

JAMES VEITCH & SONS

ROYAL EXOTIC NURSERY,
CHELSEA, S.W.



THE

Gardeners' Chronicle.

SATURDAY, MARCH 19, 1892.

TWO FAMOUS GARDENERS: LONDON AND WISE.

THERE are few more interesting names in the history of English gardening than those of George London and Henry Wise. Bowack, in his account of Kensington (1705), states, that if the stock of their nurseries at Brompton Park were valued at one penny a plant, the amount would exceed £40,000; whilst Evelyn declared their nursery to be "above the greatest works of that kind ever seen or heard of, either in books or travels." Compared with two or three nurseries within easy reach of where the establishment of London and Wise once stood, the above amount is insignificant, but it must be remembered that their nursery was at the time the only one in England worthy of the name, as, doubtless, it was by far the largest in existence. There is a literary as well as a horticultural side to the careers of these two men. Of their lives, comparatively few definite facts are known, and of other than their public work, nothing at all.

Both London and Wise were pupils of a worthy gardener, John Rose, who was considered the most eminent man of his time in the profession. He was successively gardener to the Earl of Essex, at Essex House, in the Strand (where he was in 1665), to the Duchess of Cleveland, to the Duchess of Somerset, and to Charles II., at St. James's; and it was to the gay monarch, his employer, that he dedicated his work, *The English Vineyard* (1672), in which Evelyn had a share in the composition. It is now, apparently, impossible to obtain any information about either the birth or parentage of George London; and even his apprenticeship, Stephen Switzer, confesses, in his *Ichographia Rustica*, that he was ignorant on these points. We do know, however, that (in the words of Switzer) "the early and vigorous appearances he made in business were soon discovered by his master, who spared no pains nor hindered him of any liberty whereby he might improve himself." After he had been with Rose for some four or five years, Rose, who had himself studied in the gardens at Versailles, sent him to France for improvement. France, with the king, Louis XIV., who deemed himself immortal, at its head, was then at the height of its prosperity and magnificence, and gardening was an extremely popular pastime with the higher orders. It was here that London gathered so much knowledge in landscape and other phases of his craft that stood him in such stead in after life. Soon after his return from France, London entered the service of Henry Compton, Bishop of London, who, shortly after London left him, and during the reign of James II., had the most extensive collection of plants in the country.

The Bishop did everything under his own superintendence, but there can be no doubt that his famous gardener contributed vastly towards bringing this garden up to its high pitch of excellence. He remained in the employ of the Bishop for a few years, and left in or slightly before 1681, when he started in business for himself at the Brompton Park Nursery. His partners were at the commencement Cooke, Lucre, and Field, only one of whom appears to have achieved any measure of fame. This exception, Moses Cooke, was the son of a Lincolnshire farmer, and is mentioned in Evelyn's *Diary*, under the date April 18, 1680, as a skilful artist in gardening, as a bit of a mathematician, and as having pretensions to astrology. He was gardener to the Earl of Essex at Cashibury for nearly a quarter of a century, leaving in 1681 to join London at Brompton.* It may, however, be mentioned that of the other partners, Lucre was head gardener to the Queen Dowager, at Somerset House, whilst Field was the Duke of Bedford's gardener, at Bedford House, in the Strand. In 1694 both Lucre and Field died, and Cooke having retired, London was the sole proprietor of the concern, in which he had undoubtedly been all along the leading spirit. From small beginnings, the nursery had at length extended to an area of over 100 acres.

Whilst the Revolution of 1688 was pending, London appears to have had the somewhat difficult and delicate task of conveying the Princess to Nottingham† to avoid "the fury of the Papists," and when the great event was consummated, he was appointed Superintendent of all the Royal Gardens with a salary of £200 per annum, and was made a Page of the Back Stairs to Queen Mary.

Among the Treasury Papers preserved in the Public Record Office is the Report of Sir Christopher Wren, by order of the Lords of the Treasury, in regard to Vice-Admiral John Benbow's petition for compensation on account of the great damage done to the house and gardens of Sayes Court by the Czar of Russia and his retinue. Admiral Benbow had rented the place from John Evelyn to accommodate the Czar during his stay in this country, and Peter the Great left everything in a fearful condition, and the damages were assessed at £350 9s. 6d., of which £162 7s., it was reported, properly belonged to Evelyn to pay. The Report is drawn up under three heads, the last of which consists of "some observations made upon the gardens and plantations" at this place, and is "signed by George London, the King's master gardener." When the Peace of Ryswick (September 11, 1697), was concluded, London accompanied the Earl of Portland, Ambassador Extraordinary to King William, to France, and during this visit he devoted a considerable amount of time to the fruit gardens at Versailles, his observations on which were prefixed to his translations (in conjunction with Wise), of Quintinie's work to be presently mentioned.

* Cooke was the author of two works: *The Manner of Raising, Ordering, and Improving Forest and Fruit Trees*, &c., published with plates in quarto form in 1679, and reprinted in octavo in 1700, 1717, and 1724; the second being a treatise on *The Art of Making Cider*, published in Evelyn's works. Cooke was also a bit of a poet, but his verse has a distinct cupboard-love flavour about it.

† The appearance of London as a guardian of royalty will seem, at first sight, incredible, but a reference to the ninth chapter of Macaulay's *History*, easily explains his presence. One of the two men who were so instrumental in getting Anne out of the city, one was Bishop Compton, London's former master, and the princess's old tutor, so that the present and future "friend at court" whose influence was so great on London's behalf is easily identified. Macaulay, however, does not mention London's part in the transaction.

Johnson (*History of Gardening*, p. 124), and other writers, including Switzer, on the history of gardening in England, state that on the death of William III., the care of the Royal Gardens was given to Henry Wise, London devoting himself to the country portion of the business. But if a number of interesting papers in the Record Office go for anything, Wise must have held the appointment some years before 1702. Accompanying a Report of the Officers of Works to the Lords of the Treasury, dated February 16, 1700, on an estimate of works to be done with all expedition in the parks and gardens at Hampton Court, is Wise's "Proposals" or estimate, the amount being £6638 4s. 3d. The Officer took ten months in considering this estimate, and made several abatements in the prices, besides ordering that payment be made in weekly instalments of £75. In 1702 there was still a considerable balance unpaid, and Wise petitioned to have the debt wiped out. Dated June 18, 1703, there is a Report of the Officers of Works on Wise's work to be performed in St. James's Park; and ten months later his account for work done in several Royal Gardens was minuted "to be paid except £20 10s. 6d., he [Wise] is assessed for the tax." In June, 1704, he framed a memorial for allowances paid by him to the keepers, &c., of St. James's Park for wages, board-wages, and liveries. The Great Storm of November 27, 1703, destroyed a large number of Elms in the Great Park at Hampton Court, and Wise was requested to report on the damage done, and the cost of seventy large Elms for one of the old walks, and a hundred more for another place in the same grounds. Two years after this, Wise got into trouble with the authorities for building a house on a waste piece of ground near Hampton Court, which had been given him in perpetuity by Her Majesty's steward without authority. His claim to this ground was repudiated by the authorities, but the house was allowed to remain.

During all this period, the business of London and Wise had extended into very considerable proportions, and the two men apparently worked together very amicably. London visited once or twice a year all the principal gardens of the country, often riding 50 or 60 miles a day. He performed his northern journey in five or six weeks, his western in about the same period, whilst the southern and eastern only occupied him a few days. Among his last works were the gardens at Wanstead House, for Sir Richard Child, in 1706; and those of the Earl of Carnarvon, at Edger, Hert, which last he did not live to complete, dying after a fortnight's illness—of fever, brought on by over activity—about Christmas, 1717. That London did more than any other man of his time to stimulate the art of gardening, there can be no question, but regarded in the light of to-day, his influence was pernicious. He had, however, to recognise and abide by the execrably bad taste which prevailed at that time in every department of science, literature, and art. He was evidently a man of untiring energy, and with abilities which would have "risen to the occasion," in whatever groove he had been called to exercise them, but he was an interpreter of ideas of other people rather than an originator.

For many years after London's death, Wise's connection with the Royal Gardens continued. About the year 1716—the paper in the Record Office is undated—we find Wise drawing up a comparison between the Royal Gardens of the times of William III., Anne, and George I., and it is evident from this statement that economies of the most rigid character had been

effected. In William's time there were 73 acres reserved as gardens, costing £4163 19s. per annum; whilst at the time of drawing up the statement, 148 acres 2 roods were kept in good order for £2900 for twelve months. At that time over £600 was due to him for garden-work performed during the last two reigns. And this was an oft-repeated tune, each Government attempting to saddle its successor with its liabilities, and all well-versed in the art of shuffling.

In 1716, Wise took Joseph Carpenter as a fully-qualified assistant, and a few years later he became a partner in the concern. From a paper in the Record Office, dated April 26, 1725, we gather that the Surveyor of the Royal Gardens and the two partners were at loggerheads. They planted a number of trees and shrubs in the "Lower Wilderness" at Hampton Court; and when the account was sent in the Surveyor repudiated it, disclaiming any knowledge of the work, and of having given any instruction in the matter. Whether the account was paid history telleth not.

Wise's most important work was probably the grounds at Blenheim, which occupied him three years in completing. He effected a number of alterations in Kensington Gardens, and by converting certain gravel-pits into a shrubbery, through which were winding walks, he earned the praise of no less a person than Joseph Addison, who compared him to an epic poet, and this improvement to an "episode" in the general effect of the garden.

The date of Wise's death appears to be unknown; the appointment of Royal gardeners apparently died with him. He was succeeded in this office by Bridgeman, who, as a garden architect, displayed a much greater taste than either of his predecessors. He eschewed verdant sculpture, and mottoes in Yew, Holly, and Box, and other monstrosities in the way of giants, animals, and so forth. It is not quite clear as to who occupied these famous nurseries at Brompton during the greater part of the last century. From Lysons (the antiquary) writing in 1795, we learn that the place was then in the occupation of Messrs. Gray and Wear; and, according to Mr. W. Carew Hazlitt, the Grays were still there in 1840.

[We believe Messrs. Gray, Adams and Hogg—all, or some of them—were carrying on the business at the time the land was secured by the Commissioners of the Great Exhibition of 1851. The shop, offices, and glass-houses occupying the land near what is now the Kensington Road end of Exhibition Road. Ed.]

A brief account of the gardening books written or translated by London and Wise is reserved for another paper. *W. Roberts.*

NEW OR NOTEWORTHY PLANTS.

CRINUM FIRMIFOLIUM.*

We owe to the kindness of a correspondent the opportunity of recording a Crinum from Madagascar, new to cultivation. On submitting it to Mr. Baker, who has made a special study of the plants of Madagascar, and also of Amaryllids, that gentleman obligingly identified the specimen for us as above. The following is Mr. Baker's description:—"Leaves narrow, lorate, firm in texture, 3 feet long, 1½ inch broad in the middle, tapering gradually to the point, margin distinct, entire. Peduncle a foot long. Umbel, 0 to 8-flowered. Spathe-valves 1½ to 2 inches long; pedicels none; perianth-tube straight, 5 to 6 inches

* *C. firmifolium*, Baker in *Journ. Linn. Soc.*, x., p. 270, and *Handbook of Amaryllidaceae*, p. 73.

long; segments linear, 2 to 2½ inches long. Stamens about as long as the segments; anthers linear, ½ inch long. Style overtopping the anthers. It was gathered on the east coast of Madagascar by the Rev. R. Baron, who has discovered about a thousand new plants in Madagascar."

are almost entirely suppressed. The upper sepal has a circular patch of greenish yellow, on which there are some faint brownish lines, and a broad, pure white margin. The petals and lower sepal are yellow, with some obscure tracing of purplish brown, and the lip is lighter in colour than the

TRICHODESMA PHYSALOIDES.

IN February, 1884, Mr. N. E. Brown called attention in our columns to this Boraginaceous plant as one that nurserymen would do well to look after, and introduce. Acting on that hint, Mr. Adlam, of Pretoria,



FIG. 51.—TRICHODESMA PHYSALOIDES: FLOWERS, SNOW WHITE, WITHIN A PURPLE CALYX.

CYPRIPEDIUM INSIGNE, LE DOUX'S VAR.

This distinct variety may be said to be intermediate between the new *C. i. Bohnhofanum* (*Gardeners' Chronicle*, Nov. 14, p. 587) and the old *C. i. albo-marginatum*, and its peculiarity is that the brown markings in the sepals and petals usual in *C. insigne*

ordinary run of *C. insigne*. It, and also another handsome variety, was sent by G. R. Le Donx, Esq., Langton House, East Moulsey, who flowered them out of the now famous *C. insigne montanum* imported by Messrs. F. Sander & Co. of St. Albans. *James O'Brien*,

Transvaal, has secured a stock, and has favoured us with a specimen, from which the illustration (fig. 51) is taken. The plant is a herbaceous perennial, with a fleshy root-stock, from which are produced annually a number of erect stems, in tufts or patches 2 feet across. The leaves are glaucous green, the

flowers pure white, with a purple calyx. Mr. Adlam further adds: "Trichodesma physaloides grows near Pretoria on sloping, dry, bare hill-sides at an elevation of 5,000 to 5,500 feet; it is a herb, 1 to 1½ foot high, with tuberous roots. The leafy stems, dying down in our dry winter, appear above ground with the first summer rains. The flowers are produced through the early summer; it is a profuse bloomer. Flower stalks and sepals dull purple, petals white. I imagine the treatment accorded to tuberous Begonias would suit its wants exactly."

ORCHID TREATMENT.

PERHAPS another amateur, who, by dint of observation, experiment, and experience, has struggled into something very like success (so he flatters himself) with some of the very Orchids mentioned last week by "L. C.," may give some hints that will prove of use to him and others in like plight.

One of the great difficulties in growing these Orchids, imported possibly from a locality kept secret by the finder, is the impossibility of ascertaining exactly the conditions under which they flourish at home. With the means now at disposal, I think it may be fairly assumed that, given certain requirements, gardeners can, in all country situations and in pure air, satisfy the needful conditions, when they know them.

Like "L. C.," I, too, was greatly perplexed, years ago, by the contradictory recommendations of gardeners who professed to be authorities; particularly with regard to two Orchids he mentions—*Odontoglossum grande* and *Epidendrum vitellinum*; and after several seasons of failure, determined to experiment for myself.

First, however, I ascertained that these Orchids grow on mountains close to the equator, which consequently means that they can have no summer or winter season, as we have; but if they have any changes, they must be twice in the year, for the sun, when vertical twice a year, will bring deluging rains, and there will be two periods of comparative drought when the sun is at the northern or southern limit of the tropic. This is, however, mere conjecture, and so of much less importance than the broad fact, that under the equator there is no winter and no summer season. We then ask, "Are these Orchids 'cool' or 'hot'?" and receive for answer, "Quite cool," as they grow at great elevations.

What I am driving at, then, is this: that these Orchids, if they require a temperature of, say 60°, require it all the year round, and consequently they need the very coolest treatment in summer, and an intermediate one in winter. Acting on this, I have, for the last three years, had a frame made, facing north, the soil excavated, and lined with cement, so as to hold water, and I place all my equatorial Orchids that come from high elevations, in this frame, where they remain from July 1 to the middle of September. During this period, the frame is shaded and closed, or nearly so, when the sun shines, but the lights are drawn off every dewy, still night, and always when it rains. In September the plants are put into a cool plant-house till the chill days of November come, when they go into the intermediate-house, so that they shall always be as nearly as possible at the same temperature.

Under these conditions, *Epidendrum vitellinum*, *Sophronitis grandiflora*, and *Odontoglossums* of many sorts, thrive admirably, and increase their growth and bulbs yearly. A few need some special treatment, and *Odontoglossum grande* is one; evidently its thick, leathery leaves and fat pseudobulbs are intended to withstand drought, and, moreover, we hear it grows on rocks, which must get dry at times. It was not till it was potted in very stony stuff, nearly all drainage, and kept dry from January to the end of April, that it threw thoroughly well with us. It is quite certain that this Orchid suffers from heat in summer even more than from cold in winter, if it be dry; but cool, dewy night air is the tonic these alpine Orchids need in summer, with abundant moisture. I have found most Orchids so very useful for

house decoration, even where a little gas is burned, that I would say, that if the plants be watered even with hard water, or allowed to get sodden and then dry when in the house, we have found no serious damage to occur from bringing them into the house. *Cattleya citrina* is another Orchid that needs warmth in winter, with plenty of moisture, but a dry, cool treatment all summer, so that it must not be put in the moist frame, but hung up in any cool, airy house and allowed to get a thorough rest.

"L. C." will ere long find out for himself, I have no doubt, the varieties of treatment necessary under any general rule; indeed, that is, I think, the pleasure of Orchid-growing—to find how to make each plant happy in its own way. E. H. W.

ORCHID NOTES AND GLEANINGS.

A FINE ODONTOGLOSSUM 'PESCATOREI'.

THERE is a plant of the above in bloom in Mrs. Scaramanga's garden at Shanklin, Isle of Wight, with a fine spike of 130 flowers. The same plant in the two previous years bore spikes with respectively ninety-five and seventy-five flowers. Is the occurrence of spikes with so many blooms unusual? H. Snook. [The photograph of the plant kindly sent with the above note shows a truly magnificent much branched flower-spike. Ed.]

SACCOLABIUM HENDERSONIANUM, *Lindenia*, t. 313.

A charming species, with erect spikes of pale rose-coloured flowers. It is a native of north-west Borneo. It was described in our columns by Reichenbach, in 1875, ii., 336.

CYCLOPSALUM AMESIANUM, *Lindenia*, t. 314.

A native of the Dutch Indies, described for the first time by Mr. Rolfe. The united sepals are white, with light rosy-purple tips, the rest of the flowers being yellow.

STANHOPEA WAROI, *Loddiges*, var. *VENUSTA*, *Lindl.*

A species in which the flower-segments are dull yellow, with the column white, pink-spotted. Fertilisation is effected in the same way as in *Coryanthes*. The plant is figured in the *Lindenia*, t. 315.

LYCASTE LASIOGLOSSA.

Originally described in these columns by Reichenbach, in 1872, p. 215, and now figured in the *Lindenia*, t. 316. The flowers have brownish sepals and yellow petals.

ORCHIDS AT BROOMFIELD, SALE.

In the collection of M. Wells, Esq., many rare and beautiful specimens are now to be seen, and amongst the more noticeable are fine forms of the *Dendrobium Ainsworthii*, a fine specimen of *D. splendissimum grandiflorum* (by far the finest of the section), which had seven strong flowering stems, and when the blossoms are fully out it will be a show of itself. *D. Ainsworthii* and *D. Leechianum*, well represented, are full of promise of bloom. A variety of *D. Leechianum*, Sir William Marriott's Seedling, is a handsome dark form, and superior to the type, which is now found in most collections. *Dendrobium Cassiope*, a pretty hybrid between *D. nobile album* and *D. japonicum*—the flowers nearly pure white, with a blotch of pale purple colour at the base of lip, and whose bloom is nearly as large as that of the first-named parent. *D. nobile*, Hardy's variety, is one of the finest forms of *D. nobile* I have yet seen, with flowers which are perfect in shape, of great substance; sepals and petals very broad, light coloured at the base, the other half of a lovely purple shade. There is also a fine flowering specimen of the finest dark form of *D. nobile nobiliss.* In this house was to be observed the largest flowered form of *D. Wardianum giganteum*, flowering on a bulb made in this country; the flowers are of immense size, measuring 4½ inches across, and tipped with rich purple for a space of three quarters of an inch down the petals. The lip is large. Amongst the *Cattleyas* in flower were a fine *C. Trianae* alba (true),

C. T. Backhousiana, *C. T. splendens*—a very handsome *Cattleya*, the flowers compact and well shaped; petals short, and broad, and fringed, and the front portion of the lip finely blotched with the brightest crimson-purple, and the throat of a bright yellow colour. Some very fine *Coclogyne cristata*—*Chataw-orth* variety, also *C. cristata maxima*, *C. cristata Lemoniae*, *C. cristata*, *Trentham* var., were in full bloom. The handsomest of this section were two fine plants of *C. cristata alba*, with one specimen bearing seven spikes, and the other four spikes, both being objects of good culture. In another house was a fine plant of *Cymbidium eburneum*, with seven strong flower-spikes, and most of the flowers were expanded, and a grand sight it was. Two fine forms of *Lycaste Skinneri* alba and a variety justly named *L. Skinneri gigantea* were observed, the flowers of the latter were of great size, and measured 6½ inches across the sepals; the petals measuring 1½ inch broad, and the lip, a high-coloured one, was correspondingly large. *Cypripediums* were represented by forms of *C. Harrisonianum superbum*, *C. Leezanum superbum*, a very fine variety; *C. Lawrenceianum*, *C. calurum*, dark variety, especially fine. Some fine *Odontoglossum nebulosum* were in full flower, one *O. n. grandiflorum* being a splendid variety; the flowers large and perfectly round; sepals and petals pure white, spotted with reddish-brown. A variety named *O. nebulosum pardinum* was noticed which had heavily spotted flowers—very handsome. Some fine varieties of *Odontoglossum Rosii* majus, all selected carefully by Mr. Wells when they were in bloom. *Zygopetalum crinitum coccineum* is another, a charming thing that was in flower—it lasts a long time in perfection; the sepals and petals are of a greenish colour, marked with brown bars; the lip is large, white, streaked and suffused with bright blue. Many other fine specimens were in bloom, but those above mentioned were the most striking. L. C.

ORCHIDS AT EARLSCLIFFE, BOWDON.

When visiting the small but well-grown collection of Orchids at Earlscliffe, Bowdon, the residence of G. Shoreland Ball, Esq., I was delighted to find such a splendid display of bloom of choice subjects. Certainly, the finest of these was *Cattleya Trianae*, G. Shoreland Ball's variety, which surpasses in beauty the lovely *C. Trianae* Backhousiana. The flower has substance, is well-shaped, and large; sepals and petals are nearly pure white, and beautifully flaked with rich deep purple, and finely serrated at the margins; the labellum large, of a rich deep purple, shaded with the brightest magenta; throat yellow, with bright lines of rosy-purple, and white margin. This is flowering for the first time in this country. I have no doubt whatever but it will prove even better another season. A grand form of *Cymbidium eburneum* in fine condition was just coming into bloom.

The *Dendrobiums* are well-flowered; one plant of *D. Wardianum giganteum* had 115 flowers open; also fine specimens of *D. nobile*, *D. nobile Cooksoni*, *D. Leechianum*, *D. Ainsworthii*, *D. splendissimum*, and a plant of *D. nobile Cyperhi*, which did not strike me as being particularly fine. A good plant of the lovely *Coclogyne cristata alba* was in bloom with two fine spikes; also *C. cristata Lemoniae*, and a fine form of *Cypripedium Leezanum superbum* were in flower, the dorsal sepal having rather more white in it than is usual.

The *Odontoglossums* present a good appearance just now, the plants being thick with flower-spikes. A magnificent plant of the rare *Odontoglossum Andersonianum venustum* was in flower with four fine spikes. There was observed a fine plant of *O. Ruckerianum* with two spikes, an *O. Cervantesii* de-corum var., which was very pretty; also a specimen of *O. Edwardii*, with a gigantic spike of fully open flowers, and many flowering specimens of *O. crispum*. These, with *Lælia Dayana*, *Cattleya citrina*, and a number of other plants in flower, make an exquisite show. The plants are in good health, and very clean, reflecting great credit on Mr. Hay, Mr. Ball's painstaking gardener. Rambler.

THE GYMNOGRAMMAS.

This genus includes some of the most beautiful Ferns in cultivation. It is those covered with the farina or powder which are the most remarkable; the colour of the powder varies from silvery-white to deep golden-yellow. In some the powder is only thinly distributed over the under-surface of the fronds and the rachises, while in others the under-surface is thickly covered, and the upper surface is also covered. Garden varieties are very numerous, and include some fine crested forms. Most of the

they will make large specimens; but the prettiest specimens are those grown from single crowns until they are large enough for from 5 to 7-inch pots. Older specimens generally produce a number of crowns, and do not present such a symmetrical appearance; and as young plants are so easily obtained, it seems hardly worth keeping old stunted specimens about—but, of course, this is somewhat a matter of individual taste or opinion. I once saw a lot of old specimens of *G. chrysophylla* and other varieties offered by auction, and although I should have consigned them to the rubbish-heap, they

may be established by pegging them on to small pots filled with suitable compost. This beautiful Fern may also be obtained from spores, but seedlings vary considerably, both in the habit of the plant and in the colour of the powder. The true form has long, slender, finely-cut, drooping fronds, pale green on the surface, and lightly covered with silvery-grey powder underneath. As the fronds droop over, this can only be grown to perfection when suspended. It is certainly one of the handsomest Ferns we have for suspended baskets, but requires very careful attention, and will not bear exposure to cold.

Of the golden Ferns, *G. chrysophylla* is the best type; this has rather long narrow fronds, growing erect, but slightly recurved towards the points. There are many varieties, *Lauchiana* being one of the most distinct; in this the fronds are nearly triangular in outline, spreading nearly horizontally from erect stipes, which vary in length according to the vigour of the plants. *Alstoni* is a very distinct variety; the pinules curl inwards, thus showing the under surface, which is densely covered with golden yellow powder. *Parsonsi* is a fine crested form. Young plants have a tufted crest at the point of the fronds, and at the extremities of the side pinnae, and as the plants get older, the fronds are more branching and heavily crested; when confined to small pots, they eventually become one dense tuft of multitudinous growths. *Chrysophylla grandiceps* is another crested variety, in which the fronds terminate in a branching crest. *G. decomposita* (fig. 52) has erect finely-cut fronds, not so densely covered with powder as those referred to above. *Martensi* is a very free-growing species, the upper surface bright deep green, and lightly covered with pale yellow powder beneath.

Of silver Ferns, *G. peruviana argyrophylla* is the best, or rather, the most distinctly marked. In this, the fronds are covered on both surfaces with silvery-white powder, in the young fronds hardly any green can be seen; the fronds spread, and are just sufficiently recurved to form a very handsome plant. This is a very delicate Fern, but under good culture it may be grown to a considerable size. In the normal form of *peruviana* the powder is not so white, the surface of the fronds is not so thickly covered, and the plant is of a more vigorous habit.

Among seedlings, numerous intermediate forms will be found. *Mayi* is a vigorous form of the above, with large spreading fronds. I do not know if it is owing to this being of hybrid origin, but it does not come freely from spores. I have sown it many times, yet have never succeeded in getting a really good batch of seedlings.

In *G. tartarea*, the white powder is confined to the under surface, the upper surface being deep green. *G. Wettenthaliana* is a crested form, of similar habit to *Parsonsi*, but having white or sulphury-white powder; the colour varies among seedlings. I have seen plants almost as white as *peruviana argyrophylla*, and others sulphur-yellow. *G. Pearcei robusta* is a fine variety, erect-growing, with very finely-cut fronds, lightly covered with sulphur-coloured powder. This is another which I have not yet succeeded in raising from spores, and I am not aware of anyone else succeeding in doing so. It can be increased by dividing the plants after they have formed several crowns, but it requires great care.

G. trifoliata is a very distinct Fern. I have seen it with fronds fully 8 feet long, and with liberal treatment, I should think this length might be considerably exceeded. The trifoliate pinnae are about 4 or 5 inches long, of a sombre green, with a slight covering of silvery-grey powder underneath; the dark rachises are also slightly sprinkled with the powder.

Of other distinct species, *G. Muelleri* is one of the choicest. This has long pinnate fronds, the broad pinnae are of a pale green, blotched with grey, and destitute of the farina or powder. *G. rufa* and *G. tomentosa* are other distinct species, which, instead of powder, are covered with tiny hairs. These are not often met with, except where large collections are grown, and, although interesting, they are of little value for decoration. *Pteris*.



FIG. 52.—GYMNOGRAMMA DECOMPOSITA.

Gymnogrammas may be obtained from spores, which germinate freely. In some instances the green prothallia may be seen in a few days after the spores have been sown, and they generally come so thickly that it is necessary to divide them at an early stage. Under favourable conditions the young seedlings grow away freely, and make nice plants the first season.

All of these Gymnogrammas like a stove temperature, and a rather moist atmosphere, but the fronds must not be wetted. They should be potted in a light, open compost, and have plenty of drainage. Potted on from time to time as they require it,

realised good prices. Of course, such varieties as do not reproduce from spores must be kept until they have formed a number of crowns, as it is only by dividing these that the stock can be kept up. Where it is necessary to divide plants for stock, it requires great care; previous to dividing the plants, some of the surface soil should be removed, and a top-dressing of new compost, which should be light and sandy, added; in this new roots will soon be made, and it will not be difficult to preserve these when the plants are cut up.

G. schizophylla gloriosa produces a young plant on the rachis towards the point of the fronds, and these

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Gardens, Swansea.*

ROSE-HOUSE.—Established Rose trees growing in borders will now be in full growth, and therefore a thorough soaking of tepid manure-water would be beneficial. Syringe freely once or twice each day until the bloom commences to open. Keep the plants free from green-fly and mildew, and on the first appearance of the latter, apply flowers-of-sulphur to all the affected parts. Any shoots coming in contact with the roof should be loosely tied down. Plants growing in pots should also be assisted with some kind of stimulant, and a fresh batch be brought in to form a succession. The night temperature may be kept at 45°, with a proportionate rise by day, giving air on all favourable occasions, but avoid draughts.

CLIVEIAS.—Plants of these showing bloom may have weak manure-water once or twice a week, until the flowers commence to open. Young plants which have finished blooming and require more root-space, may be repotted, using a compost of three-parts fibrous loam, one of leaf-mould, and sufficient sand to keep the soil open. Any large specimens may be divided, if necessary, as soon as they have done blooming.

SCHIZOSTYLIS COCCINEA.—Plants of this which have become over-crowded in pots should now be divided; the most suitable size pot for them is 7 or 8-inch. A compost of three parts loam, one of leaf-mould and sand will suit them. Grow the plants in a cool pit or frame until there is no danger of frost, then stand them outside on a bed of coal-ashes.

FANCY AND LARGE-FLOWERED PELARGONIUMS.—The pots in which these are growing will now be filled with roots, and applications of weak manure-water may be applied once or twice a week. Stake the plants as may be necessary, but do not use more sticks than are really required. Keep a sharp lookout for green-fly.

HERBACEOUS CALCEOLARIAS which have filled their pots with roots and just commenced to throw up their flower-stems, should have weak applications of manure and soot-water alternately once or twice each week. As these plants are very liable to be infested with green-fly, great care is always necessary to keep them free of this pest.

BULBOUS PLANTS.—When Tuberoses are required for summer blooming, no time should be lost in potting them. Three parts fibrous loam, one of leaf-soil, and sand in proportion, will be suitable. After potting, plunge the pots in a bed of Cocoa-nut fibre or Oak leaves, with a gentle bottom-heat, and where the night temperature fluctuates between 55° and 60°. Introduce into heat more *Gladioli* *The Bride* and *G. Rose Gem*, also *Lilium eximium* and *L. longiflorum* *Harrisii*.

CAPSICUM, PRINCE OF WALES AND LITTLE GEM.—Seeds of these should be sown now in a light sandy compost, afterwards placing the pans or pots in heat. When the young seedlings are large enough, prick off into small pots, keeping them shaded during bright sunshine until established. When the roots have penetrated the outside of the ball, shift them into 5 or 6-inch pots. Grow them on a shelf near the glass, in a structure where the temperature is not allowed to fall below 60°. For the final shift, a compost consisting of three-parts fibrous loam, one each of decayed manure and leaf-soil, and sand in proportion, will be found to suit them well.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, *Gardener, Barham Court, Maidstone.*

PLANTING.—The recent severe weather has probably delayed the planting of fruit trees in some gardens; every opportunity should, therefore, be taken to bring this work to a close. Unless more than ordinary attention can be given, such as watering and mulching during dry parching winds, it will be as well to delay the planting until the autumn; but, providing these essentials are forthcoming, if the ground has been prepared, and the frost is out of it, the trees can be planted at once. All newly-planted trees will be greatly benefited by having 2 or 3 inches of long litter (as it comes from the stable) placed all over the surface of the soil.

Trees planted against walls in the autumn can now be nailed or tied into shape. See that plenty of

room is allowed for the shoots to swell. In these gardens the extent of wall space is 1100 yards, the whole being covered with galvanised wire, consequently we never have any occasion to use nails. I mention this because there is a prevalent idea that wire injures the trees, but so far we have never suffered in the least, except when the wire has been badly galvanised.

FIGS.—When these are grown outside, the pruning should be attended to at once. In pruning, cut back all growths that are not required, retaining the shortest joints and best ripened ones only. Last year's growths should not be shortened back, as it is upon these points that the fruits are generally borne. Do not lay the young shoots in very thick, otherwise the wood will not get sufficient sun and air to ripen thoroughly. As a rule, Figs fruit best in very hard soil, and I have seen excellent crops gathered without very much trouble.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Castle Howard, York.*

TOMATOES.—Seedling Tomatoes, when they have developed their first true leaves, should be taken out of the seed-pots and potted in 60's, using a compost of fibrous loam, spent Mushroom-bed dung, and leaf-mould, a small quantity of sifted wood-ashes, and a liberal sprinkling of Thomson's Vine and Plant Manure, and plunge the pots in brisk bottom-heat until the roots seize on the new soil. Not only is bottom-heat of advantage to the plants at this period of their existence, but it favours strong growth and heavy crops at all their stages, provided a dry atmosphere, and a temperature ranging from 60° to 65°, be maintained. At all times when the weather is favourable for giving air, admit it freely, and afford the plants, which are kept in pots, abundance of water at their roots. Plants which may have filled small pots with roots, may be moved into 32's if it be intended to fruit them in pots, or into the border if it be ready for them. In any case, do not starve the plants in small pots. All side-shoots must be cut off as soon as they form. The best results will be obtained from plants grown on a hotbed like Melons, in a soil consisting of the ingredients referred to above, but put together in a rough state, and the plants allowed an unrestricted root-run. When these conditions can be obtained, the plants in 5-inch pots may be put out at a distance of 2 feet apart at once, the soil made firm about the roots as the work proceeds, and afforded a thorough soaking of warm water when it is finished. Cuttings of Tomatoes which have been brought on through the winter, and treated as described, will be about to show fruit, and may be assisted in blossom-setting by tapping the clusters occasionally every day.

Where planting cannot be practised, large pots or tubs may be employed instead, and the aim of the grower should be to afford ample space for the roots. Under this treatment, the half of each leaf must be cut off, in order that sunlight may be able to reach the fruit. Frequent top-dressings of the same materials used for potting the plants and of superphosphate of lime, may be afforded during the season of growth.

CUCUMBERS.—These may be planted in pits or houses, at 4 or 5 feet apart, on mounds consisting of two-thirds loam and one-third of equal portions of leaf-mould and well-rotted manure, and resting on an ordinary hotbed, or some medium for affording bottom-heat to the roots. The main shoot or stem should be directed up the trellis for about a distance of 2 feet, and then stopped, the shoots which result from this stopping being trained fanwise over the allotted portion of the trellis. Top-dress the mounds when the roots appear at the sides, with a mixture consisting of one-half manure and leaf-soil and the other half loam, and maintain a night temperature of from 65° to 70°, and a moist atmosphere. Regulate the day temperature according to the outside conditions, but do not admit any air when cold winds prevail. Sow seeds for succession, one seed in a 2½-inch pot containing leafy soil, and place them in a bottom-heat of 80°. Any seedlings which have got beyond the cotyledon stage of growth may be shifted into 6-inch pots.

MELONS.—Successional sowings of Melons may be made, and the seedlings afforded the same treatment as that advised in a former Calendar. At this time of the year, however, Melon seeds germinate readily, so that two seeds in each small pot will be enough to sow. Attend to the tying and stopping of those Melons which are either planted

out in beds or grown in pots, and also to the fertilising of the first blossoms that open. When a set is secured, top-dress the hills, and feed the plants with some kind of stimulating manure as the conditions of growth seem to demand.

STRAWBERRIES.—Continue to select for forcing the strongest plants, and those with well-ripened crowns—taking in batches of them weekly. Remove dead foliage, and top-dress. At this season a lesser degree of forcing is required, and late Peach-houses or vineries in which a small amount of warmth is maintained, may be utilised to bring on the Strawberry plants. Put them in the lightest place, and where air can be freely afforded, syringing twice daily and effectively performed. Keep the roots moist. If Strawberries are forced on shelves in vineries, &c., and these are so situated that the pots and plants get the fullest exposure to the sun's rays, a thin board as broad as the pots are high should be placed in front of them, which will have the effect of lessening the quantity of water required, and the risks of the plants getting accidentally dry at the roots. Thick pieces of turf may also be placed under the pots, with the grassy side resting on the shelf. Into these the roots will follow the moisture and manures afforded. These turves must not be allowed to suffer for lack of moisture, if once they are taken possession of by the roots. Assist the fertilisation of Strawberry plants in flower, if the weather be dull. Thin the fruits of those that are set, and supply the plants with liquid manure. Plants with fruits nearly ripe may be given a situation near the glass, or where they have unobstructed light, plenty of air, and a temperature of 50°. A drier atmosphere at this period of their growth than the one in which they have been forced, will tend to give firm, well-flavoured fruit, but where fruit can be gathered and placed on the table direct from the forcing-house, a slight syringing in the afternoons of sunny days will tend to a further increase of size. However, where forced Strawberries have to travel long distances, they should be ripened in a dry atmosphere, and no syringing done. For packing Strawberries to travel, boxes 2 inches deep are required, over the bottom of which soft clean moss should be placed, and on this a single layer of Strawberries, each in a piece of Vine leaf, may be firmly packed, and the whole finished off with a light covering of leaves, that will be useful as a garnish.

THE ORCHID HOUSES.

By H. A. BERNARD, *Orchid Grower, Highbury, Birmingham.*

THE COOL ORCHID-HOUSE.—All necessary repotting of the inmates of this house may be now done with safety, and in the case of *Odontoglossum* it should be delayed no longer. My own practice is to leave all those plants that may safely be left until the month of September, but it will sometimes happen that a few—principally those which have flowered and are about to make growth—may be repotted at the present season with good results. No better potting-materials can be found for these species than fibrous peat and sphagnum moss, using these in equal proportions, together with finely-broken crocks intermingled, the plants being very lightly potted. *Cochlidium Noeii* seems to be a plant that will grow well under exactly the same treatment as *Odontoglossum Alexandræ*, as also do *O. nebulosum*, *O. maculatum*, *O. ævium*, *O. Cristeri*, and, indeed, if this so-called cool-house is a light and well ventilated structure, many other species may be cultivated in it. In advising operations, one is apt to forget that many admirers and growers of Orchids do not possess an intermediate-house, and therefore the writer advises the culture of certain species in whatever compartment he finds these to grow best. This is, I suppose, as it ought to be, yet for the benefit of growers of a small number of species of Orchids, it may be well to mention that many of these allied to the inmates of the intermediate-house may be well grown in the cool one if only due consideration be given to the wants of the plants, and the warmest and lightest positions reserved for them. The following species may be grown here with a fair amount of success, though I shall continue to advocate a somewhat warmer treatment for them generally. Suspended near the roof and at the warmest end, should be *Cattleyas* of the *marginalia* type, *Coleogyne cristata*, *Laelia anceps*, *Odontoglossum citrosum*, *O. grande*, *O. Harryana*, *O. Ineziana*, *O. phalanopsis*, *O. vexillarium*, *Oncidium concolor*, *O. crispum*, *O. curtum*, *O. Forbesii*, *O. tigrinum*, and various *Pleiones* may be

grown; while on the stages *Cymbidium*, *Masdevallias*, *Maxillaria grandiflora*, *Cypripedium insigne*, *Boxalli*, *Schlumieri*, and *Sedeni*. *Angulosa*, *Lycastes*, *Odontoglossum cirrosum*, *O. Edwardii*, and *Oncidium macranthum* may have a place.

NEWLY-IMPORTED ORCHIDS.—These plants should be treated carefully, and inured gradually to heat, light, and moisture, as a too liberal and too sudden accession of any of these may cause the foliage to drop and the pseudobulbs to decay. When received, the decayed and useless foliage, roots, &c., should be removed, so that excess of moisture may not affect the plants injuriously, and this done, it is a good plan to suspend them head downwards in a shady, not very moist part of the house, and afford them an occasional syringing; and as the leaves or the pseudobulbs become plump, or new growth and roots appear, they may be potted and treated like established plants.

GENERAL WORK.—The various roller-blinds and shutters should now be put up ready for use, especially that on the cool-house, where bright sunshine at this season may cause the leaves to take on a bronzed appearance, and when this is excessive, it leads to their loss. Fumigate the plants in all houses as previously recommended, at intervals of one or two weeks, as may be deemed necessary. Thrips are now breeding, and their destruction is imperative, if plants are to be kept in good health; and red-spider does much harm to the young foliage of *Dendrobiums*, if not sharply looked after, and sponged off the leaves with an insecticide.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

ASPARAGUS.—When beds of Asparagus are taken up for the purpose of forcing the shoots, it is necessary to renew them by sowing or planting; and though it is yet full early for planting, a good deal will depend on the prevailing weather, as in early springs the roots start into growth early, and in such seasons the planting of roots should begin with growth. New ground should always be chosen for new beds, and it ought to be deeply trenched and heavily manured early in the winter. Asparagus requires high cultivation, but much can be accomplished at a small cost in making the soil suitable for the plant. Where the soil is clayey, road-scrappings, burnt refuse, old plaster and mortar, and woodashes should be incorporated with it. Light soils require good rich manure, marl, heavy loam, and lime rubble. I prefer to sow the seed about the middle of March, and in planting, to give the plants a space of 2 to 3 feet from plant to plant; and on heavy land to make raised beds, and on light soil to sow on the flat. I have employed river sand and sea-weed to great advantage on heavy soils. The seed should be sown sparingly, and the seedlings thinned to 18 inches apart; indeed, some cultivators have the rows 3 feet apart, and the plants 2 feet apart in the rows. It is important to afford the plants liquid-manure, and in dry soils water may likewise be necessary, and in dry weather when the plant is in growth. Plants may stand in the beds in two rows, at not less than 2 feet apart. I prefer, and wide flat drills should be made in which to plant, it being then possible to spread out the roots and place some fresh material over them as the work proceeds. When the work is finished, level the beds, and top-dress with short litter. Before planting a bed, a strong stump should be driven into the soil at each corner to mark the size of it, and alleys should not be less than 2 feet wide at the bottom. Care should be taken when planting to keep the roots moist, and to water them soon afterwards, if the weather be dry.

SEAKALE.—If root-cuttings have been prepared, and kept as previously advised, they will be in proper condition to be planted. To obtain good crowns in one season, ground in good heart, deeply dug and well-manured, should be chosen, and though Seakale will grow in very poor soil, or even sand, it likes strong loam. The sets may be planted in rows 2 feet apart, and half that distance from set to set in the rows; but for forcing on the ground, 3 feet apart is not too much, and 18 inches between the sets. As soon as a few inches growth are made, the stems should be thinned, leaving the strongest ones. The small roots of Seakale which may have been dug and are not fit for forcing, should be cut over, and planted for forcing next season. Seeds of Seakale may be sown this month, but root-cuttings are to be preferred. [Seeds are best sown in boxes, in heat, in February. Ed.]

POTATOS.—The main crop of Potatoes should

soon be planted, unless the situation is a cold or much exposed one, when planting may be deferred for a fortnight. If practicable, the crop should come on land that was heavily manured for some earlier crop, or manured in the autumn, and left in the rough. There is much gained by the use of artificial manures—as fish-manure, in place of the manure of animals, especially in soils that are naturally wet. Change of seed and ground are good for the Potato, and good preventives of the disease. In planting, drills are to be preferred to holes made with the dibber. Strong-growing varieties should be planted in rows 3 feet apart, and the sets at half that distance from each other; whilst those of moderate growth may stand at 2 feet apart, and 1 foot. The Potato quarter should be a fully exposed one, and soils deficient of lime should be freely dressed with it.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

BEDDING ANNUALS.—These annuals are very telling when planted in masses, lines, or clumps, they remain a long time in flower, and are not much injured by rainy weather. A bed of double *Zinnias* has a very telling effect. It is not possible to speak too highly of *Phlox Drummondii* as a bedding plant, that may be used in a variety of ways, as it has richness and diversity of colour, duration and profusion of bloom, together with a dense, free-growing, trailing habit. It is a very manageable plant, and may be planted to form lines or borders, the young shoots being pegged down, and the lines kept cut into shape; but it is when planted in masses that it is seen to the best advantage. It is admirably adapted for planting in beds of standard Roses, as the trailing shoots cover the ground with a carpet of the brightest and softest of colours, and clothe the stems of the Roses, without in any way injuring the latter. The *Salpiglossis* and *Sweet Scabious* are also very showy and useful plants for planting in large beds, attaining a height of from 2 to 3 feet, and in the case of the *Scabious* are rather straggling growing.

GENERAL WORK.—Advantage is being taken of the hardness of the ground to cart in rough materials and gravel of two degrees of fineness for the making of new walks in the grounds. The soil to the desired depth and width was previously excavated. At the bottom of the excavated part, a layer of brick-bats is placed; this forms the drainage of the path, and is followed by two thick courses of coarse, and lastly fine gravel, and a line of flints is put at the sides as an edging. The walk will now be thoroughly well rolled, so as to secure a firm and even surface pleasant to walk and drive upon. In due time *Snowdrops* will be planted behind the flints and close up to them, and still further back, and stretching up to and amongst some trees and shrubs are masses of *Daffodils*, *Blue Bells*, *Snowdrops*, *Hyacinths*, *Primroses*, &c. These and like plants deserve to be generally planted in this manner. The effect of these subjects, when in flower, is as pleasing as it is natural. I refer to the matter now, as the time will shortly be at hand for transplanting some of the subjects mentioned; indeed, the time has already come for disposing of bulbs which have been forced and received the proper kind of treatment to harden them. As soon as mild weather sets in, Ivy may be cut close back to the face of walls or fences on which it is growing. By deferring this operation till the end of the present month or to April, according as the district is early or late, the young leaves which form after the trimming are likely to escape injury by frost. Sow seeds of Eckford's or other Sweet Peas in borders adjoining some of the chief walks in the kitchen garden. They will make useful and good screens to objectionable quarters of vegetables. Among the improved varieties of Sweet Peas may be mentioned the varieties *Queen of England*, large pure white flowers of fine substance and quality; *Princess of Wales*, shaded and striped with mauve on a white ground; *Prince of Orange*, bright orange-pink flowers flushed with scarlet; *Empress of India*, clear rose-pink standard and white wings; and the *Countess of Radnor*, pale mauve standard, with a deeper shading of mauve, wings pale lilac or delicate mauve. A sowing of *Mignonette* should be made in a sunny spot, and in ground previously manured with short dung, and the surface made quite firm and fine.

PRUNING ROSES.—This may be done in March, varying the time from the middle to the end of the month, or early in April, according as the situation is an early or a late one, and the prevailing weather. However, a few of the most favourably situated Roses

may be pruned about the middle of March, with a view to securing early blossoms afterwards, carrying on the pruning generally at short intervals during the period above stated. This is a safe and advantageous practice. The month of April will be soon enough to prune Roses planted last month, and it is a good time to prune Tea-scented and Noisette Roses. If the Hybrid Perpetuals are of the previous year's working, the strength of the shoots will form a guide to the pruner as to what amount of shortening may be required; if vigorous, cut them back to five or six buds, and if weak, prune back to two or three. Tea-scented and Noisette Roses should only have the weaker shoots thinned out, and the strong ones shortened back a little. Older plants of the Hybrid Perpetual class should have the weak shoots cut back to one bud, and the strong ones to two or three buds, according to the size and shape of the head of each plant. The summer Roses, and the varieties of the Moss Rose, should be sparingly pruned. Do not allow established plants of any kind of Rose to get crowded with wood, and, if anything, err on the side of thinness in the shoots. In all cases, prune to a bud pointing outwards. Roses on their own roots, and which are pegged down in their beds, should have some of the old shoots cut out to make room for some of the strongest growths of last year, sparing back the side shoots on the old ones retained to within one eye of their base.

INDOORS.—Push on the propagation of all necessary plants, and prick out and pot off seedlings, and treat as recommended in previous calendars.

FORESTRY.

By J. E. WEBSTER.

In the natural Pine forest, all branches and fragments of wood that cannot be utilised to better account, should be gathered into heaps here and there in open places and burned, the ashes spread out upon the surface, and the spots sown with hardy grass seed, which in due time will afford a welcome bit of grass for deer and other animals. I have found the month of April the best time to burn the rubbish, as by that time the insects are generally busy excavating their burrows below the bark to deposit their eggs, and as they are taken by surprise they are then destroyed in a wholesale manner by the fire. In some cases where the insects are in large numbers, it is likewise advisable to scarify the stumps and larger size of surface roots left in the ground where trees had been felled during winter, to prevent the insects from using them. By this system of management the *debris* or rubbish is converted into plant-food at once, fungus growths and insect pests inimical to the healthy development of trees are kept within bounds, forests and woods have a clean tidy appearance, and last, though not least, pedestrians in search of game can traverse the ground with freedom and comfort. In some parts of the country where Pine woods are extensive, there is sometimes considerable damage done by farmers and others erecting rustic fences with the thinning of Fir plantations without peeling the bark off the posts and rails, and as such forms excellent breeding-ground for insect pests of various kinds, the forester should see that the bark is removed from the poles to be used for such purposes in the vicinity of his plantations.

PLANTING.—The planting of deciduous trees both for ornament and utility should, if possible, be finished for the present month, recently-formed plantations on hill and dell should be examined, and blanks made up where necessary, and in doing so, particular care should be taken not to expose the roots of the trees for any length of time to the drying influence of the weather during the operation. This is a point of much importance as a means of attaining success, and cannot be too forcibly impressed upon the mind of the planter. When making up blanks on dry hilly ground during a spell of dry weather, and in cases where the plants have to be carried a considerable distance to the plantations, the roots had better be puddled in a mixture of earth and water, which will prove highly beneficial in promoting the growth of the plants at the start. Mossy ground, however, or peat bog, can be planted with coniferous trees with perfect success during the month of April, and in doing so I have always found the best results by mixing a small quantity of pulverised clay or earth with the staple at the spots where the trees are to be planted. This gives weight and firmness to the moss, improves its texture, and gives a better ratio of plant food for the trees. I need hardly say that this class of ground should be thoroughly drained, and allowed to lie and drip for a considerable time before being planted.

EDITORIAL NOTICES.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

Advertisements should not be sent to the Editor, but to the Publisher, at the above address.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, MAR. 22 { Royal Horticultural Society: Lecture on "Cultivation of Melons"; all Committees meet.
THURSDAY, MAR. 24 { Brighton and Hove Chrysanthemum Society.
SATURDAY, MAR. 26—Royal Botanic.

SHOW.

WEDNESDAY, MAR. 23—Royal Botanic.

SALES.

WEDNESDAY, MAR. 23 { 2000 Standard, Half-standard, Dwarf, and Climbing Roses, &c., at Stevens' Rooms.
SATURDAY, MAR. 26 { Shrubs, Fruit Trees, Border Plants, &c., at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—43°·7.

The Nomenclature of Plants.

SINCE the publication, in 1751, of the *Philosophia Botanica*, by LINNÆUS, botanists have had a more or less definite code of rules for the naming of plants, and to it they have more or less loyally conformed. In 1810 the work was taken up by A. P. DE CANDOLLE in his *Théorie Élémentaire de Botanique*, and in the publications of LINDLEY, ASA GRAY, and VON MUELLER, to mention only three of the most important, the subject has from time to time received attention. Throughout, the general principles laid down by LINNÆUS have been followed. In 1867, a congress of botanists was summoned at Paris, under the presidency of M. ALPHONSE DE CANDOLLE, when a new code of laws, based on the ancient models, was propounded by the President, and after discussion, paragraph by paragraph, duly adopted. This code, the general excellence of which is admitted on all hands, is now the guide for students and monographers. Unfortunately, as we cannot help thinking, the working of the code was made retrospective, and consequently, some botanists, in their zeal under all circumstances to uphold an excellent principle, think themselves constrained to change well-known and well-established names—names used for many years, it may be, by everybody concerned—in favour of denominations, obsolete, or never generally adopted, and unknown save to a few antiquarians and bibliographers. The confusion that has arisen in consequence of this, is only beginning, but it threatens to be very serious. If the matter concerned the botanists only, we should not be disposed to discuss so technical a subject in these columns. Unfortunately, the interests of the general public and *à fortiori*, of the gardeners, are greatly concerned in the matter, and this must be our excuse for touching on a subject which is not a very attractive one, however great its importance. It is of course impossible, even if it were desirable, to treat the subject in detail. It must suffice to say, that one of the principal questions agitating the minds of botanists at this time has reference to the application of the "law of priority." The object of this law is to secure the historical recognition and fixity of the earliest

publication of the name of any plant or animal, and thus to obtain a definite starting-point. The publication must be adequate, and as a matter of convention, it has been agreed that the starting-point shall be 1753, the year in which the first edition of the *Species Plantarum* of LINNÆUS was published. This book marked the definite establishment of the binominal system first used by LINNÆUS tentatively in his *Pan Sæcuss*. Previously to that time plants had been occasionally mentioned under two names, one generic, the other specific; but the book in question was the first in which the system was carried out in detail, from "*Acalypha virginica*" to "*Zygophyllum spinosum*."

The adoption of this date as the starting-point is, therefore, something more than a mere matter of convention. How great is the convenience may be judged by comparing the ante-Linnean descriptive phrases of a dozen or more words with the generic and the specific names corresponding to the surname and the Christian name of human beings. The law of priority as generally acted on, does not apply further back than 1753 for the species (or 1755 for the genera). It is true that some sticklers for priority go back to CATULLUS and COLUMELLA. They would be more consistent if they went back to ADAM at once! But in order that our readers may understand the points at issue, we must give a concrete illustration. Let us take the "*Douglas Fir*," generally known in gardens as *Abies Douglasii*. This tree was first discovered by MENZIES at the end of the last century, but the first publication was by LAMBERT, in the first edition of his *Pinus* in 1803. Therein it was called *Pinus taxifolia*, and that is, no doubt, the earliest name, and the one which, according to strict priority, should be adopted, if only one could bring one's self to consider the tree in question to be a *Pinus*. But it was not long before the differences between it and *Pinus* were seen to be so great that the tree was debaptised, and then a period of confusion set in which is not yet ended. Some called it an *Abies*, some a *Picea*, others a *Tsuga*, and lastly came CARRIÈRE, who, finding that the tree did not fit nicely into any of these genera, cut the Gordian-knot by forming for its reception a new genus, to which he gave the name *Pseudo-Tsuga*. Subsequent information has shown that CARRIÈRE was right in his interpretation of facts. The distinction from all the genera above-named is so sharp that it is better and more convenient to frame a new genus with well-defined limitations, than to make one or a few vast and not easily circumscribed genera. The generic name CARRIÈRE gave is intrinsically objectionable, but if we look at it as a mere label, the faultiness of the name is of little moment. CARRIÈRE might have also done better, and would have lessened the burden of synonymy, had he adopted the oldest specific name, "*taxifolia*," and called his plant *Pseudo-tsuga, taxifolia*. But this he did not do, perhaps from a laudable desire to do honour to the memory of DOUGLAS. DOUGLAS, however, was not the discoverer of the tree, and moreover, the object of a name is not to glorify an individual, but to enable us to designate a plant. In any case the name *Pseudo-tsuga Douglasii* is the one now most generally adopted. Sticklers for rigid priority, however, say "No, the oldest specific name was *taxifolia*, this plant ought, therefore, to be called *Pseudo-tsuga taxifolia*. The law of priority amongst other things is devised to render justice to the original describer or introducer." Let us see how this works out in the present case. MENZIES was the discoverer, DOUGLAS the introducer, and LAMBERT, in 1803, the first to

publish any botanical account of the tree. After them came various other botanists who have tossed the plant from genus to genus, till, as we have seen, CARRIÈRE assigned the plant to what is now usually considered the right genus. But owing to the omission of CARRIÈRE to adopt the oldest specific name the tree has once more been baptised *Pseudo-tsuga taxifolia*, and Dr. BRITTON puts his name at the end as sponsor. Now, we do not think we are doing an injustice to Dr. BRITTON when we say that he has had less to do with the tree than any other of the botanists who have dealt with it. They have in various ways contributed to our knowledge of the tree, but he—we beg his pardon, if we are in error—has simply shuffled the cards once more, and added one more synonym to the already overgrown list. It must also be remembered that the specific name is only half of a name, and so it might and does happen sometimes, that one half of a name is correct, the other half of doubtful validity! Surely, the Kew practice, if we may so call it, is preferable to this. That practice is to take as the name to be adopted, that given by the author who assigns any particular species to its right genus. Thus assuming CARRIÈRE to be right, we take the name he gave as the proper name for the *Douglas Fir*. Other prior publications being either incorrect or insufficient are cited in the synonymy.

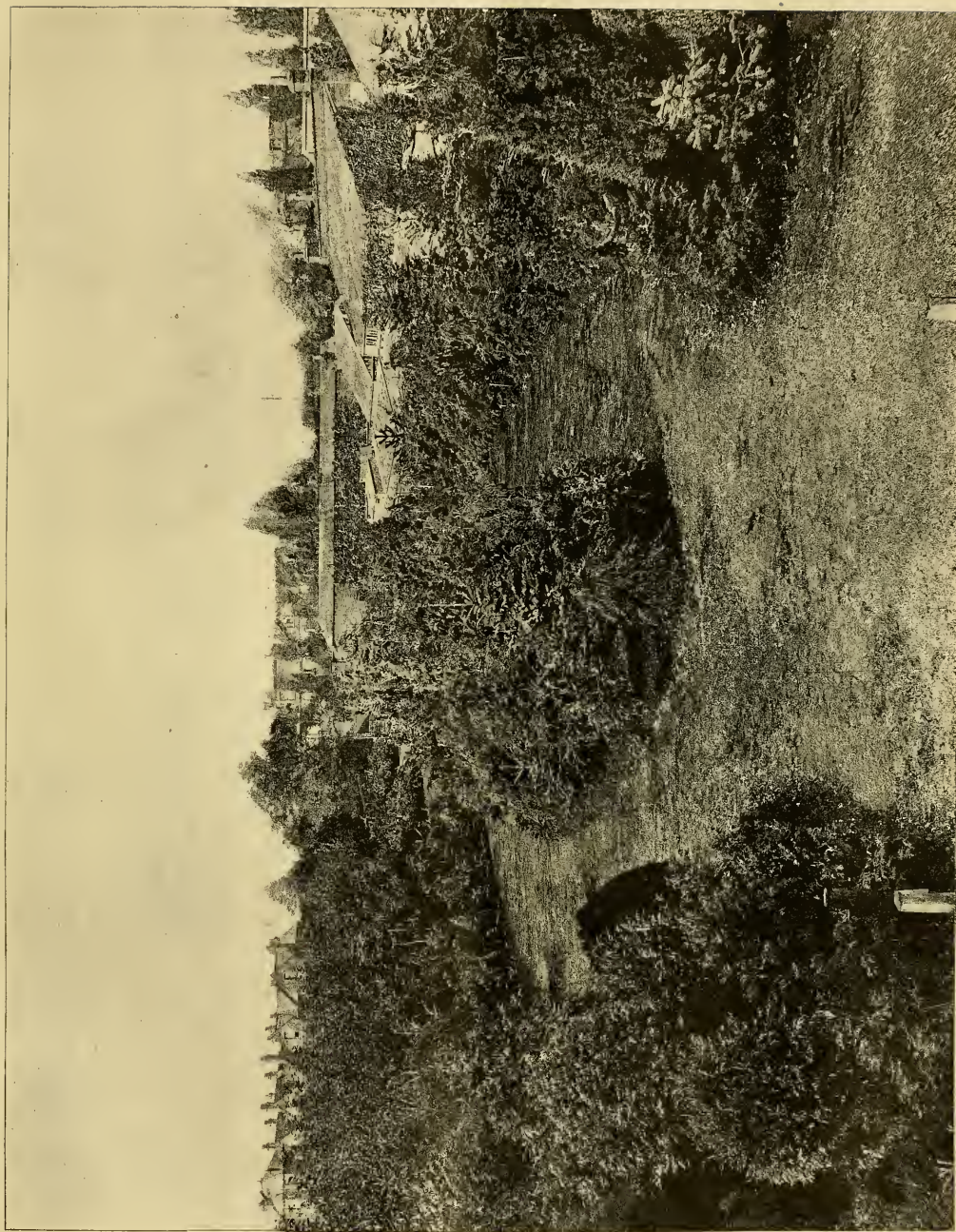
We have cited this illustration to show the perplexities and confusion that arise from a too rigid adherence to the law of priority. Happy gardeners, who may easily avoid all this entanglement by simply saying "*Douglas Fir*," a name with which no one has quarrelled, but which of course, is not applicable in other countries than our own, or in scientific treatises at home.

Another illustration of the pantomime-like muddle which will ensue, is afforded by the common Spruce—already, like the Silver Fir, blessed, or cursed, with a multiplicity of synonyms. If the new rule is to prevail, this must be called in future *Picea Abies*, because LINNÆUS called it *Pinus Abies*. LINK put it in the right genus, and he called it *Picea excelsa*, and there, in our opinion, the matter should rest.

If the law of priority, of the operation of which we have tried to give illustrations, is to prevail without exception, the changes which will have to be made will amount not to hundreds but to tens of thousands. There is thus safety in numbers! It will be simply impossible to make all the proposed changes, some will be made, a few will be adopted, the bulk will be passed over. This fact is rendered apparent by a remarkable book lately published by Dr. KUNTZE.*

Dr. KUNTZE, in his travels round the world, collected a large number of plants, which he studied and identified in the herbaria at Berlin and Kew. He drew up a complete list of the plants collected by himself, and with Tentonic patience and industry set himself to reform, as he considers, the nomenclature of the plants in question, and of others with which in the course of his investigations he necessarily had in some degree to take cognizance. We need not seek a better illustration of the impracticability of the reforms indicated. Our readers shall judge for themselves by the aid of a few examples. According to Dr. KUNTZE, the genus *Dendrobium* dates from 1799, while *Callista*—a name applied to the same genus—dates from 1790, and therefore should enjoy the rights of priority as to date. Dr. KUNTZE in this, as in all similar cases has the courage of his convictions, and effaces *Dendro-*

* *Revisio Generum Plantarum . . . Secundum Leges Nomenclature Internationalis*, &c. Von Dr. Otto Kuntze. London: Dulau & Co.)



THE CONIFER GROUND AT THE RECENT CONIFER CONFERENCE, R.H.S. GARDENS, CHISWICK.

bium with a stroke of his pen. How long will it be before gardeners abandon *Dendrobium*? They have never taken kindly to the substitution of *Pelargonium* for *Geranium*, in spite of the fact that in that case it was not the date of publication, but an actual blunder, that was attempted to be corrected. *Angræcum* goes under in favour of *Angorchis*, *Lobelia* has to give place to *Dortmanna*. *Calceolaria* is sunk in *Fagelia*, *Nymphaea* becomes *Leuconymphaea*, and the well-known *Lotus* now becomes *Leuconymphaea Lotus*, O.K. The little winter *Aconite*, whose yellow face we are so glad to see, is no longer to be *Eranthis hyemalis*, but *Helleborodes*. Who but Dr. KUNTZE ever heard that name! But Dr. KUNTZE has disinterred it, and, what is more, boldly writes *Helleborodes hyemalis*, O.K. The Tulip-tree, universally known as *Liriodendron Tulipifera*, is turned round into *Tulipifera Liriodendron*, because the name *Tulipifera*, as a genus-name, dates from May or June, 1737, while *Liriodendron* only dates from October of the same year!

But we need not give further illustrations; suffice it to say, they exist by the tens of thousands, and the initials, O.K., are attached to a vast multitude of species, of which it is physically impossible that OTTO KUNTZE can have, in any way whatever, added to our knowledge. Setting aside those cases in which it is possible that Dr. KUNTZE has really advanced science, there remain, according to the author himself, no fewer than 952 genera, the names of which he has changed on the ground of priority, and no fewer than 30,000 species which have been renamed for similar reasons, and to many of which the letters O.K. are duly attached. Happily, the book is thus shown to be such a *reductio ad absurdum* that it will be passed over, save by those conscientious but unfortunate monographers who may deem it their duty to unravel the synonyms of O.K.

Some ten pages of the author's preface are directed at English botanists and their practices. Out of consideration for them, the author has written this portion of his book in what he conceives to be the English tongue. Most English botanists, we fancy, would have preferred it in unadulterated German—but this is a detail. Dr. KUNTZE's comments on the *Key Index* and the *Genera Plantarum* of BENTHAM and HOOKER are interesting if not generous. Indeed, the imputation that BENTHAM "opposed the new international rule, so as not to be obliged to correct himself innumerable times," is so false and so offensive that Dr. KUNTZE will henceforth labour under the stigma attaching to those who attempt to belittle the work of greater men than themselves. Dr. KUNTZE says we English are not "yet fit for international science." We shall not attempt to discuss that point, for most people know that English botanists have taken a fair share in international science, and amongst them none to so great an extent as BENTHAM. We are obliged to admit with humiliation that in our obstinate persistence in the use of FAHRENHEIT's thermometer, and our utterly senseless system of weights and measures, we lay ourselves open to Dr. KUNTZE's chasement. Dr. KUNTZE finds us equally guilty in that we do not adopt the international laws of botanical nomenclature. To this indictment we plead not guilty and, *more hibernico*, extenuating circumstances. What these circumstances are we must, seeing the length to which this note has run, defer stating till another occasion. Suffice it, for the moment, to say that English botanists

can bring forward a body of practical work which even Dr. KUNTZE admires and which no international code can possibly nullify.

THE CONIFER GARDEN AT CHISWICK. (*See Supplement.*)—It is admitted on all hands that for general interest and excellence the Conifer Congress held at Chiswick last October was a great success. Certainly on no previous occasion has so complete a representation of the plants of any one natural order been made. Cut specimens of foliage, and in many cases cones, were received in prodigious quantities from all parts of the British Islands. The Scottish exhibits, thanks especially to Mr. MALCOLM DONN, were very extensive and very remarkable as illustrating the suitability of these trees to the climate of Scotland. One very interesting and beautiful feature of the Congress consisted in the collection of living specimens, sent by leading nurserymen in all parts of the country, arranged by Mr. BARNOS in the open air. The varying forms and colours of the plants were admirably illustrated, and their suitability to particular purposes demonstrated. Unhappily it must be added that pitiless rain ruined the success of the show so far as the attendance of visitors was concerned, and the results of all that labour and intelligence were witnessed by comparatively few. As full details were given in our numbers for October 10 and 17, we need not here repeat them, but merely give voice to the desire that the publication of the Conifer Report will not be long delayed, and that when it does appear, will make some amends for the loss caused by the atrocious weather that prevailed. In addition to the papers read at the Conference, it will, we believe, comprise the names of all the exhibitors, a complete list of the species and varieties shown, and an enumeration of all the species cultivated in this country, with synonyms, and references to plates and descriptions. This latter task has been undertaken by Dr. MASTERS.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society in the Drill Hall, James Street, Victoria Street, Westminster, will be held on Tuesday, March 22. Besides the Floral, Fruit, and Orchid Committees, the Narcissus Committee will also meet for the first time this year for the purpose of adjudicating on *Narcissi* and *Daffodils*, of which there will, in all probability be a fine display in addition to other spring bulbs. At 3 o'clock, Mr. C. Ross will deliver a paper on the "Cultivation of Melons."

"KEW BULLETIN."—As an appendix to this publication is now issued, an alphabetical list of the new plants of the year 1891, with brief indications of the character of the plants, and references to the journal or book in which the plants were described or figured. An inconsistent method of spelling personal names is adopted which is very embarrassing. Thus, *Cocos Pynaertii* has the specific name spelt with a capital, while *Cycnoches rossianum* is spelt with a small letter, and so in many other instances.

The February number is devoted to an exhaustive article on the culture of *Agave rigida* in the Bahamas and elsewhere. The plant in question, together with some allied species, furnishes Sisal Hemp. The botany of the Gambia Frontier Commission is the subject of a note, and a list is given of some of the more important plants met with by the French members of the Gambia Delimitation Commission, and by Dr. BROWN LESTER, the medical officer of the English Commission. The Director reprints his communications to the Middlesex County Council, and to our own columns, on the subject of instruction in horticulture.

INTERNATIONAL HORTICULTURAL EXHIBITION.—It is proposed to hold, at Earl's Court, a great exhibition of Potatoes, from October 5 to 13, scheduled regarding which will be issued in due course.

—A meeting of market growers and salesmen was held at the Hummums Hotel, Covent Garden, on Thursday morning last, to consider the scheme of the Council of the above Exhibition to

make a representative show of market produce at Earl's Court on June 6, 7, and 8. There was a fair attendance, and Mr. WENNER occupied the chair. Mr. MILNER, Chairman of the Executive Council, pointed out that £200 will be placed at the sub-committee's disposal for prizes, but several present did not think the wholesale growers would derive any advantage from it. Ultimately, however, a sub-committee, comprising fruit, flower, and vegetable growers, florists, English and foreign salesmen, was formed, and it was decided to hold the next meeting at the above hotel on Tuesday, March 22, at 10 A.M.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The annual meeting of this Society took place at the Caledonian Hotel, Adelphi, on Monday, March 14. Mr. ROBERT CANNELL presided over a large gathering of members. The annual report set forth that a considerable addition had been made to the number of members during the past year. That a good deal of sickness had occurred through the influenza epidemic, the amount paid to sick members amounting to £119 10s. 6d., which sum is covered by deductions made from the subscriptions of the two classes of members. Three deaths had occurred, and the amount standing to the credit of these deceased members had been paid to their nominees. The Benefit Fund of the Society had increased by about £600, the Benevolent Fund by nearly £140. The number of honorary members had increased by three, though some had died. The Management Fund showed a balance of £31 1s. 9d. The Treasurer's account was of a very satisfactory character in all its details. The annual dinner of 1891 was one of the most successful yet held, and by means of it, the Convalescent Fund received substantial additions. In moving the adoption of the report and Treasurer's statement, the Chairman contrasted the various items of receipts with those of the previous year, and drew conclusions to the effect that in all its essential features the Society had progressed in the most satisfactory manner. He emphasised the advantages such a Society offers to young members, and urged the claims of the Society upon horticulturists generally. In the course of the discussion, it transpired that the Trustees had, during the year, sold out £500 23 per cent. Consols, and reinvested them in Manchester Corporation stock paying 3 per cent., adding thereto the sum of £700 which had accrued during the year 1891. The total amount paid to the nominees of sick members was £40 9s. 5d. There had been grants from the Benevolent Fund of £24 16s. 6d. Payments to sick members from the Benevolent Fund amounted to £55 3s. 4d., and though there has been an increased expenditure, there has been a corresponding increase in the income of the Society. Messrs. C. W. Knowles, R. Scott, and E. G. Wheeler, out-going members, were re-elected on the Committee; and Messrs. R. J. Chard and W. P. Thomson were elected to fill two other vacancies; and Mr. W. Collins was unanimously re-elected Secretary. Hearty votes of thanks were passed to the Trustees, Auditor, and Treasurer, for their services during the year. The proceedings closed with a cordial vote of thanks to the Chairman for presiding.

MR. PHIPPEN'S FLOWER SHOW AT READING.—Mr. GEORGE PHIPPEN, F.R.H.S., of the Royal Berks Floral Establishment, Reading, held his annual show of spring flowers at the Large Town Hall on Wednesday, March 9. This show has, since its institution, steadily grown in popular favour, until now it commands the patronage and support it so well deserves. Wednesday's show was on the whole finer than that of last year, while the attendance of visitors both in the afternoon and evening, despite the unfavourable weather, was larger than in any previous year. The show of Tulips was about an average one, though the inclement weather has had some deterrent effect upon the flowers, which were not quite so even as in some former years.

STRAWBERRY TEA.—Some of our exchanges are mentioning the fact that, in some parts of Germany, the leaves of Strawberries are dried, and used as tea. We have no knowledge of the fact at first-hand.

HERTFORD HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—Meetings of this Society were held on February 24 and March 9. On the former occasion Mr. E. H. CATERER, gardener to A. F. GRIFFITH, Esq., Elmsfield, Hertford, read a very practical paper on "The Cultivation of Bush Fruits." There was a good attendance, who, at the close of the meeting, accorded Mr. CATERER a hearty vote of thanks for his excellent paper. Mr. D. PHILLIPS, gardener to the Rev. E. E. W. KIRKBY, of Ware, read the paper on the latter date, the subject taken by him being "Peas and Potatoes." Owing to the unfavourable state of the weather the attendance was small. A long discussion followed a very interesting paper.

"BOTANICAL MAGAZINE."—The March number contains coloured illustrations of the following plants:—

Cereus giganteus, tab. 7222.—This plant is well known to the curious for its rigid, fluted, cylindrical stems, thickly beset with tufts of spines, and in many treatises on the geography of plants, mention is made or illustration given of the peculiar appearance these weird stems give to the landscape in the deserts of South California and Arizona. Individual plants are said to attain a height of 60 feet with scarcely a branch, and nearly two feet in diameter; and as if to add to their uncomeliness, the thick, fleshy substance of the upper part frequently rots away, exposing a woody interior frame-work, which breaks up into a crown of brush-like fragments that wave about in the wind. A plant at Kew 14 feet in height, and 4½ feet in girth, weighing, when first imported in 1890, 12 cwt., flowered in 1891. The flowers were produced from near the summit of the stem, each one having the general appearance of an elongated Pear held erect and surmounted by a white frill. The ovary is covered with flat green scales, and is surmounted by a funnel-shaped flower tube covered with green oblong bracts continuous with those on the ovary, and gradually increasing in size from below upwards. The limb of the corolla is about 75 mill. (3 inches) across, and consists of two rows of oblong, obtuse, clear-white petals, recurved at the margin, and encircling a crowd of yellow stamens.

Dianthus callizonus, t. 7223.—A lovely dwarf species, native of the limestone mountains of Transylvania. The leaves are spreading, linear, and about an inch in length, the flowers solitary, each about 1½ inch (35 mill.) in diameter, rose coloured, with a broad central zone of a darker pink spotted with white. It is doubtful whether it is really distinct from *D. nitidus*, which is noted as a taller plant with smaller flowers.

Gongora gratulabunda, t. 7224.—A New Granadan species, with rather long racemes of rather large flowers of a yellowish brown, speckled with red, the lateral petals are very short, sickle-shaped and whitish, and with two slender awns on the base of the lip.

Chrysanthemum rotundifolium, t. 7225.—An Aster-like perennial, with erect, acutely-angled red stems, broadly ovate, toothed leaves, narrowing at the base into a decurrent petiole. Flower-heads 2 inches (50 mm.) across, with an involucre of small green, red-margined bracts surrounding a number of white-rayed florets. It is a native of Hungary, and should be enquired for by the lovers of hardy perennials, as its moderate height, 2 feet, will commend itself to many.—Kew.

Lysimachia paridiformis, t. 7226.—A Chinese species, with whorls of rather long oblong, acuminate leaves and stalked tufts of yellow flowers.—Kew.

STOCK-TAKING: FEBRUARY.—As was almost naturally to be expected, the imports for the past month show an increase of considerable amount—i.e., £1,566,577—even considering there was an extra

day in the month compared with 1891. This indicates cheap foreign produce markets, and a large capacity for production of finished goods at home—seriously threatened by the impolitic action of our coal-getters. Next to brain-power, steam-power is the prime mover in our factories; cripple or imperil coal supply and brain-power suffers in a corresponding ratio—import and export alike will be affected. Of the latter there is a reduction for the month amounting in value to £1,141,868—that is, compared with the same period last year. The following is an extract from the "summary" of imports for the month of February:—

IMPORTS.	1891.	1892.	Difference.
Total value for month	£33,311,351	£34,877,331	+1,566,577
II.—(A.) Articles of food and drink—			
duty free	9,888,414	11,508,697	+1,710,283
(B.)—do., dutiable	2,283,682	2,092,615	—199,937
VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)... ..	8,227,299	7,648,183	—579,116
VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	2,180,652	2,413,257	+232,605
IX.—Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,008,787	1,322,575	+313,788
(B.)—Parcel Post ...	55,218	57,325	+2,107

Annexed we give an extract from the general mass of the Board of Trade returns concerning the import of fruits, roots, and vegetables during the past month. The returns are not by any means complete—but this may be achieved some day:—

IMPORTS.	1891.	1892.	Difference.
Fruits, raw	188,408	345,555	+157,149
Apples, raw ... bush.	...	3	+3
Piums (2 months) ...	...	2,585	+2,585
Pears ... ..	...	548	+548
Grapes ... ..	...	21,112	+19,110
Unenumerated, ..	369,817	316,765	—53,052
Onions	115,228	78,817	—36,381
Potatoes ... ..	...	...	...
Vegetables, unenumerated, raw, .. value	£16,398	£38,609	+£22,211

Both sides to the above account—plus and minus—are well worth noting, and bearing in mind as trade with the Colonies in fruits progresses, there are some very funny stories in the mouths of Steam Shipping Company managers as to what refrigerators will do on board Mediterranean steamers—the unexpected results coming to light on opening them in the Thames. But these stories may be a little overdrawn.

LINNEAN SOCIETY.—At the meeting held on Thursday, March 3, Prof. STEWART, President, in the Chair, a letter was read from the Home Secretary conveying the thanks of Her Majesty the QUEEN for the address of condolence which had been forwarded on behalf of the Society on the death of H.R.H. the Duke of Clarence and Avondale. The President announced the presentation by Sir JOSEPH HOOKER, M.D., K.C.S.I., to the Society of two medallion portraits of Sir JAMES ROSS and Doctor JOHN RICHARDSON, whose names were well known in connection with arctic exploration. A vote of thanks to the donor was passed unanimously. Mr. CLEMENT REID exhibited a collection of fossil plants and seeds which he had found associated with the bones of rhinoceros and other mammals in the neighbourhood of Selsea and West Wittering. By means of diagrams, Mr. REID showed the exact position of the bed, and described the conditions in which the various specimens were deposited. On behalf of Mr. W. E. BECKWITH, of Shrewsbury, Mr. H. SZEOHM

exhibited a specimen of White's Thrush (*Turdus varius*) which had been shot near Shrewsbury on January 14 last. On behalf of Mr. A. CRAIG CHRISTIE, the Secretary exhibited some specimens, as was supposed, of *Lycopodium complanatum* collected in Scotland, on which it was suggested that the plant might be regarded as British. In the opinion, however, of Mr. JAMES GROVES, who had carefully examined the specimens, and other botanists present, they were referable to *L. alpinum*. Mr. CARBUTHENS was of opinion that *L. complanatum* had been met with in the south of England, but not within the last ten years. Mr. E. M. HOLMES was under the impression he had seen it growing a few years ago near Stroud. A paper was then read by Mr. A. D. MICHAEL on "Variations in the Internal Anatomy, and especially the genital organs of the Gamasiina, a typical sub-family of the Acari."

BACTERIA.—Every gardener knows what it is at times to fail in the culture of some particular plant without being able to assign any cause whatever for the failure. The soil, it is now known, teems with microbes or organisms of different kinds, but all of excessive minuteness, some of which act as ferments and bring about the solution of what was previously insoluble, and so render it available for plant food. The difficulty of assigning a cause for the failures above mentioned thus seems lessened. M. NADVIN points out in a note cited in the *Revue Horticole*, that it is very likely that want of success may depend upon the absence of the particular microbe necessary for the conversion of the inert substances of the soil into nutritive matter. Our contemporary speaks of this as an hypothesis, but it appears to us from the demonstrations that have taken place as to the relation between the nutrition of the Leguminosae and the nitrifying organisms studied by M. WARRINGTON and others, that the matter has got beyond the stage of hypothesis, and that further development in this direction is now assured.

CHICAGO EXHIBITION.—To the Department of Horticulture belongs the distinction of the first exhibit, installed, for the World's Columbian Exposition. P. S. PETERSON, a nurseryman, of Rose Hill, Chicago, has recently planted six trees on the grounds near the horticultural building, as a permanent exhibit, and as a practical illustration of the successful methods of transplanting large ornamental trees. They are an Elm, 50 feet high and 2 feet in diameter, commemorative of General SHERMAN, brought from the woods in 1876, then fifty years old, and planted on the nursery grounds at Rose Hill; a Hackberry, 40 feet high and 2 feet in diameter, commemorative of General GRANT, also transplanted from the woods in 1876; a Linden, 40 feet high and 18 inches bole; a Willow, 30 feet high and 30 feet spread; a Sugar Maple, 40 feet high and 10 feet stem; an Ash, 35 feet high and 14 feet stem. It required a force of twenty-two men and twelve horses to transplant the trees, and the cost of the work was about 700 dols.

MANGROVES FROM COLOMBO.—It was announced at the meeting of the Royal Botanic Society, Regent's Park, held on the 12th inst., that a number of Mangrove plants had arrived in safety at the gardens. It is a plant which has seldom, if ever, been grown in this country. The white Mangrove, an allied species, had been growing in the hothouse at the Society's gardens for some years, but its progress was very slow, and the plant was not doing well.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—The prize schedule for the annual Floral Fête to be held on August 18, 19, and 20, has just been issued. The classes number 237, with 723 prizes.

HORTICULTURAL CLUB.—The usual monthly dinner and conversazione was held on Tuesday evening, March 8, at the Rooms, Hotel Windsor, Victoria Street, Westminster. The chair was occupied by Mr. HARRY J. VEITCH, vice-chairman of the club, who was supported by the Rev. T. H.

Gale, the Rev. — Pratt, Messrs. W. J. Pearson, E. C. Pearson, Cousins, H. Williams, Harry Turner, W. H. Williams, W. Soper, C. T. Drury, Joseph Cheal, John Martin, Geo. Bunyard, Arthur J. Veitch, W. Marshall, W. H. Fowler, &c. A paper was ready by Mr. W. Soper, which ranged over a variety of subjects connected with horticulture, and which gave rise to a very interesting discussion; and a hope was expressed that at some future time Mr. Soper would speak on the subject of chemistry in its bearing on horticulture. Messrs. H. Williams, H. Selge Leonard, H. E. Milner, John Martin, Arthur Veitch, Stewart Low, Valentine E. Low, and George Gordon have been elected as members.

CAN MANGANESE TAKE THE PLACE OF IRON ?

—This question, in so far as it refers to the nutrition of plants, has recently been solved in the negative by G. SPAMPIANI, who came to the conclusion from the results of a long series of culture experiments. The part which iron plays in the formation of chlorophyll has long been known, and it seemed interesting to determine whether this soil constituent could be advantageously replaced by compounds containing manganese. We cannot follow out the *modus operandi* of the investigation here, but we notice that white Lupins, Maize, Oats, &c. were experimented upon by means of the water culture method, and the appearance of the plants at various periods of their development was carefully observed. All the plants undoubtedly assimilated the manganese, for the ashes of their leaves yielded an intense manganese reaction when chemical tests were applied, but for all that the substance was found incapable of replacing iron in the formation of chlorophyll (*vide Star. Sper. Agrar.*, vol. xix., pp. 5-33, for full details).

PRESENTATION TO MR. COOKE, NANNAN PARK.—MR. COOKE, for the last seventeen years gardener at Nannan Park, Dolgellwy, was, the other evening, on his relinquishing his charge of the gardens there, presented with a purse of money and a handsomely illuminated address, subscribed by his numerous friends and well-wishers in the neighbourhood, and by not a few gardeners in distant parts of the county and elsewhere, who had always found a hearty welcome to Nannan, and Mr. COOKE a thorough practical all-round man, and a genuine and sterling friend.

GARDENERS' ORPHAN FUND.—A committee of gardeners of Kingston and Surbiton are promoting a concert in aid of the Orphan Fund, and have fixed the date for April 20 next. They will have, through the kindness of Mr. W. POPPARD, of Twickenham, the able assistance of the Boston Park Glee Club, of which Mr. HERBERT SCHARSTAN, of Westminster Abbey, is the conductor. Every effort will be made locally to produce a success. Mr. BURRILL, of Claremont Gardens, Esher, is chairman of the committee, and Mr. A. DEAN, Secretary.

"XENIA ORCHIDACEA."—This publication, so long conducted by Prof. REICHENBACH, is now edited by Dr. KRÄNZLIN. Among the plants figured in the last number (part iii. of the 5th volume, tabs. 241 to 250), are *Lycaste xytriophora*, *Phalænopsis Maeanii*, *Chriophallum Wendlandianum*, *Pescatorea Lehmanni*, *Cattleya Skinneri* var. *Bowringiana*, besides others of less interest to horticulturists. As we have been asked on more than one occasion the meaning of the title, we may add, that the word *Xenia* is from the Greek, signifying a present or complimentary gift given to a stranger.

"GREVILLEA."—With the next part, the 20th volume will come to a close, and Dr. COOKE announces his intention to discontinue it by reason of feeble health and diminished energy. The announcement will be received with regret, for Dr. COOKE's services to Cryptogamic botany for many years have been both numerous and important.

"JOURNAL OF THE SCOTTISH METEOROLOGICAL SOCIETY FOR 1890."—This journal is especially valuable for the authentic details it gives

relating to the climate of various parts of Scotland. The present part, published by WILLIAM BLACKWOOD & SONS, also contains an interesting article on the relation between the weather and the spread of influenza in London, the general result of which is to show that influenza and its consequences, even in the case of respiratory complications, are independent of season or weather.

THE ORCHIDÉENNE.—The meeting on March 13 was, in spite of the adverse weather, remarkable for the number and beauty of the specimens exhibited. Diplomas of Honour of the first class were awarded to *Masdevallia Harryana* var. *Kegeliani*, from M. Linden; *Eulophia* (?) *Lindeni*, from M. Linden; *Cypripedium* × *Imshootianum*, from M. Linden.

Botanical Certificate to *Angraecum polystachyum*, from M. Linden.

First-class Certificates to *Odontoglossum Italli leucoglossum*, from M. G. Warocqué; to *Lycaste Skinneri alba grandiflora*, from M. G. Warocqué; to *Epidendrum Wallisi*, from M. A. Van Imshoot; to *Schomburgkia undulata*, from M. A. Van Imshoot; to *Cypripedium Schröderæ splendens*, from M. Martin-Cahuzac; to *Odontoglossum Alexandrae*, from M. G. Warocqué; to *Odontoglossum spectabile*, from M. G. Warocqué; to *Cattleya Luddemanniana*, from M. A. Van Imshoot; to *Odontoglossum Rossi Mommanum*, from M. de Lausberg; to *Cattleya amethystoglossa*, from M. Linden; to *Zygopetalum Lindenii*, from M. Linden.

Second-class Certificates to *Odontoglossum Cervantesii lilacinum*, from M. le Dr. Capart; *Corylogne Parishii*, from M. A. Van Imshoot; *C. cristata alba*, from M. Linden; *Paphinia grandis*, from M. Linden; *Cypripedium hybrid*, from Madame Gibez; *Masdevallia* sp., from M. Linden; *Zygopetalum crinitum*, from M. le Dr. Capart.

Cultural Certificates to *Cattleya amethystoglossa*, from M. Warocqué; *Phalæopsis Schilleriana*, from M. Martin-Cahuzac; *Cypripedium barbatum Crossi*, from M. G. Warocqué; *Epidendrum Stamfordianum*, from M. A. Van Imshoot; *Cypripedium Lindleyanum*, from M. G. Warocqué.

NATIONAL CHRYSANTHEMUM SOCIETY.

A largely attended annual meeting of the members of this Society took place at Anderson's Hotel, Fleet Street, E.C., on Tuesday, March 15. Mr. R. BALLANTINE presided. The report stated that the Society had maintained its position, and that at no previous period in its history was its work better appreciated at home and abroad than at the present. It numbers nearly 700 members and Fellows, and there are ninety societies affiliated to it, with correspondents in many parts of the world. The three exhibitions held during the year were superior in many respects to what was expected, regard being had to the uncongenial season; and at the great November show cut flowers and specimen plants were remarkably good, and the competition in all the leading classes was keen. During the present year exhibitions will be held, as usual, in September and November; and, instead of holding a mid-winter exhibition, there will be a show in the month of October. The work of the Floral Committee has been of a valuable nature, and although numerous flowers are staged, Certificates are awarded with great caution. In reference to the question of increasing the size of the stands for Japanese blooms having been much discussed, the Society is strongly urged to take action, and the committee recommend a conference being held at the time of the October show, in order that the question may be fully discussed. Differences of opinion exist among growers, and any suggested changes should be made only after the matter has been fully considered. The financial statement showed an income from all sources of nearly £800, including about £300 from the Royal Aquarium Company. Members' subscriptions amount to £200, and from affiliated societies for fees and medals have been obtained £108. On the expenditure side about £450 has been paid in prizes, inclusive of medals; and other items made up

an expenditure of £835. The report and financial statement was adopted. Leopold de Rothschild, Esq., was elected President for the current year, and the names of Sir John T. D. Llewellyn, Bart., Mr. R. Smith, and S. Barlow, Esq., were added to the list of Vice-Presidents. Mr. Robert Ballantine was re-elected Chairman, and Mr. E. C. Jukes Vice-Chairman of the Committee; Messrs. R. Dean and C. Harman Payne, secretaries. Twelve members of the Committee retired by rotation, and of these Messrs. T. Bevan, H. Shoemith, G. S. Addison, R. Owen, W. Langdon, A. Taylor, and J. P. Kendall were re-elected; and the following were elected:—Arthur Veitch, W. Herbert Fowler, J. Brooks, E. Rowbottom, and J. T. Turk. Messrs. F. Cobbold and G. J. Ingram were appointed auditors. It was arranged that a general meeting of members should be held on one of the days of the November show to give members an opportunity of making suggestions in reference to the work of the Society. Five new members were elected, and two societies were admitted to affiliation. Hearty votes of thanks to the auditors and the chairman for presiding.

THE HOLMES MEMORIAL FUND.—This fund is, we are informed, now closed, and the two principal objects for which it was inaugurated have been accomplished. A small portion of the fund has been given to another fund raised privately among growers of Chrysanthemums for the purchase of two challenge cups, to be known as the National Chrysanthemum Society's Holmes Memorial Challenge Cups, which will be competed for at the autumn show in November under the same terms as the competition for the society's challenge trophy. The remainder has been vested in trustees for the benefit of the children of the late Mr. WILLIAM HOLMES.

PUBLICATIONS RECEIVED.—*Report of Natal Botanic Garden, Durban.*—*Report for 1891 of the Self-Help Emigration Society.*—*Agricultural Gazette of New South Wales* for December, 1891.—*Jardin Botanique Alpin de la Linzée*, third annual report.—*Contributions to the Queensland Flora.* By F. M. BAILEY.—*Transactions of the Scottish Horticultural Association.*—*Report on Injurious Insects and Farm Pests, with special report on attack of caterpillars of the Diamond Back Moth.* By Miss E. ORMEROD. (SHEPHERD, MARSHALL & Co.)—*Cornell University Horticultural Division Bulletin*, 34, The Dewberries.—*Die Systematische und Geographische Anordnung der Phanerogamen.* Von Prof. Dr. OSCAR DRUDE.—*Vergleichende Entwicklungsgeschichte der Pflanzen Organe.* Von Prof. Dr. K. GOEDEL. (Berlin: FRIEDLANDER.)

PLANT PORTRAITS.

ADELIA RUPESTRIS, *Gartenflora*, t. 1366.
AZALEA NUDIFLORA, *Meehan's Monthly*, February.
CALOCHORTUS FLAVUS, *Garden*, Feb. 13, 1892.
CEREUS NYCTICALIS, *Gartenflora*, Feb. 15, p. 93. Woodcut.
CEINOTHE RETORTA, *Garden*, March 5.
CHAMÆROPS HUMILIS (Fruits), *Revue Horticole*, February 16.—Eleven varieties are noted according to the forms of the fruit, of which illustrations are given.
COCLETHODA NOZZIANA, *Revue de l'Hort. Belge*, March.
CYPRIPEDIUM LUCIE, *Orchidophile*, January, 1892.—A cross out of *C. Lawrenceanum* by *C. ciliolare*.
GLADIOLUS MARCEAUX, and G. Dr. WALCOT, *Garden*, Feb. 27, 1892.
IRIS RETICULATA, *Revue de l'Horticulture Belge*, March.
KEMPERIA KIRKII, *Gartenflora*, t. 1361. *Bot. Mag.*, t. 5094.
LILAC MADAME F. MOREL, *Revue Horticole*, March 1.
MASDEVALLIA REICHENBACHIANA, *Gartenflora* (1892), t. 1365.
PHYLOCACTUS HYBR. AMI BAQUET, *Revue de l'Horticulture Belge*, February. Petals crimson, edged with blue.
RHOODENDRON CEREUS, *Garden*, Feb. 20, 1892.

ROSE LA VIERZONNAISE, *Revue Horticole*, February 1. Highly spoken of for colour, form, perfume, freedom and continuity of flowering. It is to be sent out by M. Leveque.

REBUS CESIUS, L. VAR. TURKESTANICA, *Gartenflora*, Feb. 15, p. 107. Woodcut.

SENECIO SAGITTIFOLIUS, *Revue Horticole*, February 1, p. 54.

STREPTOCARPI, hybrid varieties, *Garden*, Feb. 6.

TEMPLIONIA RETUSA, *Bull. d. R. Soc. Toscana d'Orticoltura*, t. 2, 1892.

TAICHOCHNETHUM TRIQUETRUM, Rolfe, *Lindenia*, January, t. 311.

VANDA CERULESCENS, *Orchidophile*, February.

ORPHIUM FRUTESCENS.

It cannot be said that the genus *Orphium* is well known in gardens. There are, however, a few species belonging to it which are well worth a place in the cool greenhouse. The subject of this note and the accompanying illustration (fig. 53) (which was taken from a plant recently in flower in the temperate-house at Kew), is a very old garden plant indeed, having been in cultivation more than one hundred years—at first, and for a long time afterwards, under the name of *Chironia*, the name applied to it when figured in the *Botanical Magazine*, in 1787, at tab. 37. *Orphium frutescens* belongs to the natural order Gentianeæ, and is a native of South Africa. It reaches a height of 2 to 3 feet, and has somewhat fleshy oblong-linear leaves, which, as well as the stem, are covered with short, soft, silky hairs. The expanded flowers are just about the size of a penny, sometimes perhaps a little larger, and are of a brilliant rose pink, which forms a striking contrast to the bright golden-yellow stamens which stand out so conspicuously in the centre.

It might be mentioned that the plant figured in *Paxton's Magazine of Botany* (vol. xiii. 221), as *Orphium frutescens* does not agree with the above description or sketch, but seems to be identical with that figured in the *Botanical Magazine*, t. 707, as *Chironia decussata*—a plant with much broader leaves and larger flowers. It is hinted, however, that one may be produced by the other, the difference being brought about by cultivation. Another species (or variety) worth the attention of the cultivator is *Orphium* (*Chironia*) *angustifolia*, *Bot. Mag.* t. 818. *John Weathers*. [*Chironias* succeed under the same conditions that are found to suit most Cape and New Holland plants, but may be afforded something more than the warmth of the ordinary cool greenhouse when making their growth, and may then be freely syringed morning and evening in fine weather. Careful watering is very necessary, and a potting soil consisting mainly of peat and clean silver sand, but large plants may have a modicum of fine yellow loam mixed with the peat, and the drainage should be good with quite clean pots. En.]

A TRAVELLER'S NOTES.

(Continued from p. 333.)

MADURA. [November.]—The most striking sight there is the throngs of natives and the variety of their costumes. Here for the first time I saw Hindoos, a people entirely different in face, form, colour, and dress from the Tamils and Telugus. The women wear handsome jewellery in great quantity, the ears being pierced sometimes in three and four places, and large ear-rings are worn in the nostrils.

The sights of Madura are the famous temple, dedicated to and a chosen residence of Siva; the Teppa Kulam, or Great Tank—now only used for washing purposes and committing suicide! the palace of Tirumala, and the Padu Mandapam. The temple is certainly a wonderful sight. [The details concerning which are given by Mr. Veitch we are compelled to omit. En.] Round and close to the temple are bazaars, many devoted to the sale of the famous Madura cloths, and filled with as motley a mob as one could well see.

The Great Tank is some 2 miles out of Madura.

It is $\frac{1}{2}$ mile square; in the centre is an island, on which is a domed temple. On great occasions and festival idols are drawn round this on rafts. The palace of Tirumala is a magnificent building; the courtyard is surrounded by a large gallery, the roof of which is supported by large stone columns. The interior, now used by the government as a justice room, is beautifully carved and very lofty. One gets a fine view of the town and the great gapuras of the temple from the roof.

The Padu Mandapam, opposite one of the entrances to the temple, and now used as a bazaar, is a large pillared hall, the roof of which is supported by four rows of columns, 120 in all, each differently carved. The façade along the entrance is adorned with carved monsters.

Banyans (*Ficus indica* or *F. bengalensis*) grow well at Madura. Many roads, especially outside the town, are lined with them, and they afford a pleasant and effective shade. Owing to their aerial roots being cut, that passers-by may go underneath, they do not increase as rapidly as is their nature. In Judge Weir's garden, I however, saw a very fine specimen



FIG. 53.—ORPHIUM FRUTESCENS: FLOWERS, ROSE-PINK.

with 105 large aerial stems, and seventy smaller ones; all the large stems or aerial roots are numbered, and the plant is carefully looked after.

Cocoa-nuts (*Cocos nucifera*) abound round Madura, and a special variety of Banana is cultivated for food. A small one, only grown in the hills, is particularly sweet and nice.

TRINCHINOPOLY.

From Madura I went to Trinchinopoly, one of the hottest places in India, and one of the worst for cholera. For hundreds of miles of the line from Tuticorin to Trinchinopoly, and, indeed, much further up country, a formidable and impassable hedge to cattle of *Agave americana* has been planted on each side; occasionally, though rarely, a break from some cause or other occurs, but this is always filled up with a strong wire fence in splendid order. Hour after hour one sees nothing but the *Agave*, and the flat, uninteresting country beyond. But where wells are found (the water from which is hauled up by means of cattle) one may see a large tract under Paddy culture. Owing to the country being flat, it is, of course, impossible to cultivate it as in Ceylon,—that is to say tier upon tier; the necessary water

in India is conveyed by small channels to the various fields.

The chief centre of interest at Trinchinopoly is the great Temple of Serlingham, situated on an island some short distance out of the town. The approach through a road lined with Palms and other trees, with the great unfinished gopuram and others behind it, far away in the distance, is most picturesque.

From Trinchinopoly I went to Tanjore to see the temple, said to be the oldest in India. In this temple I think I was more interested than in any other; it is smaller and more compact than the others. The entire temple is surrounded by a gallery, on the walls of which are frescos of punishments and miracles. In one part are 108 stone gods, each god being a short circular piece of stone on a strong base; believers lay flowers on these when praying.

COONOR.

From Trinchinopoly I went to Coonoor, a hill station much frequented by Europeans in the hot season. The nearest railway on the plain is Mettupalaiyam, the remainder of the journey up the Nilgiri ghats (some 18 miles) being performed in a double-horsed "tonga." A "tonga" is a curious contrivance on two wheels arranged to hold four persons; it has a moveable pole, so that, whatever the ascent, the weight of the entire carriage can be thrown on the wheels. The horses go a fast trot all the way, and are changed every 2 miles. This is the ordinary method of making the journey, but owing to two bridges (one a large stone construction) having been washed away about a month ago, some 5 miles of road was rendered inaccessible to tongas, and one had to walk or mount a pony. Coonoor is 6000 feet above sea-level, and is very prettily situated on the side of a steep hill, whilst all around, often hidden in the woods, are the bungalows of Europeans. It is a very pretty spot, and, I believe most popular among southern Anglo-Indians. The vegetation is somewhat similar to that growing in and around Nuvera Eliya. *Habrothamnus elegans*, from 6 to 7 feet high, was flowering freely; whilst *Roses*, *Pentstemons*, *Vincas*, *Verbenas*, *Pheasant-eyed Narcissus*, *Pelargoniums*, *Iris*, and white *Arums* were planted in front of the hotel.

OOTACAMUND.

From Coonoor I rode over to Ootacamund, commonly known as Ooty, situated some 12 miles further up the hills, and a little over 1000 feet higher elevation. The chief tree between these two places is *Eucalyptus globulus*, thousands of acres having been planted to afford fuel. In a young state it burns with great rapidity; but I am told, when old, this is not the case—the seasoned wood is valuable for house purposes. Mr. Lawson, Director of the Botanic Gardens, and of the important Government plantations, has the floor and wincing of his drawing-room made from it. I would like to have seen his *Cinchona* plantations, but as they are several miles away, it was impossible. His method of obtaining the bark is different to that in vogue in Ceylon; instead of shearing it off annually, he removes every three years oblong strips; this, he thinks, does not injure the tree to the same extent, and he obtains more quinine (4 units) than they do in Ceylon. Here, as there, the renewed bark is always the richest in this product. He drove me round the artificial lake, a considerable expanse of water, winding in and out between the hills, and through a portion of the Botanic Gardens.

The two chief trees at Ooty are the Black and White Wattle; both are *Acacias*, the latter being *dealbata*. The specific name of the former I am not sure of. [*A. mollissima*.] Both grow with great freedom, especially *A. dealbata*. This is in parts annually cut down on the sides of the road, which makes it throw up dense masses of strong young shoots.

The Botanic Gardens are situated at the extreme end of Ooty, and are in conjunction with the Governor's house and garden. I was much struck with Mr. Lawson's lawns—though he has to water arti-

specially, they are yet very good. Round the portion of the garden I saw were some good single specimens scattered about of various Conifers, such as *Pinus insignis*, *Cupressus torulosa*, *funeris*, and *Lawsoniana*, *Araucaria Bidwilli* and *Cookei*, and *Cryptomeria japonica*. English Oak does fairly well; I saw rather a nice specimen, some 30 feet high. *Nasturtiums* and *Trifoliums* were flowering freely in one of the borders. The portion of the garden I saw can scarcely be called botanical; it seems more to be laid out with well-gravelled roads and walks, for the gratification of the many Europeans in Ooty.

From Ooty, or rather from Coonoor, I came right through to Bombay, where I arrived on November 22. It is certainly a magnificent city; the railway station, secretariat, and other public buildings, are very handsome. *J. H. F.*

DISEASES OF THE REPRODUCTIVE ORGANS OF PLANTS, CAUSED BY FUNGI.

(Continued from p. 332.)

STARVATION OF THE REPRODUCTIVE ORGANS.

The development of the seed however, may, by the influence of certain parasites, become arrested. We see this in the effect *Puccinia graminis* has upon the Wheat plants affected by it. True, although the mycelium is purely local, yet it always attacks the stem of the plant to a greater or less extent, forming long spore-beds running lengthwise down the stem. Often several are placed parallel to one another. In this case the injury to the seed is proportional to the number of spore-beds. Its action upon the seeds is by causing their starvation, so to speak, for it cuts off the channel of communication between the plant and its seed, and impairs the nutrition of the latter. Sometimes this takes place to such an extent as to render the Wheat crop practically valueless, as the seeds do not fill-out as healthy Wheat kernels do. Those seeds, however, which are formed possess the faculty of germination, and remarkable as it may appear, are capable, not only of giving rise to a healthy crop, but also under favourable circumstances to a crop producing a heavy yield of excellent Wheat. This is because the parasite is a purely local and not a constitutional affection, because it does not attack the Wheat until after the flower-heads have been produced.

Another parasite attacking the stem of its host, so as to produce starvation of its reproductive organs to a much greater extent than happens in the instance just mentioned, is *Peziza Duriana*. The life-history of this fungus has not been worked out in all its details, but sufficient of it is known for our purpose. Its mycelium occurs in the flower-stems of certain Carices, where it manifests its presence in two ways. Towards the upper part of the stem, near the flower-heads, it gives rise to a number of linear spore-beds, which resemble black lines parallel to one another, and to the long axis of the stem; each consists of great numbers of minute spherical black spores.

Lower down the stem, at first enclosed entirely within it, two or more sclerotia are produced, in shape very like an elongated Barley-corn. The lowermost is larger, and the first formed; when fully developed, they bear considerable resemblance to ergots. At first they are hidden within the stem, but their presence may be recognised from the sickly yellow hue of the stem containing them; as the sclerotia mature they rupture the stem, and fall out. The immature sclerotia are remarkable for the beautiful reddish-purple colour of their exterior. They are perfected in June or July, and lie dormant until the following spring, when from each is produced the pretty little *Peziza* to which Tulasne has given the name of *Peziza Duriana*. If the flower-heads of the affected plants be examined, it will be at once seen that they are abortive; the head is formed, but no seeds are ever produced in it.

STRANGULATION.

A well-known Sphaeriaceous parasite is even more destructive to the reproductive organs of its host,

namely, *Epichloe typhina*. This fungus absolutely strangles the stems of its host, so that the floral axis is quite destroyed. It occurs upon a variety of grasses, of which *Dactylis glomerata*, *Agrostis vulgaris*, and *Phleum pratense* are the most frequently attacked. The spawn of the fungus spreads through the entire stem of the plant, and manifests its presence as soon as the plant begins to put forth its flowering heads. This it does, producing a mass of bud-producing threads (gonidiferous hyphae) in the form of a collar, on the sheath of the second or third leaf below the inflorescence. This collar consists of a whitish felt-like mass of interwoven threads, which produce on their extremities multitudes of minute ovoid hyaline gonidia ($4-5 \times 3$ mk.), which form a viscid mass.



FIG. 54.—BLADDER PLUM.

After a time, the gonidia cease to be formed, and the matted hyphae form astroma which becomes golden-yellow or orange in colour, and produces flask-like cases or perithecia, the bases of which are imbedded in this stroma, with their apices radiating outwards. The apex of each is pierced by an opening, the "ostioleum," through which the spores escape. Internally they are filled by a mass of asci, containing eight filiform spuriously septate spordia, without paraphyses. The remains of what would have been the floral axis is generally to be observed as a shrivelled up dead body surmounting the fungus growth.

An allied species, *E. strangulans*, occurs in Cayenne.

DIRECT ACTION OF THE REPRODUCTIVE PARASITES ON THE FLORAL ORGANS.

General and complete destruction of all the floral organs is a very common effect of the reproductive parasites. Very good examples are afforded by the

development of those species of *Ustilago* which cause the respective smuts of Oats, Barley, Wheat, Rye, and various grasses.

Certain of the *Ustilagineae* confine their attacks to the anthers. *Ustilago Succinea* of Magnus, peculiar in having white spores, occurs in the anthers of *Scabiosa succisa*. A better-known species is *Ustilago violacea*, in the anthers of various Caryophyllaceous plants, especially on *Lychnis diurna* and *vespertina*. The dark violet spores replace the pollen grains, but it is particularly interesting, because of the manner in which it modifies the sex of its host-plant. The two species of *Lychnis* in question are what are termed subdioecious plants; individuals bear either antheriferous and pistilliferous flowers only, but occasionally plants occur bearing both. The ovaries of the antheriferous plants are undeveloped, whilst those of the pistilliferous flowers are well developed structures, surmounted by long curved styles, which extend beyond the tube of the corolla.

When a pistilliferous plant becomes attacked by the parasite, it produces anthers, and the styles become reduced to short, erect bodies, about an eighth of an inch long, surmounting the ovary.

Another parasite, *Peronospora violacea*, is sometimes met with upon *Knautia arvensis*; it attacks the filaments of the stamens, and causes such a profound modification of these organs that they do not develop anthers, but become metamorphosed into petals, losing their normal function altogether, so that the blossoms become filled with beautiful violet petals, which have replaced the stamens.

The ovaries and the ovules, as well as the whole of the seed-vessels, are the favourite sites of attack of many reproductive parasites, by which various pathological changes are induced.

Hypertrophy of the ovary is caused by some of the Ascomycetes, for instance, by *Exoascus pruni*, which causes a disease well known on the continents of Europe and America by the name of Bladder or Pocket-plums (fig. 54). De Bary has shown that this diseased condition is due to the presence of the mycelium of the fungus in the tissues of the young fruit, in which it may be detected as early in the year as May. The attacked Plums never come to perfection, but are malformed into yellowish-green, tough, tasteless, wrinkled bodies, having the shape of Plums, but hollow, and without any stone inside.

The mycelial threads ramify in the substance of the affected fruit, especially following the direction of the strands of vascular tissue. They form a network beneath the cuticle, through which there protrude innumerable perpendicular branches, like the pile on velvet. These branches are cylindrical in form, and contain about eight spores enclosed within them, so that they are virtually asci. These asci easily rupture, and permit the escape of the spordia. The free spordia germinate in water, and in saccharine solutions, by budding, after the manner of the *Saccharomyces* spores, but they do not form alcohol.

Another allied species deforms the female fruit of the common Alder, and gives rise to a well-known diseased condition. It differs from a species which occurs on the foliage in having a great number of spordia in each ascus, whereas the foliicolous species has eight-spored asci. *C. B. Plowright*.

(To be continued.)

HOME CORRESPONDENCE.

CELSIA ARCTURUS.—This half-hardy plant is most useful for flowering during the winter in a cool house, from which frost is excluded. It has showy bright yellow flowers, with a brown and purple centre, and the filaments of the flower being of the same hue renders it the more attractive. Strong plants in 5-inch pots produce spikes of flower at this time of the year fully 2 feet long, and these last in perfection many months, as the blooms develop gradually upwards as the lower ones decay. We have plants which have been flowering for the last two years. By sowing a pinch of seed in the spring, a stock of

plants can quickly be raised; or cuttings may be employed, these striking freely in the spring or early summer under a handlight in a cool-house or frame. *E. M.*

DOGWOOD, CORNUS SANGUINEA.—It may not be generally known that this plant succeeds really well under overhanging boughs of tall forest trees, much better than many subjects, and in this respect, in addition to the qualities named by "Vagabond," in *Gardeners' Chronicle*, p. 312, it deserves to be extensively planted. *E.*

WHITE CINERARIAS.—At one time, white Cinerarias were looked upon as decided novelties, but now they are quite common. Amongst about 100 plants obtained from a high-priced packet of seed from a noted house for these plants, quite twenty-five of them have white flowers, a fact which I do not regret, as they not only give variety to the coloured flowers, but they harmonise really very well with them. In addition, they afford useful material for cutting, white flowers being at all times appreciated. These white Cinerarias make up nicely into wreaths, the deep purple shade of colour which suffuses the stamens giving additional variety, and as blue in various shades is now employed in wreath-making these white Cinerarias are useful. *E.*

COTTAGERS' KALE.—Once more has this favourite winter Green proved itself of value where Kale is required during the winter months. It is a plant which pays for good cultivation, and what is of importance, that the seed should be sown early, to enable the plants to have a long season on which to grow, for the taller the stems the larger the crop of sprouts. My plants have this year averaged 3 feet in height, and were clothed with sprouts from bottom to top. The seed should be sown about the middle of the present month, weather permitting, and as soon as the plants are 4 inches high, they should be planted out where they are to stand. A distance of 2 feet 6 inches between the rows is not too much if the ground be in good heart, and the plants in the rows should be as far apart. In hot, dry weather, the seed-bed should be well watered before drawing any of the plants, and watering-in should be adopted. Be sure to sink the stem quite up to the leaves. If possible, a spare piece of ground should be apportioned off for this crop, as better results are obtained in this way than when the plants have to be put out between the Potato and Pea rows, as is very often the case. *E. M.*

SNOWDROPS AND SNOWFLAKES.—I have *Galanthus nivalis-lutescens* in good form just now. It is curious and very interesting. The *Leucuncus* came before the Snowdrops this year, and have been very good. *L. carpathicus* was nearly always twin-flowered. Some seasons it comes single-flowered on a good many stems. I wonder this year it is not cultivated more largely for florist purposes. *W. B.*

APPLE ASHMEAD'S KERNEL IMPROVED.—I have grown this Apple for the last twelve years, and think highly of it as a dessert fruit. The tree is a very strong grower, and evidently requires age before it will crop freely. If it could be induced to come early into a free-bearing state [by grafting on *Paradise*? *En.*] no doubt it would be an Apple much sought after. It is said to be a late keeper, but with us it does not last in good condition much after Christmas. *E. M.*

TITS.—A small open basket containing scraps of bread, fat, &c., is hung up in winter and much frequented by the birds. One afternoon recently a tit instead of helping itself in the usual way was observed to deliberately carry piece after piece of the food from the bottom to the edge of the basket, and thence to drop each to the ground, where, needless to say, sparrows were in waiting. The intention of the tit was evidently to empty the basket, or to get at the larger pieces of food which lay beneath the crumbs which it removed from the top. Is it possible that the tit had an idea of nesting in the basket, or is it now too late in the season? *Leirion.*

ROUND AND KIDNEY POTATOS.—The matter in relation to judging round and kidney Potatoes, referred to by Mr. Harris, may not be a very important one, but in country shows it is constantly cropping up, not so much because exhibitors make mistakes as that they are only too ready, in equivocal fashion, to snatch an advantage, if possible, from their fellows. Now it is a very rare circumstance indeed for any variety of true kidney form, and ordinarily classed as

a kidney, to produce roundish samples. The trouble, such as it is, is chiefly found with those intermediate varieties, which are longish, round, and difficult to classify. These must be classified according to their average form, and of such a sort as Satisfaction it is just to say that its average shape is distinctly round. A large pebble-shaped round, and the elongated form, is of an abnormal character. There are so many distinctly-defined kidney varieties and rounds, that absolutely no difficulty should be presented to exhibitors or judges in determining which section any variety presented at exhibitions belongs to. It would be little less than immoral to exhibit any one variety in the two sections because of its diverse forms or shapes. Whenever judges find any one variety so exhibited by one or more exhibitors, it is their duty to first determine to which section the variety belongs, and then to disqualify it in the other section or class. If they award it prizes in both sections, they stultify their own judgment. Of real kidney-shaped Potatoes, there are International, Ashleaf, Snowdrop, Prizetaker, Mr. Breese, Covent Garden Perfection, Governor, and others, all of which show what true kidney forms are; whilst of rounds, Windsor Castle, London Hero, Reading Rasett, The Dean, Schoolmaster, Abundance, &c., all show as plainly as can be what a round variety should be in form. *A. D.*

TEA AND COFFEE SUBSTITUTES.—"The large fleshy roots of *Niebuhrnia pedunculosa*, Hochst. (*Boscia caffra*, Loud.), furnish a sweet syrup, not unlike 'golden syrup,' and are comminuted and roasted into a substitute for coffee, just as corn and Rye are used when true coffee has run out of stock." (H. G. Flanagan, Prospect Farm, Koraanza, Kei River, in *lit. ad. m.*) *P. MacOwan.*

WINDOW PLANTS.—I heartily concur in the remarks made by Dr. Masters at the Drill Hall on the 8th inst., with respect to the extravagance shown in relation to house-decoration with plants. I have seen plenty of such examples, and have regretted that genuine horticulture should be so poorly served by such costly methods. Especially is this the case in window-plant decoration in the mansions of the wealthy in London, where the most outrageous combinations of colour may often be seen, the result of efforts on the part of furnishers to outvie each other in the production of what they term striking effects. Not in one case in a hundred is any good taste shown. Last summer, in one of the upper or bed-room windows of a house near Grosvenor Square, there might have been seen hanging from a box on the sill, and blooming with wonderful profuseness, a double-blossomed pink-coloured Ivy-leaf Pelargonium. It had been trained by some housemaid, probably, who perhaps had brought the plant from the country, along the sill, and then the branches hung down, showing a rich profusion of bloom. No window-shows made by the furnishers anywhere near could equal that one plant in its beauty. But to see what may be done in the cottage by the wife of the labourer in the shape of window-decoration, one must seek the best examples found in rural districts, where cottagers' societies offer prizes for the best decorated windows, or, perhaps, window-boxes. Some of these latter I have met with at Earley, near Reading, for instance, have shown remarkable taste, and skill also in cultivation. Would that we could have a great country window-box exhibition in London. It would not only be full of deep interest, but give some useful lessons in taste and cheapness in plant decoration. *A. D.* [We have a protest from Mr. Wills, which reached us too late for insertion this week. *En.*]

PREVENTION BETTER THAN CURE OF WORMS IN GARDEN POTS.—Seeing your reply to "Amateur," p. 346, on expelling worms from garden pots, I am induced to mention an excellent thing for keeping the worms out, which consists of pieces of brass wire gauze cut of convenient sizes, and placed over the hole at the bottom before the crocks are put into the pot. If care is used in putting in the crocks afterwards, no worm, wood-louse, or slug will be able to get into the soil. To prevent misunderstanding, it should be mentioned that a patent has been taken out for the above—it is called Porter's Invincible Crock, and is made at Maidstone. Considering the simplicity of the thing, it is next to marvellous that none of us have ever thought of it, and that an enthusiastic amateur should be the lucky person to find it out, and take the wind out of our sails in this manner. Those I first had were made of steel wire, but these were found to get rusty with manure-

water, &c., and brass wire has accordingly been substituted for steel. For plants in pots, such as Strawberries, pot fruit trees, &c., which stand a long time on the soil, I consider the invention extremely useful. *W. H. Divers, Ketton Hall Gardens, Stamford.*

MANURING HOLLY HEDGES.—In some soils Holly hedges do not retain that deep green colour so much admired in hedges of this plant. I allude to hedges which have not been planted for more than a dozen years. These will sometimes lose many of the leaves at the bottom, and small branches go off occasionally from lack of nutriment in the soil, and it is not always practicable to give the necessary stimulus to the plants by means of manure. A way to effect this object without much labour or cost is to soak the soil with farmyard liquid manure about twice, at an interval of a fortnight between, and the present month is the best for the purpose, or just before growth commences. This treatment will generally be succeeded by strong growth from the base, and an improvement in the colour of the foliage. It is surprising to notice the great improvement in the appearance of a hedge after two applications of the manure. *E. M.*

SOCIETIES.

ROYAL HORTICULTURAL Scientific Committee.

MARCH 8.—D. Morris, Esq., in the chair. Present: Messrs. Elwes, Michael, Professor Green, Professor F. Oliver, Dr. Hugo Müller, Dr. Scott, Dr. Masters.

Adventitious Buds on Ribes.—Mr. Burbridge sent specimens of these productions on *Ribes aureum*, to show that the conjecture advanced on a former occasion, to the effect that the swellings in question were due to constriction and to the accumulation of moisture by a ligature, such as a shred, was not tenable; as in the case now sent, the plant grew as a shrub without any such ligatures, and yet these swellings were produced as in a burknet Apple.

Hellebore.—Dr. Müller stated that he had performed experiments similar to those detailed at a previous meeting by Mr. Burbridge, and, owing to the diversity of the results obtained, concluded that the slitting of the flower-stem longitudinally had no definite relation to the length of time that the flowers remained unwithered. Dr. Scott stated that he had examined the anatomical construction of *H. niger* and *H. orientalis*, and found that the conducting system is much more completely developed in the quickly withering *H. orientalis* than in the long-lived *H. niger*. Possibly the greater amount of transpiration due to the presence of leafy bracts below the flowers of orientalis might have something to do with the more rapid withering of the flowers.

Two-coloured Tulip.—Dr. Masters reported that he had examined the Tulip exhibited at the last meeting, and found that the distribution of the colour was as follows:—One of the outer segments, that nearest the axis, or the posterior part of the flower, was red, the other two yellow. Two of the inner segments were half yellow, half red, the red portions being in juxtaposition with the red outer segment. Of the stamens, the three in the posterior part of the flower, that is to say, one of the outer (opposite the red sepal), and two of the inner series were completely red instead of being, as might have been expected, half red and half yellow.

Cypripedium Dayanum.—Dr. Masters reported on the specimen submitted to him at a former meeting. In this, the true lip was absent, but each of the two lateral petals was partially developed in the form of a lip. The posterior stamen, *a*, 1, which is usually not developed in *Cypripedium* (though it is the only one present in other *Orchids*), was also present in a lip-like condition. The two stamens, *a*, 1, 2, were present in their ordinary condition. The flower in question was, therefore, partly double, and added another illustration of the probable development in the future of "races" of double *Orchids*.

Larve Destructive to Grass in Hong-Kong.—From Mr. Ford came, through the Director of the Royal Gardens, Kew, specimens of the larve and of the perfect insect of a species of *Tinea*, reported to be very mischievous in Hong-Kong. The specimens were referred to Captain Elwes for examination and report.

Hybrid Narcissus.—Rev. G. H. Egleheart sent flowers of a hybrid produced by the inter-fertilisation of *N.*

triandrus and *N. monophyllus* var. *alba*, to show the similarity of the result obtained by the inverted crossing of the two species. See figs. 45, 46 in our last issue.

The Dyeing of Flowers.—From Mr. W. Brockbank came a large series of dried flowers, the venation of which had been rendered apparent by the action of aniline dyes. The cut ends of the flower-stalks were immersed in the fluids, so that the colouring matter was absorbed by the vascular tissue of the flowers. The results were very striking, and likely to be of use to botanists. See ante, p. 329.

Plants Exhibited.—From Mr. Burbidge came *Helleborus torquatus*, from the College Botanic Garden, Dublin; *Mistletoe* from *Pyrus malus* var. *præcox*, on which it is found that the berries are produced more freely than on other trees—the foliage, on the other hand, being less well developed. These effects are analogous to those produced by grafting on a dwarfing stock. *Tellima grandiflora rubra*, remarkable for the rich red colour of the foliage, the colour being especially noticeable in winter time, so that the plant makes a good setting for bulbs. The winter coloration of the leaves of this species is analogous to that observed in some of the Ivies, notably the variety *atropurpurea*, which turns nearly black in winter. A flower of the rarely-seen *Dioscorea viridiflora* from the same garden was shown. It is remarkable for its green colour and the peculiar shape of its large corolla—between funnel-shaped and bell-shaped.

Disease of Mountain Ash.—The Rev. W. Wilks sent a specimen, accompanied by the following letter:—"I noticed a Mountain Ash tree with a very stout large trunk fit to carry a tree of large dimensions, but the actual tree was comparatively very small and stunted, and every twig of every branch was ended in this way, the diseased part being always downwards underneath the line of the stem bearing it. The tree at a distance looked almost like some evergreen, so densely was it crowded with these diseased parts." In the specimen the ends of the branches presented oblong or club-shaped swellings irregularly cracked on the surface, as well as deeply fissured in places. Internally it consisted of woody tissue of harder consistence than usual, the deep fissures being lined with dead wood, around which the new and harder wood was deposited. A similar condition is not very uncommon in the Hawthorn, but the determining cause is unknown, and can probably only be ascertained in the young state, which unfortunately rarely comes under observation. The deep tunnel-like cracks are suggestive of insect injury, and of subsequent efforts to repair the damage.

MANCHESTER ROYAL BOTANICAL.

MARCH 15, 1892.—The opening show of the season was held as usual in the Town Hall. Despite the inclemencies of the weather, it was a much better show than we have noticed for several years previous—better in respect of both quantity and quality of articles on exhibit. All spring shows have a warmth of colour about them that is often wanting later on in the season, and what with gay Orchids, quantities of Cyclamens of every hue, the brightness of Dutch bulbs, and the captivating character of our varied and beautiful Daffodils, not to speak of plants of nondescript character, the beautiful hall was never more gay.

Orchids.—The Orchids were choice, the *Dendrobia* being grandly represented both in Mr. Statter's and in Mr. C. Lee's collections. It was not that the plants were large, but they were copiously flowered, and the eye could scan them without much effort. In Mr. Statter's collection we noticed particularly fine forms of *D. nobile nobilius*, of *Ainsworthii*, and of *Ainsworthii roseum*, which, when under masterly cultivation, "holds the field" against all comers in that particular shade. Good examples of the old noble and *Wallichianum* were shown, and some forms with particularly bright segments. Amongst the lot were superb forms of *Lycaste Skinneri* alba, beautifully flowered, and as white as the snow on the hillsides. *Cologyne cristata* alba was also present in several plants, which, in that way, there is nothing to equal. Some well-flowered pieces of the scarlet *Sophronitis coccinea* were intermingled; and a few of the glazed-looking *Ladies' Slipper*, making up in a groundwork of *Ferns*, a remarkably pleasing whole. Mr. Johnson also brought forward several examples of cut flowers of *Cattleya*, by far the best being Statter's form of *Trianae*—a most brilliant and excellently flowered flower.

Mr. J. C. Lee confined his exhibit to *Dendrobia*

alone, and most effective they are in varied character. In addition to those named above, Mr. Lee had *Wardianum* in many fine varieties, nearly all of which were called superbum—any-way the orange-base of the labellum of some of the sorts were markedly characteristic, and contrasted well with the deep-coloured extremities of both segments and lip. *Cassinoides* was fairly well shown; it seems as if growers found it worse "to do" than its bigger gouty-stemmed neighbour. The white one was an exhibit, but it lacks purity to rank alongside of either *Lycaste Skinneri* alba or *Cologyne cristata* alba. *Darwinianum* is pretty, but scarcely large enough in the flower for the growing taste. Noble *splendissimum* is a rank grower, possibly the best of the breed, and the flowers were large and showy. Contrasting with these were several samples of *Bymerianum*, which has in addition to its golden colour the lip so prominently frayed that visitors "not in the know" were inspecting it with more than ordinary curiosity. The sweet smelling *Heterocarpum* was well grown and flowered, and with its pale lemon segments and nankeen lip, is an excellent contrasting species amongst a lot of *Dendrobis*. The only dressing that Mr. Billington brought for the Lee collection was some *Palms*, the whole being a choice group.

Miscellaneous Plants.—Messrs. Heath & Sons, Cheltenham, tabled a mixed collection, comprising *Kentias*, some *Crotons*, an *Anthurium* or two, one very good *Amaryllis* named *Mars*, several choice Orchids, the best among which was a gigantic form of *Dendrobium Finlayianum*, having both size and quality of flower to recommend it. Also *Odontoglossum Roezlii*, clean and excellently grown and well flowered for the size of plant. The bright orange-scarlet *Lelia harpophylla* looked well beside the sienna and green *Odontoglossum Hallii*, and the pure white *O. Pescatorei*. *Cattleya amethystoglossa* was fairly well shown, and several *Cypripediums* all mixed up with a little greenery which vastly lightens the bare foliage.

Mr. James Mason, of Manchester, had a fairly good mixed lot of *Azaleas* and New Holland plants, nothing more showy than the drooping inflorescence of the yellowish *Acacia Ricena*. Dickson, Brown & Tait had a charmingly flowered lot of *Azalea Mollis*, and some of the best *Hyacinths* in the exhibition. Mr. Thos. Walker, Hounslow, had a grand assortment of *Cyclamens*, grown on the quick-production principle, and they were loaded with flowers, the white flowers being specially captivating. The beauty of the culture is in the small pots; the plants were grown and finished ready for sale. The St. George's Company, Hanwell, had a similar lot, from white to maroon and all the intermediate shades. John Laing & Son had also a good lot of *Cyclamens*, and a varied lot of plants suitable for greenhouse decoration.

Dickson, Chester, put up a very captivating lot of Daffodils—still nothing better was seen amongst the many exhibited than the one-coloured Emperor, and the white-segmented and lemon-cupped *Horsfieldii*. Confronting these were *Squills* and *Primulas*, in varied colours, and the whole, interspersed with the Harris' white Lily, commanded, as they deserved to do, much attention.

Mr. Joseph Brown sent from his gardens at Little Orme's Head, a fine culling of spring flowers, remarkable for sweetness—among which were *Wallflowers*, varied *Primulas*, showy *Doronicums*, *Tulips*, *Snowdrops*, and fine batches of *Glory of the Snow* (*Chionodoxa Lucille*).

Mr. Findlay sent a lot of flowering plants from the Gardens, comprising grand groups of *Cliveas*—a splendid botanic garden plant for flowering in a large house under the shade of other plants—some fine lot of *Daffodils* and *Tulips*, and *Hyacinths*, along with some selected *Palms* of cooler climates, which added much to the general effect.

MARKETS.

COVENT GARDEN, March 17.

No alteration. Market remains in the same condition as last week. James Webber, Wholesale Apple Market.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Canadian and		Kent Cobs, 100 lb.	40 0—
Nova Scotia, per		Lemons, per case	8 0-11 0
barrel	10 0-25 0	Pine-apples, 84, Mr.	
Apples, 3-sieve	10 0-40 0	chael, each	20 0-60
Grapes	10 1-9 3-6		

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Acacia or Mimosa,		Narcissus, paper-	
French, per bunch	1 6-20	white, Fr. p. bun.	2 6-4 0
Arum, per doz.	3 0-4 0	Narcissus	
Azalea, p. doz. sprays	0 6-9 0	Scilly, doz. bunches	2 0-4 0
Camellias, white, doz.	2 0-3 0	Orchids:—	
red, per doz.	1 0-1 6	Cattleya, 12 bims.	6 0-9 0
Caranoms, 12 bims.	2 0-3 0	Odontoglossum	
Cinerarias, per doz.		crispum, 12 bims.	3 0-6 0
bun.	0 0-9 0	Pelargoniums, scar-	
Daffodils, double per		let, per 12 bun.	5 0-8 0
dozen bun.	3 0-4 0	— 12 sprays	6 0-1 0
single	4 0-6 0	Primroses, doz. bun.	1 0-2 0
various	6 0-9 0	Primula, sing., 12 bun.	4 0-6 0
Eucharis, per dozen	4 0-6 0	Roman Hyacinths, 12	
Freesias, dozen bun.	5 0-6 0	French bunches	2 0-4 0
Gardenia, per dozen	4 0-6 0	Roses, Ten, per dozen	1 0-3 0
Heliotrope, 12 sprays	0 6-9 0	coloured, dozen	2 0-4 0
Jonquils, dozen bun.	1 0-3 0	yellow (Mare-	
Lilac white (French)		chab, doz.	4 0-6 0
per bunch	5 0-6 0	red, per dozen	4 0-8 0
Lilium Harrisii, doz.	5 0-8 0	Snowdrops, doz. bun.	1 0-3 0
Marigolds, per doz.		Tuberose, 12 bims.	1 0-2 0
doz. sprays	0 6-1 0	Tulips, p. doz. bims.	0 6-1 0
Maidea Hair Fern,		Violets, Parme, per	
12 bunches	6 0-12 0	bunch	2 0-3 0
Marguerites, per doz.		Coat, per bunch	6 0-1 0
bunches	3 0-4 0	English, 12 bun.	1 6-2 0
Mignonette, per doz.		Wallflowers, French,	
bunches	4 0-6 0	per dozen bunches	2 0-4 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Ficus elastica, each	1 6-7 6
Arum, per dozen	9 0-12 0	Genistas, per dozen	8 0-12 0
Aspidistra, per doz.	18 0-63 0	Hyacinths, Dutch, doz.	6 0-9 0
Azalea, per doz.	25 0-69 0	Lily of the Valley, per	
Begonias, per doz.	6 0-12 0	Marguerites, per doz.	6 0-12 0
Cinerarias, per doz.	6 0-10 0	Mignonette, doz. pots	8 0-15 0
Cyclamens, per doz.	9 0-18 0	Primula sinensis, doz.	4 0-6 0
Cyperus, per dozen	4 0-6 0	Palms, various, doz.	2 0-3 0
Dracenas, each	1 0-5 0	specimens, each	10 6-84 0
Erica, various, dozen	12 0-18 0	Pelargoniums, Scar-	
Erica gracilis, doz.	8 0-12 0	let, per doz.	8 0-9 0
Ferns, various, doz.	4 0-9 0	Solanum, per dozen	6 0-12 0
per 100	8 0-15 0	Tulips, per doz. pots	6 0-8 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe,		Lettuces, per doz.	1 6-2 0
each	0 4-6 0	Mushrooms, punnet	1 6-2 0
Beans, French, lb.	1 6-2 0	Mustard and Cress,	
Beet, red, per dozen	2 0-3 0	punnet	0 4-4 0
Carrots, per bunch	0 4-6 0	Parsley, per bunch	0 3-6 0
Cauliflowers, each	0 3-6 0	Saskaparilla, basket	2 0-3 0
Celery, per bundle	1 0-3 0	Shallots, per lb.	0 6-8 0
Cucumbers, each	0 9-1 3	Spinach, per bushel	3 6-8 0
Endive, per dozen	2 0-3 0	Tomatoes, per lb.	0 6-1 0
Herbs, per bunch	0 8-1 0	Turkeys, per bunch	0 4-6 0

The market is not quite so healthy as per last report, and, except for best quality, there is a tendency to lower prices. J. B. Thomas.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—i.e., "Day-degrees" signifies 12° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.							
	Above 42° for the week ending March 12.	Above 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.	10ths Inch.	Inches.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 3, 1892.
	Above 42° or below 42° for the week ending March 12.	Above 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.	Mean for the Week.	No. of Rainy Days since Jan. 3, 1892.	Total Fall since Jan. 3, 1892.	Percentage of possible Duration for the Week.
0	8	0	76	17	154	4	51	10 0
1	7	0	74	23	151	1	40	8 30
2	8	0	71	25	132	1	41	3 7
3	10	0	82	27	149	1	40	3 1
4	10	0	73	37	150	2	38	3 6
5	10	0	71	43	106	3	32	2 7
6	7	0	62	29	122	7	40	7 3
7	9	0	73	36	123	2	38	5 6
8	9	0	61	55	108	4	41	5 5
9	8	0	59	61	95	2	42	5 4
10	9	0	49	78	103	5	33	6 4
* 8	0	36	47	43	54	3	44	6 2

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.; 6, England, S.W.; 7, England, S.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending March 12, is furnished from the Meteorological Office:—

"The weather during this period continued extremely cold and wintry, with frequent but not generally heavy falls of snow in the eastern and north-eastern parts of Great Britain, and occasional slight snow showers elsewhere. Many intervals of fine bright weather were nevertheless experienced in all parts of the Kingdom, especially in the west and south-west.

"The temperature was exceedingly low for the time of year, the deficit varying from 7° in 'Scotland, E. and W.,' to as much as 10° in the 'Midland Counties,' and 'England, S. and E.' The highest of the maxima were recorded on the 8th in 'Scotland and Ireland,' and on irregular dates in 'England,' they ranged from 47° in 'Ireland, S.' and 'England, S.W.,' to 41° in 'England, E.' The lowest of the minima were registered at most stations either on the 9th or 10th, when the thermometer fell to 10° in 'England, E.,' 12° in 'England, S.W.,' 13° in 'Scotland, E.,' and to between 15° and 21° in all other districts, except the 'Channel Islands,' where it did not fall below 23°.

"The rainfall (melted snow) was a little more than the mean in 'England, N.E.,' but less in all other districts.

"The bright sunshine exceeded the mean very generally, and was more prevalent than for many weeks past. The percentage of the possible duration ranged from 54 in the 'Channel Islands,' 48 in 'Ireland, S.,' 46 in 'England, S.W.,' and 42 in 'Scotland, W.,' to 29 in 'England, N.E.,' and 28 in 'England, E.'"

NOTICES TO CORRESPONDENTS.

ANONA SQUAMOSA: *J. L.* This species, the Sweet Sop, is, like other species of Anonae, an evergreen, and if your plant loses its leaves it is probably from lack of sunshine or heat. The winter warmth should be 55° to 65°, and the summer 65° to 85°.

BOOKS: *Fruit Congress Report*, W. T. Published at the Royal Horticultural Society's Offices, 117, Victoria Street, Westminster.

CALIFORNIA AS A HOME: *R. G. M.* will be glad to correspond with Mr. W. Carter if he will kindly send us his address.

FRUIT TREE STOCKS: *W. D.* Advertise your wants.

GARDENIA ROOTS: *J. B.* The swellings on the roots are caused by eel-worms, *Tylenchus radialis*, often



FIG. 55.—EEL-WORM DISEASE OF GARDENIAS.

described and figured in the *Gardeners' Chronicle*, as at p. 488, 49, April 9, 1887, where a full description of the insect, by M. Beijerinck, a celebrated Dutch naturalist, is to be found. Our fig. 55, represents a root very severely affected by the worm.

They are probably introduced with the potting soil. There is no cure, short of the entire destruction by fire of the affected plants.

GLORINIA: *H. B.* The malformation, of which you send specimens, is not uncommon, and is sometimes so much developed that a complete second corolla outside the first is produced, as in the case of a Hose-in-hose Primrose, but differing in structure.

GREEN CARNATIONS: *A Subscriber.* The green colour is given by inserting the freshly cut flower-stems in water in which some substance is put that will give it a green colour. The stalk imbibes the coloured water, which gradually spreads over the whole flower. See our last week's issue for full details.

MALFORMED CYCLAMEN: *H. G.* These malformations in Cyclamens, as in most plants, are not uncommon, and prove how intimately all the parts of a plant are structurally connected, so that the accidental arrest of growth of one part may have the effect of turning a leaf into a petal or *vice versa*; or, as in your plant, induce the flower-stalk to branch in a totally abnormal manner.

MELON PEAR: *Enquirer.* The fruit of *Solanum muricatum*.

NAMES OF FRUITS: *Mat. B. 1*, Royal Somerset; 2, Court of Wick. *W. J. C.* Small's Admirable, most probably.

NAMES OF PLANTS: *N. Bros.* Please write to the Editor on such matters, not to the publisher. Your plant is *Myrsiphyllum asparagoides*.—*T. L. B.* *Schomburgkia crispata*.—*A. C.* A very fine example of *Odontoglossum asperum*. The branched spike is only a question of strength and good cultivation. —*H. J. K. 1*, *Vanda tricolor*, and 2 may be the variety of *V. tricolor* you suggest, but the labellum is withered, and we cannot determine it. The *Acridea* is *A. Fieldingii*, but the inflorescence has stopped at one-third of its proper length. —*G. H. 1*, *Myrsiphyllum asparagoides*; 2, *Tradescantia repens*; 3, *Begonia Saundersii*; 4, *Kleinia repens*; 5, *Echeveria* sp.; 6, *Echeveria retusa*. —*T. J. R. C.* *Maxillaria picta*. —*E. D. L. 1*, *Peristrophe angustifolia variegata*; 2, *Sedum tortuosum variegatum*; 3, *Cereus* sp.; 4, *Echeveria*, probably a garden hybrid; 5, *Pteris adiantoides*, 6, *Selaginella Brownii*.

PASSAGE OF COLOURED LIQUIDS IN THE VESSELS: *D.* This is a practice which goes back to the time of Magnol and Duhamel. It is effected by immersing the cut ends of the stalks in solutions containing logwood, madder, cochineal, acetate of lead, ferrocyanide of potassium, followed by a persalt of iron, various aniline dyes, &c. Herbert Spencer employed a similar method in more recent times in his investigations on the course of the sap, and the formation of wood; and botanical lecturers in their yearly lectures have shown the results to their pupils for a century or more.

ROYAL HORTICULTURAL SOCIETY: The Secretary asks us to say, that he would be glad to receive at once copies of the list of awards made at the several committees between 1859 and 1872.

TULIPS: *G. B.* The bulbs were potted two or three months too late. Leave them where they are till there is more root growth.

SHANTUNG CABBAGE: *C. S.* The Pe-tsai of the Chinese—*Brassica sinensis*. In shape it is more like a Cos Lettuce than an European Cabbage. It was introduced some dozen years ago by, we think, Messrs. Carter & Co. It seems to have obtained no favour from our gardeners. If the introducers have it not, it might be obtained from Messrs. Vilmorin, Andrieux & Cie., Paris.

COMMUNICATIONS RECEIVED.—Mrs. R. Foster.—W. W.—T. H.—E. J. L.—W. L.—Monte Carlo.—J. W.—W. & N.—H. J. E., letter forwarded as requested.—J. R. J.—J. A.—D. H. S.—H. K.—H. J. V.—Netherlands Horticultural Society.—F. W. M.—E. C.—J. L.—T. B.—G. R. P.—W. A. C.—T. H.—J. S.—A. D.—T. H.—C. W.—D.—E. W. S.—H. M.—E. S.—E. A. R.—G. W.—W. B. H.—W. E.—T. S.—T. W., Ipswich, next week.—W. B. H.—Peters.—J. W.—E. D.—Corry & Co.—H. C. P.—E. R. (thanks: the report was sent by our Manchester Correspondent).—T. C.—J. C.—Interested.—G. P.—T. F. Rivers.—J. J.—B. P.—A. D. W.—X.—J. R.—Subscriber, A. P. and L. Linden (next week).

PHOTOGRAPHS OR DRAWINGS RECEIVED WITH THANKS.—J. T. Lancaster, *Cologne cri-tata*, fine specimen.—Grass (3), *Costeabelle* (1), *J. R. J.*—F. W. M.

DIED.—On the 7th inst., at the age of 62 years, Mr. M. WILLIAM BYVOET, partner in the firm of Gebroeders Byvoet, Overveen, near Haarlem, since 1857.

WEAR THE ONLY
LAWN MOWERS
BY ROYAL



MAKERS OF
APPOINTED
WARRANT.

MAKERS TO HER MAJESTY THE QUEEN AND HIS
ROYAL HIGHNESS THE PRINCE OF WALES.

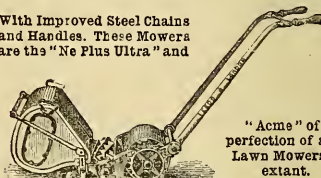
GREEN'S PATENT "SILENS MESSOR" LAWN MOWING MACHINES

ARE THE
FIRST, FOREMOST,
AND
BEST IN THE WORLD.

ALSO
TENNIS COURT MARKERS
AND
GRASS EDGE CLIPPERS.

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains
and Handles. These Mowers
are the "Ne Plus Ultra" and



"Acme" of
perfection of all
Lawn Mowers
extant.

They have stood the test for upwards of thirty years, and have carried off EVERY HIGHEST PRIZE which has been given in all cases of competition.

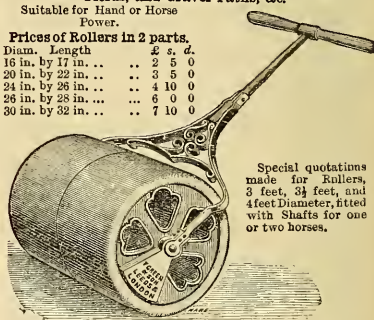
GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket
Fields, and Gravel Paths, &c.

Suitable for Hand or Horse
Power.

Prices of Rollers in 2 parts.

Diam.	Length	£	s.	d.
16 in.	by 17 in. ..	..	2	5 0
20 in.	by 22 in. ..	..	3	5 0
24 in.	by 26 in. ..	..	4	10 0
26 in.	by 28 in. ...	...	6	0 0
30 in.	by 32 in. ..	..	7	10 0



Special quotations
made for Rollers,
3 feet, 3½ feet, and
4 feet Diameter, fitted
with Shafts for one
or two horses.

Price Lists on Application.

They can also be had of any Ironmonger, Merchant, or Factor,
in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments
for the Trade, as well as Others.

THOMAS GREEN & SON,
LIMITED,
LEEDS AND LONDON.

SANKEYS' famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

GARDENERS' GLASS SHEETS	STOCK	SIZES
	Inches.	Inches.
	14x12	20x18
	16x12	20x18
	18x12	23x16
	20x12	24x16
	16x14	20x18
	18x14	22x18
	20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY"

GEORGE FARMLOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote Chronicle

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

GARDEN FRAMES in great VARIETY.

Surveys made in any part of the Country.

LADIES AND GENTLEMEN WAITED UPON BY SPECIAL APPOINTMENT.

GARDEN FRAMES in great VARIETY.

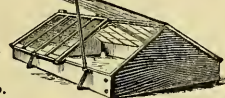


No. 60.
PORTABLE PLANT
PRESERVER.

CASH PRICES.
CARRIAGE PAID.

6 ft. by 3 ft. ... £2 0 0 | 6 ft. by 4 ft. ... £2 5 0
12 ft. by 3 ft. ... 3 2 0 | 12 ft. by 4 ft. ... 3 15 0

No. 73.
NEW SPAN-ROOF
GARDEN FRAME.

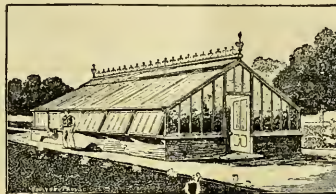


CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £25 14 0
6 ft. by 6 ft. ... 4 4 0 | 16 ft. by 6 ft. ... 7 4

All Frames made of Selected Red Lead, painted three times, and Lights glazed with 21-oz. sheet glass.

Carriage paid on Orders of 40s. value.



ESTIMATES ON APPLICATION.

No. 77.—Smaller Frames, { 6 ft. by 4 ft. £1 15 0
{ 8 ft. by 4 ft. 2 7 6
{ 12 ft. by 4 ft. 3 0 0
similar to No. 75.

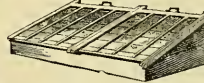
BOILERS of ALL MAKES and SIZES.

No. 74.
THREE-QUARTER
SPAN
GARDEN FRAME.



CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £25 17 0
8 ft. by 6 ft. ... 4 5 6 | 16 ft. by 6 ft. ... 7 6 6



No. 75.
MELON AND
CUCUMBER FRAME.

CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £24 3 0
8 ft. by 6 ft. ... 3 0 0 | 16 ft. by 6 ft. ... 5 6 0

CUCUMBER-FRAME LIGHTS.

6 feet by 4 feet, painted and glazed ... 14s. 0d. each.
6 feet by 4 feet, unpainted and unglazed ... 5s. 6d. "

Catalogues of all our Manufactures, post-free on application.

WOOD & SON

ARE CELEBRATED FOR THEIR

ORCHID PEAT (ALL BROWN BRACKEN FIBRE),

HARD-WOOD and STOVE PLANTS, exceptionally Good this Season.

ALL SOUND TURVES.

LOAM (Surrey), Yellow Fibrous. Samples, with prices, per return. Carriage Paid to any Station.

W. W. & S. ORCHID BASKETS.

TRY OUR PRIZE MANURES.

'LE FRUITIER,' the Celebrated VINE MANURE.

"The Perfection of Plant Food."

Tins, 1s. 3d.; 7 lb., 2s. 6d.; 1 cwt., 19s.

NOW is the TIME TO USE W. W. & S. Celebrated LAWN TENNIS MANURE

(CONCENTRATED), 15s. per Cwt.

Also W. W. & S. LAWN SAND, the Eradicator of Weeds on Lawns, such as Dandelions, Daisies, Plantains, &c.

28 lb., 8s. 6d.; 56 lb., 15s. 6d.; 1 Cwt., 30s.

MATS, RAFFIA, TOBACCO-PAPER, CANES, &c.

BEFORE YOU BUY, inspect our NEW CATALOGUE.

SILVER MEDAL and 23 CERTIFICATES of MERIT awarded to—

W. WOOD & SON, F.R.H.S. (ESTABLISHED 1850). Address Orders—CHIEF OFFICE, WOOD GREEN, LONDON.

TOMATO PLANTS.—Ham Green Favourite. Several thousands to DISPOSE OF, cheap. Strong, prickled-out plants.
K. FOULGER, Holly Bank Nurseries, Potter's Bar.

VICTORIA PLUM, fine, stout, 5-yr. old, standards, 25 per 100; MORELLO CHERRY, strong well-rooted standards, 25 per 100; PEARS, PLUMS, CHERRIES, of all kinds, fine trees at special rates per 100 or 1000; RHUBARB, SEAKALE, and TARRAGON for forcing; standard-trained PEACHES and NECTARINES, GRAPE VINES, MEDLARS, FILBERTS, GOOSEBERRIES, &c.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

FOR SALE, the following grand Specimens, all in good condition:—1 CYATHEA MEDULARIS, 10 leaves, with 15 feet spread; 1 CYRTIDIUM PRINCEPS, 24 leaves, with 20 feet spread; 1 PHENIX RECLINATA, 15 feet high, good bushy plant. WHAT OFFERS. Can be seen on application.
A. HART AND SONS, Nurserymen, Guildford.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cuneatum, Aralias, Cyperus, and Primulas, all in 48's, 6s. per doz. Palms and Ficus, 1s. each. Large Ferns, 10 best sorts, 6s. 6d. per doz., in 48's. Cinerarias, Spiraeas, and Cyclamen, full bloomed, 9s. per dozen, in 48's. Adiantum cuneatum and P. tremula, extra size, in 24-inch pots, 16s. and 20s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro Junction, S.W.

STRONG FOREST TREES AND PLANTS FOR COVERTS.

ASH, 2 to 3, and 3 to 4 feet.
BEECH, 2 to 3, and 3 to 4 feet.
LARCH, 2 to 2½, 3 to 3½, and 3½ to 4½ feet.
OAKS, 2 to 3, 3 to 4, 4 to 5, and 5 to 6 feet.
SCOTCH, 1½ to 2, 2 to 2½, and 2½ to 3 feet.
SPRUCE, 1½ to 2, 2 to 2½, 2½ to 3, and 3 to 4 feet.
Together with a large Stock of HAZELS, MOUNTAIN ASH, BIRCH, LAURELS, BIRCHES, BIRCHES, BIRCHES, AQUIFOLIA, and other COVERT PLANTS, all of the best quality, and very reasonable in Price. Catalogue on application. Apply to
JOHN HILL, Spot Acre Nurseries, near Stone, Staffs.

Geraniums, Lobelias, Calceolarias, Ferns, &c.
JOHN SOLOMON offers:—GERANIUMS: Henry Jacoby, Best Brighton Gem, Queen of the Belgians, F. V. Raspail, 10s. per 100. MORELLO CHERRY, William, best blue, 2s. 6d. per 100, 20s. per 1000; Snowball, pure white, 3s. 6d. per 100, 25s. per 1000. CALCEOLARIAS: Golden Gem, 5s. per 100, 40s. per 1000. FERNS: Pteris tremula, Pteris cristata, Pteris major, in 24-inch pots, 6s. 4d., 12s. per 100. All the above are sure to give satisfaction. Packing included. Cash with order.
Queen's Road Nursery, Walthamstow, E.

SEAKALE, Extra strong Roots, for Forcing.
ASPARAGUS, SUPERIOR QUALITY.
RHUBARB, Prices on Application.

DICKSONS NURSERIES CHESTER
(LIMITED)
(400 Acres)

BARB WIRE.

CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.

TOBACCO PAPER and CLOTH, 45s. per cwt.; Tobacco rag, 8d. per lb. Fuel-saving fluid, 1s. per gallon.—ANDREWS and MILLER, 5, Knowle Road, Brixton.

THE DOUBLE-POINTED NAIL.

The best Fence Nail invented. This Nail renders any wooden fence perfectly unclimbable. It is a complete protection against trespassers and cats. In use at Hurst Park and Hurl Racecourses, Lord's Cricket-ground, and hundreds of other places.
A—HAMMER HEAD. B—CRISTEL EDGE.
Price of Fence Nails in Malleable Iron:—1½, 2, 2½, 3, 4, 5, and 6-in. 7-lb. Bags, 3s. 6d.; per cwt., 35s. 1½-in. Steel Nails, for this palling, 1s. per gross. MACHINE-CUT NAILS, for general joinery, wood block flooring, &c., 1, 1½, and 2-in. 4d. per gross. Sample of the assorted sizes, 6d.; by post, 5d. CAPPING for BRICK WALLS, complete, from 2½d. per foot, in 6 feet lengths.

DURRAN'S PATENT NAIL SYNDICATE, Limited,
43 & 44, UPPER BAKER STREET, LONDON, N.W.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of
OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt. and Oil Mixture, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.;
and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

IMPORTANT TO GARDENERS, AMATEURS, AND OTHERS, WHO FUMIGATE HOUSES TO KILL "FLY," OR "THRIP."

You will shortly be ordering your Spring Supply of Fumigating Material. Why lay in a heavy stock of tobacco paper, uncertain in quality, often disappointing, and very unpleasant to use, when you can have a SAFE, RELIABLE article, and one that is pleasant to use?

THE FIRST
OF ITS
CLASS,
AND STILL
THE ONLY
ONE



On which you can thoroughly depend. The manufacturer is much improved, and it can be ordered without any risk of the disappointments often attending other fumigating materials.

PRICES:—

For houses with 1000 cubic ft., No. 3 Roll, 1/- each. Post a capacity of 12000 " " 1/9 " " Free. The Rolls may be cut for houses of a smaller capacity, or to make up required quantities for larger houses.

LEMON OIL INSECTICIDE.—The safest and most effective Liquid Insecticide for spraying.

PRICES, post free:—Pints, 1s. 10d.; quarts, 3s. 3d.; half gallons, 5s. 6d.

CLIBRAN'S EUCHARIS KILL MITE.—A truly valuable remedy, has saved thousands of bulbs.

PRICES, post free:—Half-pint, 1s. 9d.; pints, 2s. 9d.; quarts, 4s. 9d.; half-gallons, 8s.

OR FROM YOUR SEEDSMAN.

CLIBRAN'S OLDFIELD NURSERIES, ALTRINCHAM;
10 & 12 MARKET STREET, MANCHESTER;
And Principality Nurseries, Deganwy, Llandudno.

For all INSECT PESTS
in Greenhouses and
Frames, nothing has
proved equal to the

LETHORION (VAPOUR CONE),

(PATENT).



They are now universally admitted to be thoroughly uniform in strength, and safe for any Plant or Flower, even if four times the quantity are used.

Scale and Mealy Bug may be completely eradicated by using the Cones double strength.

PRICES.—For Frames, &c., of 50 cubic feet, 6d.; 100 ft., 9d.; 500 feet, 1s.; 1000 feet, 1s. 6d.; 4000 feet, 5s. each.
THE HOUSES SHOULD BE WELL SECURED.

CORRY & CO., Ltd., 16, Finsbury Street, LONDON, E.C.

THE "STOTT" SPECIALTIES

For Destruction of Insect Pests.
Patent Distributor, Patent Syringe, Patent Sprayers
KILLBRIGHT,
2-oz. Sample posted free on application.
Testimonials and Price LISTS on application. Retail from Ironmongers and Seedsmen. Wholesale and Retail from the Stott Distributor Co., Ltd., Barton House, Manchester

Prices:—In Tins, 1 Pint 1/3, Pints 1/6, Quarts 3/4, Gall. 5/4. Gall. 5/4, 5/8 to Gall. Drums, 8/- per Gall. Carriage Paid.



THE MYTHE CASTLE GARDENS,
Tewkesbury, Aug. 13th, 1891.

Gentlemen,—I have given your "Climax" Insecticide a good trial on tender foliage, Orchids and Ferns for Bug and Scale. In every instance I found the Bug and Scale dead and the foliage bright and clean. I found it most effective for Black Fly on Peach Trees. The "Climax" Insecticide ought to be better known, it is the only one I have found to kill Bug on tender plants without injury to the foliage.—I am, yours faithfully,
W. MACKIE.

Prepared Solely by
The Boundary Chemical Co., Ltd., LIVERPOOL.

INNES' FERTILISAS.—THE VINE AND PLANT FOOD.—Of all Nursery and Seedsmen, or direct. 15s. per cwt., carriage paid to all Stations. References and testimonials of the *Succulent*.
W. INNES AND CO., Sunny Hill Vineery, Littleover, Derby.

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price 22 1/2s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent Carriage Paid to any Station in England, on receipt of P.O. for 5s.

Extracts from 16th Annual Collection of Reports:—
NATIVE GUANO, FOR POTATOS, VEGETABLES, &c.
H. BRINKWORTH, Potato Grower, Reading, used for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne,—"Used for Potato, Celery, and other Market Garden produce, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c.
J. PRED & SONS, Stratham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. FINCH, Orrell Garden,—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

RELIANCE FERTILISER for Fruit and Flowers. Vegetables, Lawns, &c. Scintillas, and cleanly to use. A highly concentrated and entire Plant Food, carefully compounded.

Prices.	Tins, or 2 lb. Parcels, post-free.	7 lb.	14 lb.	28 lb.	56 lb.	112 lb.
Reliance Fertiliser ...	1 0	1 9	3 5	6 10	10 18	0
Best Peruvian Guano ...	1 0	1 9	3 5	6 10	10 18	0
Nitrate of Soda ...	1 0	1 9	3 5	6 10	10 18	0
Sulphate of Ammonia ...	1 0	1 9	3 5	6 10	10 18	0
Bones: Flour or Meal, and half-inch ...	0 9	1 2	3 5	6 10	10 18	0
Superphosphate ...	0 9	1 2	3 5	6 10	10 18	0

The above, in tins, charged extra, 7 lb., 3d.; 14 lb., 4d.; 28 lb., 6d. Carriage paid on orders of 50 or above. Manure delivered at Carter Paterson's round, or to any railway stations within 200 miles. Directions for Use on every lot.

Leaf-mould, Peat-mould, Loam, and Potting Compost, each, 3s. per sack, 1s. per bushel. Best Brown Fertiliser, 5s. per sack, 1s. 6d. per bushel. Cocoa-ut Fibre, 1s. 3d. per sack, 5 for 6s. Silver Sand (coarse or fine), 1s. 6d. per bushel. Charcoal (nuts or fine), 2s. per bushel.

"PLANT FOODS AND HOW TO APPLY THEM." A Descriptive List, post-free, 1d. Price Lists free. The Trade supplied on liberal terms.—HORTICULTURAL SUPPLY CO., Old Stow Tower Wharf, London, S.E.

THE PATENT

SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

South Stothem Nurseries, Southampton, Gloucester, October 6, 1891.

"We have tried the Manure in our Vine this season, and are pleased to inform you that whilst in our neighbourhood most of the Grapes have been badly coloured this season, ours have been splendidly coloured, in fact the best we have ever had."

"We hope to be able to induce some of our friends to try it next season. Yours faithfully,
(Signed), OAKLEY and WATLING.

Prices in Sacks, at Works, 10s. per cwt.; £2 per 4 ton; £3 15s. per 4 ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

BENTLEY'S—BENTLEY'S

WEED DESTROYER

Has paved the way for many imitators, but maintains its position of superiority, and acknowledges no equal. Has the largest sale, and the confidence of the leading gardeners.

3 gallons, 5s. 6d.; 6 gallons, 10s.; 12 gallons, 18s.; 18 gallons, 27s. 6d.; 40 gallons, 50s. Carriage paid.

SOLE INVENTOR—

JOSEPH BENTLEY,
CHEMICAL WORKS,
BARROW-ON-HUMBER, HULL.

FOWLER'S GARDENERS' INSECTICIDE.

For Destroying Blights and Mildews infecting Plants and Trees. It is easily applied by dipping, syringing, sponging, or as a water-dressing. Will not stain or injure any more than plain water. In Jars, 16 oz., 3s. 6d., and 10s. each; and in Kegs, 25 lb., 21s.; 50 lb., 42s.; 112 lb., 84s. each.
CORRY and CO., LONDON, 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

RICHARDS' NOTED
ORCHID and other
SELECTED PEATS (Cut from his Own Grounds), **SOILS**,
MANURES, and every description of
GARDEN SUNDRIES.
G. H. RICHARDS, The Horticultural Stores, 1, Belvedere
Crescent, Lambeth, London, S.E.
Write for Samples and Price List, Post-free.
CHIEF PEAT DEPOT: RINGWOOD, HANTS.

ORCHID PEAT.
PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d.
SECOND QUALITY, 5s. per sack; 5 for 22s. 6d.
BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and
Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM,
each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING
COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack.
Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Boxley, Kent.

EPSS'S selected PEAT,
For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton,
or truckload. **SPECIAL ORCHID PEAT**, in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal
and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE,
fresh SPAGNUM, Patent MANURES, FERTILISERS, INSEC-
TICIDES, and all other Garden Requisites. **Peat Moss Litter.**
The Original Peat Depot, RINGWOOD, HANTS.

GISHURST COMPOUND used since 1859
for Red Spider, Mildew, Thrips, Greenfly and other
blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a
winter dressing for Vines and Orchard-house trees, in latter
form for American Blight, and as an emulsion when with
paraffin is used. Has outlived many preparations intended to
supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on
wet ground. Boxes, 6d. and 1s., from the Trade.
Wholesale from PRICE'S PATENT CANDLE COMPANY
(Limited), London.

SLUGICIDE (REGISTERED).—Certain death
to Slugs, fertilises the soil, perfectly harmless to plants
and domestic animals. The greatest boon to Gardeners ever
invented. 11s. 6d. per box, of all Seedsmen. Trade price,
"THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

GARDEN REQUISITES, as supplied to
the Royal Gardens. — COCOA-NUT FIBRE REFUSE,
1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 25s., sacks free;
2-ton truck, 30s., free on rail near works. Fine ORCHID
PEAT, 8s. 6d. per sack. BROWN FIBROUS do., 5s. per
sack, 5 for 22s. 6d. BLACK do., 4s. 6d. per sack, 5 for 20s.
FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each
3s. per sack. Coarse SILVER-SAND, 1s. 6d. per bushel, 14s.
1 ton, 25s. per ton. CHARCOAL, 8s. per sack. SPAGNUM,
7s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS,
10s. 6d. to 12s. per dozen. RAFFIA, VIRGIN CORK,
STAKES, &c. BONES, 4-inch, 11s. per cwt. Pure BONE-
DUST, 11s. 6d. TOBACCO-PAPER, Spécialité, 10d. per lb.,
2s. 10. for 21s. CLOTH, 1s. per lb., 18 lb. for 28s. Price List,
free. W. HERBERT AND CO.,
Hop Exchange Warehouses, Southwark Street, London, S.E.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE,
6d. per bushel; 100 for 25s.; truck (loose, about 2 tons),
40s.; 4-bushel bags, 4d. each.
LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks,
25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. 6d. per sack, 5 sacks, 22s.; sacks,
4d. each.
COARSE SILVER SAND, 1s. 8d. per bushel; 15s. per half
ton; 28s. per ton, in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-
MOULD, 1s. per bushel.
SPAGNUM MOSS, 8s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO
CLOTH, RUSSIA MATS, &c. Write for Price List.—
H. G. SMYTH, F.R.H.S., 21, Goldsmith's Street, Drury
Lane (late called 17A, Coal Yard), W.C.

GARDEN REQUISITES.
Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo
Canes, Rustic Work, Manures, &c. Cheap Price of—
WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

PIT LIGHTS.

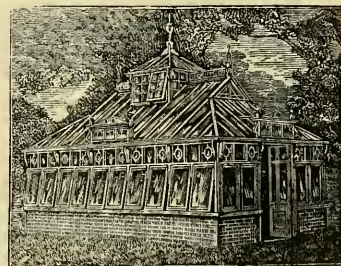
Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft.,
iron bar across and very strong, 4s. each; free on rail in
London. Cash or reference with order.

CUCUMBER HOUSES.

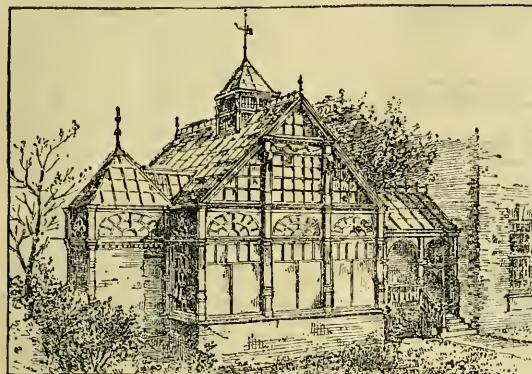
Timber sufficient to build 100 ft. by 12 ft. house, lights, door,
&c. Put on rail in London. Low price. Send for detailed
specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

BECKETT BROS., CHELMSFORD.



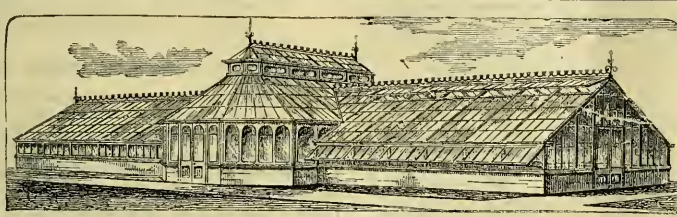
Thoroughly Practical and Experienced Horticultural Engineers
in all branches connected therewith.
Price LIST and Estimates free on application.



**CROMPTON
& FAWKES,**
HORTICULTURAL BUILDERS,
CHELMSFORD.

BOOK of Photo-Lithographed
Sketches of Winter Gardens, Ranges
of Hothouses, Vineries, Architectural
Conservatories, &c., of various
Designs and Sizes, recently con-
structed, erected, fitted, and heated
complete by us in different parts of
the country; with particulars of the
most successful Hot-water Heating
Apparatus of the century.
Post-free on application.

Five 1st Prize Medals recently
awarded in open competition.



Five 1st Prize Medals recently
awarded in open competition.

R. HALLIDAY & CO.,
HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the
perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work,
and that the VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm,
from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and encess guaranteed
in all cases. Melon Frames, Sashes, Hotbed Boxes, &c., always in stock.

Plans, Estimates and Catalogues free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM _____ To _____
_____ THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.

1892.

Please send me "THE GARDENERS' CHRONICLE" for _____ Months,

commencing _____, for which I enclose P.O.O. _____

Please Note that all Copies sent Direct from this Office must be paid for in advance. THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 6d.; Post-free.

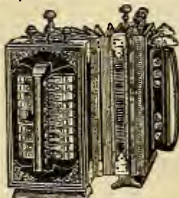
ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.
March 19, 1892.

CHEERFUL WINTER EVENINGS.

CAMPBELL'S BROAD REED MELODEONS
(Patent). GRAND NEW MODELS.MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONSMELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS

NO HOME SHOULD BE WITHOUT ONE.
CAMPBELL'S world-famed MELODEONS have Organ and Celestial Tones and Charming Bell Accompaniments. The Solemn Psalm, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming instruments. No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.

To readers of the *Gardener's Chronicle*.

OUR GRAND PRIZE MEDAL "GEM" MELODEON.

5s. 6d. With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 5s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.

To readers of the *Gardener's Chronicle*.

OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON.

10s. With Two Sets of Broad Reeds, Organ and Celestial Tone, and the Charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS.

Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales:—"Campbell's Patent Melodeons are the finest instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready, 100,000 of those valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS,
116, TONGATE, GLASGOW.
ESTABLISHED 50 YEARS.

SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; for 1s. 4d. Eight-inch Enlargement, 3s.; three for 6s. Stamp size 24 for 1s. 6d.; 100 for 3s. Send Carte or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—FRANCIS AND CO., 29, Ludgate hill, London.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN

TREE GUARD,
"The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Up-rights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittorn, Herefordshire,
"Dec. 28, 1887.

"DEAR SIRS,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose. So you may send me 50 more as before. I enclose cheque for your account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.

BOULTON & PAUL, Manufacturers, NORWICH.

PARK FENCING, DEER FENCING, GARDEN FENCING,
TREE GUARDS, UNCLIMBABLE HURDLES, and
GAME FENCING of all kinds.

CONTINUOUS BAR FENCING.



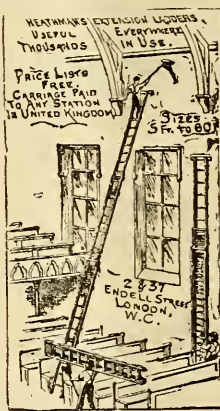
Prices on application.

Descriptive Catalogue of all our Manufactures, including Iron Buildings for Shooting and Fishing Lodges, Stabling, Huts, Kennel and Poultry Appliances, Greenhouses, Garden Frames, &c., free on application.

BOULTON & PAUL, NORWICH.



And for all Glass Structures that require Shading. Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers: CORY & CO. (LTD.), Horticultural Sandries Merchants, Offices and Show Rooms, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.



FORESTATES,
GARDENS,
PLUMBERS,
PAINTERS,
FABRIQUES,
WAREHOUSES,
SHOPS,
HOTELS,
INSTITUTIONS,
DWELLINGS,
THE MOST
USEFUL
LADDERS
MADE, AND
THOROUGHLY
SAFE.

The Original and Only Makers of the
GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside Thoroughly (a Most Important Point).
These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

CHAS. FRAZER'S EXORS.—Conservatories,
Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment.
HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps.
PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines	..	£0	3	0	15 Lines	..	£0	8	6
5 "	..	0	3	6	16 "	..	0	9	0
6 "	..	0	4	0	17 "	..	0	9	6
7 "	..	0	4	6	18 "	..	0	10	0
8 "	..	0	5	0	19 "	..	0	10	6
9 "	..	0	5	6	20 "	..	0	11	0
10 "	..	0	6	0	21 "	..	0	11	6
11 "	..	0	6	6	22 "	..	0	12	0
12 "	..	0	7	0	23 "	..	0	12	6
13 "	..	0	7	6	24 "	..	0	13	0
14 "	..	0	8	0	25 "	..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.
If set across three Columns the lowest charge will be 30s.
Page, 2s; Half Page, 2s 10s.; Column, 2s.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON ST., STRAND, W.C.

TURNFORD NURSERIES' CRICKET CLUB.

WANTED, to ARRANGE a few MATCHES with any NURSERY TEAM in the Metropolitan District.

Address:—SECRETARY, Turnford Hall Nurseries, Broxbourne, Herts.

HEATING APPARATUS

BUY DIRECT FROM
THOS. W. ROBINSON,
STOURBRIDGE,
DENNIS PARKINSON WORKS
PRICE LISTS
FREE
THE MANUFACTURER
TELEGRAMS:—"ALPHA"
BRETTLE LANE
THE IMPROVED EXPANSION JOINT
HOT WATER PIPES
THE BEST OF ALL
HOT WATER JOINTS

THREE MILLIONS

HAVE BEEN PAID BY THE

RAILWAY PASSENGERS
ASSURANCE COMPANY,

FOR

ACCIDENTS OF ALL KINDS.

64, CORNHILL, LONDON.

W. D. MASSY, } Secs.
A. VIAN, }

BOILING WATER OR MILK. E P P S'S GRATEFUL-COMFORTING. C O C O A BREAKFAST-SUPPER.

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE and SMITH'S COKE delivered in Trucks
to any Station in England and Wales.—Address,
G. J. EVESON, 26, Corporation Street, Birmingham.

ORCHID PEAT; best Quality; BROWN
FIBROUS PEAT for Store and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of
WALKER and CO., Farnborough, Hants.

HORTICULTURAL SHADINGS and
NETTINGS, TIFFANY, COTTON WOOLS, and
WADDINGS. Supply 1 Wholesale by—
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

CATALOGUES RECEIVED.

THOMAS KENNEDY & Co., Dumfries, N.B.—Agricultural
Seeds.

THE "SPROUT" Barton House, Deansgate, Manchester—Horti-
cultural Specialties.

DICKSON & Co., 1, Waterloo Place, Edinburgh—Farm Seeds.

HARRISON & SONS, Leicester—Farm Seeds.

CLARK & Co., 55, Bedford Street, North Shields—Garden
Seeds.

JOHN GILES, Norfolk Nurseries, Dereham—Choice Novelties
in Chrysanthemums, Dahlias, Begonias, Pelargoniums,
&c., Vegetable and Flower Seeds.

JOHN LAING & SONS, Forest Hill, S.E.—Tuberous R-gon's.

JOHN PERKINS & SON, Market Square, Northampton—Agricultural
Seeds.

FRED. W. KILBY, Broadway, New York, U.S.A.—Choice
Hardy Trees and Plants.

R. B. LAIRD & SONS, Edinburgh—Choice Florists' Flowers.

LITTLE & HALLATYNE, Carlisle—Farm Seeds.

GARDENING APPOINTMENTS.

Mr. ROBERT CRAIGIE, General Foreman to Sir M. RIDLEY,
Bart., Blagdon Hall, Northumberland, as Head Gardener
to C. T. MANDER, Esq., at his new mansion, The Mount,
Tottenham, Wood, Wolverhampton.

Mr. F. PARKER, until recently Gardener at the Grange, Withy-
combe, Exmouth, as Head Gardener to Miss GATHER, The
Elms, Ipplepe, Newton-Abbot, Devonshire.

Mr. W. THEOBALD, for the past ten years Head Gardener to
the late A. GOSLET, Esq., of West Hill, Highgate, as
Head Gardener to W. M. CHESNEY, Esq., Hatchford Park,
Cobham, Surrey.

Australia.

TO GENTLEMEN with MODERATE
MEANS, in SEARCH of an ACTIVE, PLEASANT, and
PROFITABLE OCCUPATION.—Advertiser desires to meet
with a Gentleman of active habits who would be willing to
PURCHASE a HALF-SHARE, and assist in the work of a
Small Estate of 2200 acres, situated in the New England Dis-
trict, New South Wales, close to two considerable towns, and
on the Railway line between Sydney and Brisbane. The
climate is considered one of the finest in Australia; the land
is well situated, and of fine quality, a large portion being rich
orchard land; about 70 acres are planted in English fruit trees.
The grazing land is occupied by 2500 sheep and other stock.
Price, £5000.—For further particulars, apply to Mr. GEO.
CAMPBELL, 72, St. Vincent Street, Glasgow.

G. KING, Canon's Park Gardens, Edgware,
acknowledges with thanks the APPLICATIONS for
the YACANCY advertised in this paper last week, and wishes
to say HE IS SUITED.

Gordon Boys' Home, Chobham, Woking.
WANTED, a steady, reliable MAN, to
instruct and superintend Lads in Gardening, &c., and
to keep the Grounds in order. Must thoroughly understand
Market Gardening, between Syrops, breaking up rough
ground, &c., and the management of Pigs. Good wages, but
to lodging.—Applying, stating wages required, to Mr. COLLETT
J. B. WALKER, Fair View, Ash Vale, near Aldershot.

To Mushroom Spawna Makers.

WANTED, by a Market Grower of Mush-
rooms, a good practical MAKER of ABOVE, for own
consumption, and Sale. Liberal terms, and a constant job,
could be offered to a man proving himself capable of turning
out first-class stuff.—Apply, in first instance, to McDONALD,
3, Wendover Villas, Terrick Road, Wood Green, London, N.

WANTED, a GARDENER, to take care of
a small Collection of Orchids; one who thoroughly
understands his business. Age about 30, unmarried. Good
references required.—Apply, stating wages, to Mr. EDUARD
BERANET, Chateau de l'Alouette, near Cambrai, Nord France.

WANTED, an active and capable SINGLE-
WANTED GARDENER, in Surrey. Must understand
all the work of a man proving himself capable of turning
out first-class stuff.—Apply, in first instance, to McDONALD,
3, Wendover Villas, Terrick Road, Wood Green, London, N.

WANTED, a PLAIN GARDENER,
married, for Kitchen Garden and Greenhouse. State
wages to M., Larchwood, Horley, Surrey.

WANTED, AT ONCE, a good all-round
WORKING GARDENER (SINGLE-HANDED).—Good
personal character from last employer; must be an abstainer.
Apply, personally if possible, or by letter, to Hayes Court,
Kenley.

WANTED, an UNDER GARDENER; wife
good Laundress, for Hertfordshire.—Address letter
only, S. T., Mr. J. W. Vickers, 5, Nicholas Lane, E.C.

WANTED, a GARDENER and WIFE, for
Sandown, Isle of Wight.—Age 30 to 40, without im-
mencure. Gardener (Single-handed), handy-man, practical
in Flowers, Fruit Trees, Conservatory, and Kitchen Gardening.
Wife, Plain Cook, required to cook for family during summer
stay, her wages weekly being 7s. and board. Gardener's wages
were 20s., living in lodge. The furnished rooms, kitchen and
sullery, coals and gas.—Write, A. KILLER, 15, Edith Grove,
Fulham Road, S.W.

WANTED, a thoroughly competent trust-
worthy MARRIED COUPLE.—Man as Gardener, Wife to
do Laundry Work. Without encumbrance preferred.
—Apply by letter, stating full particulars, to CAMPBELL
FRANCO, Esq., 39, Norfolk Square, London, W.

IRELAND and THOMSON REQUIRE the
services of a practical NURSERY FOREMAN, to take
charge of their Craigfield Nursery. Must be well up at
growing Ornamental Trees and Shrubs of all sorts, Rhododen-
drons, Roses, Hardy Climbers, &c. Applicants to send copies
of testimonials or references, with full particulars as to
age, experience, wages expected, &c., to IRELAND and
THOMSON, Nurseries, Edinburgh.

WANTED, a young man, as PROPAGATOR
and ASSISTANT SALESMAN, under the Foreman.—
J. W. WIMSETT and SON, Ashburham Park Nursery,
Chelsea, S.W.

WANTED, as FOREMAN, a good man, of
first-class character, who can do things well, and loves
his work. Wages 15s. per week, milk, bothy, &c.—Write,
stating age and all particulars, to J. SHAW, Deepdene, Dorking.

WANTED, a MANAGING FOREMAN,
for Fruit and Flower (Ro's) Growing under Glass
(Market); should speak some French or German. First-rate
Salary and Prospects. Only first-class men need apply, stating
very distinctly how and where they got their experience.
E. G. GARDENERS' Chronicle Office, 41, Wellington Street,
Strand, W.C.

WANTED, a JOURNEYMAN (FIRST-), in
the Houses.—Can any Head Gardener recommend me
a smart active young man as above, not under 23 years of age.
A good knowledge of Plants, Fruit and Table Decoration.
Abstainer preferred. Wages 15s. per week. Bothy, &c.—
METCALFE, Swinton Park Gardens, Masham, Yorks.

WANTED, a strong active young MAN as
JOURNEYMAN for the Houses. Preference given to
an abstainer.—Apply, sending copies of testimonials, stating
wages, &c., to W. LAFFAN, Resborough, Cork.

WANTED, a young MAN, used to Growing
Ferns, Carnations, and Tomatoes, for Market. Apply
on the Premises.—E. D. SHUTTLEWORTH and CO., Limited,
Albert Nurseries, 236, Peckham Rye, S.E., London.

WANTED, IMMEDIATELY, a good all-
round MAN, to manage a small Nursery. Experience
in Tomatoes, Ferns, Cut Flowers; well up in Wreaths, Bos-
quets, &c. Good character for sobriety and perseverance
indispensable.—H. HEAD, The Drive, West Brighton.

WANTED, a MAN, able to Ride and Drive,
keep a small Garden in order, and willing to make
himself useful. Good rooms found. Without family preferred.
Wages 22s. per week.—Apply by letter to H. TEBBUTT, 49,
Nightingale Lane, Clapham Common, S.W.

WANTED, a young MAN for the Cucumber
and Tomato Houses. State age, experience, and
wages expected to WILLIAM G. HAZELL, F.R.H.S., West
Worthing, Sussex.

WANTED, AT ONCE, ONE or TWO
smart YOUTHS, about 17, as IMPOVERS, under
Glass, where Tomatoes, Strawberries, Chrysanthemums, &c.,
are grown. Wages with bothy 12s. per week.—Apply, with
full particulars, to TURNER BROS., Overton House, Hale,
Liverpool.

WANTED, a young MAN, as JOURNEY-
MAN, who has had experience in the Orchard House.
Wages, 15s. a week, Bothy, and Vegetables.—H. ROGERS,
Rendlesham Woods, Woodbridge.

WANTED, a young MAN, for the Houses.—
State age, experience, and wages expected, to
WM. RUMSEY, Joyning's Nurseries, Waltham Cross.

WANTED, a young MAN for the Cucumber
Houses.—FOREMAN, Cuffley Hill Nursery, Goff's
Oak, Cheshunt, Herts.

WANTED, a young MAN for the Houses,
who knows something about Decorative Work.
Wages 18s., bothy, &c. None but Roman Catholics need apply.
—J. GADD, The Garden, Freshman Place, Farnham.

WANTED, a COWMAN to attend to Cows
and Pigs, and to work in garden with other men
under Head Gardener.—A married man without encumbrance;
wife to attend to Lodge. To save trouble state where last
situation was, how long there, and reason for leaving.—T. V.,
Hol's Library, Sutton, Surrey.

WANTED, a good COWMAN, married,
with a good family, who has been accustomed to a
man's estate, wages, 18s. per week, with House, Garden, and
Firing.—Apply to J. MARTIN, Barcote, Faringdon, Berks.

WANTED, IMMEDIATELY, a CORRE-
SPONDING CLERK, in an old-established Business
in the Country. Must be a good Bookkeeper, and have a
thorough knowledge of Plants, and the general requirements
of the trade. Plenty of capital and energy appreciated.—
"SPEEDWELL" Gardener's Chronicle Office, 41, Wellington
Street, Strand, W.C.

WANTED TWO CLERKS for Invoicing
and general office work.—Apply, in own handwriting,
giving references, stating experience, and wages expected, to
THOMAS S. WARE, Hare Farm Nurseries, Tottenham.

WANTED, by a West End Florist, a smart
LAD, must be acquainted with Nursery Work. Age
about 16; wages to commence 15s. per week.—Apply, by letter
stating particulars, C. B. Gardener's Chronicle Office, 41,
Wellington Street, Strand, W.C.

WANTED, a respectable Young LADY as
ASSISTANT in first-class Shop. Must be well up in
Bonquets, Wreaths, Sprays, &c.—W. G. HODGE, Florist by
Royal Appointment, Plymouth.

WANTED, in the Midlands, a first-class
LADY FLORIST, with London experience, to take
charge of the floral department in a general ornery business.
The highest references as to taste and abilities required; state
wages and full particulars to ALPHA, Gardener's Chronicle
Office, 41, Wellington Street, Strand, W.C.

WANT PLACES.

TO GARDENERS, AND OTHERS
SEEKING SITUATIONS.

*The Pressure upon our space at this season of the
year is so great, we are compelled to state
that advertisements received after 6 P.M. on
Wednesday will, in all probability, be held
over to the next week.*

*Advertisers are cautioned against having letters
addressed to initials at Post-offices, as all
Letters so addressed are opened by the
authorities and returned to the sender.*

To Noblemen and Gentlemen requiring Land Agent
STEWARDS, BAILEYS, or GARDENERS.

JAMES CARTER and CO. have at all
times upon their Register reliable and competent MEN,
several of whom are personally well known to Messrs. Carter.
Enquiries should be made to 237 and 238, High Holborn, W.O.

SANDERS, St. Albans, can thoroughly
RECOMMEND several first-class HEAD GARDENERS.

Gardeners, Farm-Baileys, Foresters, &c.
DICKSONS, Royal Nurseries, Chester
(Limited), are always in a position to RECOMMEND
MEN of the highest respectability, and thoroughly practical
at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

Head Gardeners.

JOHN LAING and SONS can at present
recommend with every confidence several energetic
and practical MEN of tested ability, and first-rate character.
Ladies and Gentlemen in want of GARDENERS and BAILEYS,
and HEAD GARDENERS for first-rate Establishments or
Single-handed Situations, can be suited and have full particu-
lars by applying at Stansfield Park Nurseries, Forest Hill,
London, S.E.

RICHARD SMITH and CO.
beg to announce that they are constantly receiving
applications from Gardeners seeking situations, and that
they will be able to supply any Lady or Gentleman with
particulars, &c.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several
HEAD and UNDER GARDENERS of first-rate character
and proved ability. Gentlemen seeking such may have particu-
lars free.—Apply to THOMAS BUTCHER, Seed Merchant
and Nurseryman, Croydon.

THE LIVERPOOL HORTICULTURAL
COMPANY (JOHN COWAN), Limited, The Vineyard
and Nurseries, Garston, near Liverpool, wish to recommend to any
Noblemen or Gentlemen who may require a thoroughly com-
petent and reliable HEAD GARDENER, David Lindsay, who was
Head Gardener for the last twelve years to the late Sir
Thomas Edwards Moss, Bart., of Otterspool, near Liverpool.
—Full particulars on application to the Company.

GARDENER (HEAD).—Life experience in
Early and Late Forcing, and the general requirements
of large establishment. Excellent characters from present and
previous employers.—E. WILES, Edgote, Banbury.

GARDENER (HEAD): age 33, married.—
J. E. MCCLEAVE, eight years Head Gardener to R. Hey-
wood Jones, Esq., Balaquhall Hall, is open to re-engagement
with any Noblemen or Gentlemen requiring a thoroughly
practical Gardener. Has had nineteen years' experience in all
branches; is thoroughly conversant with the requirements of a
good establishment. Testimonials of the highest order.—
Clatford, Wincobur, Cheshire.

GARDENER (HEAD), where one or more are
kept.—A. STELLM, Esq., would be pleased to recom-
mend any Noblemen or Gentlemen requiring the
services of a thoroughly experienced man.—H. CLARKE, 9,
Woodbine Cottages, Churchy Road, Upper Sydenham.

GARDENER (HEAD), where two are kept; age 27.—J. ANDERSON, Gardener, Charman Dean, Broadwater, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abtainer.

GARDENER (HEAD).—Mr. CLARKE, Head Gardener to the Earl of Lonsdale, Lowther Castle, Penrith, can with every confidence recommend his Foreman to any Lady or Gentleman requiring the services of a thorough practical man, experienced in all branches.

GARDENER (HEAD), married, one child, age 12 years.—A. DIGBY, twenty years Head Gardener to the Earl of Ilchester, Abbotsbury Castle, Dorchester, would be pleased to hear of any Lady or Gentleman requiring a good all-round man. Life abtainer.

GARDENER (HEAD), where two or more are kept; age 26.—J. BOWDEN, Gardener, Kenton Court, Sudbury, wishes to recommend G. Saunders, who has been with him for six years, to any Lady or Gentleman requiring a good all-round Gardener. Life abtainer.

GARDENER (HEAD).—Age 28; thoroughly experienced in all branches of Gardening. Can be well recommended by present employer.—F. B., Clare Cottage, Page Street, Mill Hill, N.W.

GARDENER (HEAD), where three or four are kept.—Age 39, single; sixteen years' practical experience. Good references.—A. GILLET, Basing Park Gardens, Alton, Hants.

GARDENER (HEAD).—Age 28; well up in the cultivation of Plants and Fruits Under Glass, Flower and Kitchen Garden; excellent testimonials.—J. SIMPSON, The Gardens, Marton R.S.O., Yorkshire.

GARDENER (HEAD); where two or three are kept. Age 30, single; sixteen years' experience in all branches of gardening.—W. DAVIS will be pleased to recommend to any Lady or Gentleman requiring the above, G. BAKER, 4, Queen's Terrace, Gorner Road, Teddington, Middlesex.

GARDENER (HEAD), in good establishment. Married, no family. Abtainer. Life experience in Early and Late Forcing all kinds of Fruits, Flowers, Vegetables, Mushrooms, also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' good character from late employer and sixteen years' references.—A. D., Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD), where two or three are kept.—Age 30, fifteen years' good experience in all branches. Three years in last situation.—E. R., 50, Boleyn Road, Kingland, N.

GARDENER (HEAD) or would take charge of a General Collection of Plants.—Age 38; fifteen years' experience in good establishments. Testimonials and character.—S. J., Queen's Road, Mitcham.

GARDENER (HEAD).—Middle-aged, married. W. PEPPER, for twelve years Gardener to the late G. Burnard, Esq., of Sewin Water, Welwyn, Herts, seeks engagement as above. Leaving through death. Good all-round man. Address as above.

GARDENER (HEAD), and ORCHID GROWER.—Age 31, married; seven years in present situation. Excellent reference as to character and abilities.—E., *Gardeners' Chronicle*, Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD), or GARDENER and BAILIFF.—A GENTLEMAN can highly recommend his late Working Gardener to any Lady or Gentlemen requiring the services of a thorough practical man; please state wages and full particulars.—ALPHA, Messrs. Cuthberts, Seed Merchants, Southgate, N.

GARDENER (HEAD WORKING), where two or three are kept.—Age 23, single at present; thirteen years' experience in large establishments.—G. W., East Orington Lodge, Farnborough.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 28, married. A Lady, giving up her establishment, wishes to recommend her Head Gardener to any Lady or Gentlemen requiring the same. Thoroughly experienced in all branches.—ILES, 5, Spencer Road, Hornsey, N.

GARDENER (HEAD WORKING), where others are kept.—Age 40, married, no family; life experience in Vines, Flowers, Fruit, and Kitchen Gardening. Excellent characters.—J. HIGGINS, The Gardens, Shepton Mallet, Somerset.

GARDENER (HEAD WORKING), where three or more are kept.—Age 45, married, no family; thoroughly understanding Vines, Stove, Greenhouse Plants, all kinds of Fruit. Good character from last and previous employers.—S. I., Kent Road, St. Albans.

GARDENER (HEAD WORKING).—Single; trustworthy, intelligent, and thoroughly practical in all branches, including Decorating and Laying-out. Abtainer. High testimonials.—J. H., 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING), where two or three are employed.—Age 25, single; thoroughly experienced in all branches. Good character. Abtainer.—Z., 26, The Grove, Homerton, London, N.E.

GARDENER (HEAD WORKING), where one single, or two are kept, or good SINGLE-HANDED.—Age 31, Kitchen Garden.—G. F., 16, Holly Park Terrace, New Southgate, N.

GARDENER (HEAD WORKING).—A GENTLEMAN, having sold his place, will be pleased to recommend his Head Gardener to any Lady or Gentleman in want of a thoroughly experienced man in the cultivation of Grapes, Peaches, Melons, Cucumbers, Tomatoes, Stove and Greenhouse Plants, Orchids, and Chrysanthemums; Flower and Kitchen Garden.—G. G., 27, Manor Park Road, East Finchley, N.

GARDENER (HEAD WORKING).—Mr. H. J. RILVES can recommend his Gardener, G. Hansford, as a good all-round man; active, honest, sober, and obliging.—Coltsburne, Cheltenham.

GARDENER (HEAD WORKING).—Age 30; three years Foreman in last situation; thoroughly practical in all branches, especially well up in Fruit and Chrysanthemum Growing. Exceptional references.—A. CAMPIN, Elm Wood Cottage, Hayes Lane, Kenley, Surrey.

GARDENER (HEAD WORKING).—Age 33; married, no family; thoroughly good all-round man; life experience. Personal character, or otherwise. Good testimonials.—E., 1, Darwin Road, Noel Park, Wood Green.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Jollywinds, near Dorking, wishes to recommend his Foreman, James Pullen; thoroughly practical in all branches, including Orchids, Stove and Greenhouse Plants, Fruit, Hardy Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING), where two or three are kept.—Well up in all branches of gardening; good character.—A., Post Office, Sunningdale, Ascot, Berks.

GARDENER (HEAD WORKING); age 33, married when suited.—C. J. GOLDSMITH, High Trees, Redhill, will be pleased to recommend his Foreman, Joseph Mead, to any Lady or Gentleman requiring the services of a thoroughly practical man. He has had sixteen years' experience in all branches.

GARDENER (HEAD WORKING), where help is given.—Age 27, married, no family; understands Vines, Melons, Cucumbers, Flower and Kitchen Gardening. Good characters.—W. B., Maissonette, Banstead, Surrey.

GARDENER (HEAD WORKING).—Age 32; sixteen years' experience in Vines, Peaches, Melons, Cucumbers, Stove and Greenhouse, Flower and Kitchen Gardening; highly recommended.—A. CHEESEMAN, 107, Queen's Road, East Grinstead.

GARDENER (HEAD WORKING).—Age 32. Life experience in all branches. Wife excellent Dairy and Poultry Woman, if required. High testimonials.—W., Hooley House, Purley, Surrey.

GARDENER (HEAD WORKING), where one or more are kept.—Age 39; life experience in all branches. Late stock. Fifteen years' good characters. Wife Dairy or Gardener, if required.—WINFIELD, Brook Green, Redhill.

GARDENER (HEAD WORKING).—Age 29, married, when suited. Life experience; understands Glass and Kitchen Garden. Good references.—J. WHITE, 12, Croydon Road, Flim's End, Beckenham, Kent.

GARDENER (HEAD WORKING).—Age 33; two children. Thoroughly experienced in the cultivation of Orchids, Plants, Grapes, Peaches, Melons, Vegetables, &c. Excellent testimonials for trustworthiness, ability, &c.—FIELD, 9, West Grove Villas, Walton-on-Thames.

GARDENER (HEAD), or good SINGLE-HANDED.—Age 41; thirteen years' Head in last place. Well up in all branches, especially Fruit.—F. HATSWELL, Laughton, Rothham.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 37, married, three children; seventeen years' good character from present employer.—H. ATTRILL, Rose Hill, Hampton, Middlesex.

GARDENER (HEAD, or good SINGLE-HANDED). Eight years' good character. Thoroughly experienced in all branches.—R. P., 3, Merreze Street, Brixton Hill.

GARDENER (good SINGLE-HANDED).—Age 30, single; experienced in all branches; eight years' good character.—J. G., 8, Herbert Road, Putney, S.W.

GARDENER (SINGLE-HANDED, or where help is given).—Age 26, six years' good character.—G. FLETCHER, South Hill Park, Bracknell, Berks.

GARDENER (SINGLE-HANDED, or otherwise).—Age 20; twelve years' experience in all branches. Good character. Abtainer.—J. E., 33, Lisfray Park, Stamford Hill, N.

GARDENER (SINGLE-HANDED, or where two or three are kept).—F. POTTER, Gardener, Newpark Lodge, can highly recommend a married man (age 32). Twenty years in present situation.

GARDENER (SINGLE-HANDED, or good SECOND); age 22.—Mr. BIGGS wishes to recommend A. Street as above. Good characters from previous situations.—Xyle House Gardens, Denham, Bucks.

GARDENER (SINGLE-HANDED, or otherwise).—Age 40, married, no family; practical in all branches; abtainer. Good references.—GARDENER, 31, Bruce Road, High Barnet, Herts.

GARDENER (SINGLE-HANDED, or otherwise).—Age 34, single. Eight years' good character for a large fruit and vegetable garden, and for the general work.—A. M., Ruscombe, near Reading, Berks.

GARDENER (SINGLE-HANDED, or where help is given).—Age 25, single; good experience in Glass and Flower and Kitchen Garden. Three years and seven months' good character from present employer.—A. H. DUFFIN, Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (SINGLE-HANDED, or UNDER).—Age 20; good experience of Glass, and Kitchen Garden. Good character.—E. HOAD, Spring Cottage, Limsfield, Surrey.

GARDENER (SINGLE-HANDED).—Age 23, single; well up in Vines, Peaches, Melons, Stove and Greenhouse Plants. Highly recommended. Disengaged now.—A. S., 25, Balham Grove, S.W.

GARDENER (SINGLE-HANDED, or where help is given).—Age 27, single; good experience in the general routine of Gardening. Good character.—W. M., Norbiton Cottage, Western Road, Shanklin, Isle of Wight.

GARDENER. —Age 33; married, no children. Advertiser wishes to recommend to any Lady or Gentleman a good practical, energetic Gardener as above, J. HUGHES, Ince Hall Gardens, Chester.

GARDENER (SECOND), of three or four. —Age 24, single; ten years' experience inside and out. Good references.—H. B., Mr. Kingham, near Post Office, Totteridge, Herts.

GARDENER (SECOND), where three or four are kept.—Age 23; good experience inside and out; good references.—A. FLOATE, 33, Taylor Street, Southborough, Tisbury, Wills.

GARDENER (SECOND), in a good Establishment, where several are kept.—Age 27, single; life experience in all branches of Gardening and testimonials.—BLAKE, Boreham House, Chelmsford.

GARDENER (SECOND), where three or four are kept.—Age 22, single; seven and a half years' good character from present situation. Inside and out preferred.—H. HAWKINS, The Square, Burwash, Sussex.

GARDENER (SECOND), where three or four are kept. Age 27, single. Four years' in present place; two years inside.—A. C., Head Gardener, The Chestnuts, Denmark Hill, S.E.

GARDENER (SECOND), where he can improve under Glass.—Age 20; six and a half years' experience. Good character.—D. BROWN, Gleebe Cottage, Great Amwell, Ware, Herts.

GARDENER (SECOND). —Age 22; seven years' experience inside and out. Good references.—A. SNELLING, 26, Stamford Terrace, Stamford Hill, N.

GARDENER (UNDER), in the Pleasure Grounds; used to Machines.—Age 21; two years' good character.—WELLER, Gardener, Longstock House, Stockbridge, Hants.

GARDENER (UNDER).—Age 22, in a private establishment, under a Foreman, in the Houses or otherwise. Good character.—G. REID, The Gardens, Broomfield Hall, near Derby.

GARDENER (UNDER), inside and out.—Age 22. Can be well recommended.—J. SARGENT, Greystoke Cottage, Hanger Hill, Ealing, W.

GARDENER (UNDER).—Age 24; Kitchen Garden and Lawn; assist in House, if required. Good character from last situation.—H. BOYCE, West Lodge, Hadley Wood, Barnet, Herts.

GARDENER (UNDER).—Age 17; active, six years' character. Can be well recommended. Glass preferred.—W. FARNFIELD, Crundall, Hants.

GARDENER (UNDER).—Age 21. Indoors, or Indoors and Out. Good practical experience. Good references.—H. B., "Daydown," Netherhall Gardens, South Hampstead, N.W.

GARDENER (UNDER, or good THIRD).—Age 23; nine years' experience, both inside and out. Good character from present employer.—H. FRANKLIN, Great Stanmore, Middlesex.

GARDENER (UNDER), inside and out.—Age 22; three years' good character. No objection to look after a Cow, if required.—H. VINCENT, Mapperton, Blandford.

PROPAGATOR and GROWER. —Age 28; life experience in Market Nurseries. Well up in Double Primulas, Ficus, Carnations, Bouvardias, Clematis, Genistas, Poinsettias, Euphorbias, Hydrangeas, and all classes of Soft-wooded Plants, and six and a half years with present employer.—T. TYLER, 1, Nursery Villas, Dyson's Lane, Edmonton.

To Nurserymen. PROPAGATOR or GROWER. —Age 23; well up in Stove and Soft-wooded Plants, Ferns, and Cut Plants for Market. Eight years' experience in first-class establishments. Good references.—L. W., 41, Wellington Street, Strand, W.C.

PROPAGATOR and GROWER of Roses, inside or out.—Age 28, married; eleven and a half years' experience. Successful Budder and Grafter.—T. NASH, The Cottage, Coombe Wood Nursery, Kingston Hill, S.W.

PROPAGATOR and GROWER. —Well up in Ferns, Soft-wooded; Stove, and other Market Stuff. Nine years' experience. Good character.—A. F., 46, Harvard Road, Hither Green Lane, Lewisham.

To Market Gardeners and Nurserymen.
MANAGER, or FOREMAN.—Age 32; total abstinence; energetic, and a good Salesman.—State wages to BURGONE, 41, Daw's Road, Fulham, S.W.

FOREMAN in the houses, in good establishment.—Age 25; eight years' experience in Fruit and Plant-houses. Well recommended.—J. NOTLEY, Stoke Holy Cross, Norwich.

FOREMAN.—Advertiser (age 29) requires a good situation as above. Thirteen years' experience in England and abroad. One year in last situation as General Foreman. Good character. Abstainer.—CYMRO, 82, Amity Grove, Wimbledon.

FOREMAN, Inside, in good establishment.—Age 25; 3 years' experience in Orchids, Stove and Greenhouse Plants and Fruit, House and Table Decorations.—W. DYER, 3, Hurstbourne Terrace, Bexley, Kent.

FOREMAN, where four or five are kept.—Age 24; nine and a half years' good experience both Inside and Out; well up in Table Decorations; well recommended.—G. STACEY, Chawton, Alton, Hants.

Trade.
FOREMAN and PROPAGATOR, or responsible GROVER.—London and Provincial experience. First-class reference as same.—M., 167, London Road, East Grinstead, Sussex.

FOREMAN, or SECOND (Inside).—Age 22; well up in Plant and Fruit Houses. Good character from last and previous places. Abstainer.—W. COLBOURN, The Gardens, Neville Court, Tunbridge Wells, Kent.

FOREMAN, in a good Establishment; age 25.—EDWIN BUCKETT, Aldenham House Gardens, Elstree, co. with every confidence recommend his First Journeyman, H. Naylor, as above.

FOREMAN, in a good establishment.—Age 24; eleven years' experience in Fruit and Plant Houses; also House Decorations. Can be well recommended.—J. GODDARD, Woodham Lane, Woking, Surrey.

FOREMAN, Age 26. Eleven years' experience in Fruit and Plant Houses, Chrysanthemums, &c. Good references.—W. DODWELL, Waddesdon, Aylesbury.

FOREMAN (GENERAL), in a good Establishment.—Has a thorough knowledge of Fruit and Plant Growing. Can be highly recommended.—A. COLEMAN, Cedar Cottage, Chorley Wood, Herts.

FOREMAN, Age 24.—Mr. J. WILLIAMS, Gardener, Middleton, Longparish, Hants, would be pleased to recommend his Foreman, W. Down, to any Gardener to want of a good man. Well experienced. Abstainer.

FOREMAN, or JOURNEYMAN (First).—Inside, in a good Establishment.—Age 28; ten years' experience, two years in present place.—Refer to Mr. MUIR, Gardener, Biel Gardens, Prestonkirk, Haddingtonshire.

To Nurserymen.
FOREMAN (INDOORS), MANAGER, or TRAVELLER.—Age 29, single. Fourteen years' experience in all branches; good references.—J. W., 44, Bradshawgate, Bolton, Lancs.

FOREMAN (GENERAL).—Age 22; or take charge of Houses, where two are kept.—Nineteen years' experience in all branches. Two and a half years in last situation. Good character. Abstainer.—W. BOLACH, 45, Meadow Street, Weston-super-Mare.

FOREMAN.—T. LAMBERT, Burton Constable Gardeau, Hull, can with confidence recommend a trustworthy, practical, and energetic man as above. Thorough knowledge of a private establishment; abstainer.

FOREMAN PROPAGATOR.—Age 26, married; experienced in Ferns, Palms, Tomatoes, Cucumbers, Azalias, and Out Stuff for Market; also Wreaths, Crosses, Bouquets, &c.—MORRIS, 6, Capworth Street, Leyton.

FOREMAN.—Mr. STEVENS, Stannage Park, Brampton Brian, Herefordshire, can with confidence recommend T. Hallett as above. Experience in Vines, Pines, Plants, &c. Two years in present situation. Age 24. Good testimonials.

To Nurserymen.
FOREMAN.—Age 38; well up in Roses, Arums, Eucharis, Chrysanthemums, Maidenhair Ferns, Foliage Plants, Hard and Soft-wooded Flowering Plants, Tomatoes, Mushrooms, &c. Good Propagator, and experienced in all branches of a general nursery.—T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN in the Houses.—Age 23; seven years' experience Inside and Out. Well recommended.—J. HARDY, West Markham, near Tuxford, Newark, Notts.

JOURNEYMAN, Inside and Out, if required.—Age 23; six years' experience. Sixteen months' good character. Bothy preferred.—W. NEW, 14, Northfield Road, Ealing Dean, W.

JOURNEYMAN (First), in the Houses.—Age 22; six years' experience; good character; exceptional good references.—H. POLAND, 3, Belle Vue Crescent, Clifton, Bristol.

JOURNEYMAN, in the Houses, in a good place.—Mr. WARD, Longford Castle, Salisbury, can with confidence recommend a strong active young man as above, who has the last three years been in the Glass Department at Longford.

JOURNEYMAN, Inside, or Inside and Out.—Age 25; eight years' experience. Good recommendations. Bothy preferred. Abstainer.—F. LATTIMORE, Ketton, Stamford.

JOURNEYMAN, Inside and Out.—A young man (age 22), with good character, seeks a situation in Private Gardens or Nursery. Strong and willing. Used to Stoves, Vines, &c.—J. C., Mr. F. Crane, Dartford Road, March, Cambs.

JOURNEYMAN.—Age 21. Five years in the Houses. Good character from three gardeners.—J. B., The Cemetery, Luton, Beds.

JOURNEYMAN, in a good Establishment; age 22.—R. GILBERT, Burghley Gardens, Stamford. Can with confidence recommend a young man as above. Seven years' experience.

JOURNEYMAN, Inside, or Inside and Out.—Age 22. Can be well recommended.—F. FRANKLIN, 4, Grove Road, Ealing, Middlesex.

JOURNEYMAN, in the Houses, under a good Foreman.—Age 21; two years' good character from present situation. Bothy preferred.—F. PIKE, East Sheen Lodge, Mortlake, Surrey.

JOURNEYMAN, in the Houses.—Age 22; two and a half years in present situation.—Mr. T. BONES will be pleased to recommend a young man as above. Bothy preferred.—Mr. T. BONES, Tower House Gardens, Chiswick.

JOURNEYMAN.—Young Man, age 22. Good character; bothy preferred.—C. LONG, Broadwater, Godalming, Surrey.

JOURNEYMAN, in the Houses.—Age 20. Six years' experience.—T. LUTON, Brockley Hill House Gardens, Stanmore, can thoroughly recommend to any Gardener requiring a steady young man as above.—G. CAPSTICK, Elstree, Herts.

JOURNEYMAN (First).—Mr. T. ROBINSON, Elsfeld Gardens, highly recommends a young man (age 21), as above. Seven years' experience. Well up in Chrysanthemums, Plants and Fruits, &c. Good references. Abstainer.—E. PARLOW, Elsfeld Gardens, Hillingbourne, Kent.

JOURNEYMAN, in the Houses.—Age 21; seven years' experience. Good character. Can be well recommended.—E. CARTER, The Gardens, Lockerley Hall, near Romsey.

JOURNEYMAN, in the Houses.—Age 22; seven years' experience in general, stove, and greenhouse plants, Chrysanthemums, Vines, &c. Bothy preferred. Good recommendations.—H. ASHDOWN, Eastburg Manor, Guildford.

JOURNEYMAN (First), in the Houses in a good establishment.—Age 23. Two years in present place. Good reference. Bothy preferred.—T. KIPPING, Ashridge Park Gardens, Great Berkhamstead, Herts.

JOURNEYMAN, in the Houses.—Age 23; ten years' experience in good establishments. Good character.—DELMAN, 5, South Street, St. Mark's Road, Fulham, London, S.W.

JOURNEYMAN, in the Houses.—Age 20; seven years' experience. Inside. Good character. Bothy preferred.—F. CHALKLEY, The Gardens, Wood Hall Park, Hertford.

JOURNEYMAN, in the Houses.—Age 22; nine years' experience. Three and two years' excellent character; abstainer. Bothy preferred.—W. FOSSEY, Brook Street, Brentwood, Essex.

JOURNEYMAN, in the Houses.—Age 20; good experience. Seven years' excellent character from present situation. Height 5 feet 10 inches. Abstainer.—Mr. F. SMITH, The Gardens, Kingsworthy house, near Winchester, Hants.

JOURNEYMAN (First), in a good establishment.—Age 23. Eight years' experience; three years in present situation. Good references from past and present situations. Bothy preferred.—F. FARLEY, The Gardens, Bell House, Dulwich.

IMPROVER, in a good establishment.—No objection to Premium. Experience Inside and Out. Three years in last situation.—A. ELTON, The Gardens, Orchardleigh Park, Frome, Somerset.

IMPROVER, Inside and Out, age 19, desires an opening; strong and willing. Eighteen months' good character. Can pay premium.—F. IRWIN, Harton Colliery, South Shields.

IMPROVER.—A young Man, age 20; six years' experience Inside and Out. Good character. Bothy preferred.—E. CALVER, Brookside, Norfolk.

IMPROVER to the Gardening.—A young man (age 19); three years' experience Inside and Out. Excellent character.—JOHN ARMSFONG, 8, Norfolk Road, Birkdale Common, Southampton.

IMPROVER, under a good Gardener.—Age 18; one year seven months' good character from last place.—E. COCKS, 3, Bank's Cottage, Camberley, Surrey.

IMPROVER.—J. E. SMITH, Gardener to Colonel Cossmaker, Westwood, Grafton, will be pleased to recommend a young Man (age 19) as above. Would give a small premium if required.

IMPROVER, or ASSISTANT, in Nursery or Shop. Young man, age 20; tall, and strong, willing to be useful; town or country.—B. K., 82, Finchley Road, N. W.

IMPROVER, in the Houses, in a good establishment.—Age 22; excellent character from present and previous situations. Will give premium.—E. REES, The Gardens, Dyffey Park, Neath.

TO FLORISTS or CAPITALISTS.—Manager (of a first-class Florist of Paris wishes to find re-engagement as above, or to meet with Gentleman Capitalist to establish a first-class business (with a view to be Working Partner). Advertiser has had fifteen years' experience in the best Continental Houses. First-class certificates and diplomas where he took several first prizes for Table Decorations, &c. (R. B. Garden), connected with the principal Flower Growers of France. Can furnish undeniable references.—Apply to ANDRE, 38, Faubourg St. Honoré, Paris.

TO GARDENERS.—A young man seeks a situation under a good Gardener, or in a Nursery. Two years' good character.—A. A., 112, Shooter's Hill Road, Blackheath, S.E.

TO GARDENERS.—A youth, age 16, seeks a situation in a Gentleman's Garden, Inside and Out. Twelve months' good character.—E. P., The Cottage, Iping, Midhurst, Sussex.

TO GARDENERS.—A youth (age 18) seeks a situation under a good Gardener as IMPROVER.—E. DANIELS, The Bridge Road, near Bath.

TO GARDENERS.—Situation wanted, as IMPROVER.—Age 19; strong, and willing. Four years' good reference. Bothy preferred.—W. BRITAIN, The Gardens, Taplow Court, Maidenhead, Berks.

TO GARDENERS, &c.—A young man (age 23) seeks situation in Orchard Houses. Energetic, with nine years' experience.—W. WILLIAMS, The Gardens, Howick House, Preston.

TO GARDENERS.—A young man (age 20), seeks situation in Houses, or Inside and Out. Three years' Inside last situation on first-class estate. Good character.—GROVES, 1, Cyprus Villas, Ventnor, Isle of Wight.

TO GARDENERS.—A Lady giving up her Establishment would be pleased to highly recommend a youth (age 19) as IMPROVER in a gentleman's garden. Inside and Out.—W. ILES, Head Gardener, The Gardens, Oakley, Harnsey, N.

TO GARDENERS, &c.—A GENTLEMAN strongly recommends a young Devonshire man, age 22, of excellent character; an abstainer; used to cows, and a good milker; strong, willing, and intelligent; five and a half years as under gardener with vicar of his parish.—F. S., The Grange, 61, North Side, Clapham Common, London.

TO GARDENERS, &c.—A young man that can use the spade, would be glad to find a situation, with a chance of improving himself. He has been working in Flower and Kitchen Gardens for the last three years. Can be highly recommended.—GARDENER, Sheffield Botley, Southampton.

TO NURSERYMEN.—A young man, age 21, wants a situation in a Market Nursery. Several years' experience. Good character. State wages.—A. B., 26, Martin's Road, Bromley, Kent.

TO NURSERYMEN.—A German seeks re-engagement in Market Nursery. Speaks English slightly. Good testimonials.—A. P., 2, Standard Road, Bexley Heath, Kent.

TO NURSERYMEN.—PROPAGATOR and GROWER.—Age 23. Nine years' experience in Stove and Soft-wooded Stuff, Ferns, &c., for Market. Good character.—W. K., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—A young Man (age 21) seeks a situation as PALM and FERN GROWER. Well up in all branches, Wreaths, &c. Eight years in the Trade. Good references.—H. B., 6, York Buildings, Clifton, Bristol.

To Bailiffs and Gardeners.
ESTATE GARDENER, PAINTER, GLAZIER, HANDY MAN, wants re-engagement.—Age 28, married; good character from present situation.—W. BEATLEY, West Lodge Park, Barnet.

SHOPMAN or SALESMAN.—Age 26; experienced in Seeds, Bulbs, Floral, and Nursery Stock.—C. D., Shanghai, Southport Road, Bournemouth.

SHOPMAN or MANAGER.—Age 28; experienced in Wreaths, Bouquets, Sprays, Plants, Seeds, Nursery Stock, Book-keeping, &c. Good Salesman. First-class testimonials.—A. H., 65, Solon Road, Brixton.

HOLLOWAY'S OINTMENT AND PILLS.
 Much watchfulness must be exercised at the present time, and the earliest evidences of ill health must be immediately checked, or a slight illness may result in a serious malady. Relieved and sore throat, diphtheria, croup, cough, chronic cough, bronchitis, and other pulmonary affections, will be relieved by rubbing this cooling Ointment into the skin as near as practicable to the seat of mischief. This treatment, so simple and effective, is admirably adapted for the removal of these diseases during infancy and youth. Old asthmatic invalids will derive marvellous relief from the use of Holloway's remedies, which have brought round many such sufferers, and re-established health after every other means had signally failed.

THE PERFECTION OF LAWN MOWERS



The REFLECTOR'S CHRONICLE

ESTABLISHED 1841.

No. 2674.

No. 274.—VOL. XI. {THIRD SERIES.}

SATURDAY, MARCH 26, 1892.

{Regt. as a Newspaper. {PRICE 3d. POST-FREE, 3d.

CONTENTS.

Action of common salt on the growth of the Radish, the	403
Allotment ground, high rental for	407
Apiary, the	405
Arbutus Andrachne	405
Assurance against hail	406
Requests to domestics	406
Book	403
Grasses of the United States	402
Handbuch für Pflanzen-sammler	403
Cattleya Alexandria	406
Chimonanthus fragrans	407
Chrysanthemum salada	406
Coco leaves and Eucalyptus oil	403
Conservatory climbers	398
Copper-salts for the prevention of Potato disease	403
Cross-breeding of Carnations and Sweet Williams	406
Dendrobium, pruning	407
Diseases of the reproductive organs of plants caused by fungi	397
Dutch Potato crop	402
Elm Lodge, Beckenham	395
Forced Lilac	406
Fruit from South Africa	403
Fruit-growing in Sydney	402
Green Currants	406
Horticultural College at Swanley, the	402
House decoration	406
Hydras	406
Hyal cornuta	406
Kew Bulletin	402
New Gardens, the history of	393
Mildew in vinerias	407
Moles and wireworms	406
Multiplicity of varieties of Apples	406
Newsworthy plants	394
Cypripedium calceolus	394
Orchid houses	398
Orchid clivatum	394

ILLUSTRATIONS.

A villa garden, Elm Lodge, Beckenham	395
Begonia socotrana, tuberosa	406
Disease of Gooseberries	397
Nepenthes thephylla	401
The Avenue des Palmiers, Hyères	408

150,000.—Special Offer of Kentias.

WICETON has a large quantity of the above to offer, very reasonable, at from 27 10s. per 1000. Magnificent, well-established, 210 per 1000; in 60's, well-established, at 230 per 1000.

W. ICETON, Putney, S.W.

LAXTON'S SEEDS AND STRAWBERRIES.

—Best novelties and best standard sorts. 100 Certificates. Send for Descriptive Price Lists.

T. LAXTON, Seed Grower, Bedford.

To the Trade and Private Growers.

CUCUMBER AND TOMATO PLANTS, fine strong, by the 1000; Carter's Improved Telegraph Cucumber and Ham Green Favourite Tomato.—Apply to MESSRS. MATTHEWS and TOMKINSON, Nurserymen, Stockton Brook, near Stanley, Stoke-on-Trent.

GOWERS and EMBERTON have to offer:—

HARRISON'S MUSK, strong well-rooted plants, 5s. per 100. PROCELIUM Ball of Fire, grand climber, 10s. per 100. VIOLAS, 6 distinct colours, 5s. per 100; COLEUS, 6 best market varieties, 10s. per 100.

FERNS in large tubs, good stuff, now ready for potting on. Pteris tremula, P. cretica crispa, &c., 12s. per 100, packing free for cash with order.—GOWERS and EMBERTON, Comely Hank Nursery, Walthamstow, E.

CHRYSAETHANUMS.—CARTERS' ILLUSTRATED CATALOGUE OF THE FINEST COLLECTION IN THE COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—The Queen's Seedsmen, 237 and 238, High Holborn, London, W.C.

Seeds.—Carriage Paid.—Sesds.

DICKSON and ROBINSON'S DESCRIPTIVE CATALOGUE FOR 1892. Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOS; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application. COLLECTIONS OF VEGETABLE SEEDS, from 5s. to 81s. COLLECTIONS OF FLOWER SEEDS, from 2s. 6d. to 84s. Seed Warehouse, 12, Old Millgate, Manchester.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPE, &c. Good references.

ARTHUR L. BULLEN, FLOWER SALESMAN, 33, Exeter Street, W.C.; and 271 and 272, Flower Market, Covent Garden, W.C. CONSIGNMENTS OF CHOICE FLOWERS SOLICITED.

HENRY E. MUNTION, FRUIT AND VEGETABLE COMMISSION SALESMAN, Covent Garden Market, W.C. (twenty years' connection). Accounts and cheques daily, or as desired. Empties supplied. Bankers and other references. A trial solicited.

MESSRS. SQUELCH and WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS OF GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE.

Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

BARR'S SEEDS, BULBS and PLANTS. VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION. BULBS.—Gladstons, Lilies, Anemones, Ranunculus, Hyacinthus candidus, Tigrids, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michelman's Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.

BARR and SON, 12, King Street, Covent Garden, London.

G. C. PRIZE PACKETS, 4s. each, two for 7s., post-free, P. O., or id. stamps, contain 12 roots in each packet, of SOMERSET SEEDLING GLADIOLI, all A. 1. carefully Hybridised Seedlings from First Prize Named Sorts; therefore, all that are worthy may be named, as they will be NEW and ORIGINAL VARIETIES. These are the Prizes. Plant during March, April, and May. Order early from—ROBERT H. FOX, Florist, Nurseryman, Seedsmen, and Florist, Taunton, Somerset.

WANTED, MAIDENHAIR FERN, ROSES, ORCHIDS, CARNATIONS, LILUM HARRISII, and other CHOICE FLOWERS, to SELL on COMMISSION. Boxes and labels supplied. Established 1870. Telephone No. 2638. R. END, Wholesale Florist, 28, Wellington Street, Covent Garden, W.C., and Crystal Palace, Sydenham.

WANTED, FRUITING and SUCCESSION PINES, Smooth Cayennes and Queens. Send price and particulars to—MAWSON BROTHERS, Windermere.

WANTED, RHUBARB ROOTS.—For SALE, 30 strong FRUITING PINES, Muscat of Alexandria, 2s. each, or offers for the lot. W. COMPTON, Lambey, Notts.

WANTED, for Cash, a Quantity of Small SEEDLING FERNS, fit to pot into tubs—Adiantum cucullatum, Pteris tremula, P. cretica, and P. serrulata; also a quantity of Ornamental Foliage—Begonia, Laurus. State price per 100 or 1000, to H. N. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

THE BEST LAWNS are produced from—

SUTTON'S GRASS SEEDS, which should now be sown either to Make New Lawns or Improve Old Lawns. See full directions in—

SUTTON'S LAWN PAMPHLET, Sent post-free by—SUTTON and SONS, READING.

Grape Vines—Grape Vines—Grape Vines. B. S. WILLIAMS and SON

have some extra strong fruiting and strong planting canes on hand. Full particulars as to Prices and Varieties on application.

Victoria & Paradise Nurseries, Upper Holloway, London, N.

Geraniums, Lobelias, Calceolarias, Ferns, &c.

JOHN SOLOMON offers:—GERANIUMS:

Henry Jacoby, West Brighton Gem, Queen of the Belgians, V. V. Raspaal, 10s. per 100. LOBELIA: Emperor William, best blue, 2s. 6d. per 100, 20s. per 1000; Sunwall, pure white, 3s. 6d. per 100, 25s. per 1000. CALCEOLARIAS: Golden Gem, 5s. per 100, 40s. per 1000. FERNS: Pteris tremula, Pteris cristata, Pteris major, in 24-inch pots, fit for 48s. 12s. per 100. All the above are sure to give satisfaction. Packing included. Cash with order. Queen's Road Nursery, Walthamstow, E.

PANSIES, VIOLAS, and DAHLIAS.—We do as well as any firm in the Kingdom. The Gold and Silver Medals last season from leading Societies. Only standard exhibition varieties kept in stock. Prices from 2s. 6d. per dozen, carriage paid. Send for Catalogue and Competitor's Guide, 150 pages, post free, 3d. DAHLIA CUTTINGS supplied very cheap.—DOBIE and CO., Rothsay.

POTATO MAGNUMS.—About 7 tons, seed size. Growing on limestone. Truck on rail, Charlbury Station, Great Western Railway. Lowest price on application. J. N. GOODALE, Bladon House, Bladon, Woodstock.

PERENNIAL and ALPINE PLANTS.—My new CATALOGUE (No. 114), containing full Lists of these Collections, is just issued, and will be sent, post-free, on application. To this list, which includes some splendid Novelties, is added a very carefully composed List of the very best and finest Shrubs and Dwarf Conifers specially adapted for rockeries. OTTO FROEHL, The New Munster Nurseries, Riesbach, Zurich, Switzerland.

VICTORIA PLUM, fine, stout, 5-yr. old, well-standard, 25 per 100; MORELLO CHERRY, strong well-standard, 25 per 100; PEARS, PLUMS, CHERRIES, of all kinds, fine trees at special rates per 100 or 1000; RHUBARB, SEAKALE, and TARRAGON for forcing; standard-trained PEACHES and NECTARINES, GRAPE VINES, MEDLARS, FILBERTS, GOOSEBERRIES, &c. WILL TAYLER, Thorn Nursery, Hampton, Middlesex.

NICOTINE SOAP.—An effectual and speedy

Eradicator of scale, Thrips, Green Fly, Mealy Bug, Red Spider, American Blight, and all Parasitic and Plant-eating Insects without injury to Foliage. Price 1s. 6d. 3s., and 5s. 6d.; 14 lb., 15s. 6d.; 28 lb., 15s.—GERRY and CO., Limited, 13, 15, and 16, Piccadilly Street. To be obtained through all Seedsmen and Florists.

THE CHADBORN and COLDWELL MFG. CO.,

Makers of the Patent "EXCELSIOR" LAWN MOWER, 223, UPPER THAMES STREET, LONDON, E.C.

Registered Telegraph Address: "LAWN MOWERS, LONDON."

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT

MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedmen, and direct from us, 1 cwt. and over cartage, paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney, W.M. THOMSON and SONS, Clarendon, Galsheals, N.B.

SALES BY AUCTION.

THE HOWICK HOUSE
COLLECTION OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

UNUSUALLY IMPORTANT SALE
OF THE

Whole of this Celebrated Collection of Orchids.

Formed by the late EDWIN GRUNDY WRIGLEY, Esq., the whole being in splendid condition, and including many Plants of exceptional merit and rarity.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of the late E. G. Wrigley, Esq., to SELL BY AUCTION, on the Premises, Howick House, Preston, Lancashire (about 2 miles from Preston Station), on TUESDAY, April 5, 1892, and THREE FOLLOWING DAYS, at half-past 12 o'clock each day, without the slightest reserve, the whole of this extensive and most important Collection of Established Orchids. Amongst the principal plants, the following may be specially mentioned:—

Anagrum sesquipedale
" articulata
" Macfarlanei
" nobile nobilissimum
" Cooksonii
" splendissimum grandiflorum
" Venus
Epidendrum Frederici
" syringthyrsis
Gymnophyllum Ellisii
Lelia amanda
" Amesiana
" anceps, enormous specimen
" atrosanguinea
" Barkeri
" Dawsoni
" Sanderiana, 3 ft. 6 in.
" through
" Schroderiana
" Williamsii
" autumnalis alba
" bella (Messrs. Veitch's hybrid), with 8 buds
" Bodiniana
" callistoglossa, 31 bulbs
" elegans alba
" prasiata
" Schilleriana
" Turneri
" grandis, fine specimen
" prestant
" purpurata, 10 immense specimens
" alba magnifica
" Russelliana
" superba
" Lycaste Skinneri alba, 4 plants
" Masdevalliana, in variety
" Maxillaria Sanderiana
" Odontoglossum (200) plants in variety
" Andersonianum
" asperum violaceum
" baphianum
" cochlidium Nuttalliana
" crispum, grand forms
" Wrigleyanum
" Edwardi
" Rossi, fine variety
" Ruckerianum
" vexillatum
" Lawrenceanum
" Wilkeanum
" Oncidium macranthum
" Phaius tuberosus
" Phaiopsis amabilis
" aurea grandiflora
" casta
" gloriosa
" grandiflora
" Maria
" Sanderiana
" Schilleriana
" vestalis
" Scissolabium bellum
" Sobralia xantholeuca
" Vanda Amesiana
" Kimballiana
" teres Andersonianum
" Wallisii

It will be observed that some of the specimens are of enormous size.

The whole of the plants will be submitted to public competition, and nothing sold privately before the sale. Catalogues are now ready, and may be obtained (price, 1s. each, returnable to purchasers) of Mr. HOUGH, The Gardens, Howick House, Preston; and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

Monday Next.

CARNATIONS, P.EONIES, double PYRETHRUMS, PHLOX, and double HOLLYHOCKS, ANEMONES, IRIS, CACTUS, Pompon and Single DAHLIAS, all named. Hardy BORDER PLANTS, a splendid lot of English-grown LILIES of sorts, a choice strain DOUBLE BEGONIAS, GLADIOLI in variety, TIGRIDIAS, Hardy CLIMBERS, Parsley-leaved BLACKBERRIES, and various BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on MONDAY NEXT, March 28, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday Next.

By order of Messrs. F. HORSMAN & Co.
5000 ODONTOGLOSSUM CRISPUM and its Varieties,
Collected by Mr. John Carder (late Partner in the Firm of Shuttleworth, Carder & Co.)

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY next, March 29, at half-past 12 o'clock—

5'00 ODONTOGLOSSUM CRISPUM.

Mr. Carder is a well-known collector of this plant, and his name has been associated with the finest forms ever imported. This is his SECOND COLLECTION of the year.

On view morning of Sale, and Catalogues had.

Tuesday Next.

ESTABLISHED ORCHIDS.

About 100 lots, comprising ODONTOGLOSSUM ALEXANDRE, CATLEYAS, &c., from a private Gentleman's Collection; also ORCHIDS in FLOWER.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on TUESDAY NEXT, March 29.

On view morning of Sale, and Catalogues had.

Wednesday Next.

525 LILUM SPECIOSUM CRISPUM.
720 " ALBUM KRETZERI.
420 " LONGIFLORUM.
2025 " TIGRINUM SPENDENS.
A new lot of 100 plants, from very north of Japan, and other LILIES, 400 Black BAMBOO CANES, from Japan, 6 to 12 feet in length; 1000 ANEMONES THE BRIDE, 1000 GLADIOLI LEMOINEI, 400 extra choice SINGLE BEGONIAS, 1000 PANSIES, DOUBLE BEGONIAS, 1000 French mixed GLADIOLI, TEA ROSES, in pots, HERACALOE PLANTS, PALMS in variety, Greenhouse FERNS, PANCRATIUM ZEPHYRUM, TUBEROUS BEGONIAS, pick RECTA GRANDIFLORA SUPERBA, Standard and Dwarf ROSES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, March 30, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next.—Established Orchids.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, April 1, at half-past 12 o'clock, a splendid lot of well-grown ESTABLISHED ORCHIDS, including fine plants of the following—

CYPRIPEDIUM CRISTATA ALBA (HOLOLEUCA).
CYPRIPEDIUM ARTHURIANUM, large plant in flower.
" HARRISIANUM SUPERBUM, the true variety.
" MOIRGANTIE, fine plant.
" TESALATUM EOPHYREUM, very rare.
" SALLIE, fine specimen.
" SEDENII CANDIDULUM.
" STONEI, magnificent specimen, 2 feet in diameter.
EPIDENDRUM CRISPUM CRISPUM, fine specimen.
ODONTOGLOSSUM NIVEUM MAJUS, very rare.
" ELEGANS, true.
" VANDA DENSMANNA HERBACEA.
TRICHOPIA LEPIDA, very rare.

On view morning of Sale and Catalogues had.

Wednesday and Thursday, April 6 and 7.
THE CHOICE COLLECTION OF ESTABLISHED ORCHIDS
formed by A. SILLEM, Esq.

MR. J. C. STEVENS has received instructions from AUGUSTUS SILLEM, Esq., (who is medically forbidden to frequent the country), to offer for SALE, by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY and THURSDAY, April 6 and 7, at half past 12 o'clock precisely, a choice and without the least reserve, his entire COLLECTION OF ORCHIDS, which will be found in excellent health. For names of principal plants see *Gardeners' Chronicle*, March 5 and 12.

Wednesday and Saturday Next.

2000 choice named Standard, Half-Standard, Dwarf and Climbing ROSES, from one of our most successful English Growers and Exhibitors; 500 FRUITFUL TREES, 500 EVERGREENS, and 500 FLOWERING SHRUBS, a consignment of AZALEA INDICA from Ghent, an extensive Collection of BORDER PLANTS, also 100,000 South African TUBEROUS IRIS, all received, LILiums from Japan, BEGONIAS, and CYPRIPEDIES, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY and SATURDAY NEXT, March 30 and April 2, at half-past 12 o'clock precisely.

On view mornings of Sale, and Catalogues had.

Under a Deed of Assignment. — R. Denton & Blunden.
Absolute SALE of the Wholes of the Valence Outdoor NURSERY STOCK, and PLANTS, FERNS, &c., in Greenhouses: Two Tons Seed Potatoes; Capital Mare, Dog Cart, Spring Cart, Light Spring Van, Harness, Two Market Stalls, and Cover; Weighing Machine, Plough, Scullery Harrow, &c. &c. For Sale, Fowls, &c.

MR. W. J. CLARKE is instructed to SELL by AUCTION, at the Nursery, Bedford Road, Northampton, on THURSDAY and FRIDAY NEXT, March 31 and April 1, 1892, the whole of the Stock-in-Trade and Effects of the above-named Nursery, which includes Nursery Stock of almost every description, full particulars of which will be found in Catalogues, to be obtained of the Auctioneer, 12, Guildhall Road, Northampton, one week prior to sale.

May be viewed at any time on application at the Nursery, or of the Auctioneer, from whom further information may be obtained.

N.B.—In consequence of the Nursery being given up at once, the whole will be sold without the slightest reserve, and in lots to suit all purchasers.

Sale to commence each day at 11 o'clock.

Finford, Northamptonshire.

TO FRUITERS, BUILDERS, and OTHERS.
VALUABLE FREEHOLD PROPERTIES, consisting of upwards of Seven Acres of ORCHARDS, situated near to the centre of the above increasing village.

MR. G. F. BEARN will SELL the above by AUCTION, at "The Gate Inn," Finford, on THURSDAY, April 7, 1892, at 5 for 6 o'clock in the evening (by order of the Trustees, under the will of Mr. Richard Jacques, deceased), and subject to such conditions of Sale as will be then produced.

An eligible and well-known ORCHARD, adjoining the Back Road, now laid for many years past in the occupation of Messrs. Jacques, Fruiters and Gardeners, containing 5 a. 1 r. 14 p., or thereabouts.

And also another ORCHARD, adjoining, and containing 2 a. 0 r. 22 p., or thereabouts.
These Orchards are well stocked with highly productive Apple, Pear, Plum, Damson, and Cherry Trees, and have long been noted both for the quantity and quality of Fruiters' goods (for after all it is only a matter of building value, being close to the village, and having a long frontage to the road).

To view, apply to Messrs. JACQUES, Finford; and for further particulars to Mr. JOSEPH FARLOCK, Finford; Mr. SAMUEL BROWN, Ruims, Northamptonshire; the Auctioneer, Corn Exchange, Wellington; or to Messrs. SHARMAN, JACKSON & ARCHER, Solicitors, Wellington.

Without any Reserve.

3000 OLD CATLEYA LABIATA!!!

MESSRS. FRED. HORSMAN AND CO. beg to inform their friends that the above will be SOLD BY AUCTION, at Messrs. PROTHEROE AND MORRIS'S, 67 and 68, Cheapside, London, E.C., on FRIDAY, April 2, 1892. This plant has given rise to a great waste of letterpress in the gardening periodicals, but without entering upon the various controversies on the subject, or saying to which firm the honour of its re-introduction to Europe (for after all it is only a matter of building value, being close to the village, and having a long frontage to the road) is due, we beg to state that the plants to be offered are the true C. LABIATA of JOHN LINDLEY, collected by a Portuguese Planter, on his own estate, where no plants had previously been collected. The truest plant, is the finest of all; on this bays may safely rely—SEE DRIED FLOWERS AT SALE. The colours very exceedingly, and without guaranteeing a WHITE form—to see dried flowers look at the plants, and for us to see the plants are very large, superb, and gorgeous in colouring. Every plant is GUARANTEED TRUE, and none will be sold before the DAY OF SALE, and THEN WITHOUT RESERVE. The excellent and magnificent plants must be sold, this presents to the Trade and Private Buyers the finest opportunity ever offered to secure healthy plants at a nominal price.

Thursday Next.

MR. THOMAS B. JAMES will SELL by AUCTION, without reserve, at his Sale Rooms, Bull Ring, Birmingham, on THURSDAY NEXT, March 31, at half past 11 o'clock, A.M., 2500 DWARF ROSES (H.P.) in variety, 800 STANDARD ROSES, Marchal Niel and other POT ROSES; Dwarf-trained, Pyramid, and Standard CRUITS; Hybrid GLADIOLI, PANSIES, BEGONIAS, GLOXINIAS, PALMS, and GREENHOUSE PLANTS in variety, and Two Tons of GENERAL NURSERY STOCK.

SALES OF HORTICULTURE, FRUITCULTURE are held at the Sale Rooms every THURSDAY at 11 o'clock A.M., and Sales conducted in any part of the country. Catalogues post-free.

Yardley, Worcestershire.

MR. THOMAS B. JAMES has received instructions from the Executors of the late E. Hoskins, Esq., to SELL BY AUCTION, on SATURDAY, April 2, 1892, at 2 o'clock in the afternoon, on the Premises, The Grange, Yardley (one mile from Stockley Railway Station, and 10 miles N.W. Railway; and 4 miles from Birmingham), the COLLECTION OF STOVE and GREENHOUSE PLANTS, being the contents of six Greenhouses, Vinery, Conservatory, and Pits, comprising specimen Palms, Crotons, Dracenas, Azaleas, Camellias, Faintenniums, Eucharis, Lepagaria alba, Tea Roses, Stephanotis, several hundred Zoon Geraniums and Pelargoniums, and endless other Greenhouse plants. Catalogues post free, and Commissions creditably executed. Auctioneer's Offices, Bull Ring, Birmingham.

MR. THOMAS B. JAMES (many years with Protheroe & Morris) will hold his NEXT SALE of ORCHIDS in FLOWER on TUESDAY, April 12, 1892 (for Easter Decoration). FRESH ENTRIES INVITED. Sale Rooms and Offices, Bull Ring, Birmingham.

THOMAS B. JAMES (many years with Protheroe & Morris) holds WEEKLY SALES at his Rooms, 12, Bull Ring, Birmingham, on MONDAY, TUESDAY, WEDNESDAY, and FRIDAY, at 4.30 P.M. Sales of choice Cut Flowers. Fresh Entries invited. Account Sales and cheques daily. Empty and labels found.

WANTED, a Small, Compact NURSERY, chiefly Glass, for Fruit Culture. Good-sized Dwelling-House.—ALPHA, Mr. Bennett, Harefield Grove, Uxbridge, Middlesex.

WANTED, SIX GREENHOUSES, and 1 acre of Land, in a Good Town; London only. To Small stock. Apply, J. F. GARDNER, *Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Jobbing Gardeners.

FOR SALE, LEASE of PREMISES and 6-roomed HOUSE, 3 a. 6 enclaves, frames fully stocked. Good locality. Rent 2/6. Part let off—Apply, T. HOUSE, 12, Perry Hill, Catford, S.E.

FREEHOLD NURSERY, very Old Established, FOR SALE, in full profit, situated in one of the best localities, 18 miles from London. Owner retiring from business, after full and full occupation. Pretty Cottage Residence, 12 Glass-houses, of various sizes; Stabling, and 14 Acres of excellent Land, fully stocked. Net profits, £300 a year. Cash requisite, about £1000.

MR. DAVISON, 8, Circus Place, London, E.C.

of flowers. *Free on application.*
JOHN FORBES, Nurseryman, Hawick, Scotland.

ORCHIDS.

CLEAN, HEALTHY PLANTS AT LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER, EXOTIC NURSERIES, CHELTENHAM.

WM. PAUL AND SON respectfully invite inspection of the following TREES and SHRUBS, now on Sale. Prices (on application) very reasonable, and quality unexceptionable as to roots, tops, and stems.

BEECH, purple, best variety	... 12 to 18 feet.
" common	... 12 feet.
BIRCH, Silver and others	... 12 to 14 feet.
ELMS, four sorts	... 12 to 18 feet.
LABURNUMS	... 9 to 10 feet.
LIMES	... 8 to 12 feet.
MOUNTAIN ASH	... 12 to 18 feet.
NORWAY MAPLES	... 12 to 18 feet.
PLAINS	... 12 to 18 feet.
POPLARS, six sorts	... 12 to 18 feet.
SYCAMORE	... 12 to 18 feet.
THORN, Paul's Double Scarlet	... 12 to 14 feet.
(The finest Trees in the Trade.)	
FLOWERING SHRUBS, various	... 4 to 5 feet.

ARBOR-VITE, American	... 8 feet.
AUCUBAS	... 3 to 4 1/2 feet.
BOX, of sorts	... 3 to 5 feet.
CEDRUS ATLANTICA	... 5 to 10 feet.
DEODARA	... 8 to 12 feet.
CUPRESSUS LAWSONIANA	... 6 to 7 feet.
HOLLY, Variegated	... 6 to 12 feet.
Green, named sorts	... 8 to 12 feet.
FIR, Scotch	... 6 to 8 feet.
Austrian	... 3 to 8 feet.
LAURELS	... 3 to 7 feet.
OSMANTHUS	... 2 to 4 feet.
PICEA PINSAPO	... 6 to 8 feet.
RHODODENDRON PONTICUM, off loam	... 2 to 4 feet.
Hybrid	... 2 to 4 feet.
Named sorts	... 2 to 4 feet.
YEW, Common, and others	... 3 to 7 feet.

APPLES, PEARS, CHERRIES, and PLUMS, Standard and Pyramids.
APPLES and PEARS, Horizontal-trained.
CHERRIES and PLUMS, Fan-trained.
ASPARAGUS for Forcing.

PAUL'S NURSERIES, WALTHAM CROSS.
South Entrance, 4 minutes' walk from Waltham Cross Station;
West Entrance, 3 minutes' walk from Theobald's Grove Station,
Great Eastern Railway.

VINES } STRONG FRUITING and
AND } PLANTING.—The best leading
FIGS. } kind, thoroughly ripened without bottom
heat. Particulars on application.

DICKSONS NURSERIES CHESTER (LIMITED)

WILLIAM BARRON AND SON offer the following well-grown and finely-rooted, which they offer at very low prices.

ABIES, in variety, 3 to 6 feet.	
CEDRUS ATLANTICA and DEODARA, 2 to 7 feet.	
CUPRESSUS LAWSONIANA, in great variety, 2 to 8 feet.	
" NUTKANENSIS, in variety, 2 to 8 feet.	
PICEA NOBILIS, very fine, 1 1/2 to 2 1/2 feet, 85s. per 100.	
" in variety, 2 to 10 feet.	
PINUS AUSTRIACA, over 100,000, 1 to 8 feet.	
" Forest tree sizes, very cheap, grand specimens, 6 to 8 feet.	
PINUS, in variety, 1 to 8 feet.	
RETINOSPORA, in variety, 1 to 8 feet.	
THUYA OCCIDENTALIS, for hedges, 5 to 8 feet, 2s. per 100.	
" in variety, 2 to 8 feet.	
YEW, Common, many thousands, 1 1/2 to 2 1/2 feet.	
" Golden, grand specimens, up to 8 feet.	
HOLLIES, in great quantity and variety, 1 to 10 feet.	
" Golden Green specimens, 4 to 7 feet, very fine.	
AUCUBA, green and variegated, 1 1/2 to 2 1/2 feet.	

AVENUE TREES.	
ACER SCHWEDEFERK (scarlet-leaved Maple), 10 to 14 feet.	
NORWAY MAPLE, 10 to 14 feet.	
SYCAMORE, from 12 to 14 feet.	
HORSE CHESTNUTS, very stout, 10 to 12 feet.	
POPLARS, in variety, 10 to 14 feet.	
PURPLE BEECH, from 10 to 12 feet.	
OAKS, Scarlet and other varieties, 10 to 12 feet.	
LARCH, fine variety, 10 to 14 feet.	
THORN, Scarlet, Pink, and White, fine standards.	
LARCH, very fine, from 2 to 3 feet.	
THORN (Quick), strong, 15s. per 1000.	
" very strong, 20s. to 25s. per 1000.	
FRUIT TREES, all kinds.	
APPLES and PLUMS especially fine.	

A visit from intending planters is respectfully invited. Elvaston Nurseries, Boreham, Derby, only three minutes walk from Borrowash Station, Nottingham and Derby, Midland Line.

Quantity not Quantity.

THE PENNY PACKET SEED COMPANY, (BIDDELS & Co., Proprietors), LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete Seed Catalogue and Guide, which will be sent gratis and post free on application.

3000 Varieties catalogued, 500 Illustrations.

London County Council.—To Seedsmen.
TENDERS are invited for the SUPPLY of GRASS SEEDS, for the Council's Parks and Open Spaces. Persons desirous of submitting Tenders, may obtain a copy of the specification, Form of Tender, and other Particulars, on personal application at the Office of the Architect of the Council, at Spring Gardens. Persons tendering will be required to declare in their tender that they pay such rates of wages, and observe such other conditions as are generally accepted as fair in their trade. The tenders, which must be on the form supplied from this Office, and be addressed to "The Clerk of the Council," and endorsed "Tender for Seeds," are to be delivered at this Office before 10 o'clock A.M. on April 8, 1892, and no tender will be received after that hour. Any tender which is not fully filled up in every particular will be rejected.

The Council does not bind itself to accept the lowest or any tender.
H. DE LA HOOKE, Clerk of the Council.
Spring Gardens, S.W., March 19, 1892.

THE SOCIETY OF APOTHECARIES have decided that a course of TWELVE LECTURES on BOTANY shall be delivered by T. G. BAKER, F.R.S. and F.L.S., at their Garden at Chelsea, on the SATURDAYS of April, May, June, and July next, at 3 P.M.
The lectures will be open to all Medical Students and other Gentlemen being desirous to attend.
Tickets of admission to be obtained of the Curator at the Gardens, and of the Beadle at Apothecaries Hall.
J. K. E. TON, Clerk to the Society.

Apothecaries Hall, March, 1892.

3000 FINE Transplanted PLUM STOCKS, trimmed, WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 9d. per 100.
RICHARD SMITH AND CO., Worcester.

ORCHIDS A SPECIALTY.—Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants.
W. L. LEWIS & CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchid Road.

CHRYSANTHEMUMS, PELARGONIUMS, CAMELLIAS, BEGONIAS, CANNAS, &c.—Our CATALOGUES will be sent free on application.
15 First Prize (10 this year). 5 Gold Medals.
REID and BORNEMANN, Sydenham, London, S.E.

10,000 EUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 8s. to 15s. per dozen. Less by the 1000. Cash with Order.
J. J. CLARK, Oldstone, West Brighton.

BIRMINGHAM PRIMULAS.
Lady Churchill, The Queen, Marquis of Lorne, and all select, 2s. 6d. per packet. Milled, 2s. 6d. Usual Trade discount.
POPE AND SONS, King's Norton, Birmingham.

LOVEL'S YORKSHIRE STRAWBERRIES.
—We offer for Cash, good sorts in nice plant, carriage paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample Dozen, 6d. Descriptive LIST free.
W. LOVEL AND SON, Strawberry Growers, Driffield.

Sharpe's Victor Potatoes.
W. W. JOHNSON & SON, SEED GROWERS
and MERCHANTS, Boston, offer a few tons of this excellent First Early POTATO. True Stock and good sample. Price, per cwt. or ton, on application.

Vegetable and Agricultural Seeds.
H. AND F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favorable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

The Best Present for a Gardener.
VINES and VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
New Edition.
Price 6s., post-free, 5s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

A RARE OFFER.—Fifty packets of guaranteed Genuine FLOWER SEEDS, showy hardy varieties, 1s. Also large parcel of assorted VEGETABLE SEEDS, 2s., post-free.
T. RICHARDS, 2, Cranham Street, Oxford.

STANDARD ROSES, 14s. per doz.; Bush Roses, 6s. per doz.; best named Clematis, 14s. per doz.; Ampelopsis Vetchia, 4s. per doz.; Variegated Ivies, 4s. per doz.; Mrs. Sinkins Pinks, 12s. per 100; Ferns, 10s. 16s., 24s., and 48s. per 100. Catalogue, gratis and post-free.
H. ENGLISH, Clevedon Nurseries, Clevedon.

1000 flowering Bulbs of GALANTHUS ELWESI, CHIONODOXA LUCILLE, and C. SARDENIS, will be sent on receipt of 10s. Orders are requested to be sent not later than the end of April. Catalogues gratis, post paid.
FRANZ SCHLOSSER, Kunst und Handelsgartner, Smyrna, Asia Minor.

DAVIS'S BEGONIAS.—Superb in Quality.
Double, 12s. to 63s. per doz.; Single, 9s. to 30s. per dozen. For Bedding, Double, 6s. to 18s. per doz.; Single, 4s. to 6s. per doz. Two of the best Doubles grown are Althea Rose, 5s.; and Mauvette, 3s. each. My Catalogue, the best published, describes nearly 300 of the best Varieties, free.
B. R. DAVIS, Begonia Grower, Yeovil, Somerset.

CLEARANCE SALE OF PALMS,

DRACENAS, &c.
Strong Small Palms, averaging 10 to 12 inches high, of SEAFORTHIA ELEGANS, LATANIA BORNICANA, ARECA SAPIDA, CORYPHA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of each, 14 plants in all, 5s.; 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.
Price per 100 or 1000 on application.

* LATANIA BORNICANA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.	
* CHAMÆROPS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.	
* Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.	
* DRACENA CANIFOLIA, 5 to 6 feet high, 21s. each.	
* PHENIX TITUS, 3 feet high, 5s. each.	
* Ditto ditto 2 feet high, 18s. per dozen.	
* DRACENA INDIVISA, 3 feet 6 inches high, 5s. each.	
* Ditto RUBRA, 2 feet high, 18s. per dozen.	
* Ditto CONGESTA, 2 feet high, 18s. per dozen.	
* SEAFORTHIA ELEGANS, in 60's, fit for 48's, strong, 6s. doz. Price per 100 on application.	

Those marked * are Packed Free, but NOT Carriage Paid.
W. OWEN, 106, Stamford Hill, N.

Select VEGETABLE,
Choice FLOWER,
The best qualities at
Moderate Prices.

Delivered Free by Ball or Parcel Post.

The Best SEED POTATOS, Garden Tools, Sundries, &c., &c.

Illustrated Descriptive Catalogue, No. 403 POST FREE ON APPLICATION.

Dicksons Seed Growers, Chester.
(Limited)

SPECIAL CULTURE OF FRUIT TREES AND ROSES.

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.
The Illustrated and Descriptive Catalogue of Fruits, post-free, 3d.
The Descriptive Catalogue of Roses, post-free

THOMAS RIVERS & SON,
THE NURSERIES,
SAWBRIDGEWORTH, HERTS.

JOHN GREEN, F.R.H.S., Has Now Ready 1,000,000 Good Things.

BEST NOVELTIES.—See Illustrated Catalogue.
Best Chrysanthemums.—New, 10s.; Choice, 6s.; Good, 3s. 6d. doz.
Best Black Cactus Dahlia.—"Black Prince."—Orders now being booked for Spring delivery, 1s. each.
Best Cactus Dahlias.—4s. per doz.; best new, 10s. per doz.
Best Pompon Dahlias.—4s. per doz.; best new, 6s. per doz.
Best Show Dahlias.—4s. per doz.; best new, 7s. 6d. per doz.
Best Fancy Dahlias.—4s. per doz.; best new, 6s. per doz.
Best Single Dahlias.—4s. per doz.; best new, 6s. per doz.
Best Begonias.—Single, 4s. (d. 8s., 6s., and 10s. 6d. per doz.) Double, 10s. 6d., 16s., 20s., and 30s. per doz.
Best Zonal Geraniums.—4s., 5s., 7s. 6d., 10s., and 12s. 6d. per doz.
Best Fuchias.—4s. and 6s. 6d. per doz.
Best Coleus.—2s. 6d. per doz.; best new, 6s. 6d. per doz.
Best Border Carnations.—4s. 6d., 6s., and 10s. per doz.
Best Flower Seeds.—See Illustrated Catalogue.
Best of Everything.—See Illustrated Catalogue.

The above prices are for J. G.'s Selection; purchasers wishing to select for themselves, should send at once for Catalogue.
JOHN GREEN, Norfolk Nurseries, DEREHAM.

ORCHIDS A SPECIALTY.

Many new, choice, and rare species and varieties always in stock.

HARDY HERBACEOUS PLANTS.

One of the finest collections of these plants known.

CHRYSANTHEMUMS.

A grand collection, approved novelties, write for our new Descriptive

CATALOGUES, NOW READY, and Post-free on application to

PITCHER & MANDA,
The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

DANIELS BROS.,

TOWN CLOSE NURSERIES,
NORWICH,

BEG to offer the following Plants, Bulbs, &c., which they can highly recommend:—

Roses, Hybrid Perpetual. A splendid collection, including all the choicest sorts. ... per doz.—s. d.
Fine Standards to name ... 18s. and 24 0
Dwarfs or Buses ... 7s. 6d. and 10 6
Tea Scented, in pots, best sorts 15s., 18s., and 24 0
Clematis. Choice named sorts ... 18s. and 24 0

Carnations and Picotees. A very choice collection, including all the newest and finest sorts, 6s., 8s., and 12 0

Carnation. "Germania." Beautiful pure yellow. The best, fine plants ... 3 for 4s., each 1s. 6d.

New Garden Pink, "Her Majesty." Beautiful pure white, delicately scented, 3 for 4s., each 1s. 6d.

Delphiniums. Single and double-flowered, choice named sorts, strong plants ... 6s. and 9 0

Gaillardias. Large-flowered hybrids, in beautiful variety, to name ... 9s., 12s., and 18 0

Perennial Phloxes. A splendid collection. Established plants to name ... 4s. 6d., 6s., and 9 0

Pyrethrum, Double-flowered. A grand collection, including the newest and choicest sorts. Established plants ... 8s. and 9 0

Single-flowered, in brilliant variety ... 6 0

Pæonies, Herbaceous. Double-flowered, choice named sorts ... 12s., 18s., and 24 0

Hardy Flowering Plants. We have a splendid collection of these, which we offer as follows, including such fine subjects as Anemonis pallida, Chrysanthemum maximum, Doronicum, Erigeron, Helianthus, Heuchera sanguinea, Senecio pulcher, &c.—s. d.

100 in 100 choice varieties ... 0 0

50 " " " established ... 17 6

25 " " " plants ... 10 0

12 " " " " " 6 0

Lilium auratum. Fine selected bulbs—4s., 6s., and 12 0

" Rubro-vittatum. Pure white with deep crimson bands, splendid—each 2s. 6d.

" Wallichianum superbum. Immense primrose-yellow trumpets, magnificent, ea. 3s. 6d.

Lilies. Choice named, from our fine collection—6s., 8s., 12s., 18s., 24s., and 30 0

Begonias, Tuberosus-rooted. Large brilliantly-coloured flowers of all the most beautiful shades. Good strong flowering tubers in splendid mixture ... per 100, 30s.

" Double-flowered, very fine mixed ... 8s. and 12 0

Glacielus Gandavensis. Choice named sorts—4s. 6d., 6s., 9s., and 12 0

" In splendid mixture ... per 100, 20s.

" New handy hybrid. A charming class with large, handsomely-stained or blotched flowers. Variety choice mixed ... per 100, 24s.

Tuberose, American Pearl. Fine bulbs—per 100, 17s. 6d.

2 6

All carriage free with the exception of Tea Roses and Clematises, which are sent in pots.

CINERARIA, DIXON'S SUPERB GIANT.

The Choicest Strain in the Country.
In Sealed Packets, 1s. 6d., 2s. 6d., and 5s. each.
Price to the Trade on Application.
For full Description and Illustration, see *Gardeners' Chronicle*, January 2, 1892.

E. P. DIXON & SONS, HULL.

L'HORTICULTURE INTERNATIONALE

(Orchid Emporium), Leopold Park, Brussels.
THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

PLANTING SEASON.
HARDILY-GROWN
FOREST, FRUIT, & ALL OTHER
TREES & PLANTS,
EVERGREENS, ROSES, &c.
NURSERIES 400 ACRES:
VERY EXTENSIVE STOCK. Inspection invited.
Priced Catalogues Gratis & Post Free.
DICKSONS NURSERIES
(LIMITED) **CHESTER.**

ROSES.

STANDARDS, from 21s. per dozen.

DWARFS, from 6s. per dozen.

CATALOGUES, post-free.

FRANK CANT, BRAISWICK NURSERY, COLCHESTER.

32 ACRES of RHODODENDRONS,

AND
170 Acres of Other Nursery Stock.

RHODODENDRON Poticum, 9 to 12 inch ... Per 100; per 1000.
" " " " " 12 to 18 " ... 12s. ... 90s.
" " " " " 18 to 24 " ... 16s. ... 140s.
" " " " " 25 to 30 " ... 25s. ... 220s.
" Catawbiensis Hybrid, 9 to 12 " ... 12s. ... 100s.
" " " " " 12 to 18 " ... 18s. ... 160s.
" " " " " 18 to 24 " ... 28s. ... 240s.

For other NURSERY STOCK, see CATALOGUES, free.
Rhododendrons make grand cover for Game: Hares and Rabbits will not eat them; they will grow well under trees, where many other trees perish. Smaller or larger sizes can be supplied if required.

JAMES SMITH & SONS,

DARLEY DALE NURSERIES, near MATLOOK.

NEW SINGLE PYRETHRUM, "JUBILEE."

First-class Certificate, Royal Botanic Society, London, June 15, 1889.

One of the most beautiful Single Varieties in cultivation; dwarf in habit, bearing in abundance very deep Carmine flowers.

See Editor's remarks in *The Garden*, June 20, 1891:—
"Flowers, deep carmine; the richest-coloured variety we have seen, and very handsome."
Well-established plants, ready for delivery in April, 2s. each (usual discount to the Trade).

W. BALCHIN & SONS,

HASSOCKS NURSERY, SUSSEX

NEW CHRYSANTHEMUMS FROM AMERICA.

A. LADENBURG, ETHEL PAULE,

ADA H. LE ROY, MAMIE CRAIG,

ROTH CLEVELAND.

All Prize winners, and the finest lot ever introduced at one time.

Strong plants now ready, 4s. each, the set, 18s.

Send for Descriptions.

H. J. JONES, Rycroft Nursery, Lewisham, S.E.

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow. 74 ACRES IN STOCK.

See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Soils.

ROSES. Hundreds of Thousands.

BUSHES, Packing and Carriage Free
8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.

ORNAMENTAL TREES, 91 ACRES.

4 ACRES of GLASS.

CLEMATIS (80,000), from 15s. per dozen.

N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS, VEGETABLE, FLOWER, and FARM.

DESCRIPTIVE LIST, FREE.

RICHARD SMITH & CO., WORCESTER.

FERNS
If you wish to have a CHOICE, VARIED & BEAUTIFUL COLLECTION OF FERNS different from those commonly seen, you can obtain such from
W & J. BIRKENHEAD.
FERN NURSERIES SALE, MANCHESTER
Who have 1400 DIFFERENT KINDS TO SELECT FROM. CATALOGUE ON APPLICATION.

Covert for Game.

RHODODENDRONS, PONTICUMS,

1 ft. to 15 ft., 16s. per 100, 140s. per 1000; 15 in. to 30 in., 22s. per 100, 200s. per 1000; 15 to 2 ft., 25s. per 100, 220s. per 1000; 2 ft. to 2 1/2 ft., 40s. per 100, 340s. per 1000; 2 ft. to 3 ft., 50s. per 100, 400s. per 1000. The above sizes are fine, bushy, well-rooted plants.

PINUS AUSTRIACA, 4 ft. to 5 ft., 40s. per 100, 300s. per 1000, singly grown, stout, and well-rooted.

Catalogues and samples free on application.

JOSEPH A. SMITH, Moor Edge Nurseries, Tansley, near Matlock, Derbyshire.

KELWAY'S SEED MANUAL

"Of the many manuals, &c., we certainly have seen none so surpass Messrs. Kelway's in plain, practical usefulness."—*Agriculture*.
1s., post-free (deducted from first order) to those unknown to us.

KELWAY AND SON, Langport.

PRIVATE SALE.

FRUIT TREES.

80,000 VERY CHOICE TREES.

(Standards, Pyramids, and Wall-trained), Apples, Pears, Cherries, Peaches, Filberts, and Plums; 20,000 noble tall standard Victoria Plums and Damsons, six years old. The Trees are without blemish, twice transplanted, splendidly rooted, and intended for the tenants and hedgerows on the Estate. Guaranteed true to name. The superb Rhododendrons; 2000 Maiden, Standard, and Dwarf Roses; 40,000 Black and Red Currants, four years old; and forty kinds of Gooseberries, 6000 Raspberries. In small or large quantities, Purchaser's selection. Price half their value. See Catalogues. Removing.—LAND STEWARD, Hon. GERTRUDE JONES, Churchfield, Cradley, near Malvern.



WHINHAM'S

INDUSTRY GOOSEBERRY.

The Most Productive Gooseberry in Cultivation. Colour, dark dusky red. Of enormous Size. In Seven Successive Seasons we have sold nearly

ONE MILLION BUSHES OF THIS VARIETY.

Price: 3-year Bushes, Strong ... 6s. per dozen.
" " " Selected ... 9s.
" " " Extra-Selected ... 12s.
" " " Strong ... 40s. per 100.

WM. FELL & CO., Royal Nursery and Seed Establishment,

HEXHAM, Northumberland.



And for all Glass Structures that require Shading. Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—CORYY AND CO. (LTD.), Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.

"THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

RICHARDS' NOTED

ORCHID and other

SELECTED PEATS (Cut from his Own Grounds), SOILS,

MANURES, and every description of

GARDEN SUNDRIES.

G. H. RICHARDS, The Horticultural Stores, 1, Belvedere

Crescent, Lambeth, London, S.E.

Write for Samples and Price List, Post-free.

CHIEF PEAT DEPOT: RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibres, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack; 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to

THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPS'S selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood co., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter. The Original Peat Depot, RINGWOOD, HANTS.

BROWN and BLACK FIBROUS PEAT, 25s.

per ton, or 4s per Truck of 4 Tons; Bags, 5s. each; 10 Bags, 45s.

PEAT, for forming Rhododendrons, Rug, and American Plant Beds, 21s. per Ton, or 24 4s. per Truck of 4 tons; Bags, 5s. each; 10 Bags, 45s.

THOMAS WALKER, Tekels Park, Camberley, Surrey.

SILVER MOSS from Siberia, for decorating

Conservatories, Flower Pots, &c. The range of Paris. Sample boxes, 1s. 3d. and 2s. 3d. post free. Agents wanted in every Town.

B&KONTUS, KING AND CO., 37, Walbrook, London, E.C.



FOR DESTROYING WEEDS, MOSS, &c., ON CARRIAGE DRIVES, GARDEN WALKS, ROADS, STABLE-YARDS, WALLS, STONEMWORK, &c.

Saves more than twice its cost in Labour. No Smell. One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every confidence in recommending it."

Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy."

Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included); in 5-gallon Drums, 1s. 6d. per gallon. 10 and 15-gallon Drums, 1s. 4d. per gallon. Special quotations for larger quantities. Carriage paid on 10 gals. and upwards.

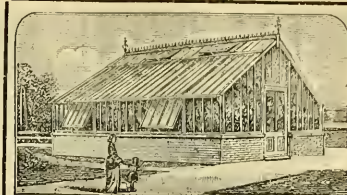
Used in the proportion of one gallon to twenty-five gallons of water.

THE ACME SUMMER SHADING, White and Green.

For SHADING GREENHOUSES, CONSERVATORIES, &c. Does not wash off with the rain. Can be used WARM or COLD. 1 lb. makes ½ gall. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 9d.

For particulars of ANTI-FUNGUS POWDER for Tomato Disease, Mould and Mildew on Roses, Vines, &c.; KENTISH PLANT MANURE, SOLUBLE MANURE, ZINC LABELS, NEW METALLIC INK, &c., apply to the Sole Importers and Manufacturers,

THE "ACME" CHEMICAL CO., Limtd., Tunbridge, Kent; and Carlton Street, Bolton, Lancashire.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 x 6, 36s. 6d.; 2-light frame, 6 x 8, 55s.; 2-light frame, 12 x 6, 85s. 6d.; Span-roof Frames, 12 x 4, £4 7s. 6d.; 8 x 6, £5 15s.; 16 x 6, £9 10s.

HARDY BRUIIN & CO., Graham Street, LEICESTER

HEATHMAN'S EXTENSION LADDERS - USEFUL THROUGHOUS - EVERYWHERE IN USE.

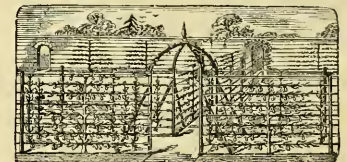
Price Lists FREE. CARRIAGE PAID TO ANY STATION IN UNITED KINGDOM.

2 & 37, ENDED STREET, LONDON, W.C.

FORESTATES, GARDENS, PLUMBERS, PAINTERS, FACTORIES, WAREHOUSES, SHOPS, HOTELS, INSTITUTIONS, DWELLINGS, THE MOST USEFUL LADDERS MADE, AND THOROUGHLY SAFE.

BOULTON & PAUL, Manufacturers, NORWICH.

WIRE ESPALIER TRAINERS.



4 ft. high, with Standards 10 ft. apart, and six lines of galvanised Wire, per yd., 6d. Terminal Posts and Radiuses, each 9s. Prices of other sizes on application.

No. 405. WROUGHT IRON TREE GUARDS. No. 406.

Made to any design and size.

No. 405.—6 ft. high, 12 in. diameter. Price, 7s. 9d. each.

No. 405.—6 ft. high, 12 in. diameter. Price, 8s. 4d. each.

Descriptive Catalogue of all our Manufactures, including Iron Buildings for Shooting and Fishing Lodges, Stabling, Huts, Kennels and Poultry Appliances, Greenhouses Garden Frames, &c., free on application.

BOULTON & PAUL, NORWICH.

CHAS. FRAZER'S EXORS.—Conservatories, Orchard-houses, Vinerias, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Proudly illustrated CATALOGUE, post-free, for six stamps. PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

SANKEYS' famous GARDEN POTS

Bulwell Potteries, Nottingham.

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

AWARDED TEN GOLD AND SILVER MEDALS.

POTTERS' EXCELSIOR WIRE ARMOURD HOSE. WOLVERHAMPTON

WHEN JUPITER PLUVIUS SEEKS HIS REPOSE.

USE POTTERS' EXCELSIOR WIRE ARMOURD HOSE.

REGISTERED NO. 13 195

PRICES of 60-feet LENGTHS (fitted with ARMOURD.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices:—

1-in. dia., test quality ... 36/3	1-in. dia., ex. stout qual. 52/0
1 1/2-in. dia., test quality ... 45/7	1 1/2-in. dia., ex. stout qual. 52/0
2-in. dia., test quality ... 49/0	2-in. dia., ex. stout qual. 56/7

All Hose Carriage Paid and despatched same day as order is received.

OLDEST and MOST RELIABLE HOUSE in the TRADE. Maker of Hose for Liquid Manures, Delivery, Steam, Fire, and Suction Hoses, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 5,000,000 feet in use.

Catalogues of above and all kinds of HOSE, BELTING, and ROOFING FELLS, Post Free, from

ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by— They are the first, foremost, and best in the world.
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS,
The Late EMPEROR OF THE FRENCH. THE EMPEROR OF RUSSIA,
And most of the Nobility, Clergy, and Gentry of the United Kingdom.



Royal Horticultural Society's Show, South Kensington, London, June 3 to 7, 1881. The "Journal of Horticulture," of June 8, says:—"MOWING MACHINES.—After a critical examination, the Silver Medal was granted to the old firm of world-wide fame, Messrs. T. GREEN & SON, of Leeds and London. As the Machines are known in all lands where good lawns are cherished, it is quite unnecessary to give any description of them."

Upwards of 170,000 of these Machines have been sold since they were first introduced in the year 1856, and thousands of unsolicited Testimonials have been received, testifying to their superiority over all others. They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others.—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER, With Improved Steel Chains and Handles.

To cut 6 in., can be worked by a Lady	£1 15 0
To cut 8 in., do.	2 10 0
To cut 10 in., do. by a strong youth	3 10 0
To cut 12 in., do. by a man	4 10 0
To cut 14 in., do.	5 10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.



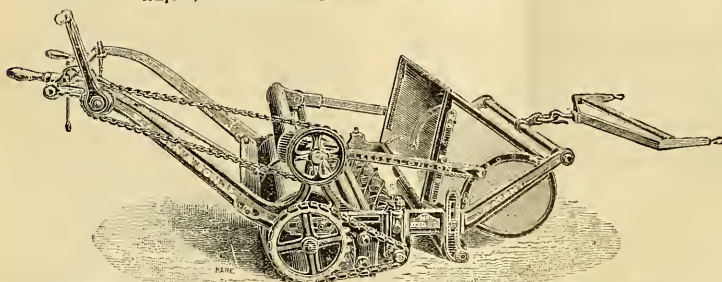
DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man	£6 10 0	To cut 22 inches, can be worked by two men	£8 10 0
on even lawn ...	7 10 0	To cut 24 inches, do.	9 0 0
To cut 18 inches, do. man and boy...	8 0 0		
To cut 20 inches, do.			

* If made stronger, suitable for Dooley, 30s. extra.

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, or Side-delivery, with Cross stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches	£14 0 0
To cut 28 inches	16 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

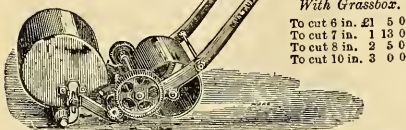
The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of its running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

HORSE MACHINES.

To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
To cut 48 inches	34 0 0
Leather Boots for Horse	1 9 0

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES, With Grassbox.

To cut 6 in. £1 5 0
To cut 7 in. 1 13 0
To cut 8 in. 2 5 0
To cut 10 in. 3 0 0

GREEN'S Patent LAWN TENNIS COURT MARKER.

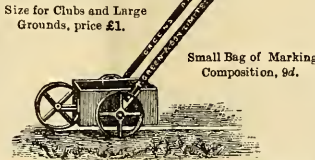
No. 2412.

The Best Marker made.

Size with 1 wheel for Ordinary Courts, price 14s.

Do., with 3 wheels, 17s.

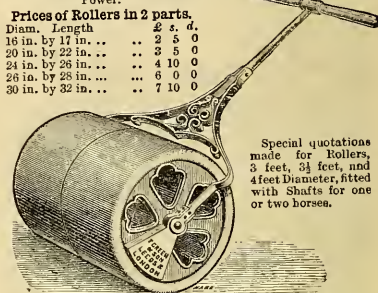
Size for Clubs and Large Grounds, price £1.



Small Bag of Marking Composition, 6d.

REDUCED PRICES OF GREEN'S Patent ROLLERS, For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c. Suitable for Hand or Horse Power.

Diam.	Length	£	s.	d.
16 in.	by 17 in.	2	5	0
20 in.	by 22 in.	3	0	0
24 in.	by 26 in.	4	10	0
26 in.	by 28 in.	6	0	0
30 in.	by 32 in.	7	10	0



Special quotations made for Rollers, 3 feet, 34 feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 ins. diam. £1 16s. Packing Case, 3s.

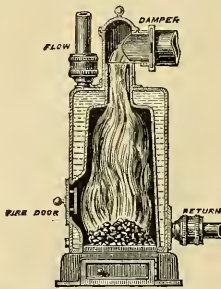
Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

A very useful and serviceable Machine.



MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

HOT-WATER BOILERS



AND OTHERS WITH SHELVES, AND HOLLOW OR ORDINARY CAST-IRON GRATE BARS.

VERTICAL SADDLE BOILERS, &c.

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c. Descriptive Illustrated PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON; or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

CARTERS' INVICTA LAWN SEEDS

Forms beautiful
VELVET LAWNS
In 8 to 12 Weeks.

For making a New Lawn, order 4 lbs. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 14 lbs. of Carters' Lawn Manure, costing 4s. 6d., for every 1,000 square feet.

For Small Lawns order a 1s., 1s. 6d., or 2s. 6d. packet. A 1s. 6d. packet will sow 150 square feet of New Lawn.

To Renovate or Improve a Lawn, order 4 lbs. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 23 lbs. of Carters' Lawn Manure, costing 7s., for every 2,000 square feet.

ABOVE PARCELS CARRIAGE FREE.

CARTERS' PAMPHLET UPON THE MANAGEMENT OF LAWNS, free for two stamps.

ROYAL SEEDSMEN BY SEALED WARRANTS.

237 HIGH HOLBORN, LONDON.

STANDARD ROSES. **DICKSONS' NURSERIES CHESTER** (LIMITED) (400 Acres)

Many Acres of Lilies of the Valley!
T. J. JANNONCH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.
T. JANNONCH (Lily of the Valley Grower) by special appointment to H.R.H. the Prince of Wales, Desingham, King's Lynn, Norfolk.

VERY FINE STANDARD
ORNAMENTAL TREES.

ALMOND, fruit-bearing, 1s. 6d. to 2s. 6d.
BIRCH, Fern-leaved, weeping (silver bark), 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
.. Silver weeping, 7 to 8 feet, 1s. 3d. each, 12s. per dozen; 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
CHERRY, double blossomed, 1s. 6d. to 2s. 6d. each.
ELM, English budded, 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
.. Montane (Wych), 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
HOLLY (aquifolium, aquifolium weeping, bronze, elegantissima stricta, Gold Queen, green in variety, Handsworth silver weeping, Milkmaid weeping, new golden weeping, variegated in variety, Waters' s', very fine, 10s. 6d. to 42s.
LABURNUM, English, 1s. 6d. to 2s. 6d. each, 15s. to 24s. per dozen.
LILAC, Persian, 2s. 6d. each.
.. Siberian, 3s. 6d. each.
MAPLE, colchicum rubrum, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
.. Norway, 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.
.. Schwedleri, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. each, 30s. per dozen.
.. virginicum rubrum, 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
SYCAMORE, 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. to 3s. 6d. each, 30s. to 36s. per dozen; 15 to 18 feet, 4s. each, 42s. per dozen.
.. purple-leaved, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.
PLANE, occidentalis, 20 feet and more, very fine, 10s. 6d. to 21s.
PRUNUS PISSARDII (leaves richer in colour than Purple Beech, and hang much longer, has pretty pink flowers and nice fruit), 2s. 6d. to 3s. 6d. each, 24s. to 36s. per dozen.
PYRUS FLORIBUNDA, 2s. to 2s. 6d. each, 18s. to 24s. per dozen.
WILLOW, Kilmarnock weeping, 2s. 6d. to 3s. 6d. each, 24s. to 36s. per dozen.

RICHARD SMITH & CO., Nurserymen and Seed Merchants, WORCESTER.

GLADIOLUS. VEITCH'S

FINEST NAMED HYBRIDS OF GANDAVENSIS.

12 in 6 showy named vars.	..	5	0
12 in 12 choice named vars.	..	10	0
24 in 8 showy named vars.	..	10	0
24 in 12 choice named vars.	..	20	0
50 in 10 showy named vars.	..	20	0
50 in 12 fine named vars.	..	30	0
50 in 16 choice named vars.	..	40	0

CHOICE SEEDLINGS.

Scarlet and Dark Red Grounds	per 100	18	0	..	2	6
Rose and Light Red Grounds	per 100	18	0	..	2	6
White Ground Vars.	per 100	18	0	..	2	6

HARDY HYBRID SPOTTED.

An entirely distinct race of Gladioli. The colours are very striking, and all more or less blotched on the lower petals.

12 in 6 named fine varieties	..	5	0
12 in 6 named choice varieties	..	7	6
24 in 8 named fine varieties	..	10	0
24 in 8 named choice varieties	..	15	0

For full description of the above, see SEED CATALOGUE for 1892, forwarded gratis and post-free on application.

JAMES VEITCH & SONS
ROYAL EXOTIC NURSERY,
CHELSEA, S.W.

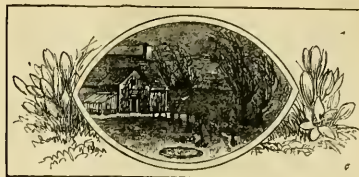
WEBB'S



NEW EMPEROR CORNFLOWER.

Our selection of this old-fashioned flower blooms abundantly all through the summer.
6d. per packet, post-free.

WEBB & SONS, WORDSLEY, STOURBRIDGE.



THE

Gardeners' Chronicle.

SATURDAY, MARCH 26, 1892.

THE HISTORY OF KEW GARDENS.

(Continued from p. 298.)

RETURNING to Masson, it should be mentioned that he made a second voyage to South Africa, remaining there nine years, and sent home many more new plants. On his return, he published a monograph of the genus *Stapelia*, of which he had introduced many species. One of his introductions, a plant of *Encephalartos caffer*, still exists in the Palm-house, having been in the establishment ever since 1775. David Nelson, a Kew gardener, accompanied Capt. Cook on his last voyage, and was subsequently (1788) attached to Capt. Bligh's expedition for the introduction of the Bread-fruit tree into the British West Indies; William Brown, also a gardener, was Nelson's assistant, and he joined the mutineers of the crew of the *Bounty*, whilst Nelson was amongst those cast adrift with their brave and talented captain. Nelson died (1789) at Timor, in consequence of the terrible hardships of the voyage thither in an open boat. Captain Bligh was more fortunate on his second expedition, and on his return to England from the West Indies brought home a large number of living plants, collected by Christopher Smith, for Kew. Captain Cook's voyages, between the years 1768 and 1780, were not very productive, so far as the introduction of seeds or living plants was concerned; but Captain Furneaux, who commanded the *Adventure* on Cook's second voyage, is credited with having introduced *Leptospermum lanigerum*, *Sideroxylon sericeum*, and *Eucalyptus obliqua*. The genus *Eucalyptus* was founded on the last by L'Heritier, in the *Sertum Anglicum*, a folio book, containing thirty-four plates, illustrating plants chiefly cultivated at Kew. Sir Joseph Banks, who was naturalist on Cook's first voyage, is credited, in Aiton's *Hortus Kewensis*, with having introduced the Australian *Casuarina torulosa* and *C. stricta*.

William Aiton's admirable *Hortus Kewensis* appeared in 1789, and may be regarded as a good epitome of what was cultivated at the time; indeed, it is invaluable as a record of the history of the introduction of plants up to that date. Aiton worked in the Chelsea Physic Garden under the even more famous Philip Miller, and was "engaged in 1759 to superintend the Botanical Gardens at Kew." In 1789 the cultivation of epiphyllal Orchids was in its veriest infancy, for three species of *Epidendrum* are the only members of this class of plants enumerated. *E. cochleatum* flowered at Kew in 1787, and *E. fragrans* in 1788; but the number of species had been considerably augmented by 1794. The late John Smith, who entered the gardens in 1820, and retired from the post of Curator in 1861, in consequence of failing eyesight, in his *Records of Kew Gardens*, states that this first edition of the *Hortus Kewensis* enumerates 5500 species; and the second edition, published by Aiton the younger in

1813, about double that number. The numbers are given on his authority, because it seemed unnecessary to check them after one so intimately acquainted with the facts. The elder Aiton died in 1793, and was succeeded by his son, W. T. Aiton, just alluded to, who resigned in 1840.

Mention has already been made of Christopher Smith, who accompanied Captain Bligh on his second voyage to convey the Bread-fruit to the West Indies. He was afterwards appointed botanist to the East India Company, and while in that capacity he prepared a large collection of living plants in the Calcutta garden for Kew. Peter Good, a Kew gardener, was sent out in 1796 to take care of this collection on the voyage to England. Subsequently he was appointed assistant to Robert Brown, botanist to Flinders's voyage to survey the coast of Australia. He died at Sydney in 1803, having in the meantime contributed largely to the living collections at Kew, especially Proteaceæ, at that time so richly represented in the gardens.

Botanical horticulture, if it may be so termed, flourished in England during the last half of the last century and the beginning of the present—to a great extent, no doubt, in consequence of the interest taken in it by members of the royal family. Not only was there great activity in the cultivation of ornamental and curious exotic plants, there was likewise great activity in the publication of books illustrating the many novelties that flowered in English gardens. Some of these works were of a costly nature, and some of them have never been excelled in exquisiteness of drawing and fidelity of colouring. Through the liberality of Sir Joseph Banks, Kew enjoyed the advantage of the services of the accomplished botanical artist, Francis Bauer. An Austrian by birth, he came to England in 1788, and, through the influence of Sir Joseph Banks, he was attached to the gardens as botanical painter to the King. His brother Ferdinand had previously joined Dr. Sibthorp as botanical artist on a tour in Greece, and he afterwards went in the same capacity with Robert Brown on Flinders's voyage. He was equally talented with his brother, and much of his work was published; and he is mentioned here because the work of the two brothers is often confused. Comparatively little of the work of Francis Bauer has seen the light, in consequence probably of the very costly form which he and his patrons adopted. A special Kew publication is entitled, *Delineations of Exotic Plants cultivated in the Royal Garden at Kew. Drawn and coloured, and the Botanical Characters displayed according to the Linnean System*, by Francis Bauer, Botanical Painter to His Majesty. Published by W. T. Aiton. Of this work only thirty plates were published, and they are dated 1793 and 1800—the two first decades are of the former date, and the third decade of the latter. They are of large folio size, representing a selection of Heaths, and beautifully though very laboriously executed.* The Kew copy contains seven of the original drawings. In 1818 Francis Bauer published his *Streptia depicta*, which, however, was never completed according to the original prospectus. His only other published work of importance, *Illustrations of Orchidaceous Plants* (letterpress by Lindley), appeared between 1830 and 1838. This again has never been surpassed in its way, and, indeed, is a triumph in the art of delineating the morphology of Orchid flowers; but only a very small proportion of Bauer's drawings of Orchids were reproduced, as explained by Lindley, on account of the great expense.

Archibald Menzies was attached as surgeon and botanist to Vancouver's surveying expedition (1791 to 1795) to Australia, and made a rich collection of herbarium specimens and seeds, and was the first to transmit cones of Banksia and other Proteaceæ to Kew from Western Australia. It was he, too, who introduced the Chilean *Araucaria imbricata*, though it had been observed and described by several pre-

vious travellers. As the story goes, Menzies was at a dinner given by the Viceroy of Chili to Captain Vancouver and his officers, and part of the dessert consisted of nuts of a kind unknown to him. In spite of the old saying, he pocketed some, and took them on board, and having procured some earth, planted them. Several of them germinated, and Menzies succeeded in bringing home five living plants, one of which was taken by Sir Joseph Banks, and the rest sent to Kew. One of these still exists there, though a wreck, and an eyesore to all but the sentimentalists. Smith (*Records*, p. 288) states that, "In 1833 one of these plants, which had previously been kept in a greenhouse, was presented by King William IV. to Lady Grenville for her collection at Dropmore. It was then about 5 feet high, and growing in a tub; it is now (1880) a fine tree, 60 feet high."

Among the less-known collectors for Kew at the beginning of the present century, were George Caley and William Ker. The former was appointed by Sir Joseph Banks in 1801 collector for Kew in New South Wales, and through him Kew received a considerable number of plants, including *Livingstonia australis*. He is an interesting personage, because he became a collector and botanist without having undergone a preliminary training in gardening. A native of Yorkshire, he began life as a stable boy, developed into a horse doctor, and became interested in plants through collecting them for his medicines. By some means he came under the notice of Sir Joseph Banks, and this determined his career. He spent about ten years in Australia, and was afterwards appointed Superintendent of the Botanic Garden of St. Vincent. Robert Brown, who named the Orchid genus *Caleana* in his memory, describes him as *Botanicus peritus et accuratus*.

William Ker, a gardener, was sent to China to collect in 1803, and he introduced among other plants *Cunninghamia sinensis*, *Lilium tigrinum*, and *L. japonicum*. The elder De Candolle named the familiar *Kerria japonica* after him, though he was not the actual introducer.

For some years, in consequence of wars, no collectors were sent out; but in 1814 there were peaceful prospects, and Allan Cunningham and James Bowie were selected for botanical work in the southern hemisphere. They went together, in the first place, to Brazil, where they spent three years; then they parted company, Bowie proceeding to South Africa, and Cunningham to Australia. Both were highly successful, but Bowie was recalled in 1823, in consequence of the grant for collectors being reduced. He devoted special attention to the introduction of succulent and bulbous plants, many of the latter being described by Haworth. *Clivia nobilis* was one of his conspicuous discoveries. The genus *Bowiea* of Haworth has been reduced to *Aloe*; but Harvey followed with *Bowiea volubilis*, a singular though inconspicuous liliaceous plant, figured in the *Botanical Magazine*, plate 5619. Previous to going abroad, Allan Cunningham, as well as his brother Richard (who was afterwards superintendent of the Sydney Botanic Garden), was employed by the younger Aiton to assist him in the compilation of the second edition of the *Hortus Kewensis*, and this seems to have given him a taste for literary work, which developed in after years in various directions; yet he published comparatively little. He spent many years collecting in Australia, New Zealand, Norfolk Island, and Timor, and made copious notes on the countries he visited, and the plants he collected. He introduced a profusion of new plants to Kew, among them *Araucaria Cunninghamii*, now a conspicuous feature in the temperate house. *Cunninghamia sinensis* of R. Brown commemorates the brothers jointly and James Cunningham, who brought dried specimens of this handsome Conifer to England at the end of the seventeenth century, or quite the beginning of the eighteenth. Allan Cunningham succeeded his brother Richard, who was murdered by natives, as superintendent of the Sydney Botanic Garden, but died in 1830, worn out by hard work.

In 1816 the ill-fated Congo expedition was

organised, and Daniel Lockhart, a Kew gardener was attached as assistant botanist. He was the only member of the scientific staff who survived the disastrous journey up the river above the falls. *Randia longidora macrantha* (R. Bowieana, *Bot. Mag.*, plate 3499) was one of his introductions. In 1818 he was appointed superintendent of the Botanic Garden, Trinidad, whence he sent many living plants to Kew, and he was specially successful with epiphyll Orchids. Amongst other plants he is credited with having been the first to introduce alive are *Stanhopea insignis*, *Oncidium papilio*, *Lockhartia elegans* (*Bot. Mag.*, plate 2715), *Catasetum tridentatum*, *Ionopsis pallidiflora*, and *Pontederia crassipes*. John Smith (*Records*, pp. 229, 230) states that many of the Orchids were sent growing on branches as cut from the trees, accompanied by instructions how they should be treated, and this led to the successful cultivation of this class of plants.

The first of the Himalayan *Rhododendrons* introduced into this country was *R. arboreum*. Dr. Wallich, the superintendent of the Calcutta Botanic Garden, sent seeds of it to Kew and many other places in 1818. It appears from J. Smith's *Records* that the Kew gardeners were unsuccessful in rearing their seedlings, having subjected them to too high a temperature; and an important event in his life was the bringing with him of two plants from Edinburgh for Kew when he first came south in 1820. These plants, on the same authority, are those now in the temperate-house, the largest being nearly 25 feet high. In 1825 the seedling plants raised in this country flowered in more than one garden; the earliest being in the garden of Mrs. Alexander Baring, in the month of April, figured in the *Botanical Register*, plate 890. W. Botting Hemsley.

NEW OR NOTEWORTHY PLANTS.

DENDROBIUM DENSIFLORUM CLAVATUM, n. var.

AMONG the comparatively few Orchids which have been reported from the Shan States is a rather peculiar variety of *Dendrobium densiflorum*, which has just flowered with Messrs. F. Sander & Co., of St. Albans. It is characterised by its extremely clavate pseudobulb, which tapers to a very slender base. The flowers are white, with an orange-yellow lip, and thus resemble those of the variety *thyrsiflorum*, which, however, has an elongate and slender pseudobulb. In habit it more nearly resembles the typical *D. densiflorum*, which is diffused over the lower Himalayan zone from Nepal to Assam, from about 2,500 to 3,500 feet elevation, and has yellow sepals and petals. Although to some extent combining the characters of the two forms, yet it has peculiarities of its own, probably owing to the comparative dryness of the region it inhabits, and we may recognise in it another geographical variety. The variety *thyrsiflorum* is a native of Moulemein and of the Kargen district of Lower Burmah. The extension of its geographical area is very interesting. R. A. Rolfe.

CYPripEDUM CALCEOLUS × MACRANTHOS, Barbey.

THE appearance of a genuine natural hybrid in the genus *Cypripedium* is a matter of considerable interest, as, until quite recently, no single example was known, notwithstanding the facility with which they can be raised in gardens by artificial means. Few of the species grow together in a wild state, however, so that few opportunities occur for the flowers to be cross-fertilised by insects. *C. calceolus* and *C. macranthos* are both natives of Siberia, and we now know not only that they grow intermixed, but that they may be cross-fertilised. M. Barbey, of Geneva, has recently published an account of a natural hybrid between them, and given an excellent coloured plate of it, together with its two parents. About ten years ago, the late M. Edmond Boissier obtained a batch of plants of *C. macranthos*, which were planted on the rockwork of the garden at Valleyres. After several seasons they flowered,

* In this, as in some other matters specially interesting to cultivators, the records in the *Kew Bulletin* have been somewhat amplified here.

and among them appeared not only *C. macranthos*, but *C. calceolus*, and a third form, quite intermediate in character, which, after careful examination, M. Barbey was convinced was a natural hybrid between them. It appears that in the Birch forests of Western Siberia, whence the plants were obtained, these two species occur indiscriminately intermixed. The plate amply proves M. Barbey's contention, as the hybrid is intermediate in every respect, just as in the multitude of artificial ones I have examined. The flower is smaller than *C. macranthos*, and much paler in colour, the dorsal sepal narrower, more acute, and shaded with brown, the petals longer, and twisted; the lip intermediate, but slightly fluted, as in *C. macranthos*; and the staminoide and lower

A few hardy plants are grown, but we were informed, on a recent visit there, that ordinary bedding plants and annuals formed the bulk of the summer display.

THE ROSERY.

HYBRID TEA ROSES.

It is a somewhat difficult question to decide what is a Hybrid Tea. Where careful artificial crossing takes place, say between a hybrid perpetual and a Tea, the case is somewhat different, as if the crossing really takes place, the parentage of the progeny is well defined, but even then there is a certain element

but I think we may say that a Hybrid Tea is a Rose in which the foliage, and to some extent the shape of the flower and the perfume, show a leaning towards the Tea Rose. You at once point out Lady Mary Fitz-William or Viscountess Folkestone, as having these characteristics; and when Mons. Guillot, after bringing out *La France* as a hybrid perpetual, transfers it to the Hybrid Teas, we see from these characteristics combined with the prolific character of its blooming that it may well be assigned to this section.

I have been led into this train of thought by some articles which have appeared in a contemporary [which one?] having reference, however, rather to the position which this section is to hold with regard to exhibition. One writer [who?] commences his paper

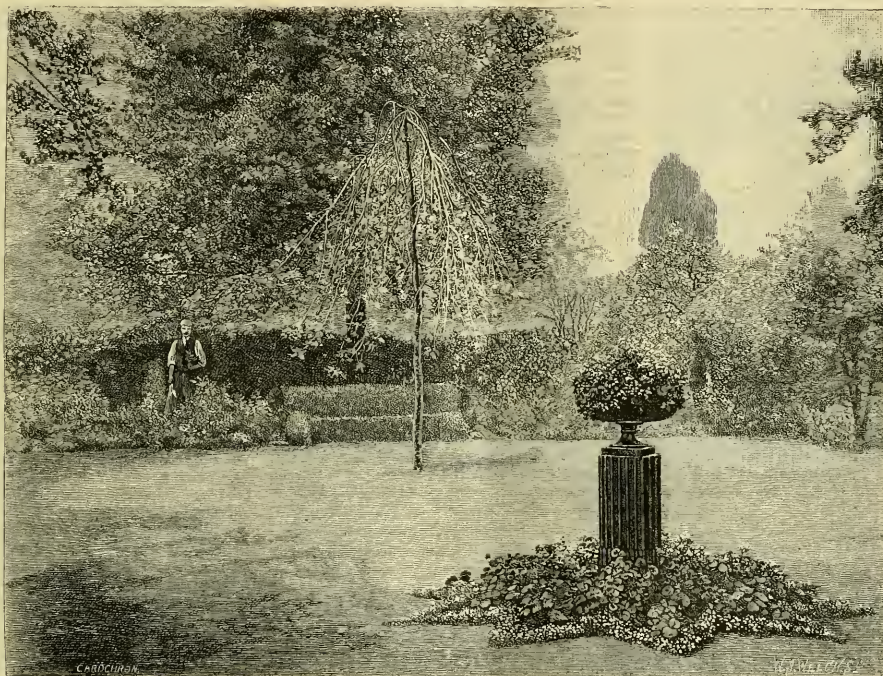


FIG. 56.—A VILLA GARDEN, ELM LODGE, BECKENHAM, KENT.

sepal also thoroughly intermediate. It is not only extremely interesting, but decidedly handsome. *R. A. Rolfe.*

ELM LODGE, BECKENHAM.

THE accompanying illustration (fig. 56) represents one of the many pretty gardens which abound in and around Beckenham. As is usual in suburban districts, the garden at Elm Lodge is rather small; but, notwithstanding the smallness of the area the arrangement is very effective during the summer months, as may be seen in the engraving. The portion depicted is situated in the rear of the residence, and by the judicious planting of shrubs and trees, Mr. Wilson, the owner, has managed to produce a rural effect, in what is really a thickly-populated district.

of uncertainty; for supposing that the hybrid perpetual used were Captain Christy, it already has Tea blood in it, and indeed the parentage of many of our modern hybrids is an exceedingly moot question. Formerly the French raisers at any rate gathered their seed promiscuously, and it was of course impossible to say how far the bees, moths, &c., had been at work, or how the breezes had carried the pollen from one part of the Rose grounds to another; and hence some May Roses which had Gallica, Bourbon, or hybrid China blood in them, are, to all intents and purposes, summer Roses. Many of us can remember a very pretty Rose sent out many years ago, called *Miss Ingram*, it was ranked as a hybrid perpetual, but had at last to be discarded as being simply a hybrid China. Again, the question forces itself upon us, What is a Hybrid Tea? Now I am very mindful of Archbishop Whately's advice, "avoid definitions;"

with, "It is quite time a more definite classification of this section of Roses," and then goes on to complain that some Roses, which he names, are placed by some nurserymen amongst hybrid perpetuals, and by others amongst Teas; now, with all due deference to our friends the nurserymen, they are not always safe guides in such matters, as may be shown from the fact that one leading grower of Tea Roses had for many years *Souvenir de la Malmaison* placed in that section. The writer then appeals to the National Rose Society to decide the matter, and determine what position they are to assume, that in the case of new Roses they should determine whether they were to be classed as hybrid perpetuals, or where they were to be put.

Some years ago, before Mr. Bennett began his hybridising, and when *Cheshunt Hybrid* was about the only recognised hybrid Tea, the question was

brought before the committee of the National, and as I was the leader of Her Majesty's Opposition at the time, I am, I think, entitled to write with some degree of authority on the matter. The propositions which were brought before us for our consideration were two: 1, That a special class should be made for them as for Teas; or, 2, that they should be allowed to be exhibited amongst Teas. With regard to the first of these, it was strenuously urged in opposition that it would be impossible to draw the line and say which were really hybrid Teas. The force of this objection was curiously illustrated in a case which afterwards occurred. Guillot, the celebrated raiser of Lyons, brought out a Rose which he called a yellow hybrid perpetual, now Gloire Lyonnaise; the Rose in question has the very faintest suspicion of yellow in it, and is really a hybrid Tea, the tinge of yellow being due to its Tea parent. It was asked during the discussion, "What about Captain Christy?" "Oh, of course, that is a H.P." "Oh, no," said another, "if there is to be a class of hybrid Teas, it ought to go amongst them." It was seen that such an attempt would lead to endless confusion; but if they were to be shown amongst hybrid perpetuals, then, as a pure Tea was nearly always easily distinguishable, all except them would be included in that comprehensive term. This plan having been rejected, the question was submitted, should they be admitted amongst the Teas? Here, again, Her Majesty's Opposition interfered; it was not an obstructive policy, but a genuine opposition. It was urged there was the same primary difficulty as in the former plan, viz., that of deciding what were hybrid Teas; and besides, it was urged that such an arrangement would quite destroy the exquisite delicacy and refinement of a box of Tea Roses. One can imagine what it would be to see a box in which Souvenir d'Elise, Comtesse de Nadailac, Anna Ollivier, and Catherine Mermet were mixed up with Cheshunt Hybrid, Reine Marie Henriette, Lady Mary Fitzwilliam, Viscountess Folkestone, &c. The force of the objection was acknowledged, and the National Rose Society, as far as its influence extends, has settled the question, I hope not to be again opened. There was no change of Cabinet in consequence of this opposition triumph, both sides of the house accepted the terms, and if the rule laid down has ever been broken, it has been through the ignorance of some neophyte.

There is no doubt that many of these hybrid Teas, which sometimes appear on a prize-stand, are most valuable as garden Roses, several of them being of a long rambling habit, and doing admirably as pillar Roses. In this light, than as garden Roses, I proceed to notice a few of the best, as far as I am acquainted with them.

Cheshunt Hybrid, the first of the race, said to have been a seedling between Camille de Rohan, H.P., and Madame de Tartas, Tea. This Rose is so universally known and admired, that it is needless to give any description of it. It is of a very free and vigorous habit, blooming very profusely, and manifesting its Tea blood by its very free autumnal blooming. Climate hot or cold seems to make no difference to it, and although some may object to a certain dulness of the colour, there is no doubt it is, and is likely to continue to be a very popular Rose.

Camoens is probably one of the most beautiful garden Roses we have; it is not large enough for exhibition, and therefore must be grown simply for decorative purposes, but for that it has few equals. The colour is that of a bright China rose, very pretty, whether in bud or expanded, and most valuable for cutting, its somewhat loose growth taking off the stiffness which characterises many Roses when placed in bouquets or vases.

Grace Darling is one of the late Mr. Bennett's seedlings; for some time it was doubtful whether it should be classed as a Tea or not—but it was ultimately seen that it could not be called a pure Tea, and it is classed now under the Hybrid Perpetuals. But even now so exceptionally good a Tea Rose grower as Mr. George Prince places it

amongst Teas; other growers of note do the same, although they add at the end of the description, a Hybrid Tea. Messrs. Paul & Son, on the other hand, place it where it ought to be, amongst the Hybrid Teas, and this has been the decision of the Committee of the National Rose Society. It is a very pretty flower, of good size, grand colour, white shaded and edged with pink.

Viscountess Folkestone, another of Mr. Bennett's seedlings; a large bloomer, and very often to be seen in exhibition stands. A satiny-pink Rose, sometimes with a salmon shade in it; it is a very effective Rose, and its large smooth petals makes it very attractive.

Reine Marie Henriette, a climbing Rose, and somewhat like Cheshunt Hybrid, but a little brighter. It makes a good contrast when planted near a Gloire de Dijon, or any of the Dijon race; it is perhaps not so free flowering as the next Rose.

Longworth Rambler, a Rose sent out by Mr. George Prince, of Oxford, and so far as I know, the best dark-coloured climbing Rose that we have, not for its individual blooms, which are not so good as those of Cheshunt Hybrid or Reine Marie Henriette, but for its freedom of growth and flowers. It blooms also freely in the autumn, and a plant of which I have at the south-east corner of my house is a perfect sight in the spring months, and during the summer and autumn its flowers are freely produced; it has a pretty bright-coloured pointed bud, and the foliage is nearly evergreen.

There are other hybrid Teas of which I have heard, but not having seen or grown them, I cannot write of them from personal knowledge. There is one which I am told is very bright, with the curious name of Bardou Job; it is said in Messrs. Paul & Sons' catalogue to be nearly single, but very bright. What are called the Hungarian Roses are hybrids of Gloire de Dijon character, and so far as I have seen they are of no use to us in this country; and I think I have indicated above those of the class which are likely to assuredly please those who wish for something bright amongst their climbing Roses. We have plenty of yellows of the Dijon race, Belle Lyonnaise, Bouquet d'Or, Madame Tride, and the beautiful climbing yellow Tea, Rêve d'Or. We wanted something to contrast with them, and give brightness to the wall or pillar, and these are to be found in the Roses mentioned above.

Wild Rose.

ROSES IN POTS.

As the present is a particularly busy time among these, I think a few practical hints may be welcomed. If pot-Roses are not grown upon the proper lines from the very commencement, they are more often than not one of the most unsatisfactory of all plants under glass. They require a great deal of attention, and this must be given at the proper season, or the results are very far from pleasing.

First of all, there should be a judicious selection of varieties, as it is folly to spend as much time and trouble over half-a-dozen blooms as would be necessary to get fully treble the number, had a more suitable variety been chosen. Owing to the vast improvements among Roses, one can have almost any shade of colour in suitable varieties for forcing purposes. As a general rule, it will be found advisable to keep to the Tea-scented and Noisette classes, except where a few flowers of the very sweet-scented and dark-coloured hybrid perpetuals are in great demand.

Scarcely any of the true hybrid perpetuals flower so freely as the bulk of the Teas, but there have been several improvements among the hybrid Teas, some of which may be considered as our best Roses for pot-work. Lady Mary Fitzwilliam, Viscountess Folkestone, and Augustine Guinoisseau, for example. Although any very dark colours would in a measure seem out of place among the more delicate and chaste colours of the Teas, it would, nevertheless, be a great boon if we could secure the very dark and glowing scarlet colours found among the hybrid perpetuals, and still retain the handsome foliage and excessive freedom of the majority of the Teas.

There are very few of the hybrid perpetuals that are really suitable for forcing purposes, compared to many of the Teas; indeed, it is only such kinds as Prince C. de Rohan, General Jacqueminot, Fisher Holmes, Eclair, Duke of Edinburgh, and Souvenir de Charles Mootault, that I would grow in pots. These varieties will do very fairly; but lighter shades, such as pink, salmon, and white, are much better among the trees. The beautiful shades of yellow, apricot, peach, orange, and in some cases with all of these combined, are not to be found among the hybrid perpetuals.

I consider the best twelve Tea-scented Roses for pot-work to be the following:—Madame Falcot, Annie Olivier, Innocente Firola, Souvenir de S. A. Prince, Niphotos, Francisca Kruger, Perle des Jardins, Cleopatra, Luciole, The Bride, Catherine Mermet, and Rubens. It is difficult to confine oneself to twelve varieties, as there are so many more kinds that seem equally as good.

In growing pot Roses, I take it we want good habit, combined with a very free production of first-class blooms. The varieties I have named in this paper will conform to this, and give a grand variety of colour, from the dark Prince C. de Rohan, down to the two purest white Roses, Souvenir de S. A. Prince and Niphotos.

For pot-work, I do not mind if the Teas are worked (grafted) upon the Manetti or Briar stock; according to my experience, there being little if any choice when using the plants for pot culture. I have always maintained that the soil has as much to do with what stock is suitable for any class of Rose as the stock itself; and the fact of Tea Roses doing so well upon the Manetti when grown in the well-drained soil used for pot plants, is a strong argument in favour of this supposition.

Pot Roses must be well established before any hard forcing takes place; and even then it is very important that they be started steadily. After the growths have reached a length of some 4 or 6 inches, the temperature may be increased with safety. The result of a too hasty treatment at the first, is generally seen in the number of blind growths and more weakly wood than in the former case.

It is also of the greatest importance to keep the plants clean and free from insect pests; if this be carried out from the first, half of the difficulties are overcome. Green-fly and red-spider are the two worst insect enemies of Roses in pots. Fortunately, they can both be killed and kept down by the same means. At the risk of repetition, I must again say how very necessary it is to start on the right lines. It is fatal to Rose culture if you neglect these two pests for a few days, especially at their first appearance. Once allowed them to gain any hold, and it is difficult to eradicate them without checking the tender points of young growth. It matters very little what insecticide is used, so long as you use it in time. Great care will be necessary in mixing the solution, and it will be wiser to err on the side of weakness, and have to give a second application of the remedy, than to syringe with any mixture strong enough to check the growth in any way. The same caution applies to fumigation. A very slight overdose, of either, is the chief cause of the extreme points of the shoots turning black. In this case, the flower from that shoot is lost, and the growth stopped. Such mischief is very easily done, and there is no remedy when once you have given the growth sufficient check to cause this.

Liquid manure is of very great assistance to pot plants, but a slightly too strong an application of this will also cause a check, and with the same results. The growing roots of Roses are very tender, and manure must be given in a weak form; otherwise the tips of the roots will turn brown, and soon rot. It follows, then, that it is much wiser to give the allotted amount of stimulants in weaker doses.

The foliage of Roses feeds upon the ammonia from natural manures, and it will be found of immense benefit if you can damp down the walls and walks with a weak solution of manure water. There is no waste in this, because the foliage enjoys the

ammonia, and this last is also a great check upon insects.

Roses must be kept healthy from the first, and in a steady uniform growth; once allow them to receive a decided check, and failure results. *A. P.*

DISEASES OF THE REPRODUCTIVE ORGANS OF PLANTS, CAUSED BY FUNGI.

(Continue from p. 313.)

DISEASES OF THE FRUIT.

The number of diseased conditions of the fruit due to reproductive parasites is so great, that we must content ourselves with reference to a few of the more interesting. They are caused by many very diverse fungi, even the heteroecismal Uredinea play the part of reproductive parasites.

Æcidium verberidis, etc.

Puccinia graminis frequently forms its aecidiospores on the fruit of the common Barberry, but this site is almost invariably selected by the fungus when it occurs on the common Mahonia. Probably this is due in some measure to the thickness of the cuticle of the evergreen leaves affording an obstacle to the entrance of the germ-tubes. The aecidiospores which are preceded by an abundant development of the so-called spermatia, occur on the outside of the berries, which become distorted by their presence, as the portion invaded by the spawn is unable to expand like the healthy parts of the berry. The affected Mahonia berries will not germinate.

Another heteroecious Uredinea often forms its aecidiospores on the fruit of the garden Gooseberry (fig. 57), and another upon the berries of the wild black Currant; in both cases the affected fruit does not ripen, and behaves in a very similar way to the Mahonia berries.

On the fruit of the Hawthorn the aecidiospores of a *Gymnosporangium* is sometimes found. It causes an extensive hypertrophy of the fruit, whose reproductive functions it abolishes, and so alters it in appearance that one would hardly think the brown shaggy body thus produced could be fruit of this well-known plant. These fungi are probably conveyed to the flowers by insects; they afford an interesting object for study, as it is possible such investigations might throw some light on the function of those organs to which the name apomorphia has been applied, and which are known to be visited by insects on account of the secreted sugar they exude.

The fruits of the Apple and Pear are very subject to a variety of diseases familiar to all of us, which cause black, dry, more or less circular patches on the exterior. To such an extent does this sometimes occur that the fruit is quite spoiled, the presence of the mycelium rendering the affected part of the fruit hard, woody and tasteless. When many points are attacked, the hardening is so great as to quite prevent the expansion of the fruit, so that it does not ripen. The infection takes place very early in the year, almost as soon as the tree has blossomed if not before. So great a pest has this become in the great fruit-growing districts of America, that the State botanists have tried various means for its prevention, the most successful of which seems to be spraying the tree early in the year with Bordeaux Mixture.

PEZIZA PSEUDO-TUBEROSA.

Even the fruit of the Oak is liable to be attacked, and its functions destroyed by a reproductive parasite. The *Peziza pseudo-tuberosa* of Rehm is a pretty little cup-shaped fungus, of a brown colour, about half an inch in diameter, supported on a rather long flexuous stem. The interior of the cup is rather paler in colour than the exterior; the base of the stem grows out from the remains of the interior (cotyledons) of the Acorn, which have been altered by the mycelium into sclerotium-like bodies. The perfect fungus is formed in spring upon Acorns which have laid on the ground during the winter, and which, instead of germinating, bear the fungus. The details of its life-

history are at present unknown, but it is probable that they are not unlike in some points those of the species about to be described on the fruit of *Vaccinium*. Two other *Pezizas*, one on the catkins of the Willow, and another on those of the Poplar (*Peziza amentacea* and *Peziza caucis*), may also here be alluded to.

THE CRANBERRY DISEASE.

From the recent careful study of Woronin, we have learned the full life-history of certain *Pezizas* which occur upon the dead fruit of the various Cranberries; the species are four in number:—

<i>Sclerotinia vaccinii</i> , on <i>Vaccinium vitis idæa</i> ,	
<i>oxycoeci</i> ,	<i>Oxycooccus</i> ,
<i>megalospora</i> ,	<i>uliginosus</i> ,
<i>baccarum</i> ,	<i>myrtilus</i> .

Sclerotinia vaccinii is a small brown *Peziza* found in spring upon a sclerotium formed from the fruit of



FIG. 57.—DISEASE OF GOOSEBERRIES.

Vaccinium vitis idæa by the action of the mycelium of this fungus.

The oospores discharge their sporidia into the air; these, when they alight upon a young green leaf of the host-plant, send out a germ-tube, which penetrates the epidermis of the leaf, and produces a mycelium in its tissues, the presence of the parasite being manifested by a change in colour it produces, and by the development of myriads of moniliform gonidia. These gonidia were found by Woronin to germinate rather differently in various media, such as pure water, rain water, Plum juice, &c. In the natural course of events, however, they are either carried by the wind, or, more frequently, by insects, to the stigmata of the *Vaccinium* upon which they germinate, and emit a germ-tube, which passes with the pollen-tubes to the ovary. In the ovarian tissues it gives rise to a mycelium, which mummifies the fruit, and converts it into a sclerotium, that lies dormant during the winter months, and in spring develops the *Peziza*. *C. B. P.*

(To be continued.)

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT WARNHAM COURT, HORSHAM.

THERE is, at Warnham Court, the fine estate of C. T. Lucas, Esq., a most complete and extensive glass garden, arranged in the form of a square, the whole of which may be traversed without once going into the open air. During the last two years, under the guidance of Mr. C. J. Lucas, considerable attention to Orchids has been given, and at present they occupy one side of the above-mentioned aquara.

In one house there is a rich display of *Cattleya Trianae*, one specimen of which, from an imported mass, has produced a pure white variety on the one half, and a crimson-lipped form on the other. Among the other finely-flowered plants arranged with the *Cattleyas*, we noticed a fine specimen of *Miltonia Warscewiczii*, a splendid form of *Dendrobium Farmeri*, some superb varieties of *Dendrobium nobile*, among which the true *D. n. nobiliss* and an equally richly-coloured but distinct variety, named *D. n. nobilior*, were the most beautiful. In this house, too, is a large plant of *Platyclinis glaucaea*, with about sixty spikes of bloom; two fine *Dendrobium fimbriatum oculatum*, the rich crimson-spotted *Lycaste plana Measuresiana*, a fine form of *Madevalla chimera*, and of the nearly black-flowered *M. Roezlii*; *Cymbidium Lowianum*, with nine spikes; the new *Grammatophyllum Measuresianum*, with a fine inflorescence; various good *Lycaste Skinneri*, and many well-flowered *Dendrobium Wardianum*, *D. Findlayianum*, *D. crassinodum*, and the other species to be found flowering at this season; some bright colour being given by the orange-scarlet *Laelia harpophylla* and *L. cinnabarina*, and one of the most beautiful of white Orchids showing up in *Celogyne cristata alba*.

In all places where Orchids are grown there are some things which do better than others, and at Warnham Court, the species of *Angraecum* seems to take the lead in vigorous health and floriferousness. It is pleasant to see the profusion with which the plants of *A. Ellisi*, *A. articulatum*, *A. Sanderianum*, *A. fastuosum*, *A. bilobum*, *A. Leonis*, *A. aequipedale*, and other species produce their flower-spikes. In the same house the varieties of *Miltonia Roezlii* flourish exceedingly well, also *Vanda Sanderiana*, and *Ocicidium papilio*. Some of the last-named are in flower, and are not afflicted with that periodical degeneration which so many growers lament in this species. Other plants in flower with the *Angraecums* are *Ansellia africana*, *Dendrobium Wardianum album*, *D. Dalhousianum*, *D. endocharis* × *D. Ainsworthii* × *D. crepidatum*, *Epidendrum rhizophorum*, *Cypripedium grande* × *C. Sedeni candidulum* × *C. Lathamianum* × *Calanthe veratrifolia*, *Cymbidium eburneum*, &c.

In the *Cattleya*-house the new *C. Rex* and *C. Victoria regina* are to be found. A fine clear variety of *C. amethystoglossa*, a few *C. Percivaliana*, and some *C. Trianae* were also in bloom, together with plants of *Dendrobium litiflorum*, *D. Brymerianum*, *D. Pierardi*, *D. primulinum*, *D. asperum*, *D. devonianum*, and *D. aggregatum*. In the next house the perpetual-flowering *D. rhodostoma* × we noticed in bloom; the large specimens of *Phalænopsis* in fine health, and *Cypripedium Ainsworthii* ×, and other species. In this house some fine specimens of *Gymnogramma schizophylla* arranged with the Orchids are very effective, and conducive to the health of the Orchids grown with them.

In the next house a mass of the pretty little *Epidendrum polybulbon* bears its neat flowers; *Cattleya citrina*, *Madevalla Estradae*, *M. Shuttleworthii*, and various other species, were noticeable; also a fine *Vanda Cathcartii*, just finished flowering.

The occupants of the cool-houses are in the most perfect health, and showing well for flower. Among those already in flower is a very handsome rose-tinted, spotted form of *Odontoglossum crispum*,

closely allied to the fine *O. c. punctatissimum* which realised such a high price when sold at Messrs. Protheroe & Morris' Rooms.

From the general good condition of the Orchids at Warnham Court, and the number of difficult subjects successfully cultivated, a prosperous future may be anticipated for the Orchid collection there; but as every branch of modern gardening is carried out in a very creditable manner by Mr. Duncan, the gardener, evidently the Orchids are not allowed to encroach on the rights of other things.

Especially noteworthy at present is the house of Warnham Court Seedling Amaryllis, noted for their good substance and brilliancy of colour; the tastefully arranged greenhouses, literally a mass of bloom, with greenhouse *Rhododendrons*, *Azalea mollis*, *Cliveias*, *Primulas*, *Cinerarias*, the lofty Palm-houses and stoves with their gigantic *Anthuriums* and other ornamental plants, and the roomy rockery conservatory with its Fern-clad sides and handsome and costly marble statuary.

CONSERVATORY CLIMBERS.

Among the best climbers for a conservatory are the *Tacsonias*, the most suitable of these being *T. exoniensis* and *T. Van Volxemii*; the first-mentioned is the hardier and freer-growing of these two varieties, and it blooms nearly the whole year. The flowers are about 6 inches long and tubular, and being of a bright pink or rosy-salmon shade, they make a fine show. *T. Van Volxemii* is moderately free in growth, and produces flowers of a large size, measuring quite 3 inches across, and of a crimson-claret colour, the tube being much shorter than that of *T. exoniensis*.

The best way of managing these *Tacsonias* is to plant them out in a prepared border, as they require more root-room than can be usually afforded in a pot, box, or tub. Drainage must be provided, placing 6 inches of broken bricks in the bottom, and some fresh-cut sods or turves, with the grass side downwards, over these. Fill up with a mixture of good fibry loam and peat, with a dash of sand to keep the whole porous. All will then be in readiness for the plants. Healthy young plants should be obtained, turned out of the pots, and the lower roots carefully separated, that they may be laid out properly in the soil. After planting, give a soaking of water, and tie up the main shoot. All side growths must be stopped by pinching out the points, as then the strength of the whole plant will be thrown into the centre, which will lengthen fast, and may soon be led up and across under rafter or girder, from which a certain number of side branches should be allowed to run down and depend in their own natural way. Thin out, from time to time, shoots that have become too long or have flowered, and so give room for young growths.

Passifloras, though not so showy, have advantages over *Tacsonias*, inasmuch as they are seldom attacked by any insects, and they are exceedingly graceful climbers, and particularly suitable for all tall large structures. There are many varieties, the hardiest being the good old *P. racemosa corulea*; *Constance Elliot* is also good, and, having white flowers, affords a fine contrast. *Bignonia Cherere* and *B. capredata* are both desirable, and do well for growing on the roofs of conservatories; but to flower freely, they require their roots confined to a small compass. For producing a quick growth, there is nothing to equal the *Cobæas*, the variegated variety being very beautiful. The most suitable compost for the *Cobæas* is a rich fibry loam, with about one-third peat. *Tropæolums* are brilliant when in flower, and do well in light sunny roofs in a warm house.

In shaded positions, and where there is a cool moist atmosphere, nothing can equal *Lapagerias*. Before planting, free drainage is essential, and rough sods or large lumps of peat, with plenty of silver-sand thrown in between, should be used, as during all the growing and flowering season water has to be applied very freely, and it is necessary that it passes readily through.

For back walls or pillars, there are many plants that are suitable, and among them *Habrothamnus elegans* and *H. Newelli*. As *Habrothamnus* flower from the young wood, they should be pruned back when the flowers fade, and fresh shoots encouraged. *Clianthus puniceus* makes a beautiful pillar plant, and should be treated much in the same way as the *Habrothamnus*, but being subject to red-spider, syringing must not be neglected, or the leaves will soon suffer. *J. S.*

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Peirice Garden, Swansea.

THE PLANT STOVE.—Put up more tubers of *Achimenes* which have been started in heat. The potting compost should consist of two parts leaf-soil, one of sifted loam, and sufficient sand to keep the soil open. Another batch of *Caladium* tubers may also be put into heat, using pots suitable to the size of the tubers, but avoiding too large pots. *Caladiums* do not care to be disturbed at the roots after growth has commenced, which makes it necessary to give them sufficiently large pots at the first. Equal parts of peat and loam, with sand in proportion, will be found a suitable compost for them. Avoid the common mistake of placing the tubers too deep in the soil; they should be just under the surface, not more. Water them sparingly until the leaves have commenced to show, but when the plants get into full growth, they will require a plentiful supply. Pot another batch of *Gloxinias* and *Tuberous Begonias*, and start in moderate warmth. If possible, all of the above subjects should be plunged in a warm bed of sweet Oak leaves, the bottom heat of which should range from 75° to 80° the night temperature being from 65° at night to 70° by day.

Allamandas, *Dipladenias*, &c., which are in full growth, will require regular attention in the matter of regulating the young growth, and a sharp lookout must be kept for mealy-bugs, as with greater warmth this pest will be found to increase rapidly. Liquid manure water in a tepid state should be afforded to *Gardenias*, whose flower buds are swelling, syringing them twice a day when the weather is bright, and until the flowers expand, when it must be discontinued.

THE GREENHOUSE.—Young stock of *Fuchsias* raised from cuttings in the autumn which have been potted, as previously advised, into 4-inch pots, will now be ready for moving into pots of a larger size. These plants require a rich compost and firm potting. Get the plants to grow quickly; and to give them a bushy habit, the side shoots and also the leaders should be stopped occasionally, at the same time keeping the plants well up to the roof-glass. When obtainable, put in more cuttings of *Fuchsias*. The plants will be found useful for furnishing purposes late in the summer and autumn months. Cuttings of the following plants may be put in, viz., *Coleus*, *Petunias*, *Heliotropes*, Ivy-leaved and zonal *Pelargoniums*, &c., which will strike quickly at this season, if inserted in a sandy compost, and the pots plunged in a gentle bottom-heat in the propagating-frame, taking precautions to shade them during the continuance of bright sunshine. When the cuttings are well rooted, they should be potted off singly into small pots, as if left in the cutting-pots too long, they are liable to become spindly, which in all cases should always be avoided. A good compost for the above plants consists of two parts loam, one each of leaf-soil and decayed manure, and sand in proportion to keep the soil porous.

IVY-LEAVED PELARGONIUMS.—These make very pretty basket plants, especially when two or three varieties are placed together. Cuttings propagated in the autumn and potted in 4-inch pots, will now be ready for this purpose. A good compost for them is two parts fibrous loam, and one each of leaf-mould and decayed manure, with a free addition of silver-sand. Plants which are intended for pot-culture, which are at the present time in small pots, may now be shifted into 3½ or large 4½, placing a neat stick to the plants, and support them loosely with matting.

THE ORCHID HOUSES.

By H. A. BURBERRY, Orchard Grocer, Highbury, Birmingham.

EVERGREEN CALANTHES AND PHAIUS.—*Calanthes* of the evergreen section thrive the best in a compost of which loam forms the chief ingredient. The intermediate-house suits the plants during the

summer months, but in winter it is better to remove them to another house having a little higher degree of warmth. *Calanthes*, like other Orchids, sometimes get too much water, but it is a rule that all that they require is to be afforded water when they become dry, like most other kinds of plants. When the new growths of *Calanthes* are infested by thrips, a little sulphur dusted down into the axils of the leaves renders their dislodgment easy. *Phaius grandifolius* and *P. Humblotii* are species that are likewise best when grown in a compost that consists of chiefly loam, and the plants should now be repotted. The former will grow in almost any part of the warmest house, but *Humblotii* is not so easy to grow satisfactorily. The plant must be placed close to the roof glass in the warmest house, and where plenty of light may be found.

MORMODES, CATASETUM, CORYANTHES, AND CYCNOCHES.—Sunlight and heat are also indispensable factors for the successful cultivation of these plants, and during the season of growth no better place can be found for them than is afforded by the Dendrobium-house, where, suspended near the roof in pans or baskets, they grow satisfactorily. Like most of the *Dendrobiums*, they should be rested, after the new growth is finished, in cooler and airier quarters.

THE DENDROBIUM-HOUSE.—As previously mentioned, the requirements of *Dendrobiums* must be met by providing them with a house or compartment where sunlight can reach them, and which is lofty, so that any part of the roof may be utilised for hanging up baskets and pans, and a good circulation of fresh air is ensured without causing the air to become arid. It should be provided with roller-blinds of thin texture, which should be put in use no oftener than is necessary to prevent scorching of the leaves. True, these plants often have to be grown in the so-called East Indian-house, with other tropical Orchids which require more shade than they do, such as *Phalænopsis*, *Saccolabiums*, and *Cypripediums*, and when this is the case, much care is needed in order to give to each species its proper place in the house. This house must be a light one, and those species which love shade may be accommodated even in a sunny house; but it is next to impossible to grow those which require much sunlight in a low, badly-ventilated, or dark house. All the necessary work of surfacing or re-potting the *Dendrobiums* is best done when the flowering is over, or very soon afterwards, as much injury will result if the young growth and roots are allowed to get far advanced before doing this. If one part of this house is hotter than another, that will be a good place for *D. Bensoni*, when it has flowered and is about to make growth, and with it *D. formosum giganteum* and *D. Lowii* will be well suited in that part. It is not prudent to let any water lodge in the young growths of *Dendrobiums*, and I think that *D. superbum* (*macrophyllum*) is one of those most easily injured in that way. As a potting compost, nothing but the best of sphagnum moss and fibrous peat should be used, and the best results may be expected from those which are grown in small pans, pots, or baskets—for small plants, pans are always to be preferred to baskets, as the roots encircling the Teak bars of the latter are certain to be damaged when re-basketing is performed. For large plants, earthenware pans are much too heavy to be hung on the roof, and baskets are better.

THE HARDY FRUIT GARDEN.

By G. WOODWARD, Gardener, Darham Court, Maidstone.

GRAFTING FRUIT TREES.—Trees which have been headed-back, as previously advised, will soon require to be grafted. The two best methods of doing this are rind and whip-grafting; the former is generally practised upon standards, or trees that have very large branches to be grafted, and it is also a more simple operation than whip-grafting. For this kind of grafting, select parts of the stem which are smooth, and free from knots, for the insertion of the scions. The grafter should then, with a very sharp knife, slit the bark from the top of the stump downwards, for a distance of 6 inches, and upon opposite sides, two scions being, in a general way, as many as should be placed upon one limb, but more may be inserted, according to the size of the branches. The scions should be about 6 or 7 inches in length, the lower half to be cut slanting, and the edges slightly pared, so that a junction of the two rinds is brought about. The scion should be carefully forced home under the bark, and bound firmly but gently with soft broad strips of bast or raffia, and then be coated over with grafting-clay or pug, or grafting-

wax to exclude the air. Where the stock is small, whip-grafting is the best method, and it may be performed a little earlier in the season than the former. In carrying out this method, the branch should be cut off in a slanting direction, the higher point of this cut being farthest away from the graft; a thin slice of the side of the stock is then cut away, and the scion fitted to this exposed surface. This will leave a snag above the point of junction, which is eventually cut away. To this snag it is necessary sometimes to tie the young growth, to save it from being broken out. The graft should be prepared as advised above, but with this difference, viz., that a thin wedge-shaped piece, or tongue, be cut from the scion in an upright direction, about half an inch from the top of the cut. When this is done, the scion may be wetted, and placed in position on the branch, taking care that the bark of stock and scion touch on one or both sides, binding and claying it over.

GRAFTING CLAY.—This is made from clay or stiff yellow loam, with the addition of a little cow dung and horse droppings. The ingredients should be thoroughly well beaten together with a spade several days before the clay is required for use, and if it will be kneaded with the hands when using it, there will be no cracking of the stuff when dry.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

DESIGNING GEOMETRICAL OR CARPET-PATTERN BEDS AND THE PLANTING OF THE GROUNDWORK WITH HARDY CARPETING PLANTS.—In Italian, and other geometrical laid-out gardens, the style of bedding-cut known for several years past under the popular name of carpet-bedding, generally commands the attention and admiration of visitors when it is not overdone, when the designs are neatly executed, and due regard paid to the habits of the plants employed in forming the panels of the design, as well as the harmony and contrast of colour; but let it be distinctly understood that I only advocate a few of the beds in any one garden to be so planted. They then, in addition to affording variety and an opportunity to those engaged in the work of displaying their skill and taste, contrast most effectively with mixed beds, and beds filled with masses of pink, scarlet, yellow, white, &c., which surround them. In the case of the beds at this place, the groundwork of the carpet-beds remain intact all the winter, the surrounding beds being planted with spring-flowering plants in variety. Next week we shall take up all the groundwork of Sedums, &c., from one set of beds with the turfing-iron, and deposit them in sunny places among the trees in certain parts of the grounds, where they will look well for one year, at least. The beds will then be manured, dug, trodden over, and raked quite level, preparatory to getting out the designs. Each of the several parts of the individual designs should be sufficiently large and well-defined, as to admit of the necessary number of foliage plants of separate and distinct colour for producing an effective and well-balanced whole being put into each piece. In recent years we get out our designs on the beds without making any previous preparation. A geometrical figure, suitable to the size and shape of the bed, is thought out, and at once roughly outlined with the marking-rod, or a large pair of wooden compasses, according as the design is to take the form of straight lines, and points, or curves, afterwards working out the approved design according to scale. This is ever so much easier and quicker than getting out the designs beforehand on paper, and then transferring them to the beds. As soon as the patterns are got out, the groundwork is planted. We use Sedum acre var. aurea for all our oblong beds, as it assumes a beautiful golden colour on the approach of spring; and S. acre elegans and S. Lydium in pairs in our hexagonal beds. These Sedums, together with panels of Golden Chickweed (*Stellaria graminea aurea*), are planted in small bunches, at from 2 to 3 inches apart every way, making the soil fairly firm about the roots; planting, and then watering through a roset can, to settle the soil, repeating the application a few times in the absence of rain until the roots have taken to the soil. Other suitable hardy carpeting plants are *Cerastium tomentosum* (silvery foliage), *C. arvense* (green), *Mentha Pulegium* (gibbularium) (green), *Herniaria glabra* (green), *Saxifraga densa* (green), and *Antennaria tomentosa* (silvery). I may remark that we plant a row of *Echeveria secunda* glauca in the slightly raised edges of the beds in a mixture of cow-manure and loam made to the consistency of stiff mortar before getting out the designs, afterwards planting some in them. *Echeveria* should

be planted so as to nearly touch each other, pressing the soil well about the roots of the plants.

CALCEOLARIAS, ETC.—Where plants of *Calceolaria*, *Leucophyton* Brownii, and such-like are likely to get crowded in their winter quarters, they should be thinned out, planting the thinnings, which should be furnished each with its ball of soil, on beds of soil placed on a hard bottom in a warm situation, making the soil firm about the roots, and afterwards giving water to settle it, and affording shading during strong sunshine for a few days, and matting them over at night.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

GENERAL WORK.—The past severe weather delayed work, but the favourable weather will permit of all arrears being brought up as regards ground work. The sowing of the Parsnip and Onion crops should be completed at the earliest moment that the ground is in condition to tread upon it, but on no account should the operations be begun whilst the land is wet. I advised the planting out of Peas raised in heat, but owing to hard weather, this has been delayed to a later date than usual; if the plants have had free ventilation, no harm will be done them. Peas may be sown for succession crops as soon as the land is fit, staking and protecting the early crop from birds. If slugs are troublesome, dust the rows with sord or dry wood-ashes.

EARLY RADISHES, ETC.—Seeds of these favourite salad plants should be sown on warm borders as soon as the weather will permit, the seeds being coated with oil and then with red lead to prevent loss by birds, which readily occurs from the seed being sown on the surface and slightly raked in. Cover the beds with dry litter to forward germination, mats or dry straw being employed, but whichever it is, it must be removed during the day, and be replaced at night if frost threatens. Early Carrots should also be sown on a south border. The French Horn or the Early Nantes are each good for this, and should be sown thinly. If early Carrots are much in demand, a good bed of the Early Scarlet Short Horn will be very useful early in the season. Leeks for early winter use should be sown thinly, thereby rendering removal possible without loss of roots and with a nice ball of earth. The Lyons Leek is one of the best for early use, and when well grown it comes of a large size and is of mild flavour. For the late crop sow the Musselburgh. Plants still remaining in the trenches should be replanted with a ball of roots and soil in a border, not facing north. If these plants do not become dry at the root they will be good for eating for some time longer. The removal of the plants hinders running to seed.

CELERY.—If seeds were sown as advised, the plants will now require pricking off into frames or boxes, on a mild hotbed, shading them for a few days afterwards. When large quantities of early Celery are required, a bed of tree leaves and litter with a garden frame on it, is the best place for the pricked-off plants. Seed for the main crop of Celery may now be sown, choosing those varieties that are of medium size, a selection of which was given a month ago. If a mild or spent hotbed can be utilised for these seeds so much the better, as then the plants are not crowded, if the sowing be done thinly. These plants will come away with good roots when lifted to be pricked off on a sheltered border, and will not flag like thickly-sown ones. Use good rich light compost for the seed-bed, and never let them be checked in growth in any way. The Celery still remaining in ridges may be dug up and laid in thickly on a north border, taking care to cover it well with the mould, and to preserve most of the roots. I have had Celery, the Standard Bearer, in good condition to the end of the month of May; care must be taken to keep the sticks in an upright position as when growing.

ONIONS for seed-bearing should be planted, and to keep the stocks true the bulbs must be planted in widely separated parts of the garden. The autumn-sown Onions should be transplanted into rich land, making the ground and the roots firm as the work of transplanting proceeds.

ARTICHOKES.—The beds of Globe Artichokes clear of winter protecting materials, and dig with a fork the spaces between the rows, after affording a dressing of manure if the plantation is an old one, and stands in need of assistance. Gaps in the rows make good by dividing the largest roots; but if the plantation is in a bad state, I would advise the lifting of a portion of it, splitting the plants so lifted into good-sized pieces, trenching and manuring

the ground, and making a new bed. There is nothing gained by allowing these plants to occupy a ground for too long a time, the crowns becoming each year less succulent. I would advise the use of fish manure when the plants are in growth, putting it on as a top-dressing, and forking it in; common salt is also beneficial to Artichokes. Seeds may be sown early in the spring—three seeds in a small pot, in a warm house; but suckers are best.

JERUSALEM ARTICHOKES.—Tubers may be planted in trenched ground that was well manured for some earlier crops, planting them in a sunny spot. Sutton's White is much superior to the old kind of Artichoke, being white in the skin, with shallower eyes, and of better shape. Plant in rows 3 feet apart, and 18 inches in the row.

CARDOONS.—Seeds may now be sown in heat—three seeds in a 48-pot, removing the two weaker ones when it is seen which is the strongest seedling. Harden off in a cold frame when the roots get round the sides of the pot, and plant them out in the month of May in trenches 18 inches to 2 feet apart in the trench, and 5 feet from trench to trench. The plants require much water when growing.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

POT VINES.—Some of the Vine eyes put in turves or pots in January, and given a brisk bottom-heat will now be fit to transfer to 6-inch pots. Only those, however, which have made from 5 to 7 inches of growth should at present be dealt with; the potting of the remainder had better be deferred until they have arrived at the same stage. A rough compost of fibrous yellow loam, spent Mushroom-bed, lime, ashes from the burnt refuse heap, and a fair proportion of bone manure will form a good medium for their roots, if of the same degree of warmth as the house in which the Vines are grown when used. Pot moderately firm, and return them to the hot-bed, in which they should again be plunged, and the soil well moistened with tepid water. Support each plant with a stake, and stop all lateral growths at the first leaf. Maintain a temperature of 60° at night, and 80° in the daytime, with sun-heat, and a free circulation of air. Sprinkle the beds and paths frequently in bright weather with water, in order to obtain a humid atmosphere.

ORANGE TREES planted out in beds which have a tendency to make strong growths and bear poor crops of fruit, may now be root-pruned. The size of a plant will determine the radius of root space to leave undisturbed; those 12 feet or 14 feet in height, with 9 feet of spread of branches, may have their roots cut to within 3 feet of their stem, smaller plants being root-pruned closer. On the other hand, sickly plants will be improved in health by removing a quantity of the surface soil, replacing a mixture of loam, leaf-mould, and lime. Alternate dressings of superphosphate and kainit may also be frequently applied to the soil, and washed in. Plants in pots and tubs may be shifted into larger sizes, according to their requirements, and given the compost and treatment advised for those planted out. Syringe the plants twice daily, except when they are in flower, and give them a minimum temperature of from 50° to 55°, with a maximum of 70° to 75°, and admit air freely in mild weather.

FIGS propagated in the early part of January should be in a condition to require larger pots; loam, wood-ashes, old lime rubbish, well-broken charcoal, spent Mushroom manure, and Vine and plant manure will prove an excellent mixture for them. These, however, should be well blended, and raised to the same temperature as the bed in which the plants are plunged before being used. Return the plants to the hot-bed from which they have been taken (after being repotted), and supply them with water to meet their wants. Use the syringe to damp the foliage in the morning and when the house is shut up in the afternoon, and endeavour to secure a saturated atmosphere. When the plants get a hold of the fresh materials with their roots, and make growths 6 inches in length, these may be stopped to induce branching, if plants to fruit in pots be desired, otherwise they may be allowed to extend 15 inches before being pinched. A temperature of 65° to 70° at night is suitable at this period.

PINES.—Any of the Pine suckers put in last autumn and which were found deficient of roots when the general repotting took place, and were then allowed to stand over, may again be examined, and treated according to their requirements.

EDITORIAL NOTICES.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.
 NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see. Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

SATURDAY, MAR. 26—Royal Botanic.
 FRIDAY, APRIL 1—Dandee Horticultural Association.

SHOWS.

SATURDAY, MAR. 26—Crystal Palace.
 TUESDAY, MAR. 29—Brighton and Sussex Horticultural Association (two days).

SALES.

MONDAY, MAR. 28—Hardy Perennials, Carnations, Paeonies, Philox., &c., at Protheroe & Morris' Rooms.
 TUESDAY, MAR. 29—5000 *Odontoglossum crispum*, &c., at Protheroe & Morris' Rooms.
 WEDNESDAY MAR. 30—2000 choice Rose Trees, 500 Fruit Trees, Laurels, &c., at Stevens' Rooms.
 FRIDAY, APRIL 1—Established Orchids at Protheroe & Morris' Rooms.
 SATURDAY, APRIL 2—Liliums, Begonias, Fruit Trees, Rose Trees, &c., at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—45°.

In a previous number, p. 368, we made allusion to the dead-lock that will arise if the "rule of priority," or strict chronology of nomenclature is to be adopted without exception. With Dr. KUNTZE's book, on which we also commented last week, before us, we might say the dead-lock has arisen. That book, however, will, we hope, act as a deterrent to the ultra purists. The logic of common sense will surely be allowed to prevail, and what is practicable will be adopted in preference to what is theoretically perfect. With all respect for the rule of priority, and fully recognising the propriety of conforming to it as much as possible, we can but regard it as an arbitrary convention adopted for the sake of its utility, not as an absolute principle of science, such as the law of gravitation or the doctrine of evolution. The spirit must be more regarded than the letter, and a certain amount of latitude in the application of the rule must be allowed; at any rate, it is sure to be taken in the future as it has been in the past.

We commend to the attention of horticulturists the modification of Art. 4 of the "Lois," proposed by Dr. WITTMACK, of Berlin—"A custom contrary to the rules, and contrary in particular to the principles of priority, which does not produce confusion, but which gives greater clearness, may be accepted [continued]." Dr. WITTMACK further suggests that although a generic name may change in accordance with the progress of science, yet it is essential for horticultural purposes to retain the old name, if it be one sanctioned by long custom; thus, both *Sinapis* and *Brassica* may be retained in gardens, although the former name has been suppressed by BENTHAM and HOOKER.

Where custom secures clearness, and chronology produces confusion, there is little doubt to which side the balance will incline. In order to prevent license, however, some check must be imposed, else every one might do as was good in his own eyes, and the confusion would become greater even than that which

O. K. threatens to impose upon us. That check may be furnished by some judicial machinery calculated to secure the interpretation of the rule, and especially its equitable application. Nor do we think the elements of such machinery are far to seek. The *Genera Plantarum* of BENTHAM and HOOKER, complete so far as the higher divisions are concerned, and published in part before the Botanical Congress of 1867 and the promulgation of the "Lois," stands a monument to the industry and sagacity of its authors. Vast as it is, it is no mere compilation, but it is based upon the personal examination, so far as that was possible, of every genus mentioned, as well as of the literature concerning it. There, then, is the standard for generic nomenclature. It is not perfect, it is not free from error of commission or omission, bibliographical or otherwise. Its arrangement hardly conforms with the existing state of our knowledge of botanical structure. What then? It is impossible that a work, the first part of which was published in 1862, and the last in 1883, could be perfect, even though it were effected by botanists of such consummate judgment and unrivalled experience and opportunities as BENTHAM and HOOKER. No book could be. Certainly LINNÆUS'S *Species Plantarum* has its inconsistencies. Corrections of matters of fact and modifications of nomenclature must in consequence be made from time to time, but by whom? Not certainly by the bibliographer, who by accident stumbles across a volume of forgotten lore which invalidates a name in general use and accepted in the *Genera Plantarum*. Let such gentlemen call attention to the matter; botanists will be grateful to them for so doing, but let them refrain from adding another synonym till the case has been investigated by a competent monographer. He is the proper person to decide—not from an isolated example—but from a review of all the facts of the case, whether any change of nomenclature is needed, and, if so, what. But, it will be said, there are monographers and monographers: one man's judgment and experience are much more valuable than another's. Quite true; but these differences soon become perceptible, and the botanical public is not long in distinguishing a trustworthy from an untrustworthy guide. It ignores the leading of the one, whilst thankfully accepting the guidance of the other. A certain amount of confusion, inconvenience, and incertitude is inevitable. It is in the nature of things, but they are less than the corresponding evils arising from the attempted application of a rigidly fixed standard to cases to which such a standard is unfitted. We submit, then, that subject to the requisite changes to be made by competent men after deliberate investigation, the *Genera Plantarum* should be taken as the standard for the nomenclature of genera.

As to the nomenclature of species, the principles are the same. Abide by the rule of priority, so far as possible, but do not set it up as a fetish. The name is but the means to an end, not the end itself; it is but as a word in a dictionary compared to the science of language. For the proper nomenclature of species, we naturally turn to the most recent monograph. The publication of a monograph affords a guarantee that the author has studied his subject in detail, comparatively as well as a whole, and therefore, we accept his decisions till circumstances necessitate their revision—for finality is not to be expected in natural science.

Botanists will have on the completion of the *Index Kewensis*, a great aid in the nomenclature

and chronology of species. This Index, the cost of which was defrayed by the late CHARLES DARWIN and his executors, has been in preparation at Kew for the last ten or more years by Mr. DAYDON JACKSON and his assistants, with the constant aid and supervision of Sir JOSEPH HOOKER. The manuscript is now completed, and the early sheets are in the Press. It is a colossal work, which will be of the highest service to monographers and others; but from the nature of things, it can never have the authority of the *Genera Plantarum*. It will be by far the completest register of names and dates that has ever been published. Every available botanical book, from 1735 downwards, has been consulted, the records of every natural history society at home or abroad have been searched, and the result is the gigantic list above mentioned—but still it is only a list. It will not, so far as we see, in any way supersede the necessity for each subsequent monographer exercising his own judgment, although it will enormously facilitate his task.

SOME years since, a writer in this journal advocated the desirability for selling all produce—greenstuff excluded—by sample only, the sample exhibited at market being guaranteed to truly represent the bulk. This was submitted as one of the many aids to economy which have from time to time engaged the attention of market growers with a desire to market their own goods, and salesmen desirous of enlarging their "sphere of influence." Some good was the result of the agitation, and one would have thought that advantage would to-day be taken of the Parcel Post to widen the direct influence on a wide-extended market or purchasing public by both parties interested. Some remarks on the supposed disappearance from Covent Garden of the best fruit of the past season led one of our correspondents to make inquiry at St. Martin's-le-Grand as to whether fruit-samples were becoming every-day affairs coming under the cognisance of the authorities there. The result was given a month since—there was no knowledge of an increase in that direction. But the answer was so general, that our correspondent persevered in the attempt to learn if fruit samples were to any extent sent through the existing postal channels. The result of a widespread inquiry made by the Post Office officials has been given to us by the gentleman appointed, who has arrived at the conclusion that the Post Office is not used at all by the trade—salesman or grower—in extending the sale of fruit. It is not for us to say whether this is a bad or a good thing—sufficient that we state the fact; those who read are quite competent to form their own conclusion. In the course of conversation, our informant gleaned some satisfactory tales respecting the use made by seedsmen and florists of all postal facilities, many of which are known to the reader—the value placed on the service by the folks in the Scilly Isles—how that for Primrose Day use one firm sends per post no fewer than 3000 parcels, &c. But there is one little item that should be more widely known than it is—it is of little use trying to mulct the Customs officials by endeavouring to smuggle goods through the Post Office as flowers: the parcels are opened by officers detailed for the purpose; and thus it happens that well-laid schemes for evading the payment of duty "gang aft agley," as BURNS hath it. The matter of comparison between fruit and flower growers and the notes concerning these may safely be left for cogitation.

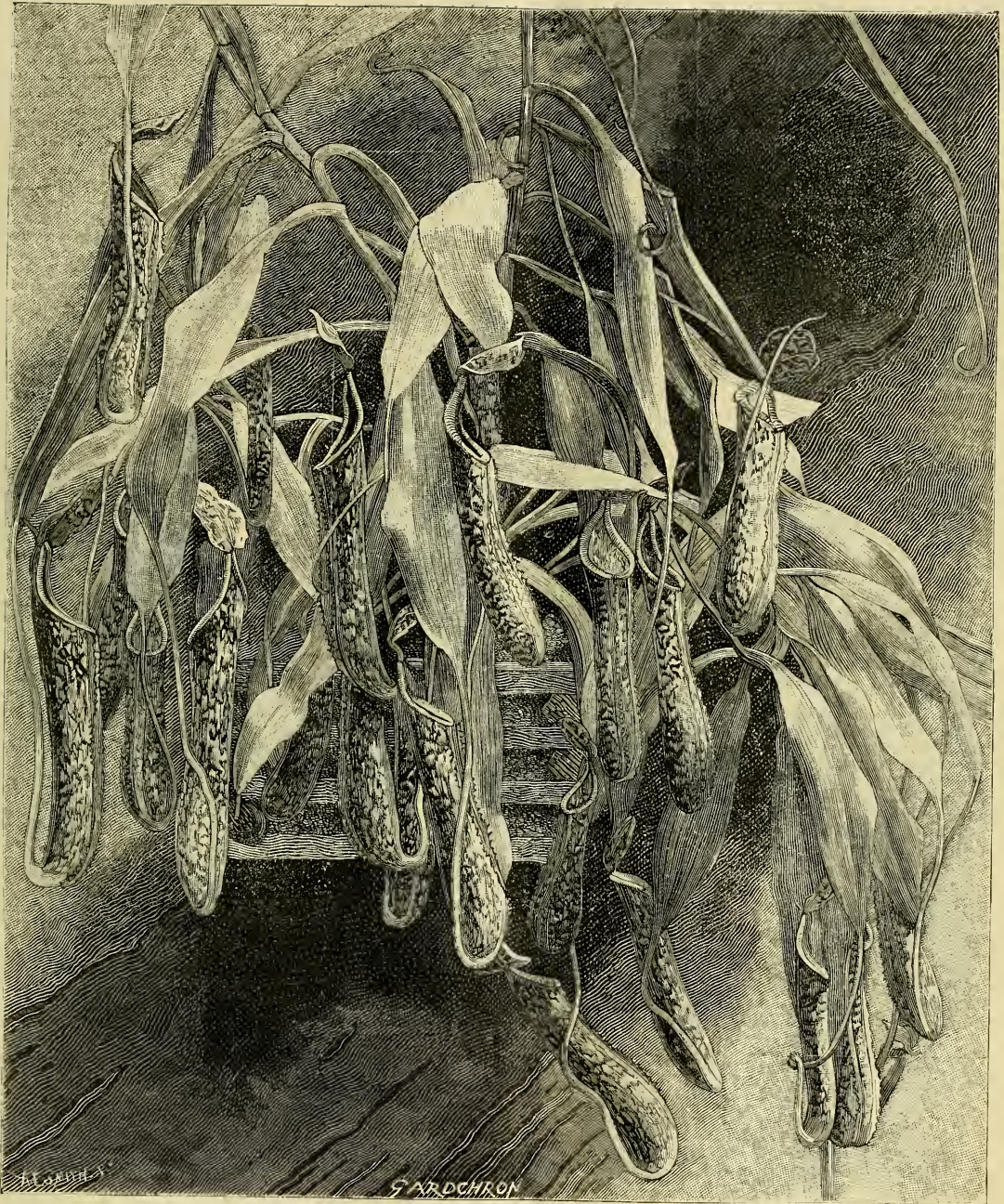


FIG 58.—*NEPENTHES STENOPHYLLA*. FROM A PHOTOGRAPH. (SEE P. 402.)

NEPENTHES STENOPHYLLA.—In our number for August 30, 1890, p. 240, we described this Bornean species, so that we need not enter into detail again. The pitchers are of a green colour, mottled with red, and, as the illustration shows (fig. 58), so freely produced, that it may be commended to the notice of growers who find other and more showy species difficult to manage. The illustration is from a figure by Mr. H. J. VEITCH.

LINNEAN SOCIETY.—At the meeting on March 17, Professor STEWART, President, in the chair, Mr. E. M. HOLMES exhibited specimens of *Phacelocarpus disciger*, a new species of seaweed from Cape Colony, collected by Dr. BECKER near the mouth of the Kowie river. One of the specimens exhibited bore antheridia, which have not previously been described in this genus. The species differ from those already known in bearing the organs of reproduction on the surface of the frond instead of on the margin. Mr. BUXTON SHILLITOE exhibited and made some remarks upon the flowers of *Leucocium verum* and *Helleborus viridis*. On behalf of Mr. ALLAN SWAN, the Secretary read a paper "On the Vitality of the Spores of *Bacillus megaterium*." Mr. J. B. CARILL submitted a paper entitled "Notes on *Zebrias*."

"KEW BULLETIN."—In dealing with a body like the Treasury, one has always to bear in mind that they have to consider the *cut bono* aspect of affairs, and rightly so. But the Treasury may be also expected to exercise some amount of judgment and intelligence. If it be true, as we learn from the *Times*, that the *Kew Bulletin* is to come to an end, we shall be obliged to conclude that the Treasury has very little acquaintance with what is important for the interests of Greater Britain. The *Kew Bulletin* is a publication to be improved, enlarged, more widely diffused—anything rather than discontinued. Such a publication is essential to the full realisation not only of the resources of Kew, but also of the capabilities of our colonies. It should be greatly developed rather than arrested in its course.

DUTCH POTATO CROP.—Our Dundee correspondent, says the *Liverpool Journal of Commerce*, March 21, telegraphs that, owing to the failure of the Dutch Potato crop, large quantities of Potatoes are being shipped from ports on the north-east coast of Scotland to Rotterdam. During the season, it is expected that over 1000 tons will be exported weekly from Dundee, Arbroath, Montrose, and Anstruther, to Holland. The supplies are principally to be consumed, while there is a small quantity to be used as seed. Good prices are being obtained by the shippers.

THE HORTICULTURAL COLLEGE AT SWANLEY.—For some time past (says the *Daily News* of March 17) this College has been in receipt of a grant from Government, and this spring it starts under the auspices of the Kent County Council, which has at its disposal a sum of £23,000 for the promotion of technical education. Of this handsome sum the Council has, after very careful investigation, voted £1200 a year for two years to the College, in return for which they have secured the right to send twenty county scholars, who are to have board, lodging, and training in scientific and practical gardening. These scholars are selected by the Council from residents in Kent who have been educated in elementary schools, or whose parent's income has not exceeded £100 a year. They must be from sixteen to twenty years of age, and are to have two years' training.

MONTHLY HORTICULTURAL MEETING AT GHENT: MARCH.—A Certificate of Merit was awarded for *Cypripedium ornatum*, to M. Jules Hye; also for: 1, *Odontoglossum Alexandræ* var., to MM. Baëns frères, flowers large and pink, with large blots and spots of brownish-red; 2, *Clivia miniata* (seedling 1892), to the same firm, fine trusses of well-shaped flowers of a yellowish-orange colour fading into reddish-orange; 3, *Cypripedium Godeffianum*, to M. Ed. Pynaert van Geert, one of the finest specimens hitherto seen; 4, *Adiantum Birkenheadi*, to the same exhibitor—a very pretty

sample of a species described in the *Gardeners' Chronicle* in 1886; 5, *Odontoglossum crispum fastuosum*, to M. Jules Hye, a remarkable plant, especially in the size and shape of the flowers, which are in very close racemes, and shading from white to rosy-lilac; 6, O. *Wilckeanum albens* (syn. *leopardinum*), to the same grower, an excellent variety, the flower-stem bearing sixteen fine flowers, with effective spots of reddish-chocolate on a white ground; 7, O. *spectrum perfectum*, also to M. J. Hye, a fine variety striped and beautifully glossy, the lip effectively fringed; 8, O. *Andersoni*, to the same grower, flower large, much spotted with large blood-red marks; 9, *Ada anrantiaca maculata*, to M. J. Hye, the black specks on the petals are suggestive of *Lilium Martagon*; 10, *Clivia Madame Romain Desmet*, to M. B. Fortie, of Ghent, of a remarkably dark colour; 11, *Perfection*, to M. B. Spaë, with well-shaped flower; 12, *Odontoglossum Hadweni* (?), to M. J. Hye, a flower similar to that of *Andersoni*, the petals edged with greenish-yellow, and much spotted; 13, *Cypripedium superbiens* × *villosum* fl. *striatum*, to M. Ed. Pynaert, a fine variety, with variegated flowers as remarkable as those of *C. Dauthieri marmoratum*, *Harrisianum polychromum*; 14, *Hæmanthus Kalbreyeri*, to the Louis van Houtte Society, a handsome plant, with a fine cluster of long-stalked, deeply-cut flowers, figured in the *Flore des Serres et de Jardins*, t. xxiv., pl. 2877-78. A Certificate for a finely-bloomed specimen was awarded to *Cologynne cristata alba* from MM. Edm. Vervae et Cie.; the specimen bore ten flower-stems, with about sixty large pure white flowers, the crested lip beset with fine white hairs. Honourable mention was awarded for: 1, *Asparagus compacta nana* (for good cultivation), to MM. Duriez frères; 2, *Epidendrum Stamfordianum*, to M. Jules Hye, an old Orchid bearing four fine clusters of bloom; 3, *Lycaste costata* (lanipes, Ldl.), with seven fine flowers, to the firm of Louis van Houtte.

THIRTEENTH GHENT QUINQUENNIAL, APRIL, 1893.—Proofs of the interest which the horticultural world takes in the organisation of this exhibition are beginning to be shown; in evidence of this, we may quote the following facts:—M. BENARY, the German horticulturist, offers an "objet d'art," value about £20; M. le Baron GASTON DE CHANTON, of Briailles, has given nearly £40; and M. GEORGES MANTIN, of Paris, a large Gold Medal. Added to the prize which your countrymen instituted in memory of LOUIS VAN HOUTTE, to the prize given by the Comte DE GOMER, to the perpetual prize instituted by M. DE LA DEVANSAYE, these new marks of interest are of considerable value. *Ch. De B.*

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.—The members of this Association held their usual monthly meeting in the hall of the Christian Institute, Aberdeen, on Wednesday evening, the 16th inst. Mr. D. M. SMITH, President of the Association, occupied the chair. Mr. G. Ross, Cranfield, in an interesting paper, opened a discussion on the "Uses and Abuses of Watering and Syringing."

PEACH YELLOWS.—This is a form of disease at present unknown in this country, but which is very rife in the Peach orchards of the United States. The first thing noticed is the red spotting and early ripening of the fruit; and, second, the premature sprouting of ordinary leaf-buds, or of latent buds formed in the bark or cambium. Thus, in the first season, the morbid appearances are chiefly confined to the fruit; but in the following year the buds are seen to push earlier than usual, the foliage is noted to be yellowish-green, stunted, and twisted; a crowd of adventitious shoots are formed, and eventually the tree dies. Dr. ERWIN SMITH, on behalf of the Pathological Department of the United States Department of Agriculture, has proved by experiment that the disease is contagious, only a very small amount of infective material being requisite to induce the disease. Dr. SMITH's report of experiments on the inoculation of healthy trees, and on various methods of treatment, is marked by great prudence, and caution. By some it has been stated that the disease is caused by Bacteria.

FRUIT GROWING IN SYDNEY.—The *Bulletin* of the New South Wales Department of Agriculture for February contains a report of the conference of fruit growers, held in Sydney in February, 1891, to discuss the subject of fruit growing in various aspects. The meeting seems to have been promoted by the Government, and with much success. The practical men compared notes on sorts, and their suitability to particular localities, while the Government entomologist and the Government pathologist respectively gave a popular account of the commonest and most destructive fungi and insects, and indicated the best methods of combating them.

ASSURANCE AGAINST HAIL.—A proposal has been raised in Belgium as to the formation of a syndicate for assurance against hail, which causes often such severe losses in horticultural centres. MM. DESMET FRÈRES, of Ledeberg, Ghent, have not waited for the formation of this syndicate before taking wise measures. To begin with, they have protected the most exposed surfaces of all their houses with an iron net-work trellis, and will complete their arrangements later on. This is a specimen of "self-help" which is worth imitating.

PLANTS AND ELECTRICITY.—Among recent experiments, must be mentioned those made by MM. DESMET FRÈRES, in connection with the cultivation of Kentias. The specimens placed in the line of an electric current have grown neither better nor worse than the others.

GRASSES OF THE UNITED STATES.—Dr. VASEY, botanist of the Department of Agriculture, Washington, U.S., has published the first part of a treatise on the Grasses of the United States and of British America, which will be a boon to botanists, and furnishes another illustration of the activity of the botanical division of the Department of Agriculture.

DIJON.—In consequence of the death of M. WEINER, M. LOCHOT has been appointed director of the interesting botanic garden of this city.

SOUTHERN CALIFORNIA HORTICULTURAL SOCIETY.—We are glad to welcome the first number of the transactions and proceedings of this Society. With very few exceptions the managers of horticultural societies take a very inadequate idea of the functions of their society. They look upon it, if they are amateurs, as a means of winning prizes; if they are traders, of advertising for customers, or some other mercantile purpose; if visitors, as a means of recreation and of display of bonnets—all things beneficial to some individuals, and not intrinsically wrong, but all of which should be made wholly subordinate to the interests of horticulture generally. The Californian Society sets out with legitimate aims, as expressed in a circular from the Secretary, Mr. H. W. KRUCKENBERG, Los Angeles: "The Society, in so far as lies within its power, is earnestly labouring to disseminate a broader knowledge and a keener interest in scientific horticulture, and hopes in this way to not only increase its usefulness and influence, but to show where wear and tear may be saved, useless experiments avoided, how injurious insects and diseases affecting plant life are best abated, and the best results obtained in our horticultural development."

"THE CULTIVATION OF CARNATIONS AND PICOTEES BY AMATEURS."—This was the title of a paper read to an interested audience by Mr. G. B. LANSDALE at the meeting of members of the Exeter Gardeners' Society on Wednesday evening, March 16. Mr. G. B. CARLISLE presided. Mr. LANSDALE said Carnations, and their most recent sisters, Picotees, were held in high esteem by all lovers of flowers on account of their delicate scent, rich colouring, and general beauty. They were easy of culture, and bloomed well either in the greenhouse or open border, and he knew of no plant which would give better results to town growers. The speaker described the properties of a perfect flower, and defended the practice of dressing the flowers as a means of bringing out their full beauty. Messrs.

VEITCH & SON sent some excellent plants under consideration, which showed fine blooms. *Extract, Western Mercury, March 17.*

COCA LEAVES AND EUCALYPTUS OIL.—In the London drug market on Thursday, March 17, remarks Mr. JACKSON, of Kew Gardens, a sample of Coca leaves from the West Indian Island of Grenada was offered for sale. There was only one small box, which weighed 12 lb., and a bid of 3d. per lb. was offered for it. The leaves were described as bold, rather dark in colour, strong, and of fair flavour, and were said to be the produce of young plants which were sent from London to Grenada a few years ago. A parcel of leaves have also been received lately in London from the Niger district, but in consequence of their having been very badly cured, they will probably not be brought into the market. At the same sale, 50 lb. of Eucalyptus oil, which, a few weeks ago, could scarcely be got for love or money, was sold without reserve at 2s. 2d. per lb. and this of good quality.

POTATO CULTURE.—M. AIMÉ GIBARD contributes to the *Comptes Rendus* (February 15) a paper detailing the results of experiments made during the past four years with the Potato, with the object of increasing the yield by improved methods of cultivation. He was able to study the crops of between two and three hundred agriculturists who worked in collaboration with him, and he concludes that the two most important points to be considered in Potato culture are, firstly, the distance apart at which the plants are set, and, secondly, the number of pieces into which each tuber is cut. The Potatoes should be at such a distance from one another that each has free room in which to spread its leaves, but they should be so near each other that there are no bare spaces of earth between them. Thus varieties with foliage such as *Imperator*, *Jersey*, and *Red-skinned*, do best when 330 eyes are set to each 900 square feet (about). Twenty-one of the experimenters, who kept to the old plan of placing 250, 200, 150, or 100 eyes per 900 square feet, reaped harvests which were in every instance smaller in proportion to the greater unoccupied spaces. Other growers, because of the scarcity, and of the often high price which *Imperators* fetched last year, were obliged to use very large tubers, which they cut into two, three, or four pieces. This division with some kinds, and notably with *Imperator*, entails a great reduction in the crop. The cut tubers easily rot and die; this was found to be the case with all growers who planted such tubers, as their crop was reduced, in some cases by one half. Experiments made on so large a scale, and with so satisfactory a uniformity of results, cannot fail to be important to all growers to whom the success of their harvest is of serious consequence.

SNOWDROPS IN CHARBORO PARK.—A man has been sentenced at Wareham for picking *Snowdrops*. It is alleged by some that the conviction is illegal, on the ground that the *Snowdrop* is a wild plant. This will be a difficult matter to prove, and even if true, a question of trespass might arise. We have heard of cases where proprietors have been compelled to withdraw the privilege of gathering *Snowdrops*, *Daffodils*, *Ferns*, and the like, owing to reckless abuse of the privilege in uprooting the bulbs, &c.

FARNINGHAM ROSE SHOW.—The date of the annual show of the above Society, as we are informed by Mr. S. EDWARDS, Hon. Sec., has been altered from June 30 to June 29, in order not to clash with the shows held at Canterbury and at Eltham.

THORNBURY.—The annual show of the Thornbury Horticultural Society is arranged to be held on August 9, when a lecture on Bee Keeping and other attractions will be offered.

DRY GLAZING.—Messrs. SAM DEARDS & Co., Limited, of the Victoria Works, Harlow, inform us that the contract to supply 4000 feet of the "Victoria Dry Glazing" for His Majesty the King of the

Belgians through Mr. JULES MALSEN, architect, has just been received by them.

FRUIT FROM SOUTH AFRICA.—The Union Steamship Company's R.M.S. *Scot*, which arrived at Southampton on the 17th inst., has brought a further consignment of Grapes and Peaches from South Africa. This fruit was placed on sale at Covent Garden Market, when the Grapes realised high prices, boxes containing about 20 lb. net of white Grapes, fetching 10s. to 10s. 6d. each, and similar boxes of black Grapes realising 12s. 6d. to 15s. 6d. per box. These Grapes were packed in cork dust, and arrived in some cases in good condition. The Peaches also realised good prices, fetching 8s. to 14s. per box.

THE ACTION OF COMMON SALT ON THE GROWTH OF THE RADISH.—The Radish contains little or no starch, even during the latter stages of its development. Under certain conditions, however, it has been shown, in a recent paper read at the Academy of Science at Paris by Mons. P. LESAGE, starch is developed. If the Radishes are watered with solutions of common salt, containing from 1 to 20 grammes per litre, starch appears in the endoderm, and also in many cases in the cortical tissue. The results of some experiments were as follows:—

No starch with pure water.

Very little starch with 3 to 5 grammes of salt per litre of water.

A little starch with 10 grammes of salt per litre of water.

Much starch with 4 grammes of salt per litre of water.

A solution containing 20 grammes of salt per litre killed the plants.

In other cases the maximum amount of starch was found with proportions of salt amounting to 5 grammes and 10 grammes per litre.

These experiments are, perhaps, insignificant in themselves, but they certainly indicate that the character of a vegetable may be completely altered by watering it during growth with certain solutions. Is it not worth while to pursue this idea, and to see whether there is anything of a practical nature to be gained by such researches? Those of our readers who wish to consult Mons. LESAGE's work in detail, will find it in the *Comptes Rendus, Hebdomadaires des Séances de l'Académie des Sciences*, cxlii., pp. 373 to 375.

NAMES.—There are those who advocate the propriety of giving significant or descriptive names to plants in all cases where it is possible. The chemists do this, and we are told that one of the substances made use of to dye flowers in the manner mentioned in our last number is tetramethylparadiamidophenyl-orthoxipylmethane. This is a name which indicates the nature of a blue aniline dye very satisfactorily to the chemist, no doubt, but it is decidedly not a popular name. We could not send a messenger for half an ounce of this substance with any certainty that we should get what we want!

INTERNATIONAL HORTICULTURAL EXHIBITION.

—The General Committee in connection with the above exhibition, to be held at Earl's Court during the coming summer, met on Tuesday last, Mr. W. MARSHALL, in the absence of Mr. H. E. MILNER, presiding. Among other business conducted, the draft schedules were revised.

SPRAYING TO DESTROY INSECTS AND FUNGI.

—We take the enclosed summary from *Bulletin No. 35* of the Cornell University Experiment Station (Horticultural Division):—"Spraying to destroy injurious insects and fungi has now come to be a necessity in fruit growing and vegetable gardening. Much of its success depends upon the operator, however. The treatment must be timely, thorough and persistent. Above all things, be ready, and begin to spray the moment the first injury is seen, or even before. Study the question during the winter, and buy the materials before spring opens. Always use the finest and most forcible spray which will reach the desired height. There are two leading insecticides, —the arsenites, and kerosene emulsion. The arsenites are Paris Green and London Purple. 1 lb. to 200

gallons of water is a good proportion for Apples, Pears, Potatoes, &c.; 1 lb. of Paris Green to 300 or 350 gallons should be used on Peaches. Never use London Purple alone on Peaches. For Apple-worm, begin to spray just as soon as the last blossoms fall. Kerosene emulsion is the weapon to use against all kinds of plant lice out of doors. A good formula is soft soap 1 quart, kerosene 1 pint, hot water 2 quarts. Churn the materials by pumping back into the pail for several minutes. Dilute two or three times. There are two leading fungicides, —ammoniacal carbonate of copper, and Bordeaux Mixture. The former is cheaper, and much more easily made and applied. Bordeaux Mixture cannot be thrown on to large trees. To make the former, use 3 oz. carbonate of copper, and 1 quart 22° ammonia. This stock solution will keep, if tightly corked. When used, dilute to 25 gallons. If 26° ammonia can be obtained at your drug store, it is better to use 5 oz. carbonate, 3 pints ammonia, and 50 gallons water. This is the best general fungicide. For Bordeaux Mixture, use 6 lb. sulphate copper, 4 lb. lime, 22 gals. water. Carbonate of copper costs from 40 to 60 cents per pound, and sulphate about 6 cents. The only combination of insecticides and fungicides yet found is made of the arsenites and Bordeaux Mixture. When arsenites and ammoniacal carbonate of copper are combined, the value of each material remains, but foliage is usually seriously injured.

CHRYSANTHEMUM SALAD.—A Japanese writer in *Le Moniteur d'Horticulture* says that the Chrysanthemum is a recognised article of diet in his country. The varieties used bear smaller and darker yellow flowers than do those grown for ornamental purposes, and these blossoms are commonly seen in the green-grocers' shops in the months of November and December. They are eaten raw with vinegar and other condiments as Europeans eat salad, or boiled in water.

COPPER-SALTS FOR THE PREVENTION AND PALLIATION OF THE POTATO DISEASE.—Messrs. ROBERT VEITCH & SON of Exeter have done well to republish their report upon experiments made by them on the influence of the copper-salts. In view of the unfavourable results obtained by Messrs. SUTTON, and the different opinions which consequently prevail, it is, we hope, certain that fuller and more varied trials will be made this season, and Messrs. VEITCH's pamphlet may be read with advantage by those who are intending to try the plan. In any case, it is abundantly certain from the Chiswick experiments, that earthing-up on the Jensen plan is very efficacious, and very suitable for cottagers and small growers, who at present fold their hands and lose their crops. Here is work for the county council lecturers.

—Consul PADNÉFOTE's report to the Foreign Office, on Agriculture in the Department of the Charente Inférieure, France, contains some useful information on the treatment of Potato disease. All over France, the Consul reports, the treatment with sulphate of copper has proved efficacious. The dressing consists of 2 lb. of sulphate of copper and 4 lb. of lime to 25 gallons of water. "In no case," the Consul reports, "have I been able to hear that this application has failed."

PUBLICATIONS RECEIVED.—*Traité d'Horticulture Pratique*, par GEORGES BELLAIR (Paris, O. DOIN). *Exchange List of Seeds*, Royal Botanic Gardens, Glasnevin. *Technica*. — *Förlisch Naturwissenschaftliches Zeitschrift*.

BOOK NOTICE.

HANDBUCH FÜR PFLANZENSAMMLER. Von Dr. Udo Dammer. Mit 59 in den text gedruckten Abbildungen und 13 tafeln. Stuttgart: Ferdinand Enke, 1891. *Handbook for the Plant-Collector*. 8vo, pp. 342.

THAT this book is something more than a mere exposition of the best methods of collecting, drying, preserving, and arranging plants may be imagined

from the size of it. As a matter of fact, it is also an introduction to systematic botany, and constitutes a useful companion to the young botanist, biological phenomena receiving a due share of attention.

In his first chapter, Dr. Dammer contrasts the botanising of to-day with that of the days of Linnaeus, and in the opening sentences falls into a singular error respecting the present resting-place of the great master's herbarium. The Linnean Society of London, is so well-known that such a mistake is a little surprising. He begins:—"In the rooms of the British Museum, in London, there is a sanctuary for botanists, which doubtless the great majority of the 'profession' visiting the immense city take the opportunity of seeing. One enters the room containing the object of the pilgrimage in a devotional frame of mind. 'The Linnean Herbarium' resounds from the voice of the gentleman escorting you, and you approach it with reverential feelings, but turn away disappointed."

Dr. Dammer is quite right as to the fragmentary character of the specimens, and their insufficiency for purposes of comparison; and his estimate of the herbarium serves well as text for his explanation of the requirements of the present day in this direction.

But it is not our intention to submit his work to a close criticism. So far as we have consulted it, it appears to be a trustworthy guide. At the end there is a key to the natural orders, illustrated by thirteen plates of floral structure, arranged according to Bentham and Hooker's *Genera Plantarum*. Cryptogams are treated more in detail in the body of the work, and the figures are almost all borrowed from Lueresen's well-known book. *W. B. H.*

NURSERY NOTES.

FLOWERS AT MESSRS. J. VEITCH AND SON'S NURSERY, CHELSEA.

In most years, since the *Amaryllis* has been taken up by Messrs. Veitch, the middle of the present month has seen the larger portion of the main stock of these plants in full beauty. This year it is otherwise. Winter was long, and frosts severe, and these have, together, delayed the opening of the flowers, by rendering imprudent any great amount of forcing, either at the root or top. In about five or six days from the present time, the plants should be at their best.

We were shown by Mr. Heals, who still rules in this department with so much skill, some few of the seedlings that are flowering for the first time. There is much mild excitement in watching the unfolding of the flowers, whose genesis is the result of your own direct handiwork, and when a beautiful flower is the result, a pardonable amount of pride is justified. But our friend showed neither the one nor the other, and we fear he is becoming callous in these matters from mere familiarity. The big bed of bulbs of flowering age is as full as ever, as are the narrower beds at the sides of the house—a span-roofed one. *Eclipse* is a seedling which is flowering for the first time; it is a solid bloom, of a white ground, on which are scarlet flakes and stripes, and the segments, which overlap each other their whole length, have rounded extremities, that boldly reflex. It is a very distinct variety. Another is *Orion*, a scarlet bloom, of fine big form, having the celebrated *Champion* blood in it. It is reticulated by veins which are slightly deeper in tint than the body colour. *Chromis* is of brilliant scarlet, and middling size, and perfectly regular in shape. *Polyxenes* has nice circular blooms, scarlet, with green stripes. *Glow*, as is proper, has brilliant crimson blooms of a pleasing form. In *Ida* is seen a vigorous-growing plant, whose flowers are chiefly white, with a little crimson netting; *Medon* is a fine deep crimson, with a creamy-white stripe; and *La Superba*, and *Rembrandt* are remarkably fine in colour and symmetry of form.

In some of the other houses there were noted a

splendid show of *Anthurium* coming along, which in ten days will be a fine sight. The *Nepenthes* are still in good condition, the pitchers being fresh and numerous. The masses of *Cattleya Trianae* in the large house have gone out of bloom, except for a few white forms of it. Some fine blooms of *C. Schroderae* were noted; some of the rare *Trichopilia suavis alba*; also *Aërides Savagaeum*, reminding one of *A. Lee-anum*; the rare *Vanda gigantea*, a rather coarse but singular-looking flower in brown and yellow. Numerous small plants of *Cypripediums* were in flower, some of which are rare and costly.

Those which pleased us most were the pretty and varied forms of *C. villosum*, one of the prettiest being *C. Godseffianum*. We remarked *C. Winianum*—rather scarce, a palish yellow flower, and with *C. Druryi* leaves; also *C. Germianum*. Several tiny baskets contained flowering plants of the pure white fragrant *Agrostum fastuosum*; and a tall growing *Calanthe* was observed, with white flowers, having a deep magenta-coloured centre—it is presumably an unnamed seedling of *C. Veitchii*; also the singular-looking *Cirriophetulum picturatum*, *Cymbidium Devonianum*, *Phaius Blumei*, the cream and brown-flowered *Lycaste leucoglossa*, as well as many of *L. Skinneri*, including white forms of it. *Brassavola glauca*, a flower fragrant in the evening.

Space allows us only to allude to the new show house nearing completion, which is being fitted up with rockwork, consisting of tufa, after the fashion of the rocky vestibule between the lesser Orchid houses and the big *Cattleya*-house. This will make a most convenient place wherein to exhibit hard and soft-wooded greenhouse plants when in bloom, and also stove plants in the warmer months. The present show greenhouse was abundantly furnished with *Azaleas*, *Lilacs*, *Spiraeas* of different species, the prettiest being *S. confusa*; *Narcissus*, *Acacias*, *Dutch bulbs*, *Boronia heterophylla*, *Rhododendrons*, *Heathes*, *Epacris*, *Scillas*, &c.

SCOTLAND.

EDINBURGH BOTANICAL SOCIETY.

The above Society met on the 10th inst., at 5, St. Andrew Square, Dr. Christison, President, in the chair. Mr. Dunn, Dalkeith Gardens, exhibited *Tillandsia stricta* var. From the Royal Botanic Garden there were shown *Saxifraga luteo-purpurea*, which is a natural hybrid between *S. media* and *S. aretioides*; *S. Burseriana*, and its variety *multiflora*; and a tuber of *Amorphophallus campanulatus* from Mr. T. H. Storey, Superintendent, Sajjav Niwas Gardens, Oodeypore, Rajpootana; this tuber weighs 26 lb., and produced a stem 18 inches in circumference, and 6 feet high, the spread of leaf being 7 feet.

Dr. Paterson, Bridge of Allan, sent out blooms of *Coleogyne cristata alba*, *Odontoglossum* (five species), *Cinnam Macowianum*, &c. Professor Bayley Balfour exhibited a method of mounting museum specimens by a cement which remains transparent in spirit.

Dr. Christison read an elaborate paper on the "Girth increase of Young Trees for five years (1887-91)," in which he brought forward many very interesting particulars as to the yearly, monthly, and weekly growth of deciduous evergreen trees and Conifers chiefly in the Royal Botanic Garden. A communication on a new South African *Alga*, *Thalacarpus disciger*, Holmes, by E. M. Holmes, F.L.S., was submitted.

Mr. Lindsay read a note on the poisoning of sheep by *Andromeda floribunda*. A case had been reported to him from the neighbourhood of Falkirk, where of a score of sheep which had nibbled the flowers and leaves of this plant two had died. A few similar cases have previously been recorded in England. Dr. Cleghorn stated that in the Himalayas the shepherds had told him of the poisonous qualities of *A. ovalifolia* during vernal, but not afterwards,

Mr. Rutherford Hill gave a list of ericaceous plants from which a specific poison had been extracted.

ROYAL BOTANIC GARDEN, EDINBURGH.

Report on Temperature, &c., for February, by Robert Lindsay.—During February the thermometer was at or below the freezing-point on twenty occasions, indicating collectively 112° of frost for the month, as against 79° for the corresponding month last year. The lowest reading occurred on the 19th, when the thermometer went down to 7°, or 25° of frost. This is the lowest reading that has occurred at the garden since December, 1882. From various districts in Scotland several degrees below zero were registered on the 19th. Fortunately, the ground was well covered with snow, which afforded great protection to dwarf-growing plants during the severe frost. Other low readings occurred, viz., on the 16th, 20°, 17th, 19°, 18th, 23°, 20th, 15°. The lowest day temperature was 33°, on the 16th; and the highest, 54°, on the 9th. Snow began to fall on the 15th, and frequent heavy falls took place till the 21st, and it did not disappear until near the end of the month. A good many plants have been more or less injured by the severe frost. Amongst those which have suffered most are various species of Japanese Bamboos, New Zealand Veronicas, *Olea ilicifolia*, Golden Holly, &c.; *Rhododendron Nobleanum*, and *R. præcox* have had their flower-buds destroyed. The following spring-flowering plants annually recorded to the Society, came into flower in February:—*Galanthus nivalis* on the 2nd; *Eranthis hymalis* on the 6th; *Leucoium vernum* and *Tussilago fragrans*, 9th; *Dundia epipactis* and *Rhododendron atrovirens*, 10th; *Crocus susianus*, *Bulbocodium vernum*, *Scilla sibirica*, *S. præcox*, and *Corylus Avellana*, 12th; *Symplocarpus foetidus*, 23rd; *Daphne Mezereum*, 24th. On the rock garden thirty-one species and varieties came into flower during the month, the most interesting being *Crocus Imperati*, *C. Olivieri*, *Hyacinthus azureus*, *Leucoium carpaticum*, *Colchicum crociflorum*, *Helleborus aschasicus*, *H. olympicus*, *Narcissus minimus*, *Saxifraga Burseriana*, *S. imbricata*, *Galanthus Imperati*, and *G. Redoutei*.

On Temperature, &c., at the Botanic Garden, Glasgow, by Robert Ballen.—The unusually mild weather which prevailed at the end of last month became very boisterous in the first week of this month. Showers of snow and sleet were frequent, and on the first four nights frost was registered. The second week was remarkable for the fine summer weather experienced. From the 9th to the 13th, the mean temperature both day and night was very high for the season, 67° being registered in the sun on the 13th. The third week was the most wintry we have had. Snow fell on the 15th, and a heavy fall took place during the night of the 16th. Night frosts prevailed the whole week, and of the 56° recorded as being the total for the month, 34° was registered during the nights of the 17th, 18th, and 19th. The lowest day reading was 34°, on the 19th. With the exception of cold north and east winds, the last week was comparatively mild. The leaf-buds of most hardy shrubs are in an advanced state.

FORMATION OF A PROTECTIVE UNION BY ABERDEEN GARDENERS.

A largely-attended meeting of gardeners was held in Aberdeen on Friday evening, the 18th inst., for the purpose of forming a Trade Protection Association. Mr. THOMAS NICOL, President of the Aberdeen Trades Council, occupied the chair. Several speakers alluded to the low rate of pay for gardeners of all classes, and the long hours made by nurserymen's employees. The motion that the gardeners present should form themselves into a protective union was then put to the meeting, and was unanimously adopted. The election of office-bearers was then proceeded with, Mr. William Slorach being elected President, Mr. Alexander Fraser, Secretary, and Messrs. Florence, Kinaird, Gray, Duncan, Lawson, Smith, and Kenman, as members of committee. About fifty members were enrolled at the close of the meeting.

TREES AND SHRUBS.

ARBUTUS ANDRACHNE.

PLANTERS pay poor tribute to a beautiful, highly characteristic, and striking low evergreen tree, when they overlook or fail to plant *Arbutus Andrachne*; in other words, the *Andrachne* of Theophrastus. As an introduction from the Levant, it is not as hardy as *Arbutus Unedo*, which covers so wide a range as Palestine, many places in Europe, and Ireland, growing freely on barren limestone rocks in the county of Kerry, notably near the lake of Killarney, from whence, by-the-way, the country people around gather and eat the fruit. Still, *Andrachne* does succeed in this country, when care is taken to plant out tolerably matured young trees of 3 or 4 feet in height. When this species attains to 20 or more feet in height, it bears smooth, coriaceous and shining, and indistinctly serrulated leaves from amongst which project, in more or less pendulous form, large greenish-white, waxy panicles of bloom, and is very attractive. But its striking features do not end here; it has fruit resembling that of its Irish compeer, and, above and beyond all, a boke of abnormal whiteness, from which the outer bark cracks and peels off, in very thin or ribbon-like "papery" layers, annually. As a prominent bark tree it would, therefore, form a fitting associate with the foxy-barked *Sequoia sempervirens*. *William Earley*.

ILEX CORNUTA.

This most distinct and handsome species, introduced from north China forty-two years ago, has not met with a very wide distribution. This is partly accounted for by reason of its growth being rather slow. It is, nevertheless, well worth a place in any garden, and being different in appearance from the rest of the genus, it forms a conspicuous object. It will thrive well in a mixture of loam and leaf-mould, and the soil should be pressed quite firm round the roots. I have found the best time for planting this Chinese species to be April, and, if possible in showery weather. It forms a thick bush-like tree, plentifully supplied with dark green leaves, leathery in texture, measuring from 3 to 4 inches long, and $2\frac{1}{2}$ inches in the widest part, each leaf being terminated by three strong spines. To increase the stock, cuttings may be taken off in September and put in cold frames, and dibbled in light soil. The base of each cutting should be made quite firm in the soil. When this is completed, give a good watering to settle the soil about them; the frame must be covered with tiffany when the sun is shining. When the cuttings are rooted and ready for planting out, take care that the roots are not broken, or the plants will receive a check.

PINUS SYLVESTRIS ACREA.

This is a useful Conifer for brightening up the pleasure grounds during the winter. Though not such a strong grower as the type, it is worthy of more attention than it has hitherto received. No subject is better suited for winter effect than the golden Scotch Fir. Being of a slow-growing nature, it is admirably adapted for planting as single specimens on the lawn. In spring and summer it assumes the normal greenness of the species. It is not very partial to damp positions, and should, if possible, be planted in rather dry soils, and be fully exposed to the sun.

Propagation is effected by grafting, which should be done in spring, on stocks of the common Scotch Fir (*P. sylvestris*). The grafts should be plunged in a close propagating case, where the temperature is about 65°. The glass should be wiped every morning, to clear away superfluous moisture. A gentle syringing overhead occasionally will assist them to break away more freely, but care must be taken not to give too much, or else they are apt to damp off. Shade from the sun with tiffany, &c., and in a few weeks' time the scion will unite with the stock,

when the latter must be cut back, and a small stake applied to each graft. When of sufficient size, plant out in nursery rows. *H.*

VEGETABLES.

PARIS MARKET BRUSSELS SPROUTS.

AT p. 237 of the *Gardeners' Chronicle* large coarse Brussels Sprouts are condemned, and rightly so; for if the quantity and quality of sprouts of the large-sprouted tall varieties are compared with medium-sized ones, it will be found that the latter are the most profitable to grow, and the sprouts are of just the size which most persons like. I have grown at Syon for the last year or two the Paris Market Brussels Sprout, which is one of the best for furnishing early sprouts, which are small, firm, and of fine flavour. This variety was shown by Messrs. J. Veitch & Sons at the Vegetable Conference, held at Chiswick in 1889, and I noted its superiority over others in the matter of being very dwarf in the stem, and also as producing a quantity of firm sprouts of middling size. It was the only dwarf variety which was certificated at that time. I have since grown it in preference to the imported type of sprouts, as the latter does not always come true to character. With Paris Market, the crop shows a very regular dwarf lot of plants that produce sprouts early enough for the first dish. The stems are closely furnished with sprouts, and, being of very low stature, it may be planted more closely together than is desirable with the larger types. For an early crop, it may be sown this month on a warm border; and for the earliest planting, sowings should be made in heat three or four weeks earlier. Veitch's Paragon and Exhibitor Brussels Sprouts form an excellent succession. Paragon is of medium growth, and the sprouts are firm; those of Exhibitor are larger. *G. Wythes*.

EARTHING-UP CULINARY VEGETABLES.

Born in the middle of the Bavarian Krautlande—Cabbage country—in the Circuit Unter Franken, says Mr. Biemüller in the *Gartenflora* for March, 1892, and from my earliest years acquainted with the culture of the vegetables of Bamberg and Schweinfurt, which are well known beyond the frontiers of Germany, I wish to state that the whole of the varieties of Cabbage, Beans, Peas, and Cucumbers are, after being hoed between several times, occasionally earthed-up; indeed, as long as the rows of plants can be manipulated without injury to the leaves.

The earthing-up exerts a great influence on the development of the heads in Cabbages and on that of the fruit of Beans and Cucumbers, as I frequently had the opportunity of observing. It is quite remarkable to observe the difference between earthed-up and not earthed-up plantations—the Cabbage heads are not nearly so large and firm; neither is Kohl Rabi so fine, nor are Kidney Beans so long or tender where not earthed up. The reason for this difference is to be found in the earthing-up, which protects the roots from drought, and likewise allows of more air reaching the plants; and, moreover, it is easier to afford water, owing to the furrow that runs between the rows, and where rain-water also collects; and all this without making either the crowns or stems of the plants too wet—favourable conditions for the plants, as the constant moisture of the soil about the roots greatly aids development.

No farmer or gardener who cultivates these vegetables neglects the earthing-up of the plants, which mostly is performed by women. Large estates much engaged in the growing of Cabbage, &c., possess peculiar implements for hoeing and earthing-up. When planting on well-manured, fresh-ploughed land, flat ridges are made with the hoe, on which the plants are set out, otherwise the plants would in time stand too deep in the loose soil, owing to the repeated hoeings. This is a fact which the practical folk of the district have discovered for themselves.

FORESTRY.

THE NURSERY.

If not already done, the sowing of the seeds of hardwood trees should be completed without further delay, and the ground to be used in the formation of seed beds for coniferous tree seeds next month should be well-worked by digging or trenching where necessary. All sorts of nursery stock that are intended to remain in the nursery another year should be overhauled and transplanted, to give additional space where requisite, and stuff that does not require to be transplanted should have the ground dug between the lines of plants to keep down weeds and promote root action. Specimen ornamental trees that are to be planted out where they are to remain next year had better be transplanted to promote the formation of fibrous roots, which will prove beneficial as a means of attaining success. Ground that has become exhausted by tree culture should be renewed by planting a crop of Potatoes or Turnips in drills of 27 inches wide from centre to centre, and applying thirty-five loads or tons of good farmyard dung per imperial acre. Artificial manures are not to be commended for this purpose. In cases where it is necessary to apply manure to promote tree growth on poor soil, it should always be in an advanced state of decomposition. Ornamental trees that are generally increased by grafting, such as the finer kinds of Oak, Beech, Elm, Laburnum, &c., should now be attended to, and in performing the operation we have found the best results by using an equal quantity of clay and horse droppings well mixed and worked with water until thoroughly incorporated. Extract the seeds of Larch, Scotch Fir, and others so that they may be ready when wanted. *J. B. Webster*.

HOME CORRESPONDENCE.

SPIRÆA CONFUSA.—What a capital variety of the shrubby species of this family is the above for flowering in a cool house during the month of February! It is a pity we do not see more of it in amateurs' greenhouses, considering how simple it is to grow. After flowering, the aim should be to induce the plants to throw up strong sucker-like growths from the base, not interfering with them at all, allowing them to extend in length, and gather strength by the plants being well fed when in full growth, as it is really then that the foundation of the future crops of flowers is laid. Any weakly shoots should be cut clean out after flowering, to give space to those left to enable them to ripen well. The flowers are borne in a round rosette-like fashion, 2 inches in diameter, on short footstalks, and are pure white, and very useful for cutting, either singly or in racemes, for filling taller vases. A mixture of loam and leaf-soil, with the addition of a small quantity of peat, is a suitable compost for this *Spiræa*. When the growth is made after flowering, an open position out-of-doors is the best for this plant until the middle of October, when any cool house will suit it. *E. M.*

POTATOS, ROUND AND KIDNEY.—Some twenty-five years ago a cottagers' show was started here, which has been a brilliant success; but the new Potatoes were a constant source of contention. For years I had been in the habit of purchasing most of the best new varieties of Potatoes as they appeared, and distributing them among the neighbouring cottagers, so that Potatoes became in time quite a feature of the show; but the judging was an occasion of great heart-burning, for no man could say exactly when a round ceased to be a round Potato and take on the kidney form; but we adopted the plan of having three classes instead of two as formerly, viz., round, oval, and kidney, and since that time no difficulties have arisen about the judging. I am quite sure that any practical man will fall in with this plan, which we have found to answer very well, and to have stopped most of the grumbling. I am going to make use of sulphate of copper and quicklime for checking disease next July, which Mr. Robert Veitch of the Exeter Nurseries has so well described in a

pamphlet recently published by him. *J. Rust, Eridge Castle, Tunbridge Wells.*

GREEN CURRANTS.—I was much surprised recently to learn from a well-known Surrey market gardener that a trade in green Currants of the red section was slowly growing up in Covent Garden Market. This will probably surprise many whose notions of green Currants are that, in that condition, they are not only worthless but intensely acid. Now, my informant was careful to say that enquirers for green Currants were perfectly aware of the acidity found in them, but also knew that, like very young green Gooseberries, the acidity was not of so intense a kind in that stage as later, especially in the case of Currants, which seem to be sharpest when colouring. Should this demand for green Currants become considerable, there can be little doubt but that it will give additional impetus to red Currant culture. It is obvious that, for supplying these green fruits, the finest and earliest berries sorts are most useful. Still farther, the sort of culture given by the best growers, that is, pruning all growth back to short spurs, and causing the bushes in winter to resemble mere clusters of rough-looking stumps, and giving liberal top dressings of manure in the spring, is the best way to secure abundant crops of fine berries for early picking. *A. D.*

HOUSE DECORATION, ETC.—On p. 343 of your recent issue you were good enough to give a criticism on my paper, read before the Royal Horticultural Society on the 8th inst. Will you allow me to point out a few inaccuracies. In the first place you make me say that Lady Sutton paid £1000 in one month. I did not name any amount that Lady Sutton paid. Then you went on to question the accuracy of my statement as to the lasting qualities of *Coccoloba* as a plant suitable for house decoration. If you could spare time to call here, I could show you plants which have been in the same position over two years, viz., on the top of the first landing of a staircase in a very draughty position. The plants are now very little the worse for their long tenancy of such an unfavourable position. You remark that I might have given an object-lesson. I think the public have had ample opportunities of witnessing very many of these object-lessons at various horticultural exhibitions in London, Paris, Brussels, and elsewhere during the past twenty years; at any rate, I think I may claim some little credit for having diffused a taste in the arrangement of plants that is now, and has been for many years, largely copied all over the country, even at the most unpretentious country shows. You, in conclusion, strongly condemn the excessive extravagance of people spending such large amounts on the floral decorations of their houses, and say that a good display might be made for a few shillings. It very likely has not occurred to you that it has been the means of giving employment to many thousands of people, and, as the late Lord Palmerston stated years ago, caused, in many instances, more than two blades of grass to grow where only one grew before. If the nobility and gentry have the means of spending sums such as I stated, and these sums feed and clothe many thousands of our fellow countrymen, surely they ought not to be blamed for it, but rather encouraged. *John Wills.* [We said, while paying a justly-deserved compliment to Mr. Wills, that it was a matter for regret that his paper was not illustrated in the way which Mr. Wills could have done it, but we hoped that the audience would not go away with the idea that any excessive expenditure was necessary to secure tasteful decoration. Ed.]

BEQUESTS TO DOMESTICS.—I have hoped that some lawyer among your readers would have replied to the interesting question put by "W. P." at p. 344, for March 12, as to whether a gardener can claim to participate in legacies given to a testator's "domestic servants." As no lawyer has replied, I have just looked up the point in *Williams on Executors*, vol. ii., p. 1063. It seems to have come before the courts on many occasions. In one case, outdoor servants at weekly wages were held to be entitled under a bequest to "servants in my service at the time of my decease." On the other hand, Lord Truro, in another case, held that a head gardener, who lived in one of the testator's cottages, and was not tied by him, was not entitled under a bequest of a year's wages to "each person as a servant in my domestic establishment at the time of my decease." This latter case comes very near to the case of "W. P." Obviously, however, everything turns on the exact wording of the bequest, and "W. P." has put

his question in rather a loose way. If the legacy he refers to is one of any considerable amount, "W. P." would do well to spend a few shillings in taking the opinion of a solicitor. *F. S.*

DOGWOOD.—Your correspondent, "Vagabond," does well in calling attention to the pleasing effect in the garden landscape of masses of this shrub when properly placed, and in no way can it be better utilized than by mass planting upon the margins of lakes, or rivers, in the way your correspondent points out it is made use of at Reigate Priory. At Eastnor Mr. Coleman has produced a pleasing effect by planting it extensively on the margin of a lake, a plan which we have imitated at Hendre to a lesser extent. Not only is this shrub beautiful in winter, but in autumn when the leaves are changing colour, previous to falling. *Thos. Coomber.* [It is a gawky and coarse-growing kind of shrub, and fit only for the less dressed parts of the garden. Ed.]

WEED-KILLER.—It is well to call the attention of seedsmen and others retailing weed-killer, to the case lately decided against Mr. Bott, seedsmen, Barnstable. The Judge in the case, after taking a week to consider his judgment, decided against the defendant, but said he should like to see the case carried to a higher court. In the face of this, should not all those interested in the matter combine to make it a test-case, and so decide, once for all, whether or not weed-killer comes under the Pharmacy Act of 1868? It is a matter of general interest to the trade, and I should like to see some of your readers give their opinion. *Interested.*

FORCED LILAC.—The remarks of "C. D. A." in last week's *Gardeners' Chronicle*, p. 341, regarding the forcing of purple-flowered Lilac, I quite agree with. Lilac flowers when produced of a pure white, look very beautiful. The blanching is best carried out in a cellar or shed from which all light can be excluded, and a temperature of 55° to 60° kept up together, with a moist atmosphere, which will be the right treatment, as it is important, that the flowers should be induced to start a little in advance of the leaves. The one disadvantage connected with blanching is the difficulty of obtaining any Lilac foliage to accompany the flowers, unless it be procured from plants which have been forced in full sunlight. *G. Parrant, Ashby Saint Ledgers Lodge, Rugby.*

WATERING COKE.—Having used coke for fourteen years for heating purposes, I can fully endorse the remarks of "Practice" and "Mr. T. H. Bolton" in your issues of February 27 and March 5, pp. 277 and 311 respectively. I always found by slightly damping the coke before use both its heating and burning properties are greatly improved. However, in damping coke care must be taken not to make it wet. In my experience I find wet coke causes a great waste of fuel, is slow in heating, and altogether unsatisfactory to the stoker. *J. Charlton.*

THE MULTIPLICITY OF VARIETIES OF APPLES.—I venture to think that the Fruit Committee of the Royal Horticultural Society would render a good service to fruit growers generally if it would undertake the compilation of an *Index Expurgatorius* of Apples. To this fruit, *Hogg's Fruit Manual* devotes 252 pages, with three or four sorts on a page; *Downing's Fruit and Fruit Trees of America*, 354 pages; André Leroy describes 527 sorts, the *Horticultural Catalogue* of 1842 has 879 sorts, and the present collection in the gardens is very large. I have over 500 sorts, and others have probably more. I do not, of course, say that all these sorts are generally cultivated, but there are too many of equal quality, and many others of no interest or value at the present day, which might be suppressed entirely, to the great advantage of growers, planters, and of future *Fruit Manuals*. The Royal Horticultural Society is at present in such a flourishing condition, that it could easily undertake the publication of such an index as would consist of names only; and the work, if carried through a series of sittings of the committee would not be exhausting, as a time (strictly limited) might be given at each sitting. *T. Francis Rivers.*

CROSS-BREEDING OF CARNATIONS AND SWEET WILLIAMS.—In the summer of 1890, I hybridised some single Carnations, under glass, with the pollen of Sweet Williams (carefully removing the Carnation stamens before maturity), and obtained twenty-eight seeds. These were sown last year, and I have now about twenty healthy plants showing for bloom, but they present a most remarkable phenomenon—

they have formed woody tubers at the base of the stem about the size and shape of breakfast Radishes. I am anxiously waiting for the blossom. *B. Piffard.* [We mistrust those tubers, there may be a worm in 't the bud. Ed.]

CHOISYA TERNATA.—I notice in the *Gardeners' Chronicle* of the 12th inst., a short paragraph on the above evergreen growing so well in the southern counties of England. I may state, that in the gardens at Belmont, Murrayfield, Midlothian, a fine plant is growing on a south wall, and is in fine condition, and it flowers very profusely in summer. The plant stands on a south wall, and is unprotected during winter. *J. Jeffery.*

CATTLEYA ALEXANDRE.—In the *Gardeners' Chronicle* of March 12, p. 341, is a reference to the Cattleya Alexandre, discovered by our collectors, and surprise is expressed that I should have named an Orchid which I had never seen in bloom. In bestowing the name upon a new plant, I have only done what all botanists do, though I have no claim to walk in their preserves. I am well acquainted with the Cattleya under discussion, since I have had dried specimens to examine, and also an excellent water-colour drawing done by one of our collectors, and now in my possession. The plant is not yet ready to be sent out, but I was desirous to secure for it at once a name which was intended as a compliment to the English nation, and to a Princess whom horticulture is proud to number among its patrons. If I refrain from giving any further information at present, I do so in order that others may not immediately assert that they also have the plant. But the *Gardeners' Chronicle* may rest assured that when the proper time comes I shall place my materials in the hands of a competent botanist, and that the plant shall be accurately described in due form. *L. Linden.*

MOLES AND WIREWORKS.—I read with no small degree of surprise the article on wireworms, by Mr. Rust, in your issue of February 27, p. 278, in which he advocates the preserving of moles to destroy wireworms, because I fear the remedy would prove worse than the disease. Having advocated the destroying of moles for years, in fairness to myself I will, with your permission, offer a few remarks upon my own experience of these troublesome intruders. It was my lot to serve in a garden where our employer took the mole-preserving cause, therefore, I had every opportunity of observing the destruction wrought by that pest. The damage done to crops in the kitchen garden was serious, seed-beds being upheaved in a ruthless manner, while Cauliflower-plants, Pea-rows, and Potato-drills, fared no better; indeed, no part of the garden escaped their destroying-power, and the annoyance caused by their continued upheaval of the lawn and bowling-ground was great. The consequence was, the moles had to be killed, and these gardens have not suffered any degree of harm from wireworm since the moles were destroyed; indeed, I was told by a very intelligent and observing mole-catcher in this district that he had frequently opened moles taken from fields where wireworm was destroying the crop, and he failed to find one wireworm in the stomachs of these intruders. With regard to their channelling and draining the land, I beg to differ from your correspondent. I always found the water to stand an undue length of time in their much-trodden subterranean pathways, and the land much the wettest where these holes existed. I hope Mr. Rust does not seriously advocate moles in our gardens or pleasure-grounds, and if we allow them full scope in parks, fields, or plantations around our gardens, I would like to know how, without destroying, can we keep them out of our gardens? I fear Mr. Rust has allowed his humane instinct to overrule his discretion on this important matter; for in the case of some employers it is not easy to explain away the remarks of some of our able (humane) writers. Therefore, matters of such importance to gardeners ought only to be prompted by sound practical experience, and I will read with interest any remarks that may be made upon this subject by other practical gardeners or land-stewards. *J. Charlton, Farnley Grove Gardens, Corbridge-on-Tyne.*

MILDEW IN VINERIES.—Amongst the funguses and other pests requiring watchfulness in the Vine-grower, mildew is one of the worst. Vines in good health, and which obtain liberal treatment, very rarely are affected by it. Ventilation, improperly afforded, is sometimes the cause of an attack, and it is, as a rule, less harmful to endure a high temperature in the vineries for an hour or two, than to

lower it by admitting a volume of cold air. The reason why mildew is more generally seen in late vineries, I think, is due to the absence of fire-heat. Plants growing in vineries, especially roses, on account of their susceptibility to this disease, should be avoided. Sulphur applied in some form or other is well known to be infallible, and it should always be used in winter-dressing for Vines, also in the annual whitewashing of the walls. Some persons advocate putting it on the hot-water pipes; if this is done, it should not be a large quantity that is so used, for Grapes are often spoiled by strong applications in this manner. Dusting with flowers-of-sulphur, if thoroughly done, has good effects, and clear-boiled sulphur-water used with the syringe is very efficacious. *Thos. Harris, Ashby St. Legers, Rugby.*

BAMBUSA METAKE.—This, though not the most elegant, is the hardiest of all the Bamboos, and never seems to suffer from frost in like degree to other species, and through all the cold and keen winds it may be seen unscathed, and looks fresh and green when the spring comes. It is also a very free grower, its stems running to a height of from 10 to 15 feet, or even more, and under-ground shoots come up at some distance from the mother-plant. These suckers, or rhizomes, may be taken off, and planted at any time, but the best season to remove them is in April, when growth begins. Those who have decoration to do will find this species very useful, as the cut canes, put into big-mouthed bottles of water, stand well, and look like elegant little Palms. *J. S.* [It does well in very smoky districts of London. *Ed.*]

PRUNING DENDROBIUMS.—I am very much obliged to your able correspondent, Mr. Burberry, for his courteous reply to my questions on the above subject; but I must beg to differ from him in nearly all that he says respecting the growth of this extensive genus of Orchids. In my opinion, he has not taken into serious consideration the structure of these plants, which differ as widely in their habit of growth and other essential characteristics as plants can possibly differ. Your correspondent says that the old pseudobulbs are natural reservoirs. Now I insist that this is a great mistake, for I can prove conclusively that the old pseudobulbs of some species do not store up sap at all, any more than the old stems of herbaceous plants store up moisture after a shower. Both will absorb moisture, but neither impart any to the plants to which they are attached, for the moisture contained in these stems is evaporated by the first burst of sunshine. Mr. Burberry says that *Dendrobium nobile* is an easily-grown Orchid, requiring but little skill, hence the stored-up juices in the old pseudobulbs are not made use of "mark the words" (not made use of), if so, what is the use of retaining them? Mr. Burberry may have seen what he would call a good plant, but he has not seen what in my opinion comes up to that standard of efficiency that I should call well grown. The deciduous species he names as being actually denuded of their growths are not only not weakened by the process, but are actually strengthened; and many more might be added to the list, such as *D. chrysanthum* for instance. With me the growths of this species are cut off with the flowers attached; these growths usually measure from 2 to 5 feet in length, and each growth carries from fifty to one hundred flowers, and though the growths are thus cut away, our plants have from fifty to one hundred on each plant. Though the young growths were thus cut away, the young ones that started from their bases are already in such an advanced state that most of them are upwards of 3 feet long. There are no signs of deterioration; on the contrary, though the plants have been fifteen years under my charge they are far more vigorous now than they were at the first, for last season some of the plants carried over 3000 flowers each. We will proceed, Mr. Burberry says that he has noticed the stems that flower persistently from the old pseudobulbs cut back very hard. Surely this could not have been done by anyone who knew anything about those species, for such kinds as those of the *fimbriatum* type will flower out of the old stems for years. Therefore, like those with persistent foliage, they will retain sap so long as there are buds left to flower. But it is not so with those kinds that have flowered from every node, and have shed their leaves, for with these there is nothing to excite the sap. They may become plump in wet weather, but all the moisture is absorbed by the atmosphere—none goes to the roots. It is easy for a practised eye to judge when

a bulb is of no more use to a plant, but not so to the casual observer, who only follows in the line that his grandfathers laid down. A person may be an admirer of Orchids, or any other class of plants, without knowing anything of their structure. Any person may casually take up one of the mosses, for example, that grow on the wall or bank, such as *Hypnum murale*, and admire it, yet without the aid of a powerful microscope he would not be able to understand its structure; just so with *Dendrobium*. I would here like to remind Mr. Burberry that we have for years cut off the growths of some species of *Dendrobium* with the flowers attached, just in the same manner as we should the stems of herbaceous plants, yet these same plants are the picture of health, and are the envy of some of the greatest Orchid growers in the world. Though we have plenty of table decorations, and use some thousands of Orchid flowers in such work, we never use either Bamboo rods or wire for such a purpose; all our flowers are used naturally. Such things as Bamboos are left for staking the *Chrysanthemums* and wiring baskets; were we to use them on the dinner-table, my employers would ask if we intended making a stove-house of their dining-room. Yet, we decorate where some hundreds of the greatest in the land go to admire, but without Bamboos, for we wish our flowers to last longer than a few hours. Let me further remark, I notice that in this Week's Work Mr. Burberry says, "we are placing all our *Dendrobiums* in one house." Surely he does not mean this; there must be some mistake. Are such kinds as *densiflorum*, *thysiflorum*, and all those with persistent foliage that have not yet flowered, to be placed in a house with *D. chrysanthum*, *D. formosum*, *D. phalaenopsis*, and those that are starting into growth, where a temperature of from 60° to 80° is maintained? *D. Wardianum*, *D. crassinode*, *D. Ainsworthii*, and *D. Hillii*, have not yet done flowering, yet all are to go into the same moist atmosphere. *D. Hierardi*, *D. pulchellum*, and the like, whether from very hot country or more temperate, all are to get the same treatment. Perhaps Mr. Burberry will kindly explain how we poor noodles are to manage this. *B. P.*

FINE EARLY STRAWBERRIES.—"A correspondent states that Strawberries have been gathered at Burghley Gardens, the Marquis of Exeter's Lincolnshire seat, since February 17, the variety being the celebrated John Ruskin. The fruit averaged half an ounce each in weight, and were of fine perfume and quality. In Covent Garden they fetched 40s. per lb." The above appeared last week in a local newspaper. Will Mr. Gilbert tell us if he had Strawberries of the quality described at the date named? *Ignoramus.*

RATS AND MICE: PREVENTION BETTER THAN CURE.—The present age appears to be one of invention and discovery, and one in which inventions and discoveries are turned to practical account. Now one meets with inventions for the destruction of flies in the shape of fly-papers, the destruction of rats and mice by chemicals which so work that the animal affected quietly passes away from the scene of its former haunts, and shrivels up and dies, but leaves no smell whatever behind. Notwithstanding all these ingenious discoveries, I am inclined to wonder that no one yet has discovered a system of prevention rather than cure, and it is with a view to set the minds of such discoverers at work that I write. Is it not possible to discover by experiment a chemical, the smell of which would be detected by mice, and which could be so combined in the manufacture of brown paper bags, that when the seedsman had parcelled up his seeds, and neatly tied them, and placed away in his drawers ready for the demand when it may come, no mice would dare advance to make further investigation as to the contents of the same? I feel sure that if this question was taken up by some enterprising chemist, and paper was then manufactured which would contain sufficient of the matter to render it safe from the attacks of mice, a large business might be carried on with the seedsman. *E. Wilson Serpell.*

CHIMONANTHUS FRAGRANS.—This delightfully fragrant hardy shrub annually ripens a few dozen seed-pods, which hang on the tree for a very long time. I enclose a seed-pod and flowers growing on same branch; the pod resembles a Filbert in exterior, whilst inside will be found two seeds very similar in size and appearance to small French Beans. The tree is trained on the wall of my cottage, in a sheltered nook, and annually pruned like a Peach tree. During January and early February, the surrounding

atmosphere is very pleasantly perfumed, being specially agreeable when the weather permits us to open our sitting-room windows. Very sharp frosts destroy the perfume, but fresh flowers continue to open, and a few mild days restores the delightful fragrance, sweeter than the grandiflorous section described by "H." at p. 213. *W. Crump, Naresfield Court, Malvern.*

HIGH RENTAL FOR ALLOTMENT-GROUND AT CLEWER.—It is stated in the daily papers that Lord Carrington is letting land for allotment-gardens to his labourers at Spalding, in Lincolnshire, from 33s. to 42s. per acre. Lincolnshire being a county renowned for its agriculture, and Spalding being one of the best districts, there is no doubt the land is fertile, and every way fitted for the purpose of allotment-gardens. Compare these figures with the price working-men have to pay for allotment-gardens at Clewer in the neighbourhood of Windsor. A few evenings since I was addressing a large gathering of allotment-holders on vegetable culture, and having invited questions, one holder rose and asked me if I thought 1s. per pole—£5 per acre—a fair rental? It was scarcely a proper question to address to me under the circumstances, but I said I thought it a very high rent indeed, and the questioner stated that when rent was paid, manure and seeds purchased, and other expenses met, there seemed to be very little indeed for him who tilled the land. Fortunately, it happened that Mr. E. B. Foster, of Clewer Manor, the county councillor representing that district, was in the chair, and he promised to look into the matter. One of the speakers made the astounding statement that a neighbouring farmer rented the land at 50s. per acre, and sublet it to the allotment-holders at £8 per acre. In addition to the high rent charged for the land, it occupies a low position, and some of the holders reported that at flood-time their gardens were flooded with water, to the almost entire loss of the crops. One could not but sympathise with the allotment-holders, and hope that Mr. Foster would be able to take some action that would result in a decreased rental. This suburb of Windsor is rapidly extending, and becoming a centre for working-class residences; and, these being largely destitute of garden-ground, there is naturally a great desire to acquire allotments, and, could the number be extended, they would soon be taken up. *R. Dean.*

SOCIETIES.

ROYAL HORTICULTURAL.

MARCH 22.—As the spring advances so do the exhibits at the meetings of the Royal Horticultural Society increase, and that held on Tuesday last was no exception to the rule. Orchids were well represented, and some fine groups of spring-flowering shrubs and plants made a good display. Roses, too, were well shown, and the same may be said of Narcissi.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. B. Wynne, H. Herbst, R. Dean, C. T. Drury, H. B. May, W. C. Leach, R. B. Lowe, G. Phipps, C. E. Pearson, H. Cannell, C. J. Salter, T. Baines, C. Noble, H. H. D'Ombain, H. Turner, J. Fraser, G. Paul, and F. Ross.

This Committee had the bulk of the exhibits to deal with, some of the subjects shown being of a specially noteworthy character. Roses were very good, particularly those staged by Messrs. G. Paul & Sons, Cheshunt. Messrs. W. Paul & Sons, Waltham Cross, also sent a collection of pot Roses, neatly packed in shallow hampers.

A collection of Azaleas, Lilac, and other plants, in bloom, shown by Messrs. G. Paul & Sons, attracted some attention, the Lilac *Marie Legrange*, a pure white, being specially good.

Messrs. J. Veitch & Sons, Chelsea, sent among other things, a collection of *Amaryllis*, which included some varieties of sterling value. The best were—*Chromis*, dark crimson self; *The Volunteer*, scarlet; and *Eclipse*, a fine bloom of a white and crimson colour. Some good *Amaryllis* also came from C. T. Lucas, Esq., Warrnam Court, Horsham (gr., Mr. G. Duncan), one named *Warrnam Court Seedling* being particularly good. Messrs. B. S. Williams & Sons, Upper Holloway, also staged a good *Amaryllis* named *Baron Fallas*, a neat dark bloom.

A large group of forced shrubs and plants in bloom came from Syon House, Brentford (gr., Mr. G. Wythes); and Cinerarias were well shown by Messrs. James & Son, Farnham Royal, Slough.

A collection of branches of flowering shrubs, which included *Forsythia suspensa*, *Pyrus Malus floribunda*, and a double-flowered *Pach.*, was staged by C. E. Smith, Esq., Silvermere, Cobham (gr., Mr. J. Quarterman); and a lot of *Acacias* and *Camellia reticulata* blooms came from the Royal Gardens, Kew.

Messrs. Cutbush & Sons, Highgate, staged a fine group of spring-flowering plants, and a basket of Mignonette, named "Cutbush's Scarlet."

The collection of plants staged by Messrs. B. S.

Narcissi, some of which were figured in a previous number, were exhibited by the Rev. G. H. Engleheart, Appleshaw, Andover.

Orchid Committee.

Members present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien, Sec., S. Courtauld, J. Mason, F. Sander, E. Hill, T. B. Haywood, De B. Crawshaw, W. White, H. M. Pollett, H. Ballantine, T. W. Bond, Ed. Moon, C. J. Lucas, H. T. Masters, H. Williams, and A. H. Smea.

E. Miller Mundy, Esq., Shipley Hall, Derby (gr., Mr. Wm. Elphinstone), staged a group of various varieties of the superb *Dendrobium Phalaenopsis Schroderianum*, all cultivated and flowered in ex-

alba, *Batemannia Burtii*, several *Spathoglottis Lobbia*, and many cut spikes of *Dendrobium Dalhousiae*, *Epidendrum anrantiacum*, *Schoenburgkia undulata* and their richly coloured true *Cattleya labiata*.

Messrs. Charlesworth, Shuttleworth & Co., of Heaton, Bradford, and 191, Park Road, Clapham, had a fine group, tastefully arranged, and composed chiefly of very fine examples of *Oncidium sarcodes*, with which were *Lælia harpophylla*, *Oncidium citrosum*, &c. A Silver Banksian Medal was awarded.

F. W. Moore, Esq., Curator, Royal Botanic Gardens, Glasnevin, Dublin, sent a fine spike of the unique *Moorea litorata*, n. gen. and sp. (*Gardeners' Chronicle*, July 5, 1890, p. 7). The flowers nearest resemble a



FIG. 59.—PALM TREE AVENUE, HYÈRES. (SEE P. 409.)

Williams & Son, also contained subjects of a noteworthy character, amongst which *Azalea Princess of Wales*, a fine white; a dwarf *Solanum*, named *S. capricastrum nanum*, *Euonymus japonicus compactum*, and *Cliveias* of sorts, may be mentioned.

Some *Cliveias* from the Royal Horticultural Society's gardens at Chiswick were also shown, and Mr. C. W. Leach, Albury Park Gardens, brought a bright coloured *Anturium*, named *A. coccineum* Leachii. *Ranunculus cortusifolius* was shown by Mr. C. Wood, gr. to Lord Hamilton, Merstham House; and a bunch of *Violets* by Mr. Miller, Ruxley Lodge, Esher.

Narcissi were well shown by Messrs. P. Barr & Sons, Long Ditton, whose collection also included several of the early-flowering *Irises*. Various hybrid

celent manner, the large variety to which was awarded a First-class Certificate, and the charming light form to which an Award of Merit was given, being noble examples. A Silver Banksian Medal was awarded for the group.

Messrs. F. Sander & Co., St. Albans, secured a similar award for a fine group containing three varieties of *Phaius Cooksoni*, *Dendrobium Wardianum album*, white, with the base of the lip yellow, and with the usual chocolate blotches; *D. W. virginale*, a fine thing, white without the chocolate blotches on the lip; *Cypripedium Wallisii*; the extraordinary *Epidendrum Laucheianum*, with a long dense drooping raceme of pretty little brown and yellow flowers; *Ansellia lutea*, *Phajus asamica*, *Epidendrum O'Brienianum*, with six spikes; *Cattleya Trianae*

Houlletia. It has a stout upright spike of large flowers, the centres white and the outer halves of the segments reddish-brown. The curious three-lobed lip is yellow and white, with purplish spots. Mr. Moore also sent a spike of the curious *Megacalium falcatum* and flowers of *Lycaste fulvescens*.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. Simpkins), sent a curious and pretty supposed new species of *Odontoglossum* with white flowers, the lip handsomely marked with bright rose; also *Brassia brachiata* and *Masdevallia Hinciana* X.

Ed. Moon, Esq., Cassiobridge, Watford, exhibited *Dendrobium infundibulum*, *Cassiobridge* var., a fine form with remarkable development of petals and lip. G. R. Le Doux, Esq., Langton House, East

Moulsey, sent *Odontoglossum triumphans*, Le Droux var.

Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking, staged plants of *Dendrobium speciosum* ♀ × *D. Kingianum*, which had small white flowers.

Messrs. Heath & Son, Cheltenham, sent flowers of *Cypripedium Argus* Moenchii.

A. H. Sme, Esq., The Grange, Hackbridge (gr. Mr. G. W. Cummings), sent a fine spike of the rich crimson *Epidendrum Frederici* Guillelmi.

C. J. Lucas, Esq., Warrnam Court, Horsham, staged the little *Masdevallia simul*, *Dendrobium nobile nobilior*, and cut flowers of *D. n. nobile* and *D. n. cærulescens*; and C. E. Smith, Esq., Silvermere, Cobham, Surrey, sent for name *Dendrobium hedyotum*, *Lælia* (*Brassavola*) *glauca*, and other cut Orchids.

Fruit and Vegetable Committee.

Present: P. Crowley, Esq., in the chair; and T. Francis Rivers, G. W. Cummings, J. Willard, G. Bunyard, W. Warren, J. Wright, T. J. Saltmarsh, A. Dean, J. H. Laing, G. H. Sage, G. Norman, G. Wythes, J. Smith, J. Hudson, H. Balderson, G. Reynolds, Harrison Weir, and Dr. Hogg.

But few exhibits were brought before this committee. C. E. Smith, Esq., Silvermere, sent fruit of a seedling orange of a medium size; and Mr. C. W. Leach brought Tomato Lady Bird from Albury Park. This is a small Tomato borne in clusters.

A dish of well-grown Mushrooms came from Mr. Miller, gr. to Lord Foley, Esher; and a brace of Cucumbers from Mr. D. Roberts, gr. to H. Packe, Esq., Prestwold, Loughborough; the latter were of good shape, medium size, and were said to be a cross between Beeson's Prolific and Lockie's Perfection.

A bundle of forced Asparagus was exhibited by Messrs. T. and W. Poupert, Mortlake.

A paper on the "Cultivation of Melons," by Mr. C. Ross, was read by the Rev. W. Wilks at the afternoon meeting. The paper was of a practical and interesting nature.

ROYAL BOTANIC.

MARCH 23.—The first spring exhibition of the Royal Botanic Society was held in the Society's Gardens, Regent's Park, on the above date. The entries in some classes were by no means numerous, but the exhibits combined made a fair display.

Messrs. B. S. Williams & Son, Upper Holloway, staged a fine group of *Azalea mollis* and *Clivia*, for which a large Silver Medal was awarded; and several other things were sent by the same firm. Messrs. Laing & Sons, Forest Hill, S.E., were also awarded a Silver Medal for a group of miscellaneous plants, which included several new *Caladiums*; and Messrs. G. Paul & Sons gained a similar award for *Roses*.

A collection of cut *Camellia* blooms and *Roses* came from Messrs. W. Paul & Sons, Waltham Cross; and *Narcissi* and other bulbous plants were well staged by Mr. T. S. Ware, Tottenham, and Messrs. Barr & Sons, for which medals were awarded.

Messrs. H. Williams & Son, Fortis Green, Finchley, were to the fore with *Hyacinths*, *Tulips*, and *Narcissi*; and *Cyclamens* were extensively shown by Messrs. C. Elmonds, Hillingdon; T. Walker, Hounslow; T. Prestidge, Brentford; J. Odell, Hillingdon; and the St. George's Nursery Co., Hanwell. Medals were awarded all these firms; also to Messrs. James & Sons, Slough; and Cutbush & Sons, Highgate, were similarly honoured for a group of *Cinerarias* and miscellaneous plants respectively. Messrs. Veitch & Sons, King's Road, Chelsea, showed a collection of *Amaryllis*.

For six greenhouse *Azaleas*, Mr. H. Eason, gr. to B. Noakes, Esq., Hope Cottage, Highgate, was 1st in the amateurs' class, and Mr. Henry James, Castle Nursery, West Norwood, secured a similar honour in the open class.

The best six Chinese *Primulas* were shown by Mr. J. Odell, Hillingdon, and the best twelve *Hyacinths* in the amateurs' class by Mr. Douglas, Great Geier, Iford. Mr. Douglas was also 1st for six *Deutzias*, and twelve pots of *Freesias* and *Narcissi*, and won minor prizes in other classes.

Messrs. H. Williams & Son, in addition to their other exhibits, staged the best twelve pots of *Tulips* and *Hyacinths* in the open class; and Messrs. G. Paul & Sons were awarded 1st for six *Amaryllis* and six *Roses* in pots.

For twelve pots of *Cyclamen*, Mr. D. P. Phillips, gr. to P. W. Mann, Esq., Langley Broom, Slough, was placed 1st; and Mr. R. Scott, gr. to Miss Foeter, The Holme, Regent's Park, similarly, for twelve pots of *Crocuses*.

The best pots of *Lily of the Valley* were shown by W. B. Marle, The Grand Floral Depot, Regent's Street, W.

HYÈRES.

THE illustration which we give on p. 408 will convey to the reader a better notion of the climate of that lovely district than many pages of description. The Palms are Date Palms, hundreds of which have been planted along the Boulevards, one avenue alone, about a mile long, reaching from the railway station to the town, is lined with them, and hence the name, *Hyères-les-Palmiers*, finds ample justification. For the rest, the vegetation is of the same rich and varied character as in the Riviera generally—a vegetation which, like the visitors, is mostly of exotic origin. The *Pall Mall Budget* of last week contains numerous illustrations of *Hyères* and its neighbourhood in connection with the visit of the Queen to that delightful locality.

Obituary.

SERENO WATSON.—It is with very great concern that we publish the following letter from the President of Harvard College. In our next issue we shall give some further details as to Mr. Watson's career:—

"Harvard University, Cambridge,

"March 9, 1892.

"Sir,—It is with great regret that I inform you of the death of Sereno Watson, Curator of the Herbarium, which occurred on the 9th instant, in the sixty-sixth year of his age.

"The funeral services will be held in Appleton Chapel on Friday, March 11, at 2:30 P.M.,

"Your obedient servant,

"CHARLES W. ELIOT."

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.			
	Above (+) or below (—) the Mean for the week ending March 19.	ACCUMULATED.				10ths Inch.	Ins.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 3, 1892.		
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.						
Day-deg.	Day-deg.	Day-deg.	Day-deg.	More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 3, 1892.	Total Fall since Jan. 3, 1892.					
0	1	10	39	—	17	163	3	55	10.6	37	23
1	2	13	48	—	39	186	1	43	5.2	34	23
2	1	10	34	—	36	133	2	43	3.9	42	13
3	1	16	35	—	44	145	1	43	3.2	45	23
4	aver	23	38	—	39	153	1	41	4.0	43	23
5	1	18	33	—	47	109	1	34	3.3	48	26
6	1	13	33	—	31	127	4	43	7.8	38	34
7	aver	17	30	—	36	123	1	42	6.2	38	25
8	1	27	17	—	44	97	2	45	6.3	42	31
9	1	29	17	—	54	87	2	46	5.8	25	22
10	1	31	16	—	69	94	3	43	7.5	25	25
*	aver	32	5	—	38	45	2	48	6.9	56	28

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.

4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending March 19, is furnished from the Meteorological Office:—

"The weather continued cold and somewhat unsettled during the earlier part of the week, but subsequently became considerably warmer, especially during the daytime, and very fine and bright, with drizzle.

"The temperature varied greatly. During the earlier part of the time it was very low, the absolute minima (observed on the 13th in Ireland and England, and on the 16th in Scotland), ranging from 3° in 'Scotland, E.' (at Braemar), 10° in 'Scotland, N.' (at Glenarron), and 15° in 'England, S.W.' to 22° in 'England, E.' and 31° in the 'Channel Islands.' During the latter part of the week the thermometer was much higher, the absolute maxima (which occurred on the 18th or 19th), ranging from 65° in 'Scotland, N.' and 61° in 'Scotland, E. and Ireland, N.' to 60° in 'Scotland, W. and the Channel Islands.' The range of temperature was consequently unusually large, but the average for the week did not differ materially from the normal value for the time of year.

"The rainfall slightly exceeded the mean in 'England, S. and S.W.' 'Ireland, S.' 'England, N.W.' and the 'Channel Islands'; elsewhere it was less than the mean.

"The bright sunshine was fairly abundant, and exceeded the normal for the time of year very generally. The percentage of the possible amount of duration ranged from 25 over Ireland, to between 42 and 48 in most of the English districts, and to 56 in the 'Channel Islands.'"

MARKETS.

COVENT GARDEN, March 24.

[We cannot accept any editorial responsibility for the unpublished reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day, &c.]

BUSINESS quiet. Grapes coming shorter with prices steadily rising. James Webber, Wholesale Apple Market.

FRUIT—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Apples, Canadian and Nova Scotian, per barrel	... 10 0-25 0	Kent Cobs, 100 lb.	40 0-—
Apples, 4-sieve	... 1 0-4 0	Lemons, per case	... 8 0-14 0
Grapes	... 2 0-5 0	Pineapples, St. Mi. chael, each	... 2 0-8 0
		Strawberries, per oz.	0 6-1 0

CUT FLOWERS—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Acacia or Mimosa, French, per bunch	1 6-2 0	Narcissus, paper-white, Fr., per dozen	2 6-4 0
Anemones, 12 bunches	2 0-6 0	Narcissus (various), Scilly-do, bunches	2 0-4 0
Arum, per doz. bl.	... 2 0-4 0	Orchids:—	
Azalea, p. doz. sprays	0 6-9 0	Cattleya, 12 blms.	6 0-9 0
Camellias, white, doz.	2 0-3 0	Odontoglossum crispum, 12 blms.	3 0-6 0
Carnations, 12 blms.	2 0-2 0	Pelargoniums, scarlet, per 12 bun.	4 0-6 0
Cinerarias, 12 bun.	6 0-3 0	— 12 sprays	0 9-1 0
Daffodils, double per dozen bun.	2 0-4 0	Primroses, doz. bun.	0 6-1 6
— single	... 4 0-6 0	Primula, 12 bun.	4 0-6 0
— various	... 6 0-9 0	Roses, Tea, per dozen	0 6-1 0
Eucharis, per dozen	4 0-6 0	— coloured, dozen	2 0-4 0
Freesia, dozen bun.	2 0-4 0	— yellow (Maréchal), per dozen	4 0-6 0
Gardenias, per dozen	3 0-6 0	— red, per dozen	4 0-6 0
Heliotrope, 12 sprays	0 6-9 0	Snowdrops, doz. bun.	1 0-3 0
Hyacinths, 12 sprays	2 0-6 0	Spiræa, 12 bunches	6 0-8 0
Jouquié, dozen bun.	1 6-3 0	Tuberose, 12 blms.	1 0-2 0
Lilac white (French), per bunch	... 4 0-6 0	Tulips, per dozen	0 6-1 6
Lily of the Valley, 12 bunches	4 0-5 0	Violet, Parme, per bunch	... 2 0-3 0
— doz. sprays	... 0 6-1 0	— Car, per bunch	1 6-2 0
Maiden Hair Fern, 12 bunches	6 0-12 0	Wallflowers, French, per dozen	2 0-4 0
Marguerites, per doz.	... 3 0-4 0		
Mignonette, 12 bun.	4 0-6 0		

ORCHID-BLOOM in variety.

PLANTS IN POTS—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	8 0-12 0	Ficus elastica, each	1 6-7 5
Arum, per dozen	... 8 0-12 0	Genistas, per dozen	5 0-12 0
Aspidistra, per doz.	16 0-63 0	Hyacinthidifolia, doz.	6 0-9 0
Azalea, per doz.	... 24 0-36 0	Lily of the Valley, pot	1 6-2 0
Begonia, per doz.	8 0-12 0	Marguerites, per doz.	6 0-12 0
Cinerarias, per doz.	8 0-10 0	Mignonette, doz. pots	5 0-15 0
Cyclamens, per doz.	9 0-15 0	Primula sinensis, doz.	4 0-6 0
Cyperus, per dozen	4 0-10 0	Palmas, various, each	2 0-21 0
Dracæna, each	... 1 0-6 0	— specimen, average	10 6-84 0
Erica, various, dozen	12 0-16 0	Pelargoniums, Scarlet, per doz.	... 6 0-9 0
Erica gracilis, doz.	8 0-12 0	Solomon, per dozen	8 0-10 0
Ferns, various, doz.	10 0-9 0	Tulips, per doz.	6 0-8 0
per 100	8 0-15 0		
Bedding plants, various, in boxes, 1s. to 2s.			

VEGETABLES. — AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe,	each ... 0 4 - 0 6	Lettuces, per doz.	... 1 6 - 2 0
Beans, French, lb.	... 1 6 - 2 0	Mushrooms, punnet	2 0 - 3 0
Beet, red, per dozen	2 0 - 3 0	Mustard and Cress,	punnet ... 0 4 - 0 6
Carrots, per bunch	0 4 - 0 6	Parley, per bunch	0 3 - 0 6
Cauliflowers, each	0 3 - 0 6	Saukale, p. basket	2 0 - 3 0
Celery, per bundle	1 0 - 3 0	Shallots, per lb.	0 6 - 0 6
Cucumbers, each	0 9 - 1 3	Spinach, per bushel	3 6 - 4 0
Endive, per dozen	2 0 - 3 0	Tomatos, per lb.	0 6 - 1 0
Herbs, per bunch	0 9 - 1 0	Turnips, per bunch	0 4 - 0 6

POTATOS.

The market is not quite so healthy as per last report; and, except for best quality, there is a tendency to lower prices. *J. E. Thomas.*

SEEDS.

LONDON: March 23.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., write that many country seedsmen seem resolved to postpone the bulk of their purchases until the sowing season is close upon them; this will make business next month a great rush; if intending purchasers would operate at once, they would find their wants more carefully and advantageously attended to, than will be possible later on. Meantime, values all round, especially for Alaska White, and Red Clover seeds, keep exceedingly firm, and there are indications that the rapidly augmented demand would result in an enhancement in prices. There is no change this week in Rye-grasses. Sainfoin is cheap and good. A very choice new variety of holling Peas, excellent cookers, called Green Scotch, is now obtainable at tempting rates. Mustard and Rape seed are firm. Bird seeds show steadiness. For Tares there is an improved request.

POTATOS.

SPITALFIELDS: March 22.—Quotations:—Maggums, 60s. to 70s.; Imperators, 60s. to 80s.; Hebrons, 60s.; Bruce Magnums, 80s. to 75s.; Main Crop, 75s. to 90s.; Snowdrops, 60s. to 80s. per ton.

BOROUGH: March 22.—Quotations:—Hebrons and Elephants, 70s. to 90s.; Imperators, 60s. to 90s.; Bruce Magnums, 60s. to 90s.; Dunbar, 60s. to 105s. per ton.

STRATFORD: March 22.—Quotations:—Maggums, 52s. 6d. to 80s.; Imperators, 60s. to 85s.; Bruce Magnums, 65s. to 80s.; Scotch do., 65s. to 90s.; Main Crops, 100s. to 110s. per ton.

NOTICES TO CORRESPONDENTS.

AMOUNT OF LABOUR: *Subscriber.* We can only estimate approximately the number of men, besides the head gardener, that would be required. The kitchen-garden of $\frac{1}{2}$ acre, with the 200 yards of fruit wall, and the orchard of 1 acre under apple cultivation, would require three men, if the head man prunes and nails his wall trees, and the edgings of Box. Light land might be managed if there is no Box clipping or weeding of walks, by two men and one lad. The lawn and conservatory, and 2 acres of clumps, borders, and shrubs require one man and one boy, with a donkey or pony for the mower. It will greatly depend on the water supply, if convenient or otherwise, the kind of land, the service expected to be rendered by the gardener to carry out work in the dwelling. He may have to supply labour to pump water, help the cook, butler, and coachman; furnish beaters in the shooting season, beat carpets, &c.; in which case the force above given would not be equal to the work.

ANONAS: *J. L.* The plants rarely fruit in this country, and it is not likely that the stopping of the shoots would help the matter, rather the contrary. Try root-pruning or root-cramping in pots or tubs, giving the plants all sunlight possible, and no shade at any time.

BOOKS: *Risque, Greenhouse and Stove Plants*, by Thomas Baines, published by John Murray, Albemarle Street, London. *Rivers' Rose Amateurs' Guide*, London: Longmans, Green, & Co. *Villa Gardening*, by E. Hobday, London: Macmillan & Co. will supply you with the other information required.—*A. H.* *Bulbs and Bulb Culture*, by Mr. D. T. Fish, published at the Bazaar Office, 170, Strand, London, W.C.

CHOISYA TERNATA: *J. Colebrook.* On the Sussex coast the plant will go through almost any winter without injury, especially if it have the protection of a wall, not necessarily trained to the latter, but standing just in front of one.

CINERARIA ACANTHIFOLIA: *Paddy.* The silvery hue of the leaves is more decided the second year than the first. To give the plants a bushy habit you may cut them back to the point named. This cutting back will induce bushiness, and will not cause the plants to flower more than if it were not performed. The flower heads can always be removed, together with a large portion of the flower stalk, when they show. It may be removed in April, whether it be in the open ground or not. Take cuttings in August.

DOUBLE SPATHED ARUM: *J. W. W.* Not uncommon. We receive numerous specimens every year, and have often figured it.

ERRATUM: "TWO FAMOUS GARDENERS." In the last column of this article on p. 362, after "the appointment of royal gardeners apparently died with him," read "so far as regards the firm which he did so much to enlarge."

FIG TREE IN A PLANT STOVE: *A. H.* The plant stove is hardly the proper place in which to grow a Fig tree. The plant is almost hardy in this country, and although it may be afforded a good deal of heat whilst it is growing and carrying its fruit, it requires rest during the autumn and winter, in a low temperature. Can you not take up the tree and put it into a large tub or pot? It will then be more under control, and will, in time, bear fruit.

FRENCH HORTICULTURAL JOURNAL: *Risque, La Revue Horticole*, published at Paris, Librairie Agricole de la Maison Rustique, 26, Rue Jacob. M. H. Martinet has assumed the editorship of *Le Jardin*, published by M. Godefroy, 5, Rue d'Edimbourg, Paris.

FUNGUS FROM VINE BORDER: *J. C.* It is a species of fungus that is often found in Mushroom-beds, and which is rather injurious than not, to the Mushrooms, starving the soil, and crowding them out. If it is abundant in the Vine border, it is likely to do harm, and, as it is usually found at or near the surface, it should be sought for and got rid of. The fungus-spawn has been brought in old Mushroom-bed material, or it has found favouring conditions in fresh horse-droppings dug into the border.

GREENHOUSE STANDING ON A CONCRETE FLOOR: *W. C.* Consult your solicitor.

HOLLY HEDGE: *W. D.* The hedge may be cut as hard back as you please; it will break all right, but will not be a very sightly object for some time afterwards. The cutting back should not be delayed. The young shoots should be left untouched till next Spring, when they may be shortened and the weakest ones removed entirely.

LAND SPOILED BY AN OVER-DRESSING OF MANURE: *J. R.* Of nitrate of soda, 125 lb. per acre would be a sufficient dressing, and that should be afforded the crop in a general way whilst in full growth. The quantity afforded is in your case about five times as great as it is safe to use, but having been already ploughed-in, much of it will be carried away by water to levels out of the reach of plant roots. It will cause excessive leaf growth in cereals, but the root-crops will be benefited—12 cwt. of superphosphate of lime is more than double the proper quantity even for fruit trees. We should say that whatever you sow or plant, unless the land was of the poorest description, will grow largely to leaf, and much out of character; but if a subsoil plough or a deep cultivator could be set to work to deepen the tilth and break up the pan formed by the plough-sole, much of the excess of manure would sink into or be commingled with a much larger body of loose soil, and thereby rendered, at least, innocuous.

LARGE INVESTMENT OF MONEY IN A GARDENING PROJECT: *W. C.* We should not like you to go into the business solely on any advice that we might give you—the responsibility is too great. All that we can say is, that money is made by cultivating the subjects you have named; but other things besides money are required—skill, industry, enterprise, knowledge of markets, &c. There is a large and growing demand for the produce named, and fair prices are obtainable for good stuff.

MARKET PRICES: *W. J. B.* The prices which are quoted in our pages are merely approximate, and rarely agree with those really given. Covent Garden prices vary greatly with the quality of the goods sent, the time of day when the latter arrive, the demand at the moment, and in other ways. We must suppose that the prices generally paid to growers give satisfaction, or we should not find this market so well supplied as it is with the best obtainable productions.

NAMES OF FRUIT: *A. A. R.* Too much decayed to name with any degree of certainty.

NAMES OF PLANTS: *C. Bellis.* Also variegata.—*G. S.* The Winter Aconite, *Erantia hyemalis*.—*T. M.* *Coccoloba platycladon*.—*G. S.* *Domaria Williamsii*; certainly not *Patacoensis*, which has the

outer segments one-fourth shorter than the inner.—*R. C. H.* *Snowdrop*, *Galanthus Elwesii*.—*E. D. L.* 1, *Davallia Mariesii*; 2, *Pteris cretica albo-lineata*; 3, *Polypodium Billardieri*; 4, *P. nigrescens*; 5, *Scopolopendrium vulgare assum*; 6, *Asplenium alatum*.—*W. S.* 1, *Pelargonium echinatum*; 2, *Pteris cretica albo-lineata*; 3, *P. adiantoides*; 4, *Adiantum formosum*; 5, *Pteris tremula*; 6, send when in flower.—*A. R., Bedford.* 1, *Pteris argyrea*; 2, *P. cretica albo-lineata*; 3, *Cyrtium falcatum*; 4, *Oncidium japonicum*; 5, *Laestrea Sieboldii*; 6, *Doryopteris palmata*; 7, *Pteris adiantoides*; 8, *Laestrea atrata*; 9, *Pteris hastata*; 10, *Laestrea aristata variegata*; 11, *Polystichum angulare proliferum*; 12, *Nephrolepis pectinata*; 13, *Pteris chinensis*.—*White Dendroble.* *Dendroble infundibulum*, the largest form we have seen.

PALMS GROWING IN HOUSES INFESTED WITH MEALY-BUG, SCALE, AND THIRPS: *A. X.* There are plenty of insecticides sold by nurserymen for ridding plants of thrips. Fumigation with tobacco or some of its preparations will also do that. Scale and mealy-bug give more trouble, and are rarely ever got quite rid of on Palms. See Answers to Correspondents in our issue for March 12, recipe for making a petroleum emulsion which is suitable for your purpose.

PELAGONIUM IVY-LEAF VAR.: *G. F.* So far as we can tell from the specimen sent, it is very good and distinct, and quite worth propagating.

PHOSPHATE OF LIME: *A. P.* "Under the name of calcic phosphate a great many different products are understood. For a long time nothing but the calcic phosphate obtained from bones was used for agricultural purposes. At the present time, the greater part of the phosphate used as manure is obtained from the mineral kingdom, being found in practically inexhaustible quantities. All the phosphates used in agriculture are formed of phosphoric acid and lime. We know of three principal sorts of calcic phosphate, and that one called *tricalcic phosphate* is the most important, and has received the name of superphosphate of lime. It is prepared commercially by treating bones or mineral phosphates with sulphuric acid. The acid phosphate is then mixed with calcic sulphate, and under this form receives the name of superphosphate of lime, or calcic superphosphate. It contains 15 to 18 per cent. of phosphoric acid, and is sold at about 4s. 6d. per cwt." Extract from *Artificial Manures*, by Mons. Geogheville. The above descriptions dispose of the questions in your two letters.

PLANTS WHICH WILL GROW WELL TO FILL UP HOLES IN THE BOTTOM OF AN OLD QUICK HEDGE: *Subscriber.* Plants which grow fairly well in the shade of others, viz.:—Common Holly, Butcher's Broom, Common Laurel, *Pontic Rhododendron*, *Spurge Laurel*, common Box. The first named is the best to keep animals out, but where effect is sought, and that only, any of the others may be chosen. Whatever is planted must have proper stations made for it by excavating holes as large as may be, without greatly mutilating the roots of the Quick, and filling these holes with fairly rich loam. Plant from now to the end of May, and make the soil firm about the roots. Water and mulch, paying attention to the plants during the first summer, and supplying them with water once or twice a month. A hedge bottom is mostly a dry place.

TEXAS GRASS: *J. J.* Enquiries made at some of the large wholesale seed houses might elicit an answer to your question.

VINES: *S. V.* The soil sent is of a healthy nature, and no trace of disease of any kind was detected on the roots. Is it possible that some trick has been played, the shoots and leaves showing traces of scalding or what is much like it?—*Wardianum.* We do not see any trace of disease. The leaves have the appearance of having been forced too hard without enough air.

VINE LEAVES BY POST: *G. L., Broom Park.* Please send other leaves, packed in damp Moss, and in a box.

COMMUNICATIONS RECEIVED.—*J. E.*—*D. K.*—*W. F. L. & S.*—*Union Steam Ship Company*.—*W. R.*—*Horticultural College*.—*W. W.*—*J. A.*—*R. H. P.*—*W. C.*—*J. W.*—*D. H. S.*—*J. N.*—*J. Barry*.—*J. Lynch*.—*E. S.*—*Wild Rose*.—*W. A.*—*C. W. E.*—*L. C. (Rugby)*.—*R. D. J.*—*C. H. B.*—*M. G. W. D.*—*E. W. G.*—*Practice*.—*S. W. Nelson*.—*South Africa*.—*Export*.—*C. H. May*.—*T. H. Baily*.—*Ithaca*.—*T. C. H. Russell*.
PHOTOGRAPHS, DRAWINGS, &c.—*Kewfield*, *Arbuthnot* (with thanks).

International Horticultural Exhibition,

EARL'S COURT, S.W. OPENING DAY, MAY 7th, 1892.

INTENDING EXHIBITORS should make **immediate APPLICATION FOR SPACE,**
WHICH IS RAPIDLY BEING TAKEN UP.

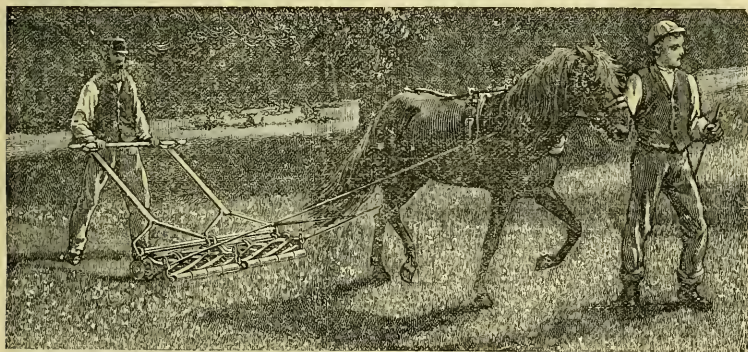
THE EXHIBITS WILL INCLUDE—CONSERVATORIES and FORCING HOUSES—
BOILERS—LAWN MOWERS, ROLLERS, and GARDEN TOOLS—GARDEN TENTS and SEATS—
FLOWER STANDS and SUMMER HOUSES—ORNAMENTAL IRONWORK and FENCES—FERNERIES
and ROCKWORK—GARDEN POTTERY, STATUARY, FOUNTAINS, &c.—PAINTS, LABELS, FIBRES,
MANURES, INSECTICIDES—PEATS and FUEL—TREE TRANSPLANTING MACHINES—BOUQUET
HOLDERS, PAPERS, TUBES, &c.—MACHINERY for SEED-CLEANING and EXTRACTING ESSENTIAL
OILS—PERFUMES, FRUIT EVAPORATORS, PUMPS—COLLECTIONS of SEEDS of all KINDS—
DESIGNS for ESTATES and GARDENS—PHOTOGRAPHS of TREES, &c.—ESSAYS on GARDENING
and FORESTRY.

There will be, in addition to the above, displays of every branch of Industry of interest to

PRACTICAL & SCIENTIFIC HORTICULTURISTS.

ADDRESS—THE SECRETARY, INTERNATIONAL HORTICULTURAL EXHIBITION,

EARL'S COURT, LONDON, S.W.



THE

"NEW EASY" LAWN MOWER.

The **LIGHTEST RUNNING** and
CHEAPEST ROLLER Machine.
UNEXCELLED DURABILITY.

Made in all Sizes, from 10 to 24 inches.
The **LARGEST SIZE EASILY WORKED by ONE MAN.**
Illustration shows two 24-in. Machines coupled
together, doing the work of a 50-in. Horse
Machine, at one-third the initial cost.

SOLE LICENSEES—

SELIG, SONNENTHAL, & CO.,
85, Queen Victoria St., London, E.C.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the
largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

**PATENT HORIZONTAL TUBULAR, WITH WATER BARS; CAST-IRON SADDLE, WITH WATERWAY-
END, Etc.; VENTILATING GEAR AND VALVES.**

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes,
without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London."

Telephone, No. 4763.

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

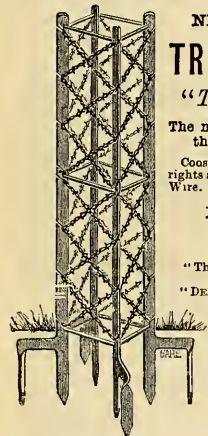
If you fail to obtain this
Valuable Canvas from your local
Seedsman, send a post-card to—

BENJ. EDGINGTON,
(LIMITED),
2, DUKE STREET,
London Bridge, S.E.,

Who will reply by return, with
Samples and full Particulars.

"FRIGI DOMO" CANVAS.**HILL & SMITH,**

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



**NEW PATTERN
TREE GUARD,
"The Porcupine."**

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittens, Herefordshire,
"Dec. 28, 1887.

"DEAR SIRS,—I have now had
an opportunity of trying
your PORCUPINE TREE
GUARDS, and they seem
quite to answer my
purpose, so you may send me
50 more as before. I en-
close cheque for your
account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.



21-in. and 15-in. Foreign, of above sizes, in boxes of 100 feet
and 200 feet super.

English Glass, cut to buyers' sizes, at lowest price, delivered
free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry,
and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES,
Greenhouses, Frames, &c.

1 Cwt. and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.,
and BAORLOR'S WALK, DUBLIN.—Discount for Cash.

"One of the most winning and delightful,
as well as the most accurate and scientific
of teachers."—*N. Y. Tribune.*

Garden & Forest

1892—Fifth Year.

Is acknowledged throughout the
world to be the leading American
authority in the field of Horti-
culture, Landscape Art, and Forestry.
Its contents are original through-
out, of the highest literary charac-
ter, and its writers are the foremost
European and American authori-
ties. It is invaluable to the Owners
of Country and Suburban Homes,
Landscape Gardeners, Botanists,
Horticulturists, Lovers of Nature,
and to all who would cultivate a
correct taste in matters pertaining
to the disposition and management
of gardens and grounds, whether
public or private. The illustrations
are original and artistic.

Permeated with a spirit of knowledge and
refinement.—*Gardeners' Chronicle, London.*

The foremost journal of its class, keeping
in touch with every advance in the scientific,
artistic, and practical phases of horticulture
and arboriculture.—*Boston Herald.*

Holds one of the very first places in
periodical horticultural literature.—*Revue
Horticole, Paris, France.*

Its arrival is the coming of a wise and in-
telligent and entertaining friend, who en-
ables us to live more happily because more
harmoniously with Nature.—*Harper's
Weekly.*

Its character is at once dignified and
pleasing, and its contents are scholarly and
scientific in the exact sense.—*Chicago Even-
ing Journal.*

No new book on horticulture can for a
moment be compared in value to the bound
volume of *Garden and Forest*. It is a com-
pendium of new information.—*N. Y. Herald.*

Published weekly. 21s. a year.

A specimen copy may be had free
on application to Messrs. **SAMPSON,
LOW & CO.,** St. Dunstan's House,
Fetter Lane, Fleet Street, London,
England, to whom orders for subscrip-
tions may be forwarded.

GARDEN AND FOREST,

TRIBUNE BUILDING,

NEW YORK, U.S.A.

**The Original and Only Makers of the
GENUINE RIVETED TRENTHAM BOILERS**

WITH SOLID ENDS. Also—
SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).
These Boilers, after long experience, have
proved themselves the Most Efficient, Econo-
mical, and Lasting Boilers extant.
Every other kind of Boilers, Sockets, Flanges,
and Expansion Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

PIT LIGHTS.

Best quality and workmanship, 6 inches thick, 6 ft. by 4 ft.,
iron bar across and very strong, 4s. each; free on rail in
London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door,
&c. Put on rail in London. Low price. Send for detailed
specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

**ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,**

AND ALL GARDEN SUNDRIES.

PRICE LIST

from the Largest Manufacturer in the Trade,

H. C. SMYTH,
21, GOLDSMITH STREET,
DURRY LANE, W.C.

BARB WIRE.

CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



THOS. W. ROBINSON

REVISED PRICES FREE

THE BEST OF ALL

IMPROVED EXPANSION JOINT

HOT WATER PIPES

HEATING APPARATUS FIXED COMPLETE

JOHN H. PARK

IRON WORKS STOURBRIDGE

GARDEN REQUISITES, as supplied to
the Royal Gardens.—COCOA-NUT FIBRE REFUSE,
1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., each sack free;
2-ton truck, 30s., free on rail near works. FINE ORCHID
PEAT, 1s. 6d. per sack. BROWN FIBROUS DO, 6s. per
sack, 5 for 22s. 6d. BLACK DO, 4s. 6d. per sack, 5 for 20s.
FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each
3s. per sack. Coarse SILVER-SAND, 1s. 6d. per bushel, 13s.
4-ton, 25s. per ton. CHARCOAL, 8s. per sack. SPHAGNUM,
7s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS,
10s. 6d. to 18s. per dozen. RAFFIA, VIRGIN CORN
STALKS, &c. BONES, 4-inch, 11s. per cwt. Pure BONE-
DUST, 1s. 6d. TOBACCO-PAPER, Spinalis, 10s. per lb.,
2s. 10 for 21s. CLOTH, 1s. per lb., 2s. 10 for 26s. Price List,
free. W. HERBERT and CO.,
Hop Exchange Warehouses, Southwark Street, London, S.E.

GARDEN REQUISITES.
Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo
Canes, Rustic Work, Measures, &c. Cheapest Prices of—
WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

SIX CABINET PORTRAITS, 3s.; three for
4s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d.
Eight-inch Enlargement, 3s.; three for 8s. Stamp size, 24 for
1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order,
and in about ten days you will receive Highly-finished Copies,
with Original.—**FRANCIS AND CO.**, 28, Ludgate Hill, London.

THREE MILLIONS

HAVE BEEN PAID BY THE

RAILWAY PASSENGERS

ASSURANCE COMPANY,

FOR

ACCIDENTS OF ALL KINDS.

64, CORNHILL, LONDON.

W. D. MASSY, } Secs.
A. VIAN, }

JAS. BOYD & SONS,

HORTICULTURAL BUILDERS
AND HEATING ENGINEERS,

PAISLEY.

HORTICULTURAL

STRUCTURES

of every description,
in either Wood or Iron,
or both combined.

Wooden Chapels,
Shooting Lodges, Cottages,
Tennis Courts, Verandahs, &c.

Hot-water Apparatus
for warming Churches,
Schools, Public Buildings,
Mansions, Harness Rooms,
Drying Rooms, Hothouses, and
Buildings of every Description.

Illustrated Circulars
Post-free.

Complete Catalogue, 3s.



GISHURST COMPOUND used since 1859
for Red Spider, Mildew, Thrips, Greenfly and other
blights, 2 ounces to the gallon of soft water, 4 to 16 ounces as a
water dressing for Vines and Orchard-house trees, in latter
from cake for American blight, and as an emulsion when
paraffin is used. Has outlived many preparations intended to
supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Buds dry and soft on
wet ground. Boxes, 6d. and 1s., from the Trade.
Wholesale from PRICE'S PATENT CANDLE COMPANY
(Limited), London.

EWING'S MILDEW COMPOSITION.—The
original certain and safe remedy. In bottles, 1s. 6d.
and 3s.; per gallon, 12s. **CORRY AND CO., Limited,** 13, 15,
and 16, Finsbury Street, E.C. Sold by all Seed-men.

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE AND SMITH'S COKE delivered in Truck-
loads to any Station in England and Wales.—Address,
G. J. EVESON, 26, Corporation Street, Birmingham.

ORCHID PEAT; best Quality; BROWN
PIBROUS PEAT for Store and Greenhouse use. **RHO-**
DODENDRON AND AZALEA PEAT. Samples and Prices of
WALKER AND CO., Farnborough, Hants.

HORTICULTURAL SHADINGS and
NETTINGS, TIFFANY, COTTON WOOLS, and
WADDINGS. Supplied Wholesale by
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

GARDENING APPOINTMENTS.

Mr. A. E. GROOMBRIDGE, of the plant department,
Kendington Palace, as Head Gardener to the Right Hon.
Lady Bateman, Broms Hall, Suffolk.

Mr. DANIEL KIDD, as Head Gardener to Lord ELPHINSTONE,
Carberry Tower, Mu-selburgh, Midlothian.

Mr. A. EVANS, as Gardener to H. BATTERSBY, Esq., Knowle
House, Dunster, Somerset.

CATALOGUES RECEIVED.

T. WAINESLEY, Jun., 47, Bore Street, Lichfield—Seeds for
the Farm.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham—Yardy
Ferns, Hardy Florists' Flowers, Hardy and Green-
house Climbing Plants, Peonies, &c.

W. P. LAIRD & SINGLAI, Nethergate, Dundee—Farm Seeds.

THOMAS KNIGHT, Moss Side Nurseries, Ashton-under-Lyne—
Garden and Flower Seeds.

DICKSONS, Chester—Select Farm Seeds.

COOPER, TABER, & Co. (Limited), Southwark Street, London,
S.E.—Agricultural Seeds.

R. VIEWS, Quedlinburg, Prussia—Descriptive of Seeds and
Plants.

VILMORIN-ANDRIEU ET CIE, 4, Quai de la Mégisserie, Paris
—Graines d'Arbres et d'Arbustes.

BOILING WATER OR MILK.

E P P S'S

GRATEFUL—COMFORTING.

C O C C O A

BREAKFAST—SUPPER.

WANTED, a PARTNER, in established
Business in large South of England Town, Both
Nursery and Floral Department on lease. Capital required,
about £750.—J. S. *Gardeners' Chronicle* Office, 41, Wellington
Street, Strand, W.C.

C. F. PRANGNELL, Holloway Gardens,
Virginia Water, THANKS the 74 APPLICANTS for
GROUND FOREMAN'S place, advertised a fortnight ago, and
begs to state that the SITUATION is FILLED.

To Parents and Guardians.

A LANDSCAPE GARDENER in large
practice has an OPENING in his office for an ARTICLED
PUPIL. Must be intelligent, and have a love for drawing.
Premium required.—Address, H. R. *Gardeners' Chronicle*
Office, 41, Wellington Street, Strand, W.C.

To Rose Growers.

MESSRS. JAMES VEITCH AND SONS wish
to engage a thoroughly efficient Man in the above
capacity. He must be well acquainted with the Propagation
and Culture of all kinds of Roses, both Indoor and Out.—
Apply by letter, giving references, experience, age, &c., to the
Royal Kew Nursery, Chelsea, S.W.

WANTED, a ROSE-GROWER, for under
Glass.—Must also be able to grow Tomatoes and Cucum-
bers.—Wages, 20s. per week.—Mr. FRANK CANT, Braiswick,
Colchester.

WANTED, a HEAD-WORKING GAR-
DENER, to manage about 30 acres of Kitchen Garden;
one who has been employed in a large Market Garden pre-
ferred. Must be well up in all branches of his trade, and es-
pecially in the production of early Vegetables, the cultivation of
Grapes, Cucumbers, Melons, &c. A permanent situation for a
thoroughly competent man. Applications, with recent testi-
monials, and stating wages required, to be sent to the
MEDICAL SUPERINTENDENT, St. Andrew's Hospital,
Northampton.

WANTED, an experienced SINGLE-
HANDED GARDENER. Must thoroughly under-
stand Vines, Forcing, &c.—Apply, with all particulars, to
E. F. BLAKE, Shanklin, Isle of Wight.

WANTED, GARDENERS with best West-
End Experience in Designing and Laying-Out Gardens,
Window-Boxing, Furnishing, &c. Must be able to Estimate for
Contract Work.—Apply, by letter only, to THE CRICHTON
FLORAL CO., 37, Sloane Street, S.W.

WANTED, a GROWER and SALESMAN.
Single; abtainer.—FR VINCIAL, *Gardeners'*
Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, a young MAN, used to growing
Plants, Cucumbers, Tomatoes, &c., for Market. Wages,
20s.—W. BROS., Oak House Nursery, Enfield Road,
Southgate, N.

WANTED, an experienced MAN to act as
GENERAL FOREMAN (WORKING) in a provincial
nursery. Good wages given to a thoroughly capable man.
Apply, by letter, stating age, experience, and wages required,
to B. A. *Gardeners' Chronicle* Office, 41, Wellington Street,
Strand, W.C.

WANTED, a JOURNEYMAN for Plant
Houses.—Catholic. For particulars apply to E. BUR-
BURY, Castle Gardens, Arundel.

WANTED, a DOZEN quick, active MEN,
for a Market Nursery, where Grapes, Tomatoes, and
Cucumbers are grown.—State age, experience, and wages
expected, to JOSEPH ROCHFORD, Turfmoor Nurseries, near
Broxbourne, Herts.

WANTED, IMMEDIATELY, for the Pro-
pagating Houses, in a Market Nursery, near London,
an active young MAN, who has been ac-
customed to propagating Plants in quantity for Market. Also, TWO young
MEN, accustomed to Nursery work under Glass. Must be
quick at Potting, Tying, &c. Wages, to commence, 18s. per
week.—State age, and enclose copies of references, to H. N.
Gardeners' Chronicle Office, 41, Wellington St., Strand, W.C.

WANTED, an active young MAN, for Pot-
ting Chrysanthemums; also one for the Houses, used
to Market Nursery Work.—Apply to W. ICKTON, Putney
Park Lane, Putney, S.W.

WANTED, for a Market Nursery, a young
MAN (18 or 19), for the Houses. One accustomed to
and interested in his work.—Apply, stating age and wages,
to W. H. LAWSON, The Nurseries, Kearsborough, Yorks.

WANTED, a young MAN, used to growing
Ferns, Palms, and Soft-wooded Stuff for the Market.
To take charge of five or six Houses; one that is well up, and
used to the Trade, preferred.—J. M. Victoria Nursery, West
Humberstone, Leicester.

WANTED, a strong, active young MAN,
for Kitchen Garden and Lawn, and to Assist in the
House. Abtainer preferred.—State age, and wages required,
to G. WOODS, Mount House Gardens, Brentwood.

WANTED, a thoroughly competent and
trustworthy MAN, to manage a Nursery where a
general Collection of Plants are grown for Shop and Market.
Must also be able to Superintend Jobbing and Contract work.
Apply to S. DIXON & CO., 81, Moorgate Street, City, E.C.

WANTED, a young MAN (married), as
UNDER GARDENER. Wages, 18s. per week, with
Cottage and Garden.—Apply to J. HOWES, Ashwell Hall
Gardens, Oakham, Rutland.

WANTED, a smart active young MAN, from
18 to 22 years of age, to Assist in Mixed Plant-houses,
and make himself generally useful. A good opportunity for
improvement.—State salary, experience, and references, to
C. TOOLE AND SON, Stepney Square, Stepney, London, E.

WANTED, a strong young MAN, for Out-
door Garden Work—Mowing and Digging. Wages
14s. per week and Botby.—A. BULLEN, Wacehurst, Hay-
ward's Heath, Sussex.

WANTED, a young MAN (17 or 18), for In
and Outdoor Work, with an Ornith Amateur.—For
particulars apply, stating wages, to E. C. P., Headstone Drive,
Wendstone, E.S.O.

WANTED, a strong active MAN, not under
25, for Flower Garden Work; one quick and ex-
perienced in Bedding, Fruiting, Nailing, &c.; able to take the
lead with Bedding. Wages, 18s. per week. It is hoped none
will apply who are not thoroughly experienced and can be well
recommended.—Apply, JAMES VERT, Audley End Gardens,
Saffron Walden.

WANTED, a thoroughly competent trust-
worthy MARRIED COUPLE, without encumbrance;
man as gardener, wife as caretaker. Age, not under 40;
must be total abstinents.—Apply, first by letter, to B. A., 115,
Devonport Road, Shepherd's Bush, W.

WANTED, a strong LAD, who has finished
his Apprenticeship to a good Gardener, to take sole
charge of a Garden and make himself generally useful indoors
and out.—Apply, stating wages, to HEAD MASTER, Grammar
School, Stone, Staffordshire.

WANTED, a well-educated YOUTH, as
APPRENTICE to the Seed and Nursery Trade.—
PERRY, The Nurseries, Banbury.

MESSRS. F. SANDER AND CO., St. Albans,
have AN OPENING for several smart young MEN,
not under twenty years of age, who wish to LEARN ORCHID
GROWING. No premium required. Wages, 14s. per week.

WANTED, IMMEDIATELY, for SEED
BUSINESS (principally retail), in North of England,
a steady, energetic young MAN as MANAGER, under the
Principal. Apply, stating age, experience, and wages ex-
pected, to W. Messrs, Naiting, 105, Southwark Street, E.C.

WANTED, a CARMAN.—Able to drive
large Van, and used to Early Hours; one accustomed
to Market Work and West-End Florist's Businesses preferred.—
Apply, by letter only, to THE CRICHTON FLORAL CO.,
37, Sloane Street, S.W.

WANTED, a young LADY, for a leading
Florist. Must be a good Saleswoman and first-class
hand, and quick in making-up Wreaths, Bouquets, Sprays, &c.
Apply, F. W. *Gardeners' Chronicle* Office, 41, Wellington
Street, Strand, W.C.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the
year is so great, we are compelled to state
that advertisements received after 6 P.M. on
Wednesday will, in all probability, be held
over to the next week.

Advertisers are cautioned against having letters
addressed to initials at Post-offices, as all
Letters so addressed are opened by the
authorities and returned to the sender.

SANDERS, St. Albans, can thoroughly
RECOMMEND several first-class HEAD GARDENERS.

Gardeners, Farm-Bailiffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester
(Limited), are always in a position to RECOMMEND
MEN of the highest respectability, and thoroughly practical
at their business. All particulars in relation to
Telegraphic and Postal Address—"DICKSONS, CHESTER."

Head Gardeners.

JOHN LAING AND SONS can at present
recommend with every confidence several energetic
and practical Men of tested ability and first-rate character.
Ladies and Gentlemen in want of GARDENERS and BAILIFFS,
and HEAD GARDENERS for first-rate Establishments or
single-handed situations, can be suited and have full particu-
lars by applying at Standard Park Nurseries, Forest Hill,
London, S.E.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several **HEAD** and **UNDER GARDENERS** of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to **THOMAS BUTCHER**, Seed Merchant and Nurseryman, Croydon.

GARDENER (HEAD); age 33, married.—**J. E. McLEAVE**, eight years Head Gardener to R. Heywood Jones, Esq., Badsworth Hall, is open to re-engagement with any Nobleman or Gentleman requiring a thoroughly practical Gardener. Has had nineteen years' experience in all branches; is thoroughly conversant with the requirements of a good establishment. Testimonials of the highest order.—Catsclough, Winsford, Cheshire.

GARDENER (HEAD).—MR. CLARKE, Head Gardener to the Earl of Lonsdale, Lowther Castle, Penrith, can with every confidence recommend his Foreman to any Lady or Gentleman requiring the services of a thorough practical man, experienced in all branches.

GARDENER (HEAD), in good establishment. Married, no family. Abstainer. Life experience in Early and Late Forcing all kinds of Fruits, Flowers, Vegetables, Mushrooms, also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' good character from late employer, and sixteen years' references.—**J. D.**, Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD), where three or more are kept.—**MR. WATERS**, Hopwood Hall Gardens, Manchester, will gladly give full particulars of a thoroughly efficient Gardener. Twenty years' practical experience.

GARDENER (HEAD).—MR. HALL wishes to recommend a thoroughly efficient Head Gardener, where five or more are kept.—**MR. BEEVES**, The Gardens, Farham Chase, Slough, Bucks.

GARDENER (HEAD), where two or more are kept.—Age 31; married. Thoroughly experienced in Vines, Stove, Greenhouse, Flower and Kitchen Gardens, Pleasure Grounds, &c. Leaving through breaking-up of establishment. Excellent characters from present and previous employers.—**JAMES SHEPHERD**, 13, Church Road, Bromley, Kent.

GARDENER (HEAD), where three or more are kept.—Age 30.—**C. E. HEWITT**, Gardener to C. E. B. Young, M.P., Daylesford, Chipping Norton, can with confidence recommend his Foreman to any Lady or Gentleman requiring a thorough practical man.

GARDENER (HEAD), where two are kept; age 27.—**MR. ANDERSON**, Gardener, Charman Dean, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD).—Age 30, married, no family; abstainer. Life experience in all branches of Gardening.—**G. O.**, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD); where two or three are kept. Age 30, single; sixteen years' experience in all branches of gardening.—**W. DAVIS** will be pleased to recommend to any Lady or Gentleman requiring the above, **B. BAKER**, 4, Queen's Terrace, Gomer Road, Fiddington, Middlesex.

GARDENER (HEAD), age 31, married, three children, ages 10, 8, & 3.—**W. BARRADAY**, Esq., recommends his Head Gardener to any Lady or Gentleman. A thoroughly practical man, conversant in every branch of the profession.—**W. BEALE**, 2, Wakefield Street, Brunswick Square, London, W.C.

GARDENER (HEAD WORKING).—A GENTLEMAN, having sold his place, will be pleased to recommend his Head Gardener to any Lady or Gentleman in want of a thoroughly experienced man in the cultivation of Grapes, Peaches, Melons, Cucumbers, Tomatoes, Stove and Greenhouse Plants, Orchids, and Chrysanthemums; Flower and Kitchen Garden.—**G. G.**, 27, Manor Park Road, East Finchley, N.

GARDENER (HEAD WORKING), where one or two are kept, or good SINGLE-HANDED.—Age 31, single. Five years' good character. Flowers, Fruit, and Kitchen Garden.—**G. P.**, 16, Holly Park Terrace, New Southgate, N.

GARDENER (HEAD WORKING), where others are kept.—Age 40, married, no family; life experience in Vines, Flowers, Fruit, and Kitchen Gardening. Excellent characters.—**J. HIGGINS**, The Gardens, Shepton Mallet, Somerset.

GARDENER (HEAD WORKING); age 33, married when suited.—**C. J. GOLDSMITH**, High Trees, Redhill, will be pleased to recommend his Foreman, Joseph Mead, to any Lady or Gentleman requiring the services of a thoroughly practical man. He has had sixteen years' experience in all branches.

GARDENER (HEAD WORKING).—Age 31, married, one child. Thoroughly experienced; excellent references.—**C. PARKER**, Gayton, Elsworth, R.S.O.

GARDENER (HEAD WORKING).—Age 31, married, one child. Understands Vines, Peaches, &c. Excellent character. Abstainer.—**J. CHEESEMEN**, Mr. Foster, Claremont Nursery, Esher, Surrey.

GARDENER (HEAD WORKING); age 36.—A GENTLEMAN highly recommends his late Head Gardener. Efficient and energetic. Life experience in leading gardens in all branches of Gardening; also Land and Stock. Excellent testimonials.—**K.**, High Barn, Ramore, Dorset.

GARDENER (HEAD WORKING).—Age 30, married; enthusiastic and successful cultivator of Fruit and Flowers, including Orchids; understands Forcing of Vines and Peaches. Good references.—**G. SAUNDERS**, 26, Harringay Road, Hornsey.

GARDENER (HEAD WORKING).—Age 30; three years' Foreman in last situation. Thoroughly practical in all branches. Especially well up in Fruit and Chrysanthemum Growing. Exceptional references.—**A. CAMPBELL**, 6, Hill Cottage, Ferry Hill, Cotford, S.E.

GARDENER (HEAD WORKING).—Age 30, married, no family.—**MR. CLINGING**, Marden Park Gardens, Caterham Valley, can confidently recommend his previous Foreman as above. Sixteen years' experience.

GARDENER (HEAD WORKING), where two or three are kept.—Age 23, single; experienced in Vines, Peaches, Melons, Cucumbers, Flower and Kitchen Garden. Five years' good character.—**W. JOINER**, Holmwood Park, Dorking.

GARDENER (HEAD WORKING), where two or more are kept.—Age 28, married when suited; thirteen years' experience in large Establishments. Good references.—**G. W.**, East Orington Lodge, Pembroke.

GARDENER (HEAD WORKING), where one or two are kept.—Age 27; thoroughly experienced in Vines, Peaches, Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Excellent character and testimonials.—**W. D.**, 40, East Street, Reading, Berks.

GARDENER (HEAD WORKING).—Trust-worthy, and thoroughly practical in all departments, including decorating and laying out. Good references.—**J. H.**, 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING).—Age 30; thoroughly experienced in Plant and Fruit growing, early and late Forcing, Vegetable and Flower gardening.—**J. J.**, 165, Denmark Hill, Camberwell, S.E.

GARDENER (HEAD WORKING).—Age 30, married, two children; sixteen years' good practical experience in all branches. A Gentleman will be pleased to recommend his Gardener as above.—**G. WIGGINS**, Finchers House, Amersham, Bucks.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Jollydown, near Dorking, wishes to recommend his Foreman, James Pullen; thoroughly practical in all branches, including Orchids, Stove and Greenhouse Plants, Fruit, Hardy Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 33, married; thoroughly experienced in all branches; leaving through death. Nine years' good character, six and seven previously.—**T. DENCH**, 14, Chestnut Road, Hurley.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, married; thoroughly experienced in all branches. Excellent references from previous employers.—**E. WILKS**, Nurseryman, Winchester Road, Shirley, Southampton.

GARDENER (HEAD, or SINGLE-HANDED).—No family. Wife could assist in House or with Poultry. Both trustworthy. Good characters.—**A. M.**, 2, Grove Road, Chertsey, Surrey.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 29, married; ten years' good character; place changing hands cause of leaving.—**W. FLEET**, 2, Sherwood Road, Harrow.

GARDENER (good SINGLE-HANDED).—Age 25, single; experienced in all branches; eight years' good character.—**J. G.**, 8, Herbert Road, Putney, S.W.

GARDENER (SINGLE-HANDED), or where another is kept. Abstainer. Seven years' good character.—**A. FENN**, 11, Grove Road, Brentford.

GARDENER (SINGLE-HANDED, or otherwise).—Experienced in Fruit, Flowers, Vines, Kitchen Garden, &c. Good recommendations. Disengaged.—**E. G. WALL**, 5, Parade, Acton Vale, Acton, W.

GARDENER (SINGLE-HANDED), or where help is given.—Age 29. Thoroughly experienced in all branches; twelve months' character, nine years' previous.—**G. S.**, The Gardens, Wykehurst, Bolney, Sussex.

GARDENER (SINGLE-HANDED, or where help is given).—Age 40, married, no family; good all-round man. Wife charge of house in absence of family, if required. Abstainers, and both can be well recommended.—**GARDENER**, Sell's Hill, High Barnet, Herts.

GARDENER. —Age 33; married, no children. Advertiser wishes to recommend to any Lady or Gentleman a good practical, energetic Gardener as above.—**J. HUGHES**, Ince Hall Gardens, Chester.

GARDENER. —The Advertiser (age 26), single, begs to offer his services to any Lady or Gentleman requiring a thorough practical man. Experience has been gained in good establishments, and can be well recommended by last and previous employers.—**H. FEATHERSTONE**, The Brackens, Bracknell, Berks.

GARDENER (SECOND).—A young man, age 21, with seven years' good practical experience inside and out, seeks situation as above, and to take lead in absence of Head. Excellent characters.—**WM. BENNELICK**, The Gardens, Hildon House, Stockbridge, Hants.

GARDENER (SECOND, or SINGLE-HANDED).—Age 23, six years' experience; good character. Exeter preferred.—**S.**, Irvington Dairy, Clyst, St. Mary, near Exeter.

GARDENER (SECOND).—Age 20; good experience of Glass and Kitchen Garden. Two years' good character.—**E. HOAD**, Spring Cottage, Linsfield, Surrey.

GARDENER (SECOND or SINGLE-HANDED).—Experienced in all branches. Good references.—**H. F.**, 2, Fike's Cottages, Arkley, High Barnet.

GARDENER (SECOND, or UNDER), Inside and Out.—Age 22. Can be well recommended.—**J. SARGENT**, Greystoke Cottage, Hanger Hill, Ealing, W.

GARDENER (SECOND or SINGLE-HANDED), Age 25; inside and Out preferred. Abstainer. Good character. Cause of leaving selling-up the estate.—**E. H.**, 2a, Charlwood Road, Putney.

GARDENER (SECOND); age 25.—**T. LOCKTE**, Oakley Court, Windsor, begs to highly recommend his Foreman, who has been with him four years; he is thoroughly trustworthy and industrious; total abstainer; no boy.

GARDENER (UNDER) or Orchard House. Four years' experience.—**CHARLES TAYLOR**, The Gardens, Glasneven, Garbthly, Montgomeryshire.

GARDENER (UNDER); age 21.—**J. JEFFERSON**, The Gardens, Carlton House, Worksop, Notts, will be pleased to recommend a young man that has served with him three years' Inside and Out.

GARDENER (UNDER), Inside or Out.—Age 23; four and a half years' experience; good character; abstainer.—**J. JOHNSON**, Blackmore, near Ingatstone, Essex.

GARDENER (UNDER).—Age 20. Abstainer; good references.—**A. D.**, 7, Queen's Road, Winchester, Hants.

GARDENER (UNDER), in a private establishment, under a Foreman, under Glass and Out.—Age 21; three years in last place; good references.—**J. JALLAND**, Mr. Lee, Southwell, Notts.

GARDENER (UNDER), Inside and Out.—Age 23. Can be well recommended.—**H. BARTON**, 19, Queen Street, Crook's Place, Norwich.

GARDENER (UNDER).—Young man, age 19. Good character.—**H. KEELING**, 1, Station Road, Chadwell Heath, Essex.

GARDENER (UNDER), or under a Foreman.—A young man (age 23). Six years' good character.—**T. G.**, The Gardens, Ashted Lodge, Surrey.

GARDENER (UNDER).—A Lady recommends a young man (age 19) who has been in her employment for some years. He can attend to a horse or cow.—**Mrs. THORNE**, Southover Grange, Lewes, Sussex.

GARDENER (UNDER).—Three years and eight months' good character.—**F. TURNER**, Stanley Villas, Milton Street, Maidstone.

GARDENER (UNDER), Inside and Out.—A young man (age 22). Bothy preferred. Good character.—**F. MAYNARD**, Hanworth, Middlesex.

GARDENER (UNDER), Inside and Out, or good SINGLE-HANDED.—Age 25, single; eight years in present situation. Excellent character.—**JOHN WOOD**, Brook Cottage, Balcombe, Sussex.

GARDENER (UNDER).—Age 21; with good experience and references.—**F. G.**, Mrs. Smith, 1, Belle Vue Terrace, Turner's Hill, Waltham Cross.

ROSE GROWER, Indoor and Out.—Age 24; good references.—**ROSES**, 12, Chamberlain Terrace, Eastleigh, Hants.

PROPAGATOR (ASSISTANT), in Soft-wooded Department.—Age 21; well up in the Growing of Stove and Greenhouse Plants and Ferns. Seven years' good experience.—**ALPHA**, 19, Bridgewater Avenue, Salford.

PROPAGATOR and GROWER.—Age 32; experienced in both branches; also as Salesman in the Market. Long character.—**FRED JENSEN**, Taddington Orchard Company, Winchcombe, Gloucestershire.

PROPAGATOR and GROWER.—Well up in Ferns, Soft-wooded, Stove, and other general Market first-class Pot-Stock. Nine years' experience. Good character.—**H. COWLIN**, Box Tree Cottage, Erith Road, Pexley Heath, Kent.

ORCHIDS.—A young man (age 24) seeks situation as ORCHID GROWER. Two years' present place in large Collection at Tunbridge Wells.—**J. B.**, 52, Cromwell Road, Tunbridge Wells.

FOREMAN, where four or five are kept.—Age 24; nine and a half years' good experience both Inside and Out; well up in Table Decorations; well recommended.—**G. STACEY**, Chawton, Alton, Hants.

FOREMAN, in the Houses; age 27.—Mr. HUNTER will be pleased to recommend William Dryden as above.—Lambton Castle Gardens, Fence Houses, Durham.

FOREMAN, in the Houses.—Age 22; well up in Plant and Fruit Houses, and Early and Late Forcing. Good character from last and previous places. Abstainer.—W. COLBOURN, The Gardens, Neville Court, Tunbridge Wells, Kent.

FOREMAN (GENERAL), in a good establishment.—Age 26; has a thorough knowledge of Fruit and Plant Growing. Can be well recommended. Abstainer.—J. ROBSON, Nurseryman, Altrincham, Cheshire.

FOREMAN (GENERAL), in a good Establishment.—Has a thorough knowledge of Fruit and Plant Growing. Can be highly recommended.—A. COLEMAN, Cedar Cottage, Chorleywood, Hert.

FOREMAN, Inside.—Mr. T. OSMAN, The Gardens, Otter-haw Park, Chertsey, will be pleased to recommend W. Shoemith to any one requiring a thoroughly practical man.

FOREMAN, in a good establishment.—Age 24; eleven years' experience in Fruit and Plant Houses; also House Decorations. Can be well recommended. J. GODDARD, Woodham Lane, Woking, Surrey.

FOREMAN; age 25.—J. HALL, Shiplake Court Gardens, Healey-on-Thames, can confidently recommend a trustworthy, energetic man as above, in a good establishment. Good experience.

FOREMAN.—Age 30, married, no family; thirteen years' practical experience in Fruit, Flower, and Kitchen Gardens; good character.—ALPHA, 39, Front Street, Arnold, near Nottingham.

FOREMAN.—T. LAMBERT, Burton Constable Gardens, Hull, can with confidence recommend a trustworthy, practical, and energetic man as above. Thorough knowledge of a private establishment; abstainer.

FOREMAN.—Age 26; eleven years' experience in Fruit and Plant Houses, Chrysanthemums, &c. Good references.—W. DODWELL, Waddesdon, Aylesbury.

FOREMAN, Inside or General.—Age 26; well up in Forcing, Plant, and Fruit Growing. Ten years' practical experience. Excellent references.—F. DEAVES, The Gardens, St. Leonard's, West Malling, Kent.

FOREMAN, in the Houses.—Age 26; eight years' experience. Four years in present place as Second. Good character.—C. CLARKE, Harrells Park, Healey-in-Arden.

FOREMAN, in a good Establishment; age 25.—ERWIN BECKETT, Aldenham House Gardens, Elstree, can with every confidence recommend his First Journeyman, H. Naylor, as above.

FOREMAN, in the Houses.—Age 27; thoroughly understands early and late Forcing, good Fruit and Plant growing; good character and testimonials.—J. DEAN, Lower Eaton, Hereford.

FOREMAN, in a good establishment.—Good Plant and Fruit Grower. Two years as General Foreman in last situation. Can be highly recommended.—A. C., 159, High Street, Barnet.

FOREMAN, or First, in the Houses, in a Market Nursery.—Age 25. Well educated. Used to growing all sorts of Cut Flowers; Orchids a speciality. Would like to help at Book-keeping. Six years in present situation.—ROTTING, Blackstone, Henfield, Sussex.

FOREMAN, in the Houses.—Ten years' experience; two years' good character.—F. WILLIAMS, The Gardens, Albany Hall, Little Hadham, Beds.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 19; five years' excellent character from present situation; both preferred.—P. CONSTABLE, Holmshub Gardens, near Horsham, Sussex.

JOURNEYMAN, or SECOND, in a good Garden.—Age 22; six years' Inside and Out. Good knowledge of Vines and Stove Plants. Abstainer.—FREDERICK CASTLE, Wantage, Berks.

JOURNEYMAN (First), in the Houses, or good SECOND.—Has nine years' experience. Abstainer. Good references.—G. HAMLIN, Hookfield Grove, Epsom, Surrey.

JOURNEYMAN (SECOND), Inside, in a large Private Establishment.—Age 19; five years' experience, three under Glass. Excellent character.—H. ROUSE, Malpas, Bromley, York.

JOURNEYMAN (First), in the Houses.—Age 23; six years' experience. Good character and good references.—T. COUCHMAN, The Gardens, Hartwell, Hatfield, Sussex.

JOURNEYMAN, Inside, under a Foreman.—Age 20. J. TRIGGERS, Milton Gardens, Fitchborough, can highly recommend J. Sanworth, who has been under him four years. Bothy preferred.

JOURNEYMAN, Inside or Inside and Out.—Age 23; nine years' experience in all branches. Good character from last and previous places.—W. BAIGENT, 38, Richmond Grove, Sarbiton Hill, Surrey.

JOURNEYMAN, Inside and Out.—Age 24; can be well recommended.—E. A. YOUNG, The Gardens, Nanhurs', Crunleigh, Surrey.

JOURNEYMAN, Inside (First or Second), or Inside and Out.—Age 22; seven years' experience; four years in present place.—J. BROADHURST, Tile Barn, Woolton Hill, Newbury, Berks.

JOURNEYMAN, in the Houses.—Age 24; eight years' experience. Has a good character.—W. SELLEY, Brookland House, Painswick Road, Gloucester.

JOURNEYMAN, Inside.—Age 21; four and a half years' in present situation, Outside and In. Can be well recommended.—Mr. MORRIS, Head Gardener, Oakwood, Maidstone.

JOURNEYMAN, in the Houses.—Age 20; six years' experience; two years in present situation. Well recommended; bothy preferred.—HEAD GARDENER, Pinkney Park, Malmesbury, Wilts.

JOURNEYMAN (First), in the Houses under a Foreman in a good establishment.—Age 24. Bothy preferred.—H. MIDDLETON, 53, The Grove, Ealing, W.

JOURNEYMAN, in the Houses.—Age 21; seven years' experience. Good character. Can be well recommended.—E. CARTER, The Gardens, Lockerly Hall, near Romsey.

JOURNEYMAN, in the Houses.—Age 23; seven years' experience Inside and Out; well recommended.—J. HARDY, 121, Bury New Road, Whitefield, Manchester.

JOURNEYMAN, Inside, or Inside and Out.—Age 22. Can be well recommended.—F. FRANKLIN, 4, Grove Road, Ealing, Middlesex.

JOURNEYMAN, in the Houses.—Age 20; seven years' experience, Inside. Good character. Bothy preferred.—P. CHALKLEY, The Gardens, Wood Hall Park, Hertford.

JOURNEYMAN, in good private Establishment.—Age 20. Good practical knowledge; seven years' excellent characters; bothy preferred.—A. CHILMAR, Case's Nurseries, Rumney, Cardiff.

JOURNEYMAN.—Age 23; Nursery and private experience. Excellent references.—A. H. G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN (First or Second), in the Houses.—Age 24; eight years' experience. Good testimonials.—G. E., 4, Ponds Square, Highgate, N.

JOURNEYMAN, in the Houses, under a Foreman in a good establishment.—Age 24; bothy preferred.—W. JONES, The Gardens, Gledhow Hill, Leeds.

JOURNEYMAN, Inside and Out.—A young Man (age 20) seeks a situation in a good Gentleman's or Nobleman's Establishment. Five years' experience. Good character. Strong, willing, and obliging.—A. Mr. J. Wright, 32, Talbot Road, Northampton.

JOURNEYMAN, under a Foreman, at a good Establishment; young man.—HEAD GARDENER, Gledhow Hall, near Leeds.

JOURNEYMAN, under a Foreman.—Age 19. Mr. HARGREAVES wishes to recommend A. Hinchcliffe as above. Four years' experience.—A. HINCHCLIFFE, Jovett House, Cawthorne, Barnsley, Yorks.

JOURNEYMAN (First), in a good establishment.—Age 23. Eight years' experience; three years in present situation. Good references from past and present situations. Bothy preferred.—F. FARLEY, The Gardens, Bell House, Dulwich.

JOURNEYMAN (First), in the Houses of a good establishment.—Age 21; ten years' experience; good character, and can be well recommended.—W. PEARCE, London Road, Ascot, Berks.

JOURNEYMAN.—Age 21. Five years in the Houses. Good character from three gardeners.—J. B., The Cemetery, Luton, Beds.

JOURNEYMAN, in the Houses.—Age 22; nine years' experience. Three and two years' excellent character; abstainer. Bothy preferred.—W. FOSSEY, Brook Street, Brentwood, Essex.

JOURNEYMAN, for the Houses.—Five years' experience Inside and Out. Abstainer.—GEORGE GIBSON, Sutton Bonington, Loughborough, Leicestershire.

IMPROVER, Inside.—Mr. ABBOTT, Old Park, Vennor, can with confidence recommend a strong active young man, who has been the last three years been in the Glass Department at Old Park.

IMPROVER, in the Houses.—Age 21; three years' present situation, with knowledge of Vines. Bothy preferred.—W. COLEMAN, Mangratory Lodge, Stow-on-the-Wold, Gloucestershire.

IMPROVER, in a good Garden, with Glass.—Steady, active Youth. Has had two years' experience.—ROBERT HAYES, The Nurseries, Grasmere, Westmoreland.

IMPROVER, in the Houses, in a good establishment.—Age 19; three years' experience. No objection to small premium.—WATSON, The Gardens, Bestwood Lodge, Arnold, Notts.

TO GARDENERS.—Improver, in a Gentleman's Garden, Inside and Out.—Age 19; five years' experience.—FRED. HARRIS, The Langley, Selby Oak, Birmingham.

TO GARDENERS.—A young man wishes a situation as IMPROVER, Inside and Out; four years previous situation in Garden; suburbs of London preferred.—H. ROUSE, Lyoth Common, Hayward's Heath, Sussex.

TO GARDENERS.—Situation wanted, under L. Glass, in a good place, by a steady young man (age 22). Six years' experience, principally Outdoor. £5 Premium given. Good reference.—H. BALL, Lower Ashton, Clifton, Bristol.

TO GARDENERS.—A Lady giving up her Establishment would be pleased to highly recommend a youth (age 19) as IMPROVER in a gentleman's garden. Inside and Out.—W. LLES, Head Gardener, The Gardens, Oakley, Hove, N.

TO GARDENERS, &c.—A young Man seeks a situation to look after Flower Beds, Pleasure Grounds, Wall Trees, &c. Five and a half years' character.—G. KING, 33, Green Street, Ryda, Isle of Wight.

TO GARDENERS.—Situation wanted, as a youth (age 19) under a good Gardener, Inside or Out. Nine months in last situation, under Glass. Premium if required.—J. J. JOHNSON, Shipton, Brough.

TO GARDENERS.—Situation wanted, as IMPROVER.—Age 19; strong, and willing. Four years' good reference. Bothy preferred.—W. BRITAIN, The Gardens, Taplow Court, Maidenhead, Berks.

TO FLORISTS or CAPITALISTS.—Manager of a first-class Florist of Paris wishes to find re-employment as above, or to meet with Gentleman Capitalist to establish a first-class business (with a view to the Working Partner). Advertiser has had fifteen years' experience in the best Continental Houses. First-class certificates and diplomas from France, Germany, and England. Three years in London, where he took several first prizes for Table Decorations, &c. (R. B. Garden), connected with the principal Flower Growers of France. Can furnish undeniable references.—Apply to ANDRE, 38, Fanebourg St. Honoré, Paris.

TO NURSERYMEN, &c.—Situation wanted by a young Man, age 23; good Budder and Gaffer of Fruit and Rose Trees; eight years in a leading Nursery in the North; over nine years' experience.—F. E. L., 19, Bridgewater Avenue, Salford.

TO NURSERYMEN and SEEDSMEN.—Wanted to place a well-educated Youth of 17 with a firm of Nurserymen and Seedsmen, in or near London. An abstainer.—E. CRUICK, 5, Carnaby Street, Regent Street, W.

TO NURSERYMEN.—Advertiser, just out of Apprenticeship, seeks re-employment in a general Market Nursery, as ASSISTANT PROPAGATOR and GROWER, under a Foreman. Accustomed to stand in Markets. Wreaths, Crosses, &c. Willing, obliging, and well recommended.—COLLING, 5, Castle Hill, Lincoln.

TO NURSERYMEN.—Situation wanted by a young man, age 23, as GROWER of Ferns and Soft-wooded Stuff for market. Eight years' experience; good character.—W. R., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—A young man (age 25) seeks a situation. Nine years' experience in Tomatoes, Cucumbers, Roses, &c. Good references.—A. CHARLES, Swanley Junction Post-office, Kent.

TO SEEDSMEN, FRUITERS, and FLORISTS.—SHOPMAN; age 22. Nine years' practical experience in Seeds, Bulbs, Plants, Flowers, and Fruit. Unexceptional references. London or West of England preferred.—G. E. M., 6, Duke Street, Southampton.

TO FRUIT GROWERS under Glass, or FRUIT FARMERS.—Young man (age 23), strong, willing, and experienced, offers his services.—O. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SHOPMAN, or MANAGER.—Age 28; experienced in Wreaths, Bouquets, Plants, Seeds, Nursery Stock, Book-keeping, &c. No objection to part commission. Highest testimonials.—ALPHA, 4, Ellerslie Road, Clapham.

SHOPMAN, or ASSISTANT SHOPMAN.—Age 21. Has had over seven years' experience in a first-class Retail Establishment. Has a sound knowledge of the Seed, Bulb, and Plant Department; also well up in making Wreaths and Bouquets, &c. Good testimonials. Highest references given to "FAIRFAX," 73, Bower Street, Maidstone, Kent.

COWMAN, on a Lady's or Gentleman's Estate.—Age 24, single; good Milkier; Honest and Sober; nine months' good character.—A. TAYLOR, Stroud's Cottage, School Lane, Banbury.

TO FLORISTS.—A young Lady, with good West-End and Provincial Experience, is desirous of a re-employment; is a good all-round hand, and has been commended to Manager; is a good Bookkeeper, and very highly recommended.—A. H. R., 2, Edith Villas, Epsom Road, Ewell.

HOLLOWAY'S OINTMENT and PILLS need only a single trial to make known their capabilities. No outside sore or inward inflammation can long withstand the cooling, purifying, and healing influences exerted by these twin Medicaments. Be the mischief recent or chronic, great or slight, painful or simply annoying, it will succumb before the curative virtues of these noble remedies, which can be rightly applied by any person who will attentively read the accompanying directions, which are prepared in the plainest language, void of technical terms, and printed in the most legible characters. To the man of business, confined to his counting-house, and harassed by engagements, these Pills are invaluable; for the man of pleasure, addicted to free living, they are peerless.

HIGHEST

HONOURS

DIPLOMAS,
GOLD MEDALS,
SPECIAL
CERTIFICATES of MERIT,



AT ALL THE
GREAT
EXHIBITIONS
OF THE WORLD.

PEARS
SOAP MAKERS,

BY SPECIAL APPOINTMENT

TO

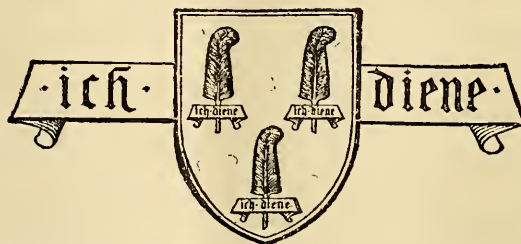
HER MAJESTY

The Queen.

AND

HIS ROYAL HIGHNESS THE

Prince of Wales.



ESTABLISHED 1841

No. 275.—VOL. XI. {THIRD
SERIES.}

SATURDAY, APRIL 2, 1892.

{Regt. as a Newspaper.} PRICE 3d.
POST-FREE, 3d

CONTENTS.

Anthurium, hybrid	471	Orchids at Rocking Place, Kraitirre	429
Apples, American, and they poisoners?	430	Staurospira Warocqueana	428
Apple, Cockle Pippin	435	Orchids, culture of	438
Aristolochia clypeata	435	Orchids, list of cultivated	431
Bequests to domestics	438	Pesa, a trio of	438
Blairitz	436	Potatoes, planting	438
Calanthes, potting	438	Rain as a source of nitrogen for vegetation	431
Camellias	438	Rock garden at Kew	435
Changes which ripen	438	Rodriguezia pubescens	423
Ch. cries undergo	474	Scarlet-berried and other	439
Club in Brussels Sprouts	439	Elders for sub-tropical bedding	439
Electric lighting from windmills	434	Scotland	439
Eudamia eminea	434	Glasgow Spring Show	410
Fern, a new	434	The Horticultural Class in the Heriot-Watt College, Edinburgh	430
Foreign correspondence	426	Self Help Emigration Society	435
A large American nursery	436	Shabdon Court	423
Gladiolus	436	Societies	440
Gladiolus Brechehyensis	436	Reading and District	434
Gladiolus in Rose beds	438	Royal Horticultural	440
Greenhouse blinds	437	Royal Horticultural of Southampton	434
Injury by frost to fruit tree	435	Sources of Nitrogen of our Leguminous crops	432
Jerusalem Artichoke, the	435	Strawberry, John Ruskin	439
Kew Gardens, the history of	435	The Ustilaginæ, as reproductive parasites	429
Multiple parentage of Ferns	428	Thimbleton-Dyer, Mr. W.T.	431
Nursery notes	436	Traveller's Notes	428
Messrs. Cannell & Sons, Swanley	438	Week's work, the	430
New or noteworthy plants	426	Apiary	431
Aiglonema costatum	438	Flower garden	430
Pelea Wendlandiana	436	Fruits under glass	430
Obituary	440	Hardy fruit garden	431
Bowman, Sir William	440	Kitchen garden	430
Brown, William	440	Orchid-houses	431
Cowburn, Thomas Brett	440		
Orchid notes and gleanings	428		
Cypripedium ornatum	428		
Odontoglossum Ruckertianum	429		

ILLUSTRATIONS.

Aristolochia clypeata	435
Ornithium plant protector	437
Rodriguezia pubescens	427

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

Now Ready, in Cloth, 11s. 6d., "The Gardeners Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

LAXTON'S SEEDS AND STRAWBERRIES.—Best novelties and best standard sorts. 100 Certificates. Send for Descriptive Priced Lists.

NEW CHRYSANTHEMUM, Mrs. Robinson King, new Golden Yellow. Incurved sport from Golden Emperor. Awarded six First-class Certificates. The true certificated variety. 3s. each, 3 for 7s. 6d. R. OWEN, Chrysanthemum Grower, Maidenhead.

STANDARD ROSES, 14s. per doz.; Bush Roses, 6s. per doz.; best named Clematis, 14s. per doz.; Ampelopsis Vetchii, 1s. per doz.; Variegated Ivies, 4s. per doz.; Mrs. Sinkins Finks, 12s. per 100; Ferns, in pots, 15s., 21s., and 45s. per 100. Catalogue, gratis and post-free. H. ENGLISH, Clevedon Nurseries, Clevedon.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 9d. per 100. RICHARD SMITH and CO., Worcester.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPES, &c. Good references.

THE BEST LAWNS are produced from—

SUTTON'S GRASS SEEDS, which should now be sown either to Make New Lawns or Improve Old Lawns. See full directions in—

SUTTON'S LAWN PAMPHLET, Sent post-free by—SUTTON AND SONS, READING.

Prize Cob Filbert Trees. MR. COOPER, F.R.H.S., of Western Elms, Reading (late of Calcut Gardens), is the Largest Grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good Trees now ready for distribution. Descriptive Price Lists, &c., on application.

G. C. PRIZE PACKETS, 4s. each, two for 7s., post-free, P.O., or id. stamps, contain 12 roots in each packet, of SOMERSET SEEDLING GLADIOLI, all A. 1. carefully Hybridized Seedlings from First Prize Named Sorts; therefore, all that are worthy, may be named, as they will be NEW AND ORIGINAL VARIETIES. These are the Prizes. Plant during March, April, and May. Order early from—ROBERT H. FOYSTER, Nurseryman, Seedsmen, and Florist, Taunton, Somerset.

Vegetable and Agricultural Seeds. H. and F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

MESSRS. SQUELCH AND WOOD FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

DAVIS'S BEGONIAS.—Superb in Quality. Double, 12s. to 63s. per doz.; Single, 9s. to 30s. per dozen. For Bedding, Double, 12s. to 18s. per doz.; Single, 4s. to 5s. per doz. Two of the best Doubles grown are Altheville, 5s.; and Mauvette, 3s. each. My Catalogue, the best published, describes nearly 300 of the best Varieties, free. R. R. DAVIS, Begonia Grower, Yeovil, Somerset.

PRIZE PANSY PLANTS, and other PERENNIALS, in boxes containing one and a half dozen each. Prize, Fancy, or Trimardean PANSIES, 1s. 9d. per box; POLYANTHUS, Show, 1s. 6d. per box; SWEET WILLIAMS, WALLFLOWERS, and DOUBLE DAISIES, 1s. per box. The above are Extra Strong Plants, and are sent Carriage Paid. Enclose Postal order with favours. R. H. BATH, Osborne Farm, Wisbech.

WANTED, very long and strong IRISH IVIES, and VIRGINIAN CREPERS. Samples and price, to JAMES VEITCH AND SONS, Royal Exotic Nursery, King's Road, Chelsea, S.W.

WANTED, a large quantity of GLOBE ARTICHOKE SEED. State price. ROLAND PEARSON, Morton House, Gainsborough.

WANTED, PALMS and GERANIUMS.—Cheap offers wanted of CIGOS WEDDELIANA from stores or 197, also Bronze and Tricolor GERANIUMS from stores. Cash, or exchange. G. PHIPPEN, Royal Herks Floral Establishment, Reading.

WANTED, 12 each, AGAVE AFRICANA and AGAVE APPLANATA, 12 to 18 inches high; also 100 CALCEOLARIA AMPLEXICAULIS.—Price, &c., to H. LANE and SON, Nurseries, Berkhamstead, Herts.

WANTED, choice CUT FLOWERS for SALE in COVENT GARDEN MARKET; good prices made. No. of Standards, 169 and 170. Cheques weekly. S. DENSON and CO., The Nurseries, 22, Maida Vale, Epsgrave Road W.

WANTED, a few thousand CABBAGE PLANTS, good Garden sorts; also AILSA CRAIG ONIONS, true.—G. HOWES, Merton Gardens, Theford.

CHRYSANTHEMUMS.—CARTERS' ILLUSTRATED CATALOGUE OF THE FINEST COLLECTION in the COUNTRY, including all the newest and best varieties, now ready, gratis and post-free on application.—The Queen's Seedsmen, 257 and 258, High Holborn, London, W.C.

Grape Vines—Grape Vines—Grape Vines. B. S. WILLIAMS and SON have some extra strong Fruiting and strong Planting Canes still on hand. Full particulars as to Prices and Varieties on application. Victoria & Paradise Nurseries, Upper Holloway, London, N.

CHRYSANTHEMUMS, PELARGONIUMS, DAHLIAS, BEGONIAS, CANNAS, &c.—Our CATALOGUES will be sent free on application. 15 First Prizes (10 this year). 5 Gold Medals. REID and BORNEMANN, Sydenham, London, S.E.

PANSIES, VIOLAS, and DAHLIAS.—We do as well as any firm in the Kingdom. Ten Gold and Silver Medals last season from leading Societies. Only standard exhibition varieties kept in stock. Prices from 2s. 6d. per dozen, carriage paid. Send for Catalogue and Competitor's Guide, 160 pages, post-free, 3d. DAHLIA CUTTINGS supplied very cheap.—DOBIE and CO., Bathney.

BARE'S SEEDS, BULBS and PLANTS. VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION. FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION. BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigrids, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michauxia Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION. BARR and SON, 12, King Street, Covent Garden, London.

Geraniums, Lobelias, Calceolarias, Ferns, &c. JOHN SOLOMON offers:—GERANIUMS:—Henry Jacoby, West Brighton Gem, Queen of the Belgians, F. V. Raspail, 10s. per 100. LOBELIA: Emperor William, best blue, 2s. 6d. per 100, 20s. per 1000. Snowball, pure white, 3s. 6d. per 100, 25s. per 1000. CALCEOLARIA: Golden Gem, 5s. per 100, 40s. per 1000. FERN: Pteris tremula, Pteris cristata, Pteris major, 10-inch pots, fit for 48s. 12s. per 100. All the above are sure to give satisfaction. Packing included, Cash with order. Queen's Road Nursery, Walthamstow, E.

POOLEY'S WORM DESTROYER.—For eradicating every kind of Worm from the roots of large Specimen Plants, Pots, Lawns, &c. It is easily and cheaply applied, and will not harm the most delicate Plant. In Bottles, 1s., 2s. 6d., 7s., and 12s. 6d. each. CORRY and CO., LIND, 15, 15, and 15, Finsbury Street, E.C. Sold by all Seedsmen.

THE CHADBORN and COLDWELL MFG. CO.,

Makers of the Patent "EXCELSIOR" LAWN MOWER, 223, UPPER THAMES STREET, LONDON, E.C.

Registered Trade Address: "LAWN MOWERS, LONDON."

INTERNATIONAL HORTICULTURAL EXHIBITION, EARLS COURT, W.

SPECIAL CHEAP OFFER OF TUFEA for ROCKWORTH BUILDING. Large pieces, 25s. per ton; smaller pieces, 20s. per ton. In cart, 12s. per ton.

WILKS and SEGAR, Royal Exotic Nursery, Onslow Crescent, South Kensington, W.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us 1 cwt. and over carriage paid. London Agent: Mr. GEORGE H. VICTORIA ROAD, PUTNEY. WM. THOMSON and SONS, Clifton, Galshead, N.B.

FORTHCOMING SALES BY MESSRS. PROTHEROE & MORRIS,

Horticultural Auctioneers and Valuers,

CENTRAL AUCTION ROOMS and ESTATE OFFICES, 67 and 68, CHEAPSIDE, E.C. CATALOGUES FOR ALL AUCTIONS SENT FREE BY POST ON APPLICATION.

THE HOWICK HOUSE COLLECTION OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

UNUSUALLY IMPORTANT SALE

OF THE

Whole of this Celebrated Collection of Orchids.

Formed by the late EDWIN GRUNDY WRIGLEY, Esq., the whole being in splendid condition, and including many Plants of exceptional merit and rarity.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of the late E. G. Wrigley, Esq., to **SELL** by AUCTION, on the Premises, Howick House, Preston, Lancashire (about 2 miles from Preston Station), on **TUESDAY NEXT, April 5, 1892, and THREE FOLLOWING DAYS**, at half-past 12 o'clock each day, without the slightest reserve, the whole of this extensive and most important Collection of Established Orchids. Amongst the principal plants, the following may be specially mentioned:—

Angreum sesquipedale "articulata"
"Brassavola Digbyana, fine plant"
"Catasetum Bur-gerthii"
"Cattleya amabilis"
"Arnoldiana"
"aurea, in variety"
"Balaustina"
"crispa"
"elaborata Wallisi"
"exoniensis"
"Hardyana, F.C.C."
"Lawrenceana (Howick House variety)"
"in variety"
"Masiana"
"Mendilli, two enormous specimens, one 3 feet and the other 2 feet 6 through respectively, and many others"
"Mossian, grand specimen, 3 feet 4 x 3 feet (several)"
"alba, 2 plants"
"nobilior"
"Reineckiana, 3 plants, one a fine specimen, with 7 sheaths"
"Rex"
"Sauderiana (several)"
"Schilleriana"
"Schuddehiana"
"Skinneri, grand specimen, 3 feet through"
"albi"
"oculata"
"pectinosisima majus"
"Trianae alba, 36 bulbs, extra fine and large variety"
"Trianae (several)"
"v. lutina"
"Wagneri, 60 bulbs"
"Warneri"
"Warcqueana"
"flammea"
"Oncologie cristata alba"
"maxima"
"Lemniana"
"Treutmann variety"
"Massingiana, F.C.C."
"pandurata"
"Cymbidium eburneum"
"Lowianum"
"Cypripedium Ainsworthii"
"Elliotianum"
"euryandrum"
"grande"
"intratissimum"
"Lathamianum"
"Leeanum superbum"
"Morganianum"
"Burfordianum"
"Oncanthum superbum"
"Sandersonianum"
"selligerum"
"Stonei"
"vexillarium"
"Wallisi"
"It will be observed that some of the specimens are of enormous size."

The whole of the plants will be submitted to public competition, and nothing sold privately before the Sale.

Catalogues are now ready, and may be obtained (price, 1s. each, returnable to purchasers) of Mr. HOWICK, The Gardens, Howick House, Preston; and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

THE STAND HALL COLLECTION OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

HIGHLY IMPORTANT SALE

of the whole of this Renowned Collection. Including many plants matching in point of rarity, the whole being unsurpassed for culture and condition.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of the late Thomas Statler, Esq., to **SELL** by AUCTION, on **TUESDAY, May 3, and THREE FOLLOWING DAYS**, at 12 o'clock each day, on the Premises, Stand Hall, Whitefield, near Manchester, the whole of the

CELEBRATED COLLECTION OF ESTABLISHED ORCHIDS.

Amongst the Gems may be mentioned the following:—

Angreum sesquipedale
"Cattleya aurea"
"Statterianum, First-class Certificate"
"Acklandiae"
"calummatia, fine variety"
"Gaskelliana alba"
"intermedia alba, First-class Certificate"
"Mendilli bella"
"Kex"
"Skinneri alba, grand plants"
"Trianae, "Duke of Marlborough"
"Emula, unique"
"Leana, grand variety"
"Regina"
"Johnsonii"
"Plumosa, Award of Merit, R.H.S."
"Walkeriana"
"Oncologie cristata alba, fine plant"
"maxima, fine plant"
"Lemoniana, fine plant"
"Chatsworth var., fine plant"
"Treutmann var."
"Cymbidium Lowianum"
"Cypripedium argus Moensii"
"Arthuriannum"
"Bartlettii"
"Boissierianum"
"cardinale, extra fine"
"Charles Canham"
"grande"
"lo grande"
"Lathamianum"
"Morganian Burfordianse, fine plant"
"grand variety"
"Mooreanum"
"Ma-tersianum"
"Macraeianum"
"Niobe"
"nivolum album (true)"
"onanthum superbum"
"Rothschildianum"
"Schroderae"
"Spicerianum magnificum"
"Sillieri"
"selligerum rubrum"
"tesellatum porphyreum"
"Tautianum lepidum"
"vexillarium superbum"
"Wallisi, very fine plants"
"Dendrobium Ainsworthii"
"roseum"
"alba, wonderful specimen, Award of Merit, R.H.S."
"Falcovieri giganteum"
"Leachianum"
"nobile Cooksonii"
"nobilis"
"giganteum"
"The plants may be viewed the day prior to the Sale."

Catalogues (1s. each, returnable to Purchasers), may be had of Mr. JOHNSON, Head Gardener, on the Premises, and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

Tuesday Next.

The Collection of ORCHIDS formed by the late E. A. Roberts, Esq., of Woodlands House, Greenhithe, Kent, comprising Oncologies, Cattleyas of sorts, Odontoglossums, Lelia anceps Peruvianiana, Lycaste Skinneri regina (an exceptionally fine variety), Oncidium macranthum (Vanda tricolor, Cypripediums in variety, Vanda Sauderiana, Dendrobiums, &c.)

Also an IMPORTATION of 550 ONCIDIUM TIGRINUM and 150 ODONTOGLOSSUM CITROSUM PUNCTATISSIMUM, received direct for unreserved Sale, ORCHIDS in FLOWER, &c.

MESSRS. PROTHEROE AND MORRIS will **SELL** the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **TUESDAY NEXT, April 5, at half-past 12 o'clock**. On view morning of Sale, and Catalogues had.

Wednesday Next.

120 TREE CARNATIONS, in 8-inch pots, splendid plants; 101 AZALEA MOLLIS, 2000 LILICUM LONGIFLORUM, and other LILIES, in variety; GLADIOLI LEMOINEI, extra choice SINGLE BEGONIAS, TEA ROSES in pots, PALMS, in variety; GREENHOUSE FERNS, TUBEROUS BEGONIAS, 400 STANDARD and DWARF ROSES from an English Nursery, HERBACEOUS PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will **SELL** the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **WEDNESDAY NEXT, April 5, at half-past 12 o'clock**. On view morning of Sale, and Catalogues had.

Friday Next.

3000 Old CATTLEYA LABIATA.

Without any reserve.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. Fred. Horsman & Co., to **SELL** by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY NEXT, April 8, at half-past 12 o'clock**, 3000 old CATTLEYA LABIATA. Messrs. Horsman beg to state that the plants to be offered are the true CATTLEYA LABIATA of JAMES LINDLEY.

collected by a Portuguese planter on his own estate where no plant had hitherto been collected. This, the typical plant is the finest of all, on this buyers may rely. See dried flowers at Sale. As these are in magnificent condition and must be sold, this sale presents to the Trade and Private Growers the finest opportunity to secure healthy plants at a nominal price. On view morning of Sale, and Catalogues had.

Ation.

Under Bill of Sale. With the concurrence of the Official Receiver in Bankruptcy: Re J. C. Jennings. A short distance of either of the Acton Railway Stations. Absolute CLEARANCE SALE. Important to Florists.

MESSRS. PROTHEROE AND MORRIS will

SELL by AUCTION, at the Priory Nursery, Acton, on **WEDNESDAY and THURSDAY, April 6 and 7, at 12 o'clock** precisely each day, without the slightest reserve, 10,000 Lycopodiums, 7500 Ferns, 7500 Pines, thousands of BEDDING PLANTS, 3700 PELARGONIUMS, 950 double white PRIMULAS, 700 FUCHSIAS, 1000 CARNATIONS, 1400 ROSES in pots, 700 ARUM LILIES, 1300 AZALEA MOLLIS, 500 white LILICUM LONGIFLORUM, 2000 MAIDEN-HAIR FERNS, EUCARIS, useful MARIE (4th buds), PONY, two capital Florists' Market VANS, Spring Cane Box, Light Spring VAN, HARNESSES, chaff-cutting Machine, VAN and Spring Barrows, Garden Tools, and other Usefuls in Trade. May be viewed two days prior to the Sale. Catalogues had on the Premises: of B. BARNETT, Esq., Solicitor, 83 and 81, Chancery Lane, W.C.; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Clapton.

By order of the executor in the late Mr. James Nobla. SALE of the OUTDOOR NURSERY STOCK, the Freehold Land having been sold for building purposes.

MESSRS. PROTHEROE AND MORRIS will

SELL by AUCTION on the premises, The Nursery, Pond Lane, Clapton, on **FRIDAY NEXT, April 8, at 12 o'clock** precisely, without reserve, 2000 HOLBES, 1 to 4 feet; 400 LILACS, thousands of IRISH IVIES in pots, 2000 IVIES to 6 feet in pots, 10 BARKER RHODOS, 200 PINE TREES, 3 to 5 feet; 200 DAPHNE REZEZCUE, strong plants; 2000 LAURELS, 2 to 4 feet; 8000 AUGUSTAS, 3 to 4 feet; RHODAR, a large quantity of IRIS, 110 MYRTLES in pots, 250 boxes of VERONICAS, blue mixed, and other stock. May be viewed three days prior to the Sale. Catalogues had on the premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Preliminary Notice.—Isleworth and Hounslow.

VERY IMPORTANT SALE of FREEHOLD, COPYHOLD, and LEASEHOLD ESTATES, of which some are ripe for building development.

By order of the TRUSTEES of the late J. WILMOT, Esq.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to submit for PUBLIC COMPETITION, at the Mart, Tokenhouse Yard, London, E.C., about the last week in MAY NEXT, the following VALUABLE ESTATES:—

THE FREEHOLD ESTATE, known as PINE HOUSE, ISLEWORTH, within 5 minutes' walk of Spring Grove and Isleworth Railway Stations. Area about 6 acres, with valuable existing frontages to the London and Great Northern Railway. Described Residence, numerous Greenhouses, Vineries, Four Cottages, Stabling, &c. The Land is stocked with thriving Orchard Fruit Trees, and would be valuable for Building development.

THE LEASEHOLD MARKET GARDEN in rear of Pine House, comprising an area of about 54 acres, of which about 36 are pasture and are abundantly stocked with Fruit Trees of the best description.

The very valuable FREEHOLD MARKET GARDEN and FRUIT GROUND, ripe for Building, elegantly situated in the Cromwell Road, Hounslow. Area about 9 acres. Well cropped with Orchard Fruit Trees.

The compact FREEHOLD and COPYHOLD MARKET GARDEN and FRUIT GROUND, opposite the preceding lot. Area 12 acres.

Two LEASEHOLD MARKET GARDENS, situated in Staines Road, Hounslow. Area about 6 acres. Stocked with Orchard Fruit Trees.

THE LEASEHOLD MARKET GARDENS, known as Lampton Farm, situated in the Heston Road, Lampton, Middlesex. Area about 44 acres. Stocked with Market Garden Produce. Also a MARKET GARDEN of about 30 acres, at the Woodlands, Isleworth.

Note.—The Leasehold Market Gardens can be treated for privately, and taken over as going concerns. Full particulars of the Auctioneers, at their Estate Offices, 67 and 68, Cheapside, London, E.C.

MESSRS. CHARLESWORTH, SHUTTLEWORTH, & CO.,

HEATON, BRADFORD, and 213, PARK ROAD, CLAPHAM, S.W.,

Offer a Fine Lot
of the Old

CATTLEYA LABIATA AUTUMNALIS. Well-leaved, and in the best possible condition.

Good Plants, £12 10s., £15, £25, and £50 per Hundred. A few Specimen Plants, price on application.

ODONTOGLOSSUM CRISPUM (ALEXANDRÆ).

Imported, Semi-Established, and Established Plants, with Flower-spikes; the very Finest Type obtainable. Prices on application. Thousands to select from.

ONCIDIUM MACRANTHUM.

Strong Plants, with fine Spikes, at reasonable prices.

☞ We have a large Stock of all the Leading Varieties of Orchids at very Reasonable Prices. INSPECTION INVITED.

Friday Next.

350 DISA GRANDIFLORA SUPERBA.

MESSRS. PROTHEROE AND MORRIS will include in their sale on Friday next, April 8th 350 *Disa grandiflora* Superba in grand condition, brought home and tended by a passenger. The tubers are very healthy, and are of a grand strain.

Also a few of the rich yellow

VERATRUM GRANDIFLORA, never before offered; a white species of *Disa*, and other rare species. Grand masses of *EPIDENDRUM BICOLOR*, from the only locality whence the large free-growing species can be obtained. Some plants of the extraordinary *PHYLLOPHYLUM PACHYRACHIS*, which produces its flowers over long thick cylindrical flower spikes. An elegant *PLEUROTHALLIS*, and various other rare Orchids.

On view morning of Sale, and Catalogues had.

Dulwich Common.

Sale of well-grown *COVE* and *GREENHOUSE* PLANTS, ORCHIDS, &c., by order of the Executors of the late A. Druce, Esq.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, at the corner of the New Road, opposite Dulwich Station, Dulwich Common, one miente from Dulwich Station, L.C. & D. Ry., on MONDAY, April 11, at 12 o'clock precisely, without reserve, the whole of the well-grown *STOVE* and *GREENHOUSE* PLANTS, comprising about 150 Orchids, including *Vanda tricolor*, grand plants; *Vanda teres* *navis*, *Dendrobium Farmeri*, *Cattleya*, *Cypripedium*, and others; 150 *Gesneriums*, in variety; *Gloxinias*, *Begonias*, 11 fine *Eucharis amazonica*, *Crotons*, *Dracenas*, *Adiantum Earleyense*, *Lapagiea alba*, and rubra, 30 *Camellias*, and *Azaleas*, large plant; and many others; also Garden Implements, consisting of 9 1 and 2-light Frames, Hand-lights, Water-barrow, Garden-seats, Pair of Rustic Vases, 2 Green's Lawn-mowers, in capital condition; 2 Garden-rollers, Flower-pots, &c.

May be viewed Friday and Saturday prior to the Sale. Catalogues had on the Premises; of Messrs. DRUCE and ATLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 64, Chesham, London, E.C.

Framfield, near Uckfield, Sussex.

About three miles from the Uckfield Railway Station. ABSOLUTE CLEARANCE SALE OF GREENHOUSE PLANTS and UTENSILS in TRADE and EFFECTS, in consequence of the Property having been let.

IMPORTANT TO GENTLEMEN, FLORISTS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS (having let the Vineeries), are instructed to SELL by AUCTION, on the Premises, The Vineeries, Framfield, near Uckfield, adjoining Wharton Cottage, on MONDAY and TUESDAY, April 11 and 12, at 12 o'clock precisely each day, without reserve, the whole of the *GREENHOUSE* PLANTS, comprising 2500 scarlet and white *Gesneriums*, 3000 Maiden Ferns, 1000 *Camellias*, 5000 *Gloxinias*, The Brides, in pots 2200 Roses, in pots; 3000 *Chrysanthemums*, 170 *Specimen* *Camellias*, 160 *Azaleas*, 2500 *Arum* *Lilies*, in pots; 2600 *Lilium auratum*, specimen, and candidum, in pots; 6 large *Lapagiea rosea*, *Pelargoniums*, each with primula, &c. Flower pots, WATER BARROWS, Garden ROLLERS, 946 yards of LIGHT RAILWAY, 1 foot 8 in gauge; 11 TROLLEYS, 8 Hives of BEES, Field ROLLER, Horse-power Shaft cutting MACHINE, new Iron Pump, Iron Fire-brick, and Sundries. Also 40 Standard and Pyramid FERTILIZER TREES, 1000 Black CURRANTS, 250 SYRINGAS, also a quantity of Lombardy POPLARS and HIRCH.

May be viewed Friday and Saturday prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Estate Agents, 67 and 64, Chesham, London, E.C., and Leytonstone.

Kingston on Thames.

Opposite the new County Council Office.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, Elm Villa, Grove Road, Kingston on Thames, on TUESDAY, April 12, at 12 o'clock precisely, the whole of the well-grown *GREENHOUSE* PLANTS, comprising *Cattleya*, *Cypripedium*, and others; 150 *Gesneriums*, in variety; *Gloxinias*, *Begonias*, 11 fine *Eucharis amazonica*, *Crotons*, *Dracenas*, *Adiantum Earleyense*, *Lapagiea alba*, and rubra, 30 *Camellias*, and *Azaleas*, large plant; and many others; also Garden Implements, consisting of 9 1 and 2-light Frames, Hand-lights, Water-barrow, Garden-seats, Pair of Rustic Vases, 2 Green's Lawn-mowers, in capital condition; 2 Garden-rollers, Flower-pots, &c.

May be viewed the day prior to and morning of Sale. Catalogues had on the Premises, and of the Auctioneers and Estate Agents, 67 and 64, Chesham, London, E.C.

23,000 Havannah Cigars. By order of the Mortgagees.

MESSRS. PROTHEROE AND MORRIS will SELL by auction, at their Central Sale Rooms, 67 and 68, Chesham, London, E.C., on MONDAY NEXT, April 4, 1892, at 12 o'clock, 23,000 genuine HAVANAH CIGARS, consisting of La Flor de Yucatan Conchas, El Rio Sella Reina de España, La Española Media Regalia, El Rio Sella Regalia de Paris, El Rio Sella Opera; together with 6,200 INDIAN CIGARETTES, and 20,000 EGYPTIAN CIGARETTES.

On view, morning of Sale. Samples may be obtained at at stated prices. Catalogues of the Auctioneers, 67 and 68, Chesham, London, E.C.

Wednesday and Thursday Next.

THE CHOICE COLLECTION OF ESTABLISHED ORCHIDS forms by A. SILEM, Esq.

MR. J. C. STEVENS has received instructions from AUGUSTUS SILEM, Esq. (who is medically forbidden to frequent the house) to offer for SALE, by AUCTION, at Great Room, 33, King Street, Covent Garden, W.C., on WEDNESDAY and THURSDAY, April 6 and 7, at half past 12 o'clock precisely each day, without the least reserve, his entire COLLECTION of ORCHIDS, which will be found in excellent health, and amongst them may be mentioned:—

Phalaenopsis grandiflora
" *amblylla*
" *Stuartiana*
" *Sanderiana*
Angreum se-quipedale
" *Scottiana*
Cypripedium *tonoi*
" *Levigatum*
" *Lowi*
" *Bothschildianum*
Aerides Felsburgi
" *Sanderiana*
Phajus tuberosus
" *Humboldtii*
" *Heurii*
Vanda Sanderiana
" *Catcathi*
" *Bensoni*

On view morning of Sale, and Catalogues had.

Saturday Next.

1000 choice ROSE TREES, 500 FRUIT TREES, a fine Collection of CARNATIONS, 1000 PROTHEROE and other BORDER PLANTS, choice LILIUMS, a fine strain of BEGONIAS, 20,000 TUBEROSES and AMARYLLIS, LILY OF THE VALLEY CLUMPS, 500 fine CONIFERS, LAURELS, EVERGREENS, FLOWERING SHRUBS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Room, 33, King Street, Covent Garden, W.C., on SATURDAY NEXT, April 9, at half past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Yardley, Worcestershire.

MR. THOMAS B. JAMES will SELL by AUCTION, TO-MORROW, SATURDAY, at 2 o'clock in the afternoon, without reserve (by order of the Executors of the late R. Hopkins, Esq.), on the Premises, The Grange, Yardley, the ENTIRE COLLECTION of STOVE and GREENHOUSE PLANTS, being the contents of six Greenhouses, Viney, Peach House, and Pitts. Yardley is situated 4 miles from Birmingham, Railway Station, Stechford and Yardley, L. and N.W. Railway.

Tuesday, April 12. Without Reserve.

MR. THOMAS B. JAMES (many years with Protheroe & Morris) will SELL by AUCTION on TUESDAY, April 12, at 12 o'clock, at his Sale Rooms, 12, Bell Ring, Birmingham, by order of Messrs. Hugh Low & Co., a fine importation of *DENDROBIUM WARDIANUM* *OGANTEM* *LOWI* and *D. FORMOSUM* *OGANTEM*, fine plants in splendid condition; lotted to suit the requirements of all buyers. Also by order of Messrs. Charlesworth, Shuttleworth & Co., a grand lot of imported plants of *ODONTOGLOSSUM CRISPUM* (ALEXANDRÆ), *PACHYRACHIS*, *PHYLLOPHYLUM*, *VERA*, *VERA*, there will also be included in this sale about 500 ORCHIDS in FLOWER for Easter Decoration. A few more entries can be made.

Commissioners entrusted to Mr. James receive careful and personal attention, and purchases are skilfully packed and promptly despatched. Catalogues, post free. Plants on view from 9 a.m. on morning of sale.

Thursday Next, April 7.

MR. THOS. B. JAMES will include in his usual WEEKLY SALE, on THURSDAY NEXT, 2500 Hybrid Perpetual DWARF ROSES, 300 STANDARD ROSES, several hundred FRUIT TREES, Collections of HERBACEOUS PLANTS, LILIUMS, and 1 ton of GENERAL NURSERY STOCK. Catalogues post-free.

N.B.—CONSIGNMENTS of CHOICE CUT FLOWERS, MUSHROOMS, &c., SOLICITED to arrive for SALE EVERY WEDNESDAY and FRIDAY, at 4.30 P.M. Empty and Labels free.

Finedon, Northamptonshire.

TO FRUITERS, BUILDERS, and OTHERS. VALUABLE FREEHOLD PROPERTIES, consisting of upwards of Seven Acres of productive ORCHARDS, situated near to the centre of the above increasing village.

MR. G. F. BEARN will SELL the above by AUCTION, at "The Gate Inn," Finedon, on THURSDAY, April 7, 1892, at 5 for 6 o'clock in the evening (by order of the Trustees, under the will of Mr. Richard Jacques, deceased), and subject to such conditions of Sale as will be then produced.

An eligible and well-known ORCHARD, adjoining the Back Road, now and for many years past in the occupation of Messrs. Jacques, Fruiters and Gardeners, containing 5 a. 1 r. 14 p., or thereabouts.

And also another ORCHARD, adjoining, and containing 2 a. 0 r. 22 p., or thereabouts. These orchards are well stocked with highly productive Apple, Pear, Plum, Damson, and Cherry Trees, and have long been noted both for the quantity and quality of Fruit grown thereon. They also possess very important building value, being close to the village, and having a long frontage to the road.

To view, apply to Messrs. JACQUES, Finedon; and for further particulars to Mr. JOSEPH HARLOCK, Finedon; Mr. SAMUEL BROWN, Rauceux, Northamptonshire; the Auctioneer, Corn Exchange, Wellingborough; or to Messrs. SHARMAN, JACKSON & ARCHER, Solicitors, Wellingborough.

Public Sale.—Important to Horticulturists, Landed PROPRIETORS, LANDSCAPE GARDENERS, NURSERYMEN, &c.

The LARGER PORTION of the MAGNIFICENT and WELL-KNOWN COLLECTION of Grand examples of stately GOLDEN YEW, specially fine Pyramid ENGLISH YEW, rare specimens of GOLDEN, SILVER and GREEN HOLIES, handsome ARBUTUS, RHODODENDRONS, &c.

at present growing in the Ormston Park of Gowbank, one mile south from Avonbridge, near Falkirk, N.B., and planted by the late Sir James Gowans at very great expense, will be EXPOSED FOR SALE by PUBLIC ROUP on FRIDAY, 8th April, 1892.

This superb Collection of Ornamental Plants, selected with superb reverence from the first nurseries in Great Britain and the Continent, are unsurpassed for health, beauty and colour. They have been nurtured and trained with endless constant care, and will only require to be seen to be appreciated. Messrs. R. B. LAIRD & SONS, Florists to the Queen, Edinburgh, say:—"Such a number of fine specimens are seldom met with in a private establishment. . . . We are confident, from the nature of the soil, purchasers may rely on all living with good bills, and have been frequently transplanted."

Catalogues in preparation, and to be had from the Auctioneer. Sale to begin at 12 o'clock noon, prompt.

CHARLES STIRLING NELSON, AUCTIONEER, FALKIRK.

Mr. NELSON would beg to draw attention to this most important sale; such a unique collection has never before been offered to the Public.

A Brake will await the arrival of forenoon trains at Bathgate Station; also one will leave Gramhamston Station (Falkirk) at 10.35 A.M., to convey purchasers to the Sale. Horses and Lorries can be arranged for, to be on the ground for removal of purchases to Avonbridge Station.

Peacocks, Peahens, Stove and Greenhouse Plants.

MESSRS. BRANCH and LEETE will SELL by AUCTION on SATURDAY, the 8th instant, at "Oxford Road," Aigburth, near Liverpool, the contents of the late Sir Thomas Edwards-Moss, Bart., the collection of STOVE and GREENHOUSE PLANTS, ten PEACOCKS and PEAHENS, &c.

Catalogues can be had from the Auctioneers, the Hanover Rooms, Liverpool.

In the High Court of Justice.—In Bankruptcy.
Re A. R. C. P. Hayes, 17, St. John's Park, Upper Holloway. A
Hare and Choclo COLLECTION OF ORCHIDS, including
Sobralia macrantha, Nanodes, Medusas, and Cyrtopodium
superbium, canthium, crassinode, barbatum. Cely-
cogyne cristata, Agrostis squigulata, Galeandra fluvi-
calanthe Sandhurstiana, C. Vestita lutea, and numerous
others; in all about 180 lots.

MR. FREDK. MILLER is instructed to
SELL BY AUCTION, in the Garden at the above address,
on THURSDAY, April 7, at 1 o'clock precisely, the above
valuable COLLECTION OF ORCHIDS, PLANTS, and FERNS,
including also C. melliss, Azaleas, Tuberoses, Ruchias ama-
zonica, Rhodo leucurus, a Double-span Conservatory, a Fritz
Collis Dog, the Orchid *Albion* complete, by Warner and Wil-
liams; Garden Utensils and Effects.
May be viewed between 10 and 4 o'clock two days prior to
the Sale, and Catalogues had of the Official Receiver, Bank-
ruptcy Buildings, Carey Street, W.C. of Messrs. WILLIAMS,
Horticulturists, Junction Road, Holloway; and of the Auction-
eer, at his Offices, 2, Serle Street, Lincoln's Inn Fields.
N.B.—The only entrance to the Garden is in the Hargrave
Road, off the Junction Road, &c.

THE ADVERTISER IS OPEN TO RENT,
for a term of years, a Nobleman's or Gentleman's disused
KITCHEN GARDEN, with good supply of Glass; no less than
10 Acres of Ground; or would take Management of same for
profits, &c.
Apply to FLORIST, *Gardeners' Chronicle* Office, 41, Wel-
lington Street, Strand, W.C.

TO FLORISTS.—A Large Quantity of
FRENCH BOXES for SALE, 4s. per dozen. Cash with
Order, to MADAME BAUMAN, 20, Russell Street, Covent
Garden, W.C.

FREEHOLD NURSERY, very Old Estab-
lished, FOR SALE, in full profit, situated in one of the
best localities, 18 miles from London. Owner retiring from
business, after fifteen years' successful occupancy. Pretty
 Cottage Residence; 12 Glass-houses, of various sizes; Stabling,
and 12 Acres of excellent Land, fully stocked. Net profits,
£200 a year. Cash requisite, about £1000.
MR. DAVIDSON, 3, Circus Place, London, E.C.

FOR SALE, a profitable NURSERY, SEED,
FLORIST, and FRUIT BUSINESS. Proprietor retiring.
Capital required, about £1200.
Apply GEORGE DOUGLASS, Esq., Solicitor, Arcade, New-
castle-on-Tyne.

Hampton-on-Thames, on the Marling Park Estate.
LARGE NURSERIES!!!

MR. F. G. HUGHES begs to call the atten-
tion of Nurserymen and Horticulturists also to com-
mence in Business, to the exceptional advantages offered by
this Estate. For full particulars apply—
The Estate Office, as above.

Hounslow.

By order of the representative of the late Mr. Herbert Pocock.
MESSRS. PROTHEROE AND MORRIS are
instructed to SELL the BENEFICIAL INTEREST of
the VALUABLE NURSERY GLADES situated in the streets and
vicinity of Hounslow, near Hounslow Barracks Station,
comprising an area of about sixty acres.
Full particulars of Protheroe & Morris, 67 and 68, Cheap-
side, London, E.C.

LONDON, S.W. (7539).—First-class SEED
and FLORIST BUSINESS, in main thoroughfare of
good suburban town. Handsomely fitted Shop, with Conserva-
tory at rear, and nice Dwelling-house.
Rent £120. Lease 19 years.
Price for Goodwill, Conservatory, Stock, and Utensils in
Trade, £500, or offer.—Apply to PROTHEROE AND MORRIS,
67 and 68, Cheap-side, London, E.C.

FOR DISPOSAL, a High-class FLORIST,
FRUIT, and SEED BUSINESS, with 5 acres of Market
Garden, Glass-houses, &c., in one of the most fashionable
towns on the South side of London, about £1500, for Good-
will, Stock, and Fixtures.—Apply to FLORAL, *Gardeners'*
Chronicle Office, 41, Wellington Street, Strand, W.C.

To Fruit Growers, Nurserymen, and Others.
GOOD ARABLE and MEADOW LAND to
be LET or SOLD. Close to the main road at Ponder's
End (9 miles from London). Long leases granted. Rent, 42s
per acre per annum, with option to purchase the Freehold any
time during the first nine years. Several large Market
Nurseries are established on the Estate. Full particulars of
A. and G. GUILVER, Land Agents, Ponder's End.

TO BE LET, with Immediate Possession, the
Convenient DWELLING-HOUSE, with Yard, Barn,
Stable, and other buildings; LARGE GARDEN, GREEN-
HOUSES, and ORCHARD; at Hampton, near Deddington,
Oxfordshire, as lately occupied by Messrs. Townsend, Nursery-
men. Rent, £20 a year. Apply to—
MESSRS. KINCH AND BROOKES, Solicitors, Deddington.

LAND, good loamy, suitable for a Florist, just
off High Road, Edmonton, TO BE LET ON LEASE, or
otherwise. Apply, 2, Spring Villas, Talbot Road, Tottenham.

MARKET GARDEN and DAIRY TO LET,
20 miles by rail to London, where a large business has
been carried on with Cut Flowers, Fruit, &c.; containing
Dwelling House and a number of Glass-houses, and all requisite
Outbuildings. About 4 acres.
Apply, Mr. MARTIN, Castle View, Slough.

SUPERIOR FURNISHED APARTMENTS,
in private family, offering every home comfort. Close
to Covent Garden; suitable for gentlemen attending early
market.—B. M., 3, Bedford Mansions, Henrietta Street, W.C.

Ashford Parochial Charities. TO NURSERYMEN AND OTHERS.

TO BE LET, BY TENDER, for 21 years, or
a less term if desired (subject to the approval of the
Charity Commissioners), from OCTOBER 11 next, the SHOP,
COTTAGE, STOREHOUSE, 3 GREENHOUSES, communi-
cating with each other; 2 WAREHOUSES, and 1 a. 3r. 16p.,
or thereabouts, of NURSERY GROUND, close to the Ashford
South-Eastern Railway Station, and now in the occupation
of Messrs. Buryard.

Copy of proposed Lease and Conditions of Letting can be
seen at the Offices of Messrs. Hallett & Co., 11, Bank Street,
Ashford, Kent.

Possession of the property could probably be obtained
previously to October 11, by arrangement with the present
tenants.

Tenders, Sealed, and Endorsed "Tender for Nursery Pre-
mises," to be sent to me by APRIL 20 next.

The Trustees do not bind themselves to accept the highest or
any Tender.

HORACE HAMILTON, Clerk.

11, Bank Street, Ashford.
March 23, 1892.

About 3a. 3r. of NURSERY GROUND, adjoining the
Trustees' Land, and now held by the Messrs. Buryard, could be
HIRED from Messrs. Jemmett by arrangement with them.

TO BE LET ON LEASE,
OR SOLD,
ROYAL NURSERIES,
ASCOT,

Consisting of 93 GLASS-HOUSES, and more
or less Land, as required.

Liberal Terms to an IMMEDIATE PURCHASER.
Apply, by Letter ONLY, to—

J. A., 41, Wellington Street, Strand, W.C.

VINERIES and HOTHOUSES TO LET.—
The VINERIES, PEACH-HOUSES, CONSERVA-
TORIES, and other Glass and Hot-houses, at Castledykes, near
Dumfries, with the Bother and other erections connected there-
with; also the GARDENERS' HOUSE, KITCHEN GARDEN,
&c., &c., as now occupied by James W. Bayne, are TO LET
ON LEASE, with entry on September 1 next. The premises
may be seen, and further information obtained, on application to
JAMES H. MCGOWAN, Solicitor, Dumfries.—March 23, 1892.

SUNNY SOUTH.—NURSERY, 16 acres;
2 Cottages, over 20 Green and Vine Houses, some 300 feet
Rent, £200.—ELDRIDGE, 2, Western Parade, Southsea.

CONSERVATORIES.—Five high-class Con-
servatories; seen above at Exhibitions, in perfect condi-
tion, at greatly reduced prices.—WRINCH & SONS, Ipswich.

Fifty Nurseries, Market Gardens, Florist and Seed
BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS'
HORTICULTURAL REGISTER contains full particu-
lars of the above, and can be obtained, gratis, at
67 and 68, Cheap-side, London, E.C.

THE TOWER FURNISHING COMPANY
(Limited), SUPPLY GOODS ON HIRE, direct from the
Manufacturers; one, two, or three years' Credit without
Security. Purchasers have the choice of 100 Wholesale House.
Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Form-
ing Waterfalls, Lakes, and Streams, Ferneries, Winter
Gardens, Alpines, &c., as in hundreds of places about the
kingdom, including at Aldenham House, Elstree, so faithfully
illustrated in this journal of November 21, executed by
PULHAM and SON, 50, Finsbury Square, London, E.C., and
Broxbourne, Herts. Photo Illustrated Book sent for inspection
on receipt of twelve stamps.

A. G. WATSON.
FRUIT & FLOWER SALESMAN, ABERDEEN.
Sale Days, Tuesday and Friday, at 9 A.M.
Consignments solicited of Pot Plants & Cut Flowers

ORCHIDS.
CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

GET AT HARTLAND'S SEED WARE-
HOUSE, CORK.

Pkt. His April Queen Broccoli, Aster White Mignon, Pkt.
1s. 6d. moth Verbenas Ne Plus Ultra, Phlox Drum-
mondii, Dracena-leaved Ruetia,
2s. 6d. Primula, Gloxinia, Cineraria, Doubled Single, 2s. 6d.
His "Soleil d'Or" Golden Double-Quilled Favranius Snowflower,
3 Plants, post free, 2s. 6d.

Lobelia, Herbaceous, Firefly, 3 Plants, post-free, 2s. 6d.
WM. BAYLOR HARTLAND, F.R.H.S., Seedman, Patrick
Street, Cork, Ireland.

*s. 5s., 7s. 6d., and 10s. 6d. Boxes of Cut Daffodil Flowers to
all parts of the United Kingdom, for Easter Decorations.

EXHIBITIONS.

CLAY CROSS HORTICULTURAL
SOCIETY.

The THIRTY-FIFTH ANNUAL SHOW of the above will be
held on TUESDAY, August 16. Entries close August 8. For
schedule apply to the Assistant Secretary,
G. LAMB, Clay Cross, near Chesterfield.

WEST of ENGLAND CHRYSANTHEMUM
SOCIETY'S SHOW, at Plymouth, November 15 and 16.
£30 in CASH for 48 BLOOMS.

Schedules, and all particulars, of Hon. Secs., Messrs.
WILSON and DAMCRELL, 4, North Hill, Plymouth.

FOR ORCHIDS, and GARDENERS
To Grow Them, apply to SANDER'S, St. Albans. The finest
stock of Orchids in the World.—30 minutes from St. Pancras.

A RARE OFFER.—Fifty packets of
guaranteed Genuine FLOWER SEEDS, showy hardy
varieties, &c. Also large parcel of assorted VEGETABLE
SEEDS, &c., post free.
T. RICHARDS, 2, Cranham Street, Oxford.

Sharpe's Victor Potatoes.
W. W. JOHNSON & SON, SEED GROWERS
and MERCHANTS, Boston, offer a few tons of this
excellent First Early POTATO. True stock and good sample.
Price, per cwt. or ton, on application.

ORCHIDS A SPECIALITY.—
Please write for New Illustrated Price LIST of well-
established, healthy, and easily-grown plants.
W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate,
London, N. Nursery, Orchard Road.

150,000.—Special Offer of Kentias.

W. ICETON has a large quantity of the
above to offer, very reasonable, at from 27 10s. per
1000. Medium, well-established, £10 per 1000; in 60's, well
established, at 20 per 1000.

W. ICETON, Putney, S.W.

10,000 GERANIUM CUTTINGS, F. V.
Kaspas.—3s. 6d. per 100, 30s. per 1000.
Booking Orders now. 20,000 RASPBERRY CANES, Carter's
Prolific, true, 3s. per 100; 25s. per 1000.
JAMES GREEN, Reliance Nurseries, March.

PANSIES.—Finest Show and Fancy Pansies,
in 50 Grand Named Sorts, my selection, 25s. per 100; in
100 Sorts, 30s. per 100. Catalogue free, on application.
JOHN FORBES, Hawick, Scotland.

ROSES! ROSES! ROSES!—Plant now
100 strong dwarf, H.P. Roses for 25s.; or £10 per 1000.
The finest in the Trade.

Send for Sample Book, 5s. Cash with Order.
CATALOGUES, free on application.
C. H. GORRINGE, Roselands Nursery, Eastbourne.

RASPBERRY CANES.—Norwich Wonder,
strong and well rooted, free on rail.
At 15s. per 1000, cash with order. Not less than 1000 supplied.
ALBERT BATH, Vine Court, Sevenoaks, Kent.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have an immense stock of

ORCHIDS,

Both Established and Semi-Established, and
they are constantly receiving

IMPORTATIONS

from various parts of the world.

INSPECTION IS VERY EARNESTLY INVITED.

The COMPANY'S Prices are all fixed as low
as possible, with the view of inducing liberal
Orders.

PRICED and DESCRIPTIVE CATALOGUE
Post-free on Application to the Company.

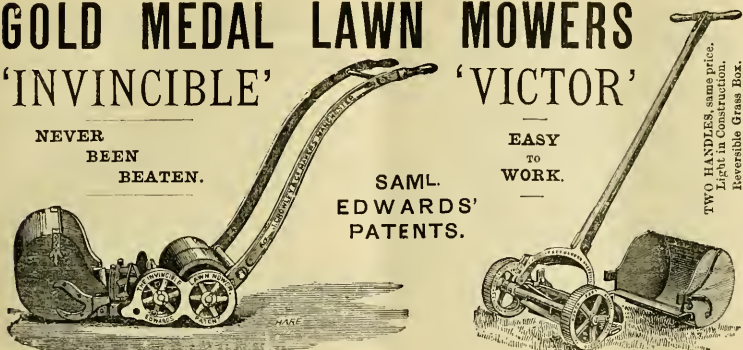
THE VINEYARD and NURSERIES,
GARSTON, NEAR LIVERPOOL.

GOLD MEDAL LAWN MOWERS 'INVINCIBLE' 'VICTOR'

NEVER
BEEN
BEATEN.

EASY
TO
WORK.

SAML.
EDWARDS'
PATENTS.



TWO HANDLES, same price.
Light in Construction.
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

For PLEASURE and PROFIT.

FRUIT. Nothing so Profitable and Easy to Grow. 74 ACRES IN STOCK. See CATALOGUE for Simple Instructions, and kinds of Tree to suit all Soils.

ROSES. Hundreds of Thousands.

BUSHES, Packing and Carriage Free for Cash with Order.
8s. per dozen, 60s. per 100.

ROSES in Pots, from 15s. per dozen.

ORNAMENTAL TREES, 91 ACRES. 4 ACRES OF GLASS.

CLEMATIS (80,000), from 15s. per dozen. N.B.—Single Plants are sold at slightly increased prices.

SEEDS & BULBS { VEGETABLE, FLOWER, and FARM.

DESCRIPTIVE LIST, FREE.

RICHARD SMITH & CO., WORCESTER.

SMALL SHRUBS and CONIFERÆ.—Abies orientalis, 4-yr., 40s. per 1000; Cupressus macrocarpa, 1-yr., 30s. per 1000; C. Lawsoniana, 1 foot, 40s. per 1000; C. erecta viridis, 8 to 9 inch, 30s. per 1000; Cotoneaster Simonsii, 1 foot, 30s. per 1000; Escallonia macrantha, 9 inch, 8s. per 100; Ivy, Irish, 2-yr., 30s. per 1000; Lilac, purple, 2-yr., 30s. per 1000; Laurestinus, 6 to 8 inch, 7s. per 100; Oaks, evergreen, 3-yr., drilled, 10 inch, 50s. per 1000; Pinus cembra, 3-yr. transplanted, 40s. per 1000; P. Nordmannia, 2-yr. transplanted, 60s. per 1000; P. nobilis, 2-year transplanted, 6s. per 100; Privets, oval, 9 inch, 8s. per 1000; ditto, 10 to 12 inch, 14s. per 1000; Retinospora plumosa, 8 inch, transplanted, 40s. per 1000; R. aurea, 6 to 8 inch, 8s. per 100; Rhododendron ponticum, transplanted, 4 to 6 inch, 40s. per 1000; 5 to 9 inch, 55s. per 1000; Veronica Traversii, 8 inch, 7s. per 100; Y. Fingulidula, 6 inch, 8s. per 100; Yew, English, 2-yr., 1-yr. transplanted, 20s. per 1000; Irish Yew, 8 to 9 inch, 8s. per 100.

GARLIES MITCHELL, Nurseryman, Stranraer.

CLEARANCE SALE OF PALMS, DRACÆNAS, &c.

Strong Small Palms, averaging 10 to 12 inches high, of SEAFORTHIA ELEGANS, LATANIA BORBONICA, ARECA SAPIDA, CORYPIA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACÆNA INDIVISA, sample 2 of each, 14 plants in all, 5s.; 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.

- Price per 100 or 1000 on application.
- * LATANIA BORBONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.
 - * CHAMÆROPS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.
 - * Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.
 - * DRACÆNA CANIFOLIA, 5 to 6 feet high, 21s. each.
 - * Ditto ditto 4 feet high, 15s. each.
 - * PHENIX TENUIS, 3 feet high, 5s. each.
 - * Ditto ditto 2 feet high, 18s. per dozen.
 - * DRACÆNA INDIVISA, 3 feet 6 inches high, 5s. each.
 - * Ditto RUBRA, 2 feet high, 18s. per dozen.
 - * Ditto CONGESTA, 2 feet high, 18s. per dozen.
 - * SEAFORTHIA ELEGANS, in 60s., 8s. for 48s., strong, 6s. doz.

Price per 100 on application.
Those marked * are Packed Free, but NOT Carriage Paid.
W. OWEN, 106, Stamford Hill, N.



PRICES of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
ARMOURD.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices—
1-in. dia., best quality ... 36/3 1-in. dia., ex. stout qual. 52/0
" ex. stout quality ... 45/0 " best quality ... 52/0
" best quality ... 45/0 " ex. stout qual. 60/7
PLAIN.—Unkinkable Smooth-Surface Hose, will not crack. Is made of pure rubber and canvas. Quality guaranteed.
1-in. dia., specially cheap 19/3 1-in. dia., best quality ... 28/0
" best quality ... 21/5 " ex. stout qual. 35/0
" ex. stout qual. 27/5 " best quality ... 33/0
3/4-inch diameter, ex. stout quality ... 40/10

OLDEST and MOST RELIABLE HOUSE in the TRADE. Market of Hose for Liquid Manures, Delivery, Steam, Fire, and Suction Hose, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING, and ROOFING FELTS, Post Free, from

ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

A M A R Y L L S.



MESSRS. JAMES VEITCH & SONS

BEG TO INVITE INSPECTION OF THEIR

MAGNIFICENT COLLECTION,

WHICH IS NOW IN FULL BLOOM.

THE ROYAL EXOTIC NURSERY, 544, KING'S ROAD, CHELSEA, S.W.

FOR SALE, CHAMPAGNE RHUBARB,

5000 Plants Cheap. Apply—
J. LANCASTER, 38, New Barn Street, Plaistow, E.
ASPARAGUS—Fine, strong, healthy roots, as good as money can buy; 1-year at 2s. per 100; 2-year, 3s. per 100.
T. R. DOLBY, Hope Nursery, Boston, Lincolnshire.

POLYANTHUS (REX THEODORE), Dark Double Crim-son, and Double Light (DEBILLOUE), for Sale, 6s. per dozen. Stamped Correspondence invited. Cash with Order. Note Address—
J. T. GREIG, Swanway, Fyvie, Aberdeenshire.

LOVELL'S YORKSHIRE STRAWBERRIES.

—We offer for Cash, good sorts in nice plants, carriage paid, at 5s. per 100; 12s. per 500; 20s. per 1000. Sample boxes, 6d. Descriptive LIST free.
W. LOVELL and SON, Strawberry Growers, Driffield.

FERNS! FERNS!!—Trade.—Greenhouse and

Store, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cuneatum, Aralia, Cyperus, and Primulas, all in 4ths, 6s. per doz. Genista, Palma, and Ficus, 1s. each. Large Ferns, 10 best sorts, 5s. 6d. per doz., in 4ths. Cineraria, Spirea, and Clematis, full bloom, 3s. per dozen, in 4ths. Adiantum cuneatum and P. tremula, extra size, in 2½-inch pots, 16s. and 20s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughborough Junction, S.W.

SMALL SHRUBS, &c.—Abies orientalis,

4 years, 40s. per 1000; Cupressus erecta viridis, 8 to 9 inch, 3 s. per 1000; Escalonia micrantha, 9 inch, 8s. per 100; Lilac, purple, 3 years, 30s. per 1000; Laurustinus, 6 to 8 inch, 1s. per 100; Oaks, Evergreen, 9 inch, 50s. per 1000; Pinus Cembra, 3-year transplanted, 40s. per 1000; Pinus Nordmann, 2-year transplanted, 6s. per 100; Rhododendron, 4 to 6 inch, 40s. per 1000; Yew, English, 2 years, 20s. per 100; Thuja Lobbi, 10 to 12 inch, 40s. per 1000; do., 15 to 18 inch, 50s. per 1000.
GARLICK MITCHELL, Nurseryman, Stranraer.

Trade Offer of Large Palms.

W. IETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application.
W. IETON, Putney, S.W.

Seed Potatoes.

H. AND F. SHARPE invite the attention of the Seed Trade to their fine selected stocks of SEED POTATOES, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other growers.
Seed Growing Establishment, Wisbech.

KELWAY'S SEED MANUAL

for 1892.
"Of the many manuals, &c., we certainly have seen none so surpass Messrs. Kelway's in plain, practical usefulness."—*Agriculture*.
1s. post-free (deducted from first order) to those unknown to us.
KELWAY and SON, Langport.

GOWERS and EMBEYSON have to offer:—

HARRIS'S MUSK, strong well-rooted plants, 5s. per 100; **PROFESSOR** Ball of Fire, grand climber, 6s. per 100; **VIOLAS**, 6 distinct colours, 5s. per 100; **COLEUS**, 6 best market varieties, 10s. per 100.
FERNS in large thumbs, good stuff, now ready for potting on, Ferns tremula, P. creta cristata, &c., 12s. per 100, packed, free for cash with order.—**GOWERS and EMBEYSON**, Comely Bank Nursery, Waltham-stow, E.

**L'HORTICULTURE INTERNATIONALE**

(Orchid Emporium), Leopold Park, Brussels.
THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN,

cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. **LISTS and CATALOGUES** on application.

ROSES. ROSES.

12 acres of Roses, 100,000 magnificent plants to select from. All have been kept move back, and will plant with safety. 22 Choice Standards, 21s.; 24 Half-Standards, 21s.; 12 Standards, 12s. 6d.; 12 Half-Standards, 10s. 6d.; 50 Choice Dwarf, 20 sorts, 21s.; 24 choice dwarf Tea and Noisettes, 12s. 6d.; 12 choice climbing, 6s.; 12 beautiful Tea and Noisettes, 4s.; 6 lovely yellow Roses, 4s.; 6 d. Marchal Niels, 4s. 6d.; 6 Claret de France, 4s. 6d.; 6 Old-fashioned Roses, 3s. 6d.; 6 old Cablage Roses, 3s. 6d.; 6 Old-fashioned Roses, 3s. 6d.; 6 common Monthly Roses, 3s.; 6 pink Monthly Roses, 2s. 6d.; 6 white Monthly Roses, 3s.; 6 quick growing Climbing Roses, 2s. 6d.; 12 Sweet Briar, 3s. My selection, cash with order. Thousands of Testimonials. Catalogue free.
JAMES WALTERS, Rose Grower, Exeter.

SUPERB ORCHIDS, CHEAP.—Thousands

to select from. Write for List, free.—**P. MOBERTHUF**, The London Nursery, 4, Maude Vale, London, W.

FOR SALE, 1000 MAIDENHAIR FERNS,

in 32's or 24's pots. Good stuff and well started.
J. SADDINGTON, Nurseryman, Richmond, Surrey.

10,000 EUONYMUS (Green), bushy, well-

grown, 18 inches to 30 inches, 6s. to 15s. per dozen. Less by the 1000. Cash with Order.
J. J. CLARK, Goldstone, West Brighton.

CEOLOGNE CRISTATA, well grown, with

bloom spikes, and cheap for cutting. Also the **CHATS-WORTH**, **THE HATHAM**, and **MAXIMA** varieties.
TRUSTEES, late J. STEVENSON, Timperley, Cheshire.

FRUIT TREES—APPLES, PEARS,

PLUMS, CHERRIES, per 100 or 1000. Fruit Stocks to Offer. Descriptive CATALOGUE, post free, on application.
FLETCHER BROS., Oldham Nurseries, Cheshire, Surrey.

SPECIAL OFFER to clear—Delphiniums,

Scarlet, Lychnis, Cereus, and White Flax (strong clumps), Polyanthus, Harrison's Musk, all at 1s. per doz.; Lobelia Emperor William, 2s. per 100; Daphne cecurum, 4s. per dozen; Erythraea radicans, 2s. per dozen.
W. CALLINGHAM, E. Ackwell, Berks.

The Best Present for a Gardener.**VINES and VINE CULTURE.**

The most complete and exhaustive Treatise on Grapes and their Culture ever published.

New Edition.
Price 5s., post-free, 5s. 6d.

A. F. BARRON, Royal Horticultural Society, Chiswick.

Many Acres of Lilies of the Valley!**T. JANNOCH, Largest Grower of LILIES**

OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.
T. JANNOCH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Deringsham, King's Lynn, Norfolk.

Seeds.—Carriage Paid.—Seeds.**DICKSON and ROBINSON'S**

DESCRIPTIVE CATALOGUE for 1892. Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOES; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application.

COLLECTIONS OF VEGETABLE SEEDS, from 5s. to 8s. 6d.

COLLECTIONS OF FLOWER SEEDS, from 2s. 6d. to 8s. 6d.

Seed Warehouse, 12, Old Millgate, Manchester.

Covert for Game.

RHODODENDRONS, PONTICUMS, 1 ft. to 1½ ft., 16s. per 100, 140s. per 1000; 15 in. to 20 in., 22s. per 100, 200s. per 1000; 1½ to 2 ft., 24s. per 100, 220s. per 1000; 2 ft. to 2½ ft., 40s. per 100, 320s. per 1000; 2½ to 3 ft., 50s. per 100, 400s. per 1000. The above sizes are fine, bushy, well-rooted plants.

PINUS ASTRACIA, 4 ft. to 5 ft., 40s. per 100, 300s. per 1000, singly grown, and in the wood.

Catalogue and samples free on application.

JOSEPH A. SMITH, Moor Edge Nurseries, Tanley, near Mutton, Derbyshire.

Now is the Time to Plant**PÆONIES, PYRETHRUMS,**

DELPHINIUMS, and **GAILLARDIAS**, the most showy of all Hardy, Easily-grown Perennial Plants. For priced Lists, see **KELWAY'S SEED and PLANT MANUAL** for 1892, 1s. post-free (deducted from first order), to those unknown to us.

KELWAY'S GLADIOLI—Now is the time to plant. Priced Descriptive List, free.

KELWAY and SON, Langport, Somerset.

SHRUBS, &c.—Arbor-Vitæ, American, 2½ feet,

2s. per 100; **Rerberis aquifolium**, 1 to 1½ feet, 8s. per 100; **Cotoneaster Sibiricus**, 2 feet, 10s. per 100; **Laurels**, Colchic, 2 feet, 12s. per 100; **rotundifolia**, 2 feet, 16s. per 100; **Portugal Laurel**, 2 feet, 20s. per 100; **Rhododendrons ponticum**, 12 to 2 feet, 25s. per 100; 2 to 2½ feet, 35s. per 100; 2½ to 3 feet, 45s. per 100; **English Yew**, 1½ to 2 feet, 20s. per 100; 2½ feet, 30s. per 100; **Araucaria imbricata**, 2½ to 3 feet, 30s. per dozen, 34 to 4 feet, 48s. per dozen; **Cupressus Lawsonii**, 2 to 3 feet, 20s. per 100; 3 to 4 ft., 30s. per 100; **C. creta viridis**, 2 to 2½ feet, 30s. per 100; 3 to 4 feet, 40s. per 100; **Thuja Lobbi**, 3 to 4 feet, 30s. per 100, 5 feet, 50s. per 100, 6 feet, 70s. per 100; **Thunipiss obdrata**, 2½ to 3 feet, 24s. per dozen.
GARLICK MITCHELL, Nurseryman, Stranraer.

RHODODENDRONS.—Best named sorts,

nicely bushy plants, 12s. per dozen, or 24 per 100; Standard do., with fine heads, well-budded, 3s. 6d. and 4s. each.

RHODODENDRON PONTICUM, 12 to 18 inches, 14s. per 100, or 25 per 1000.

AZALEA PONTICUM, 12 to 18 inches, 2s. per 100, or 4s. doz.

MOLLES, about 9 inches budded, 40s. per 100, or doz.

AMGENA, nice bushy plants, budded, 6s. and 8s. per doz.

PORTUGAL LAURELS, bushy, transplanted, about 12 inches, 18s. per 100, or 2s. per dozen.

The above are offered in any quantity by—
W. H. ROGERS, Red Lodge Nursery, Southampton.

CLEMATIS—CLEMATIS—CLEMATIS.

NOW is the best and safest season to plant out the above named kinds of CLEMATIS.

Descriptive CATALOGUE, and LOWEST PRICES in the TRADE for really strong ONE-YEAR-OLD plants, will be forwarded FREE by Post on application to "THE GROWERS."

WOOD and INGHAM, The Nurseries, Huddersfield, N.B.—Please mention this paper when writing us.

VERY FINE STANDARD**ORNAMENTAL TREES.**

ALMOND, fruit-bearing, 1½, 6d. to 7s. 6d.

BIRCH, Fern-leaved, weeping (silver bark), 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.

Silver weeping, 7 to 8 feet, 1s. 3d. each, 12s. per dozen; 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.

CHERRY, double blossom, 1s. 6d. to 2s. 6d. each.

ELM, English budded, 10 to 12 feet, 3s. each, 30s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.

Montana (Wych), 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.

HOLLY (aquifolium), aquifolium weeping, bronze, elegantissima stricta, Gold Queen, green in variety, Handsworth silver weeping, Milkmilk weeping, new golden weeping, variegated in variety, Watercress, very fine, 10s. 6d. to 42s.

LABURNUM, English, 1s. 6d. to 2s. 6d. each, 18s. to 24s. per dozen.

LILAC, Persian, 2s. 6d. each.

Siberian, 2s. 6d. each.

MAPLE, calcicolum rubrum, 10 to 12 feet, 3s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 30s. per dozen.

Norway, 10 to 12 feet, 2s. each, 18s. per dozen; 12 to 15 feet, 2s. 6d. each, 24s. per dozen.

Schwedleri, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. each, 30s. per dozen.

virginicum rubrum, 12 to 15 feet, 3s. 6d. each, 36s. per dozen.

SYCAMORE, 8 to 10 feet, 1s. 6d. each, 15s. per dozen; 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. to 3s. 6d. each, 30s. to 36s. per dozen; 15 to 18 feet, 4s. each, 42s. per dozen.

purple-leaved, 10 to 12 feet, 2s. 6d. each, 24s. per dozen; 12 to 15 feet, 3s. 6d. each, 36s. per dozen.

PLANE, occidentalis, 20 feet and more, very fine, 10s. 6d. to 21s.

PLUNUS PISSARDII (leaves richer in colour than Purple Beech, and hang much longer, has pretty pink flowers and nice fruit), 2s. 6d. to 3s. 6d. each, 24s. to 36s. per dozen.

PYRUS FLOREBUNDA, 2s. to 2s. 6d. each, 18s. to 24s. per dozen.

WILLOW, Kilmarnock weeping, 2s. 6d. to 3s. 6d. each, 24s. to 36s. per dozen.

RICHARD SMITH & CO.,

Nurserymen and Seed Merchants.

WORCESTER.

PLANTING SEASON.

HARDILY-GROWN

FOREST, FRUIT,

& ALL OTHER

TREES & PLANTS,

EVERGREENS, ROSES, &c.

NURSERIES 400 ACRES:

VERY EXTENSIVE STOCK. Inspection invited—

Priced Catalogue Gratis & Post Free.

DICKSON'S NURSERIES

(LIMITED) CHESTER.



The Most Productive Gooseberry in Cultivation. Out, dark dusky red. Of enormous size.

In Seven Successive Seasons we have sold nearly

ONE MILLION BUSHES OF THIS VARIETY.

3-year Bushes, Strong ... 6s. per dozen.

" " Extra-selected ... 12s. "

" " Strong ... 40s. per 100.

WM. FELL & CO., Royal Nursery and Seed Establishment,

HEXHAM, Northumberland.

NEW SINGLE PYRETHRUM, "JUBILEE."

First-class Certificate, Royal Botanic Society, London, June 18, 1888.

One of the most beautiful 'single' Varieties in cultivation; dwarf in habit, bearing in abundance very deep Carmine flowers.

See Editor's remarks in *The Garden*, June 20, 1891:—

"Flowers, deep carmine; in the richest-coloured variety we have seen, and very handsome."

Well established plants, ready for delivery in April, 2s. each (usual discount to the Trade).

W. BALCHIN & SONS,

HASSOCKS NURSERY, SUSSEX.

DANIELS BROS., TOWN CLOSE NURSERIES, NORWICH,

BEG to offer the following Plants, Bulbs, &c., which they can highly recommend:—

Carnations and Picotees. A very choice collection, including all the newest and finest sorts, 6s., 9s., and 12s. 6d.

Carnation, "Germania." Beautiful pure yellow. The best, fine plants ... 3 for 4s., each 1s. 6d.

New Garden Pink, "Her Majesty." Beautiful pure white, deliciously scented, 3 for 4s., each 1s. 6d.

Delphiniums. Single and double-flowered, choice named sorts, strong plants ... 6s. and 9s. 0

Gaillardias. Large-flowered hybrids, in beautiful variety, to name ... 9s., 12s., and 18s. 0

Perennial Phloxes. A splendid collection. Established plants to name ... 6s., 6d., 6s., and 9s. 0

Pyrethrums, Double-flowered. A grand collection, including the newest and choicest sorts. Established plants ... 6s. and 9s. 0

Single-flowered, in brilliant variety ... 6s. 0

Peonies, Herbaceous. Double-flowered, choice named sorts ... 12s., 18s., and 24s. 0

Hardy Flowering Plants. We have a splendid collection of these, which we offer as follows, including such fine subjects as *Anthemis pallida*, *Chrysanthemum maximum*, *Doronicum*, *Erigeron*, *Helianthus*, *Heuchera sanguinea*, *Senecio pulcher*, &c.:—
100 in 100 choice varieties ... 30s. 0
60 " 50 " established ... 17s. 6
25 " 25 " " plants ... 10s. 0
12 " 12 " " " ... 6s. 0

Begonias, Tuberosus-rooted. Large brilliantly-coloured flowers of all the most beautiful shades. Good strong flowering tubers in splendid mixture ... 4s. 6d., 6s., 9s., and 12s. 0

Double-flowered, very fine mixed ... 9s. and 12s. 0

Gladiolus Gandavensis. Choice named sorts—4s. 6d., 6s., 9s., and 12s. 0

In splendid mixture ... 100, 200, 300 0

New hardy hybrid. A charming class with large, handsomely-stained or blotched flowers. Very choice mixed ... 100, 24s. 3s. 6

Tuberoses, American Pearl. Fine bulbs—per 100, 17s. 6d. 2s. 6

All carriage free with the exception of Tea Roses and Clematises, which are sent in pots.

FOREST TREES.—Alders, 2 to 3 feet, 16s. per 1000; Ash, 3-yr., 2s. 6d. per 1000; 1½ to 2 feet, 12s. per 1000; 2 to 3 feet, 16s. per 1000; 3 to 4 feet, 20s. per 1000; A-h, Mountain, 3 to 4 feet, 24s. per 1000; Beech, 2 to ½ feet, 22s. per 1000; 4 to 5 feet, 40s. per 1000; Chestnut, Horse, 2 feet, 16s. per 1000; Spanish C., 1½ to 2½ feet, 16s. per 1000; Elm, Wych, 2 to 2½ feet, 16s. per 1000; Larch, 12 to 18 inch, 14s. per 1000; 1½ to 2 feet, 20s. per 1000; 2 to 2½ feet, 24s. per 1000; Spruce Fir, 1½ to 2 feet, 14s. per 1000; Scotch Fir, 2-yr., 2-yr. tr., 16s. per 1000; 2 feet, 20s. per 1000; Hazels, 2 to 3 feet, 20s. per 1000; Hornbeam, 2 to 3 feet, 16s. per 1000; Oak, English, 1½ feet, 12s. per 1000; 2 feet, 14s. per 1000; 2½ to 3 feet, 18s. per 1000; Privets, Oval, 1½ to 2 feet, 20s. per 1000; Privets, Common, 1½ feet, 12s. per 1000; Sycamores, 1½ to 2 feet, 12s. per 1000; 2 to 4 to 5 feet, 40s. per 1000; Thorns, 2 feet, 10s. per 1000; 2½ feet, 12s. per 1000; 3 feet, 15s. per 1000; 3 to 4 feet, 17s. per 1000.

GARLIES MITCHELL, Nurseryman, Stranraer.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(RIBBLES & Co., Proprietors),

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete and full Catalogue and Guide, which will be sent gratis and post free on application.

3000 Varieties catalogued, 500 Illustrations.

100 ACRES OF
"EVERGREENS"
TO SELECT FROM.
Regularly Transplanted.
Hardly-Grown.
Lift with balls of earth, so can be conveyed any distance & safely planted.
Inspection invited. Catalogues Free.
— PLANT NOW. —
DICKSONS' NURSERIES CHESTER
(100 Acres).

EUPHARIS AMAZONICA.—600 fine strong, healthy offsets. (ZAR PLUM, 200 tall Standard. ALICANTE GRAPE, &c. fine fruiting Canes. FRUIT TREES, of all kinds, wholesale and retail.
WILL TAYLER, Osborne Nursery, Hampton, Middlesex.

CLEMATIS FOR BEDDING.—Now is the time for planting, 100 in 20 best kinds, my selection, for 50s.—CHARLES NOBLE, Bagshot.

CHOICE PANSIES.—Trimardeau or Giant Pansies, Cassero's, Bugnot's, and Onjer's Giant Blotched, and Benary's Ne Plus Ultra. Price, per 100 or 1000, on application.

S. DENBOR AND CO., 22, Maida Vale, London, W.

SPECIAL CHEAP OFFER.

THUJA LOBBII, 1½ to 2½ feet.
CUPRESSUS LAWSONIANA, 1 to 2 feet.
AUCUBA JAPONICA, 1 to 2 feet.
GREEN HOLLY, 6 to 24 inches.
RHODODENDRON PONTICUM, 1 to 2 feet.
GRAY AND SONS, Brox Nursery, Chertsey, Surrey.

STRAWBERRY PLANTS.—Sir Joseph Paxton, 12s. per 1000. Cheaper for quantity. April best month to plant. Sample sent.—VAUSE, Nurseryman, Leamington Spa.

HARDY BRITISH FERNS.—Numerous varieties. 15 distinct varieties, 1s. 6d.; 25 large rockery roots, 2s. 6d.; 50 4s. 6d.; 100 8s. Botanically named. All carriage paid.—G. CARRADICE, Monument Place, Kendal.

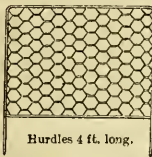
BOULTON & PAUL, MANUFACTURERS, NORWICH.

Improved Pea Trainers.

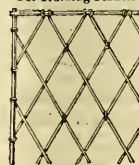
Diamond Wire Trellis.

To be used instead of Pea-sticks.

For Training Plants.



Hurdles 4 ft. long.



Cash Prices.

Stock Sizes, 5-in. mesh, light quality. s. d.
3 ft. high, 4 ft. high, 6 ft. high. 6 ft. by 3 ft., each ... 2 6
1/3 each, 1/9 each, 2/5 each. 6 ft. by 4 ft. ... 3 6

Galvanized Pea and Seed Guards.



3 ft. long, 6 in. wide.
Two end pieces to the dozen lengths.

CASH PRICE, 4/6 per dozen.

ILLUSTRATED CATALOGUE of all our Manufactures, free on application.

BOULTON & PAUL, NORWICH.



And for all Glass Structures that require Shading. Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—CORY and CO. (Ltd.), Horticultural Sundries Merchants, Offices and Show Room, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

BARB WIRE.

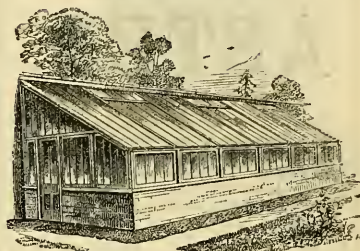
CATALOGUES FREE

ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED).

WARRINGTON.



W. H. LASCELLES & CO., HORTICULTURAL BUILDERS, 121, BUNHILL ROW, LONDON, E.C.



CONSERVATORIES,
GREENHOUSES,
ORCHID HOUSES,
VINERIES,
PEACH HOUSES, &c.
Plans and Estimates Free.

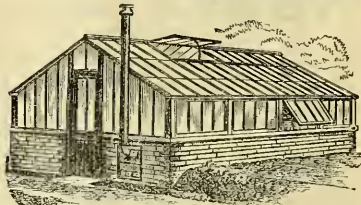
FAWKES' SLOW-COMBUSTION HEATING APPARATUS.

Most Efficient and Cheapest in Existence. Requires no muck stovehole and no brick setting. Will last all night without attention. Will burn house cinders, therefore costs next to nothing for fuel. Any one can fix it. A domestic servant can stoke it. Complete Apparatus from £4 12s. SUCCESS GUARANTEED.

Enormous numbers in use all over the country. Only Slow Combustion Apparatus of the kind.

CAUTION. Beware of inefficient incomplete Apparatus, which will not last all night.

Full particulars and Prices of every sized Apparatus, and see numerous Testimonials for the last five seasons, showing enormous success, post-free on application.



BEST CONSTRUCTED AND CHEAPEST Greenhouses, Forcing-houses, Pits, Frames, Plant Protectors, Potting Sheds, Tool-houses, &c.

Illustrated Priced Catalogue post-free from

CROMPTON & FAWKES,
CHELMSFORD.

WEBB'S

NEW BEDDING ASTER.

Specially recommended for bedding purposes, producing a magnificent effect when planted in masses of separate colours in the open garden. The plants are dwarf and compact in habit of growth, and the varieties uniform in time of flowering.

Rose	per packet	1/-
Dark Crimson	"	1/-
White	"	1/-
Pink	"	1/-
Deep Red	"	1/-
Light Blue	"	1/-
Mixed Colours	"	1/-
Six Distinct Colours, separate ..	3/-	

All Flower Seeds delivered Free.

WEBB'S SPRING CATALOGUE,
Containing Six Coloured Plates, &c. Post-free, 1s.
ABRIDGED EDITION, Gratis and Post-free.

WEBB & SONS,
WORDSLEY, STOURBRIDGE.

TRADE OFFER OF PALMS.
COCOS Weddeliana, in thumbs at 20s. per 100.
" " " in 60s. " " at 55s. per 100.
KENTIA Fosteriana and Belmoreana, in thumbs, at 20s. per 100.
" " " in 60s. " " at 55s. per 100.
" " " in 48s. " " at 24s. per doz.
" " " in 32s. " " at 44s. per doz.
SEAFORTHIA Elegans, in 60s. " " at 32s. per 100.
" " " in 48s. " " at 25s. per 100.
W. Icton has a fine stock of Asparagus plumosus manans, in 48s. and 60s.; Pandanus Veitchii, Dracena Lindeni, and Ficus elastica.—W. ICTON, Putney, S.W.

CARTERS'

INVICTA LAWN SEEDS

Forms beautiful
VELVET LAWNS
In 8 to 12 Weeks.

For making a New Lawn, order 4 lbs. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 14 lbs. of Carters' Lawn Manure, costing 4s. 6d., for every 1,000 square feet.

For Small Lawns order a 1s., 1s. 6d., or 2s. 6d. packet. A 1s. 6d. packet will sow 150 square feet of New Lawn.

To Renovate or Improve a Lawn, order 4 lbs. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 25 lbs. of Carters' Lawn Manure, costing 7s., for every 2,000 square feet.

ABOVE PARCELS CARRIAGE FREE.

CARTERS' PAMPHLET UPON THE MANAGEMENT OF LAWNS, free for two stamps.

ROYAL SEEDSMEN BY SEALED WARRANTS.
237
238, HIGH HOLBORN, LONDON.

SHRUBS and CONIFERÆ.—American Arbor-vita, 2½ feet, 20s. per 100; Berberis aquifolium, 2 feet, 15s. per 100; Box Tree, 1½ foot, 12s. per 100; Cotoneaster microphylla, 2 feet, 12s. per 100; C. Simonsii, 3 feet, 12s. per 100; Escallonia macrantha, pot, 2 feet, 24s. per 100; Laurel, Common, 1½ foot, 10s. per 100; 2 to 2½ feet, 14s. per 100; 3 to 3½ feet, 20s. per 100; rotundifolia, 2 to 2½ feet, 16s. per 100; Portugal Laurel, 2 to 2½ feet, 22s. per 100; Rhododendron ponticum, 1½ to 2 feet, 25s. per 100; 2 to 2½ feet, 22s. per 100; 3 feet, 50s. per 100, full of buds; Yew, English, 1½ to 2 feet, 24s. per 100; 2 to 2½ feet, 30s. per 100; Araucaria imbricata, 3 to 3½ feet, 30s. per doz.; 4 feet, 40s. per doz.; Cupressus Lawsonii, 2 to 3 feet, 20s. per 100; 3 to 4 feet, 30s. per 100; Erseta viridis, 2 to 2½ feet, 30s. per 100; 3 to 3½ feet, 40s. per 100; Picea Nordmannia, 2 feet, 60s. per 100; 2½ to 3 feet, 12s. per doz.; Retinospora plumosa, 2½ feet, 30s. per 100; 4 to 4½ feet, 50s. per 100; Thuia Lobbi, 3 to 4 feet, 30s. per 100; 5 to 6 feet, 70s. per 100; 7 to 8 feet, extra, 80s. per 100; Thuopsis dolabrata, 2 feet, 40s. per 100; 2½ feet to 3 feet, nine specimens, 24s. per dozen; 4 to 5 feet, 4s. each.

GARLES MITCHELL, Nurseryman, Stranraer.

JOHN GREEN, F.R.H.S.,
Has Now Ready 1,000,000 Good Things.



SEND FOR
**ILLUSTRATED
CATALOGUE**
OF ALL
THE BEST THINGS.



BEST NOVELTIES.—See Illustrated Catalogue.
Best Chrysanthemums.—New, 10s.; Choice, 6s.; Good, 3s. p. doz.
Best Black Cactus Dahlias.—“Black Prince.”—Orders now being looked for Spring delivery, 14. each.
Best Cactus Dahlias.—4s. per doz.; best new, 10s. per doz.
Best Pompon Dahlias.—4s. per doz.; best new, 6s. per doz.
Best Show Dahlias.—4s. per doz.; best new, 7s. 6d. per doz.
Best Fancy Dahlias.—4s. per doz.; best new, 6s. per doz.
Best Single Dahlias.—4s. per doz.; best new, 6s. per doz.
Best Begonias.—Single, 4s. 6d., 6s., 8s., and 10s. 6d. per doz.; Double, 10s. 6d., 16s., 20s. and 30s. per doz.
Best Zonal Geraniums.—4s., 5s., 7s. 6d., 10s., and 13s. 6d. per doz.
Best Fuchsias.—4s. and 6s. p. doz.
Best Calceus.—2s. 6d. per doz.; best new, 5s. per doz.
Best Border Carnations.—4s. 6d., 6s. and 10s. per doz.
Best Flower Seeds.—See Illustrated Catalogue.
Best Vegetable Seeds.—See Illustrated Catalogue.
Best of Everything.—See Illustrated Catalogue.

The above prices are for J.G.'s Selection; purchasers wishing to select for themselves, should send at once for Catalogue.

JOHN GREEN, Norfolk Nurseries, DEREHAM.

FERNS A SPECIALITY
The finest & most interesting collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy Exotic & British
EVERY ONE INTERESTED IN FERNS SHOULD
SEND FOR OUR PARTIALLY DESCRIPTIVE
CATALOGUE FREE ON APPLICATION
also our ILLUSTRATED CATALOGUE N°21.
Price 1/6 post free.
W.C. J. BIRKENHEAD
FERN NURSER, SALE, MANCHESTER.

**NEW CHRYSANTHEMUMS
FROM AMERICA.**

A. LADENBURG, | ETHEL PAULE,
ADA H. LE ROY, | MAMIE CRAIG,
RUTH CLEVELAND.

All Prize winners, and the finest lot ever introduced at one time.

Strong plants now ready, 4s. each, the set, 11s.

Send for Descriptions.

H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on
FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Peonies, Pansies, Violets, Pelargoniums, Pentstemons, Petunias, Phloxes, Pinks, Potentillas, Primulas, Pyrethrums, Verbenas, Herbaceous Plants, &c.; also of my true and reliable strain of

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now just celebrated all the world over. In 5 distinct sorts, crimson, purple, scarlet, white, and Wallflower-leaved white, each sort, 1s., 2s., 4s., and 5s. per packet.

It is an indispensable Reference-Book on all sections of Florists' Flowers, and should be carefully perused by all buyers of flowers.

Free on application.
JOHN FORBES, Nurseryman, Hawick, Scotland.

Williams'
WORLD-RENOVED
Primula

GOLD MEDAL STRAIN.

In Sealed Packets, bearing our Registered Trade Mark, without which none are genuine.

BEST
QUALITY.

POST
FREE.



For packet—s. d.
Williams' Superb Rea and white, Mixed 1 s. 6 d. 2 6
Williams' Mixture of 6 varieties ... 1 6 2 6

For other varieties, see ILLUSTRATED SEED CATALOGUE, Gratis and Post-free an application.

W.S. Williams & Son,
UPPER HOLLOWAY,
LONDON, N.

**IMMEDIATE
DESPATCH.**

SUTTON'S
PARCEL POST
COMPOSITE COLLECTIONS
OF
**VEGETABLE
AND
FLOWER SEEDS.**

SUTTON'S 10/- COLLECTION,

Containing 21 varieties of Vegetable Seeds and 12 varieties of Flower Seeds, sent free by Parcel Post on receipt of a remittance for 9s. 6d.

SUTTON'S 14/- COLLECTION,

Containing 41 varieties of Vegetable Seeds and 15 varieties of Flower Seeds, sent free by Parcel Post on receipt of a remittance for 13s. 4d.

SUTTON'S 22/- COLLECTION,

Containing 51 varieties of Vegetable Seeds and 24 varieties of Flower Seeds, sent free by Parcel Post on receipt of a remittance for 21s. 6d.

SUTTON'S SEEDS
GENUINE ONLY FROM SUTTON & SONS, READING.



PAULS' NURSERIES, WALTHAM CROSS.

South Entrance, four minutes' walk from Waltham Cross Station (G.E.R.); West Entrance, three minutes' walk from Theobald's Grove Station (G.E.R.).



ROSES.

The Largest and Finest Stock in the Country.

NEW ROSES A SPECIALTY.

Also Books on Roses, by Wm. Paul, F.L.S.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



SEEDS & BULBS

OF BEST QUALITY.

ALSO

MUSHROOM SPAWN, GARDEN MATS, MANURES, INSECTICIDES, and all other GARDEN REQUISITES.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



FRUIT TREES AND GRAPE VINES.

An enormous Stock of Fruiting and Other Trees unsurpassed in quality, being vigorous, clean, and true to name.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



HARDY TREES AND SHRUBS.

EVERGREEN, DECIDUOUS, and CONIFERS, in endless variety, kept constantly transplanted.

RHODODENDRONS off Loam. HARDY CLIMBING PLANTS a specialty.

Descriptive Priced CATALOGUE Free by Post.

PAULS' NURSERIES, WALTHAM CROSS



CAMELLIAS

The Largest Stock in the Country.

Plants well set with Bloom-buds.

Also,

AZALEAS, LAPAGERIAS, and other GREENHOUSE CLIMBERS.

Descriptive Priced CATALOGUE Free by Post.

Prices strictly moderate; reduced rates for large quantities. Inspection of stock invited. Goods packed by experienced hands for all parts of the world. Gardeners of character and experience recommended.

Important: Observe the Christian Name and Address—

**WM. PAUL & SON,
WALTHAM CROSS,
HERTS.**

WE ARE THE ONLY
LAWN MOWERS
BY ROYAL



MAKERS OF
APPOINTED
WARRANT.

MAKERS TO HER MAJESTY THE QUEEN AND HIS ROYAL HIGHNESS THE PRINCE OF WALES.

GREEN'S PATENT "SILENS MESSOR" LAWN MOWING MACHINES

ARE THE

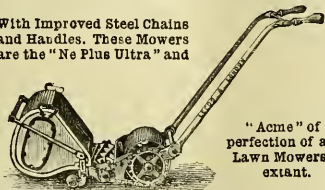
**FIRST, FOREMOST,
AND
BEST IN THE WORLD.**

ALSO

**TENNIS COURT MARKERS
AND
GRASS EDGE CLIPPERS.**

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains and Handles. These Mowers are the "No Plus Ultra" and



"Acme" of perfection of all Lawn Mowers extant.

They have stood the test for upwards of thirty years, and have carried off EVERY HIGHEST PRIZE which has been given in all cases of competition.

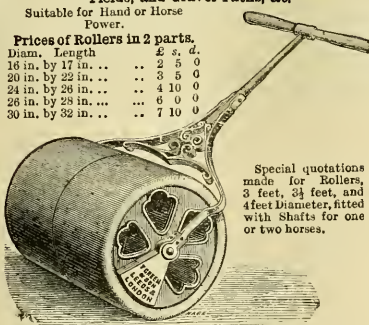
GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam. Length		£	s.	d.
16 in.	by 17 in. ..	..	2	5 0
20 in.	by 22 in. ..	..	3	5 0
24 in.	by 26 in. ..	..	4	10 0
26 in.	by 28 in. ...	...	6	0 0
30 in.	by 32 in. ..	..	7	10 0



Special quotations made for Rollers, 3 feet, 3 1/2 feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

Price Lists on Application.

They can also be had of any Ironmonger, Merchant, or Factor, in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments for the Trade, as well as Others.

**THOMAS GREEN & SON,
LIMITED,
LEEDS and LONDON.**



THE

Gardeners' Chronicle.

SATURDAY, APRIL 2, 1892.

SHOBDON COURT.

THIS fine estate, at Leominster, the residence of Lord Bateman—for forty years past the Lord-Lieutenant of Herefordshire, and a comparatively young man still in mind, manners, and appearance—is one of the noblest seats in the county. According to old Fuller, Herefordshire is famous for woods, wool, and water, and all of these good gifts are abundantly possessed by Lord Bateman, in the timber of his park, the heavy coats of his Shropshire sheep, and the streams of the Lugg and Arrow which water his estate.

In *Domesday*, Shobdon was written Scopadune, or sheep hill, owing, perhaps, to the fact that the high ground in the northern boundary of the park is of limestone, dry, and suitable for sheep. The surrounding plains, pastoral and well watered, are now the home of the famous white-faced Hereford cattle. The history of Shobdon has been handed down from the Conquest. In fact, the original church, a wooden edifice, seems to have been a Saxon building. Two others have followed it—one built in 1140, and pulled down in 1753, when the present church was erected. Some very remarkable columns and arches belonging to the old building, and sculptured with the signs of the Zodiac by foreign artists, have been re-erected in the park by Lord Bateman, their beauty rivaling their rarity, and arresting the attention of all who pass them. As early as the time of Edward II., the manor of Shobdon was held by a knightly family of the same name. We need not trace its further history beyond the year 1705, when it was purchased by Sir James Bateman, whose son was created Viscount Bateman. This title became extinct, and the estates passed to William Hanbury, who was raised to the peerage as Baron Bateman in 1837.

The house in the Queen Anne style is a square block built by Viscount Bateman, time of George I., with handsome balustrades added by the present owner, on the south, east and west fronts. Like many of the houses of that style, it is a model of comfort and convenience. The church stands close to the front door, within the garden gates, in the old English style befitting the residence of a Lord-Lieutenant. But there is nothing funeral about this edifice and the little God's-acre surrounding it. From the front door you observe only the little old building, with a glimpse of mossy tombs in the midst of a thick pinetum of Cedars of Lebanon and Yews, each tree a specimen courting admiration, and each worthy of the long, admiring gaze of the tree lover. The noble owner of this beautiful place understands and loves arboriculture, and, as an accidental introduction had brought me to his house, he wished to show me the grounds.

Before commencing our walk, a noble retriever brought his master's hat by request, and then returned through several apartments from the drawing-room to the hall and fetched his lordship's stick, and then his gloves. We then set forth, and immediately a rabbit was started from a clump of Rhododendrons, and we all started in pursuit. The dog ran, the Lord-Lieutenant ran, and I ran; presently a squeak from a neighbouring clump of shrubs was heard, and the rabbit was retrieved and delivered up unhurt.

The park around the house is ornamented with several ponds, where water-fowl of all kinds abound in winter. Many of them breed here; swans come to Shobdon, and, finding it quiet, stop to breed. Herons abound, and it might be supposed that the tall trees would tempt them to remain for the nesting season; but in this respect herons are shy birds, and they usually build in places nearer the sea, or at the outlet of some tidal river, where their food abounds. The best windows of the house look eastward to the distant Malvern Hills, and southward across the lower part of the park, where the heavy foliage of great timber trees is massed upon the banks of a sheet of ornamental water. From the higher ground of Shobdon Hill, outside the park, the view is still more extensive, embracing the valleys of the Teme, Lugg, and Arrow, with the hills and woods around Ludlow, Leominster, Weobley, Kingston and Hereford. The list of places seen from this high ground might, in fact, be considerably extended, since they include the Malvern and Dinmore Hills, Foxley, the Meerbatch Hills, Garstang, the Moccas country, the Black Mountain, Brecon Beacon, and the hills lying around Abergavenny. In the other direction there is a wide view over Shropshire, Montgomeryshire, and Radnorshire, and in the foreground, 2 or 3 miles distant, is the historic spot where the last battle of the Roses was fought at Mortimer's Cross. A column marks the spot where the fight took place on Candlemas Day, February 2, 1461.

The Oak is the most abundant tree in the park, but every kind of English timber tree flourishes here, and specimens of great size everywhere meet the eye. The Yew is a big tree here, and its foliage is particularly rich. On the side of the carriage-drive, leading from the village of Shobdon to the house, there are many large Yews, a hundred years old, and they still grow with vigour, though the stems were covered up with earth 4 feet deep when the road was embanked some years since. Even the Apple, full of vitality as it is, would have been killed by such treatment. It is a cheerful and delightful park, sloping generally to the south, too unlevel for monotony, and planted with noble trees of various families—the Larch, Silver Fir, Lime, and Ilex, grouped in fine contrast; Cedars of Lebanon near the house, tall and graceful Sycamores, full of light-coloured foliage, and, contrasting with them, clumps of dark Yew trees, with tall and sturdy Oaks overtopping them. There is no stint in the number of the trees; all the sorts are abundant, and giants are plentiful among them. The Sweet Chestnuts measure, many of them, 22 feet in girth, and the ring-doves, abounding as they do, and cooing in the midst of the foliage of these great trees, are hidden as if in a thicket. These grand Oaks with their long boles, with every kind of timber tree of the largest size, are pleasing evidence of rich land. Big spreading Oaks are found even on poor clays, but tall trunks, with great measurement of timber, are unmistakable proofs of fertility. The kitchen garden, too,

resembling the park in its limestone soil, was full last autumn of ripe and ripening Pears and Apples; while several tender Conifers, such as the Cryptomeria, flourish therein, and the brown Turkey Fig carried last year a great crop of ripe fruit on the walls.

A meeting of the Woolhope Naturalists' Field Club, held at Shobdon Court, was noticed in the *Gardeners' Chronicle*, April 14, 1877, and among the trees in the ground then greatly admired were several specimens which I have measured. Among them are a Cedar of Lebanon, 21 feet 8 inches girth, and 36 yards spread, a noble tree, close to the west front of the house; a fine deciduous Cypress, and a yellow-flowered American Chestnut (*Castanea flava*), a pair of Sweet Chestnuts, 20 feet in girth; a Cedar of Lebanon, 22 feet in girth; and last, and most remarkable of all, several Occidental Planes, one on the lawn, 12 feet in girth, with a spread of 36 yards, the lateral branches extending horizontally to a great distance. Their habit of growth is very singular, and the branches must have broken with their own weight long ago if they had not been carefully supported.

Among the products of the country, I have yet to mention the grayling and trout which abound in the streams, where the otter still lingers. Another product, as well as ornament of the park, is a fine herd of red and white Herefords, as good a breed as any in England, and as handsome. *H. E.*

NEW OR NOTEWORTHY PLANTS.

PELEXIA WENDLANDIANA, Kränzlin, n. sp.*

A BOTANICAL Orchid in the strict meaning of the word. A tall stem of about 2 feet in height, bearing at the top a spike of twenty greenish-brown flowers, with a white lip. Nobody can admit that for beauty's sake the plant claims any a place in our stoves, but as far as botanical interest is an award of merit, this plant, as well as *Stenorhynchus speciosus*, and others, may be admitted. The peculiarities of the flower consist in the long filiform sepals, which resemble, to a certain degree, the petals of *Epidendrum nutans*, Sw.—a species, the flower of which resembles those of our species as much as a terrestrial Orchid of the Neottieae tribe can resemble an *Epidendrum*. *Dr. F. Kränzlin.*

AGLAONEMA COSTATUM, N. E. Br., n. sp.

This is a very pretty stove foliage plant, recently introduced by Messrs. J. Veitch & Sons from the region of Perak. The leaves are broadly ovate, of a dark shining green, densely or sparsely marked with clear ivory-white spots, and with the midrib also of ivory-white, a variegation that is at once effective and pleasing. The following is a description of the plant:—

Petioles $2\frac{1}{2}$ to 3 inches long, $\frac{1}{2}$ inch thick, terete, narrowly channelled down the face, green. The blade of the leaf is 4 to $5\frac{1}{2}$ inches long, $2\frac{1}{2}$ to $3\frac{1}{4}$ inches broad, broadly ovate, acute or shortly and some-

what abruptly acuminate, obliquely cordate at the base; the midrib stout, prominent and rounded on both sides, with seven to nine primary nerves on each side, which are ascending and strongly curved; the upper surface is of a dark shining green colour, with very numerous or sometimes only a few small spots of a pure ivory-white; the midrib and a very narrow irregular border on each side of it are also ivory-white. The scape is 2 to $2\frac{1}{2}$ inches long, and $\frac{1}{2}$ inch thick, compressed-terete, light green, the basal half enveloped by two sheaths. The spathe is $\frac{1}{2}$ inch long, obovoid, and closely folded round the spadix, light green. The spadix is stipitate, 1 inch long, the male part $\frac{1}{2}$ inch thick, protruding from the spathe, milk-white; the ovaries few in number, in two whorls, globose, pale green, with large, circular, table-like, yellow stigmas. A native of Perak. *N. E. Brown.*

RODRIGUEZIA PUBESCENS.

THIS elegant species has lately been reimported, both by l'Horticulture Internationale, Parc Leopold, Brussels, and Messrs. F. Sander & Co., St. Albans, and the name was determined for both firms by Mr. R. A. Rolfe, by comparison of the fresh specimens sent with the type specimen (*Bowlington pubescens*) in the Lindley Herbarium at Kew. Since, however, M. A. Cogniaux, after careful consideration, has formed the opinion that it is a new species, and he has described it in the *Journal des Orchidées* of March 15 as *R. Lindenii*.

It is a welcome introduction, being one of the most profuse flowering of dwarf-habited Orchids, and, moreover, very easy to cultivate, if placed in an intermediate or Cattleya-house.

A TRAVELLER'S NOTES.

(Continued from p. 373.)

BOMBAY.

Early one morning I called on Mr. Carstensen, the Superintendent of the Victoria Gardens. The gardens and museum are situated some distance from the European quarter.

Just inside the gate is a little bedding-out; the effect is not so brilliant as what one sees in England, but it is tastefully done. *Alternantheras* are of little use, having only an occasional tinge of red; in the rains they all turn green. A good substitute is *Arca sanguinolenta*, a small purple-leaved plant, which stands clipping well; its leaf, though much smaller, is the shape of the purple *Berberis*.

Acalypha torta, with its pretty dark, curled foliage, as well as *Croton elegantissimus* and *Panax multifidus*, are here used for bedding; the *Croton* is particularly neat, and clipping does not seem to harm it.

From the inner gate, a broad central walk leads to the centre of the garden, on either side of which is a narrow border very tastefully planted. The groundwork is *Nephrolepis tuberosa*, growing with great freedom, in which are arranged triangles of various plants, such as *Torenia Fournieri* (now in flower), *Hemigraphis colorata*, purple, yellow, and white variegated; *Eranthemums*, and others.

On the right of this road, and close to the gate, is a piece of water, with a small island near the centre. The island is entirely occupied by a gigantic *Pandanus odoratissimus*; its branches twist and curl in every direction, many of the outer ones being partially submerged; it cannot be less than 100 feet through. Near, on the bank is another, with similar, though certainly distinct foliage. Round the edge of this pond, Bamboos form nice clumps, some 20 to 25 feet high; whilst *Papyrus alternifolius* and *Caladium tuberosum* grow freely.

On the other side of the road, amongst many others, is a bed containing some twelve species of *Brownia*; they are all small plants, too young to flower yet, but the young pinnate leaves are most

* *Pelexia Wendlandiana*, Kränzlin, n. sp.—Scapo elato ad 60 cm. alto, 3 mm. diametro; squamis 5-6 longe vixinantibus adpressis acutis acuminate vestitis ruberulis; spica multiflora densiuscula; bracteis linearilanceolatis acuminatissimis, ovario leviter arcuato aquatibus; sepalis dorsali petalisque lateralibus accretis galeam cochlearum lanceolatum acutum formatibus; sepalis lateralibus angustissimis linearibus fere filiformibus antice paulisper dilatatis acutis in pseudoclar gracile, ovario aequilongum connatis; labelli pedae auguste linearis, lamina late triangulari reflexa rectangula, stramineo limbo cornu laterali dilatato albis spuris effidente; gynostemio generis; anthera plana antice producta acuta; rostellis linguiformi acuta, pollinis massula 2 angustata efficientibus; toto flore glandulo-piloso fere 4 cm. longo, 1 cm. diametro; sepalis coactis cum pseudoclaris 3 cm. longis. Patria? E. caldarit horti Herrenhausen, mist H. Wendland de scientia Orchidacearum optime meritis. Ab omnibus Pelexia speciosis (omissis ceteris characteribus) praesertim singulari labelli fabrica diversissima. *Dr. F. Kränzlin.*

striking, appearing, as they do, in a perfectly developed condition, and beautifully tinted. Here is also the *Opuntia*-like plant cultivated in the Brazils for the preservation of the cochineal insect; it has a curious, small, deep crimson, cup-shaped flower. Close by, *Saraca indica*, a handsome tree, with large, pinnate foliage, was in flower; the blooms are of the same colour, about the same size, and are borne in heads like an *Ixora*—the resemblance was most striking. The tree is particularly thick and bushy, and some 15 feet high.

The plants not indigenous to India planted in the gardens are mostly South American; few Australians do well, with the notable exception of *Metrosideros semperflorens*, a nice tree, or rather bush, some 15 feet

Ficus elastica is fair, as is also a very similar Australian species, *F. macrophylla*. *Ficus indica* (Banyan) is naturally the best; there is more than an ordinarily good specimen in the gardens. A large cut-leaved *Solanum* near the centre walk has moderate-sized, dull blue flowers; it is a massive and striking plant, by name *S. maroniense*.

Round the base of some of the single specimens, *Nephrolepis tuberosa* edged with *Pilea muscosa*, forms a nice and thick carpet. *Quisqualis floribunda* is a strange plant now in flower; it produces large heads, each flower with a long tube, in colour either a crimson-red or a pure white; whether this is a matter of age, I cannot say, but I noticed no intermediate shades. It is a climber, growing over other

All this class of plants form neat and effective undergrowth at the edges of large beds, or elsewhere, under the taller trees.

Mr. Carstensen has flowered *Bignonia regalis* alias *Otodenia speciosa*, which is a good thing, with numerous salmon-coloured flowers. *Pothos aurea* is here grand; it is growing on the stem of a Toddy Palm (*Borassus flabelliformis*); it is a most effective plant. *Ipomoea Leari*, with large blue flowers, very similar to our own *Convolvulus*, trails freely over two stumps at the end of a walk, and is flowering freely. I also noticed *Eranthemum pulchellum* and *Cassia alata* in flower, a fair specimen of the Bread-fruit tree, *Datura suaveolens*, and moderate-sized *Crotona*. Ceylon is undoubtedly the



FIG. 60.—*RODRIGUEZIA PUBESCENS* = *R. LINDENI* OF COGNIAUX. (SEE P. 426.)

high, which is now in flower; its leaves and red flowers, though numerous, are small. Mr. Carstensen has often tried to propagate it by cuttings, but without success, and has to depend on layers. *Eucalyptus globulus* will live but three years; it always dies in the rains. *E. citriodora* and *rostrata*, on the contrary, flourish. *Grevillea robusta*, of which there are one or two nice trees in the garden, does well.

Mr. Carstensen tells me Candytuft, Pansies, China Pinks, and Verbenas do fairly well. I saw also a nice little bed of *Coreopsis*. *Ravenala madagascariensis* (Traveller's Joy) does not do here as in Ceylon; I only noticed one plant, a moderate-sized, fair specimen. Close to the museum is a good specimen of *Pithecolobium saman* (the rain tree); it grows here with almost the same extraordinary rapidity characteristic of the tree in Ceylon. The plant now in question is some 35 feet high, its spread of branches is more than 50 feet in diameter, its stem must be 3 feet through, and it is twelve years old.

trees with freedom, and popularly known as the "Rangoon Creeper."

Bougainvillea splendens is here fine; its flowers are rich purplish-blue. What Mr. Carstensen calls *B. lateritia* is also in flower; the blooms are smaller, and of a reddish brick tinge. A small plant of *B. glabra* is likewise in flower in a pot.

Mr. Carstensen has a nursery, where he grows all kinds of plants for replacing purposes; he has also two moderately-sized canvas-houses, in which are *Adiantums*, a few *Orchids*, and various plants of no especial interest. Rather a nice variety of *Acalypha* may here be seen; it is exactly like *mausica*, but instead of the foliage being brown and red, it is green and yellow; the effect in the distance being not unlike *Abutilon Thompsonii*. *Acalypha torta*, though it allows itself to be cut to within a few inches of the ground for bedding purposes, will form a nice dense shrub, if allowed to grow, as will all kinds of variegated *Eranthemums*,

place for these, as far as I have had means of judging yet. *Amaryllis* succeed in pots, and Tea Roses give very fair results. *Ipomoea Horsfallii* is a mass of bloom, as is *I. sinuata*.

On leaving the gardens, Mr. Carstensen pointed out to me a handsome tree, *Spathodea campanulata*, belonging to the *Bignoniaceae*, bearing large brilliant yellow and scarlet flowers, and with long pinnate foliage with round broad pinnae.

And now a word about the Palms, some of which are fine, though not so fine as in Ceylon. *Oreodoxa regia* (Cabbage Palm) is represented by a noble specimen some 20 feet high, and *Corypha umbraculifera* (the Talipot) by two or three somewhat smaller. *Arenga saccharifera* (the Sugar Palm) is here very fine, its large massive *Phoenix*-like leaves rising at a slight angle from the base, often 10 to 12 feet in length, render this a particularly graceful and impressive object. *Cocos plumosa*, some 20 feet high, has a nice even head, and *Caryota urens* (in

flower) and *C. sobolifera*, with broader leaflets than the former, are represented. A handsome *Palm Martiusia caryotactifolia*, with *Caryota*-like foliage, covered with long black spines, is to be seen in a pot in one of the canvas-houses, as is a fair specimen of a rather handsome *Calamus*.

The vegetation immediately round Bombay is not exceptionally remarkable. The plants one mostly sees are *Thespesia populnea*, a moderate-sized tree, with foliage resembling a Canadian Poplar, and large yellow cup-shaped flowers, which turn to delicate salmon during the evenings; in some parts this is very common. *Carica papaya*, with a large pod in the axil of each of its fig-like leaves, is also frequently met with; it forms but one stem, and does not seem to grow very high. *Chavica betel* (the Betel tree), the leaf of which is sold in the bazaars and streets for chewing with the *Areca* nut, is also fairly common.

The chief weed is the Fibre plant (*Malachra capitata*); in this the government hope they have a plant of great economic value. They are doing all they can to push its cultivation in various parts for the manufacture of fibre. *Antigonon leptopus*, a handsome climber, with pink flowers, not unlike a Japanese *Spiraea*, is also common; whilst *Pisonia alba* (the Lettuce tree), with *Brugmansia*-like foliage and white bark, grows everywhere.

February is the great month for flowers in Bombay; in that month the majority of trees and shrubs, &c., have completed their growth, and are ready to produce their flowers before the annual, and only, rainy season sets in, in May, for four months.

Near the Reservoir are the Dakhas, or Towers of Silence. These are used by Parsees for the disposal of their dead. One cannot enter into the grounds in which these towers are built without special permission. The towers are some 90 feet in diameter and 15 feet high. In these are exposed the bodies of the dead, the rest is left to the innumerable vultures flying about. The skeleton is allowed to remain for some three or four weeks, when it is placed in a common well. No distinction is here made, rich and poor are all laid in the same place. *J. H. V. (November).*

MULTIPLE PARENTAGE OF FERNS.

UNTIL recently, Mr. Drury's interesting paper on "Multiple Parentage of Ferns," p. 87, Jan. 16, had escaped my notice; let me, however, add a few remarks. Singularly enough, Mr. Drury recommends a plan likely to secure the impregnation of a prothallus from male organs of other prothalli, which has long ago been adopted by me, i.e., the mixed spores were sown in pans (covered with flat glass), and when moisture seemed requisite, the pans have been plunged to the rim in warm water, but instantly withdrawn on the moisture touching the prothalli. The water used has had a temperature of 80°, and this is not too warm, for with the soil, say, at a temperature of 56°, it will only be raised some 3° or 4°, and this shows why we sometimes fail in the endeavour to destroy animal and vegetable life contained in the soil that has been prepared for spores. Boiling water poured on the soil, which seems to kill all other animals, is not certain destruction to worms. A quart of leaf-mould and loam, plunged into a gallon of boiling water, and then left to cool, has not proved effectual, nor even a second immersion, though a third has succeeded; the water is much cooled by the soil, and also the half-decayed leaves protect the worms from the heat. Baking, and then boiling, or boiling alone over a fire, is destructive to all animal life. I am bound to say that, in using pans without holes, which, of course, cannot be watered from below, have yet produced plants showing multiple parentage. There is one fact not to be lost sight of in an endeavour to obtain an increased number of distinct varieties from the mixed spores of four varieties. If these four varieties have been the result of previous crosses, if of only two varieties each, then we start with the crosses of eight, in addition to the four

again selected, and we may expect to obtain the characters of twelve. No doubt there is difficulty in the male organs of several prothalli coming into contact with the same female cell. Were it not so, we should find many more wild varieties, and this is also proved by the small number of seedlings showing the characters of three or more male parents, whilst an increased number show those of two, and a still larger proportion those of one; yet as all the seedlings exhibit the characters of at least two parents, the spermatozooids must have travelled from one prothallus to another, notwithstanding the generally conceived idea that impregnation can only take place on the same prothallus.

I cannot see why it is insisted upon that only one spermatozoid is required to fertilise the mother-cell, when we find in microscopic animal life a crowd of male organs is thus employed. Years ago, when Moore, Clapham, and others, would not allow that Ferns could be crossed, it was my good fortune to fertilise two varieties of the Lady-Fern, viz., *Victoria* and *proteoides*,* and to obtain a gradual series of forms, having *Victoria* at the one extreme, and *proteoides* at the other, and so convincing was this cross, that Mr. Clapham acknowledged it as beyond contradiction; one spermatozoid alone (to each plant) could not have produced this result. Again, in sowing a normal form of *Nephrodium filix-mas* with *N. paleaceum* var. *cristatum*, if only one spermatozoid impregnated, then part of the seedlings would be normal, and part crested; whilst, as a matter of fact, in several hundred examples all are crested. By thickly sowing together spores of a muricate, a branched, a spiral, and an undulate form, seedlings have been obtained that are muricate, undulate, spiral, and branched. Again, from a muricate, a branched, and a cup-bearing form, seedlings have resulted, having muricate, branched fronds, bearing cups on each branch. From a mixture of eight varieties of the Lady-Fern, three plants show the lax pinnae of *uncum*, the cruciate pinnae of *Victoria*, the projected pinnae of *proteoides*, the lunulate pinnae of *Erizelia*, the cruciate pinnae of *crucipinnulum*, the truncate terminals of *truncatum*, and occasionally the crested of *multifidum*, i.e., showing the characters of seven distinct varieties. Younger plants from other mixtures already give promise of startling varieties, and all being well, in 1893 there will be developed more than fifty distinct mixtures in further proof of multiple parentage.

Turning for a moment to my experiments with single Dahlias, when six brushes were filled with the pollen from a white Dahlia, and one from a pink flower, and this pollen mixed on a larger brush, and then applied to a white Dahlia (i.e., in proportion of six to one), a very large number of the seedlings were white, whilst with six brushes loaded with pollen from a pink flower, and only one from a white one, and afterwards applied to a white Dahlia, then as large a proportion were coloured seedlings. This surely shows impregnation from more than one pollen-grain.

Artificial things may be accomplished which would not occur naturally, still, Nature will supply means to guide the spermatozooids to the ovum-cells. The antheridium, on its envelope bursting, will doubtless by some means spread spermatozooids some little distance, and if this is less than a tenth of an inch, it would still be sufficient to land them on several prothalli, for from a group a quarter of an inch square as many as thirty plants have been obtained. Spore-cases on bursting have the power of throwing spores a distance of several inches.

A small, exceedingly active insect, is nearly always to be found in abundance amongst the prothalli, and may assist, as Mr. Drury suggests, in conveying the spermatozooids. There are also thread-like plants that are common (too common) amongst

* *Proteoides* has been confused by Jones and others with protein; the latter was found in Cumberland in 1886 by the late Mr. Clapham of Scarborough; the plant had half its fronds normal, and half cruciate, hence its name. *Proteoides* was raised by myself from one of the cruciate fronds of protein, and is distinguished by having no normal fronds,

the prothalli, which are only rendered visible by the amount of moisture upon them. The prothalli and the young frondlets have an abundance of minute golden-looking drops of water, formed in the case of the frondlets at the termination of every veinlet, providing the pans are kept moist with protecting-glasses. These drops are not unlike the appearance of the golden refraction of *Schistostegia pinnata*.* Every now and again the prothallus becomes so thoroughly wet, that spermatozooids can readily swim about, and thus find the neck of the archegonium, and so reach the ovum on its own prothallus; but this does not account for the spermatozooids being transferred to other prothalli.

There is another possible manner of producing variety of form to a certain extent. In sowing thickly, assimilation may take place, for here and there prothalli of a bush-like character are found, and these can be divided after a cluster of frondlets have been formed, and in all these cases the divisions are invariably of the same variety. The doctrine of probability has, to my mind, proved the fact of multiple parentage, mathematically speaking at least, to a remote decimal. There are so many difficulties to be surmounted in a microscopical examination, that it may be years before the microscope discloses multiple parentage.

The fortunate microscopist, who shall at the right time succeed in a thorough examination of an impregnated Fern ovum, may probably see not a single spermatozoid, but the ovum bristling with a crowd of these tadpole-like organs, and thus explain the usefulness of large numbers of spermatozooids.

In every pan some prothalli are more robust growers than others, throwing up fronds some weeks, or even months, earlier; but when grown to maturity, the latest ones are far more abnormal, and from them a larger percentage of distinct varieties are obtained. The plan has been to thin out the young Ferns in groups, waiting until stronger before dividing them into single plants. These are then pricked out into separate pans, according to size, i.e., large, medium, and small. By this method the smallest are not crowded-out by the larger ones, and this arrangement has proved the above assertion.

In answer to an enquiry as to the mixtures sown last autumn for the further proof of multiple parentage, I may mention there are twelve pans of *Scolopendrium*, nine of *Polystichum*, twelve of *Athyrium*, four of *Nephrodium filix-mas*, and eight of other species. There is one pan of fifteen varieties, four of eight, three of seven, three of six, five of five, five of four, fifteen of three, and eighteen of two previously crossed varieties. *E. J. Lowe.*

ORCHID NOTES AND GLEANINGS.

STAUROPSIS WAROCQUEANA.

THIS is a new species described by Mr. Rolfe in the *Lindleya*, sub-tab. 319. It is a native of New Guinea, whence it was introduced by L'Horticulture Internationale. The genus is allied to *Vanda*, and the species resembles *V. lissocilioides* and *Stauropsis gigantea*, but it may be distinguished by its dense panicle, 5 to 7 inches long, of smaller flowers, as well as by numerous differences in their structure. The flowers are light buff-yellow in colour, with numerous light red-brown spots. The lip is white, with a few rusty spots both on the front and side lobes.

CYPRIPEDIUM ORNATUM ×.

THIS is a hybrid between *C. Harrisonianum*, the pollen-parent, and *C. villosum*. The upper sepal is claret coloured, shaded with bright sepia, and tipped with clear green, finely fringed and bordered with white; the lower sepal is very long and yellowish-green. The upper part of the petals is dark ma-

* A minute luminous moss, found in the Nottingham sandstone caves, and in much more abundance on coal-shale near Todmorden. In the semi-darkness of the caves, the roofs sparkle like diamonds.

hogany-red, and with a highly glazed surface, the lower part is gamboge, or clear amber, veined with violet-brown. The lip is large, chestnut-brown on both surfaces, and with a well-marked golden-yellow band round the orifice. The staminode is flat, and spoon-shaped, yellow, with a bright golden sheen over it, with a greenish-amethyst coloured spot in the centre. The dark green foliage is much spotted with brown round the base. This fine hybrid won a Certificate of Merit at the meeting of the Ghent Société Royale d'Agriculture et de Botanique, and the Chambres Syndicales des Horticulteurs Belges. It is a noteworthy hybrid, very creditable to M. Jules Hye, of Ghent, who raised it. *Ch. De B.*

ODONTOGLOSSUM ROCKEBIANUM.

We have seen three beautiful natural hybrids of this Orchid in the houses of M. Peeters, of Brussels: 1st, the petals bore redder and larger spots than those of the type; 2nd, a finely-branched cluster, bearing thirty-five broad flowers, remarkable for the profusion of spots over all the parts; 3rd, with spots rather widely apart, giving a very bright look to the flower. In the same establishment there is a *Dendrobium Phalaenopsis* var. *Schroederiana* in bloom; this is a remarkable novelty. *Ch. De B.*

ORCHIDS AT BOCKING PLACE, BRAINTREE.

The Cattleyas in the collection of Sydney Courtault, Esq., are now in fine condition, the varieties of *C. Trianae*, of which there are some superb forms, making, at the present time, a fine show. Among them a specimen of *C. T. Courtaultiana*, which is one of the richest-coloured forms of this favourite species, has a dozen flowers in which the brilliant hue of the labellum is a gorgeous feature. It is of the *C. T. Osmanti* section, but in different lights the showy portion of the lip looks either purple, crimson, or blood-red, or a combination of the three colours; it is of fine shape, too, and a free grower. Another distinct form, of which there are two good specimens, is a pure white, with the faintest tinge of blue on the front of the lip; and other specimens, some with twenty to twenty-five flowers each, are characterised by the fine crimping and frilling of the lip and petals. One very singular form of *C. Trianae* has flowers of a clear rose-pink, with no other colour than a pale yellow mark in the centre of the labellum. The whole points to the fact, that although imported *C. Trianae* always bring a number of indifferent varieties, a good selection can scarcely be valued too much as a means of giving showy flowers in the winter.

Mr. Courtault also possesses one of the most complete collections of *Masdevallias* in the country. Amongst others, the rare *M. Lowii*, and *M. picturata* have recently flowered, and at present *M. Schroederiana*, *M. fulvescens*, *M. cupularis*, *M. Arminii*, *M. Shuttleworthii*, several fine varieties of *M. ignea*, *M. Harryana*, *M. Veitchiana*, *M. caudata*, *M. xanthina*, *M. pulvinaris*, *M. Mooreana*, *M. platyglossa*, *M. tovarensis*, *M. Hinckiana* ×, *M. Cheloni* ×, *M. Fraseri* ×, are in bloom. The curious *Pleurothallis Barberiana*, *P. ornata*, and other species of *Pleurothallis* and *Restrepia*, are also flowering.

The intermediate-houses have a fine show of *Colo-gyne cristata*, including a large specimen of *C. c. Lemoniana*, and another of *C. c. alba*, with seventeen spikes of its spotless white flowers. In these houses we also noticed some fine forms of *Lycaste Skinneri*, many well-flowered *Dendrobium Wardianum*, *D. crassinode*, and *D. Jamesianum*; *Oncidium nguiculatum*; and in a cool corner a specimen of *Cypripedium Schlimii*, which is said to have produced flowers continuously in greater or less quantity for ten years. All the species and varieties of *Cypripedium* thrive well at Bocking Place, and there the new *C. Chamberlainianum* has already acquired an established appearance. The best of those now in bloom is a magnificent specimen of *C. Wallii*, with flowers much larger than those of its ally, *C. caudatum*, and in which the rich markings on a white ground makes it a remarkably handsome plant.

The *Dendrobium*-house is well-furnished with bloom, the best being *D. Ainsworthii* ×, *D. Dra-*

conis, *D. primulinum*, *D. crepidatum*, *D. Cassiope* ×, *D. bigibbum*, *D. Findlayanum*, *D. lituiflorum*, *D. capillipes*, and *D. aggregatum*. The *Phalaenopsis*-house has a few good sprays of *P. Schilleriana*, and *P. Sanderiana*; the cool-house some good spikes of *Oncidium macranthum*, *Ondotoglossum triumphans*, *O. Rossi majus*, *O. Cervantesii*, and *O. Edwardii*, and in some of the other houses are well-bloomed specimens of *Cymbidium Lowii*, *Ansellia africana*, *Cattleya citrina*, and a fine spike of *Phajus tuberosus*, cut to save the plant.

Nor are other branches of gardening neglected at Bocking Place, as witness the fine collection of Ferns, in which the large specimens of rare *Platycerium*s are conspicuous; the *Nepenthes* or Pitcher plants, and the new range of fruit houses.

THE USTILAGINEÆ, AS REPRODUCTIVE PARASITES.*

(Continued from p. 397.)

SMUT.—The diseased condition of cereal plants called smut has been known from remote times. The fungi included by botanists under the Ustilagineæ afford more instances of reproductive parasitism than does any other group. In Saccardo's *Sylloge*, the genus *Ustilago* embraces 111 species, of which more than eighty are known to specially affect some part of the reproductive organs of their hosts. Some of those species attacking the reproductive organs are very particular in their selection of a nidus; others destroy the whole of the floral organs. Of the latter, the most familiar is the common smut of our cereals; others, again, prefer to locate themselves in certain structures of their host-plant in which to develop their spore-beds, but they do not confine themselves exclusively to the structures first attacked.

THE BUNT OF WHEAT (TILLETIA TRITICI).

Probably this species is the most widely-known Ustilagineous parasite. It occurs in the ovules of the Wheat plant; not only does it destroy those which it attacks, but, owing to its offensive odour, a small percentage of diseased kernels is sufficient to spoil a large quantity of sound Wheat. The bunted kernels retain the outward form and colour of the healthy grain. They are smaller and plumper in outline, darker in colour, and lighter in weight. Owing to their lightness, a very large portion of them can be blown out of the Wheat by the winnowing fan; but in this process, as well as in the previous one of threshing, a considerable number become broken, and their sooty contents scattered upon the sound Wheat. The spores adhere to the healthy Wheat kernels, and are exceedingly difficult, even by the most improved methods of milling, to remove.

The structure of bunt has long been known to botanists, and it is unnecessary for us to go into its details, beyond remarking that the bunt spores are exceedingly beautiful microscopic objects. They are spherical bodies, with a dark, spore-wall, upon the exterior of which a beautiful network of hexagonal areolæ are observable. At the commencement of the present century, Prevost (1807) observed that, if the spores of bunt be placed in water, they will, in the course of a day or two, germinate, by emitting a "promycelium" bearing H-shaped spores and gonidia. Kuhn and Wolf, the two botanists who first investigated the entrance of these spores, both agree that this can only be effected during the very early stages of the germination of the grain. In 1833 Brefeld published his researches on the Ustilagineæ, and showed that if the spores of the bunt fungus be cultivated in a sterilised decoction of herbivorous excreta, the primary and secondary spores are produced more abundantly, and of somewhat larger size, but also that a mycelium is formed from the primary spores, which, as the nutrient solution becomes exhausted, produces gonidia at those points where the mycelial hyphae come in contact with the air. He thus established the fact,

that the bunt fungus has two modes of existence—saprophytic as well as parasitic. This most important discovery shows how difficult an enemy the agriculturist has to contend with. If bunt spores be applied to the exterior of Wheat kernels when they are sown, the plants they produce infallibly become diseased. Moreover, if the seed Wheat be dressed by applying to it a solution of copper sulphate, the disease is almost certain to be prevented; hence, dressing Wheat with copper sulphate is well-nigh the universal practice. Here and there one comes across a farmer who, strange as it may appear, allows grown bunt Wheat; if you talk to him, he is very likely to say that he has no great faith in Wheat-dressings, and you will very likely find that he performs the operation in question in a more or less perfunctory manner. Such an one told me recently that he had dressed his seed till he was tired of doing so, and that he did not believe it was of any use; that sometimes he dressed his seed Wheat, and sometimes he did not, and that really he could not see any difference. The only explanation of such cases is to be found in Brefeld's researches.

THE CEREAL SMUTS.

Until the last year or two, the smut on Wheat, Barley, and Oats, as well as on certain grasses, was regarded as belonging to the same species of *Ustilago*. We now know, however, that each plant has a species of the parasite peculiar to itself; some of them more than one, and that these several species differ from each other, in the way they affect their hosts, in the form, colour, and size of their spores, in the manner in which they germinate, and in the method by which they infect their several hosts.

THE OAT SMUT (USTILAGO AVENÆ, PERB.).

This well-known species occurs upon the cultivated Oat in all parts of the world, where the Oat is grown. It is mentioned and figured by the early writers, Tragus in 1552, and Lobelius in 1591. The affected plants have their panicles more or less converted into a mass of brownish-yellow dust. The typical form of the spores is oval, although many are found which are subglobose, subangular or irregular. In size, the spores vary more than in the case with any of the allied species. Placed in water, the spores germinate in a few hours by the protrusion of a promycelium from the pale side, at first continuous, but becoming twice or thrice septate. Gonidia are formed at the apertures, but they are few in number. In shape they are narrowly elliptical, and usually attenuated towards their attachment to the promycelium. They soon fall off, and frequently bud off secondary gonidia. The promycelia have a great tendency to fall off the spores.

In nutrient solutions, Brefeld found the production of gonidia to be much more abundant than in water, they are somewhat larger and multiply themselves by budding after the manner of the yeast fungus (*Saccharomyces*), as long as the nutrient material is abundant. As the nutrient solution becomes exhausted, the sporidia cease to bud, instead of which they throw out pointed germ tubes. He found that in about four days these colonies of sprouting gonidia had reproduced themselves to such an extent as to form a distinct sediment at the bottom of the culture glass, and had exhausted the nutrient material from the solution. By dipping a needle, which had been sterilised, into such a colony he was able to infect another flask of nutrient fluid and to start a fresh culture. For more than a year he kept up a continuous series of cultures in this manner, by starting a new one every fourth day. At the end of this time the gonidia ceased to bud. *C. B. P.*

(To be continued.)

KEW NOTES.

THE VICTORIA-HOUSE.—The tank in the Victoria-house at Kew has attractions at all seasons, and its contents at the present time are perhaps even more striking than when the Victoria distracts attention from other things. In truth, the collection of plants around the sides of the tank is noteworthy. At one end is a fine clump of *Uva-grass* (*Glycerium saccharoides*),

* Abstract from a lecture by Dr. Plowright at the Royal College of Surgeons.

like a Pampas-grass on a large scale; at the other end is a fine plant of *Prionom Palmita*, a giant Rush from South Africa, with tufts of bold sword-shaped foliage. Round the sides are Palms of various kinds, such as *Socratea exorrhiza*, with bold oblong leaves, cut up into broad, wedge-shaped segments. The emergence of the roots from the interior of the stem through cracks in the rind is strikingly displayed.

Among other Palms are *Borassus flabelliformis*, *Licuala grandis*, *Bismarckia nobilis*, *Hyphæba thebaica*, the *Doum Palm* of Egypt, *Mauritia flexuosa*, the *Ita Palm*, and *Versaffellia splendida*, all remarkable plants, to describe which would be tedious. *Pholidocarpus thur*, a Palm from Madagascar, and of which there are two specimens, is too remarkable to be passed without comment, even in so cursory a notice as this. It is a Palm with deep green fan-like blades, supported on stout three-sided leaf-stalks which are marked with longitudinal bands of yellow, while their margins are beset with very large, formidable, woody, disk-shaped spines, dilated at the base, and tapering into long curved points. *Cyclanthus cristatus*, like many of its congeners, has a forked midrib, which gives the leaf a very characteristic appearance. Two huge Bromeliads, looking more like some caulescent *Croton* in habit and appearance, are also placed in the tank. They bear the names of *Vriesia Glazionsana* and of *V. imperialis*, respectively. On one side the *Amorphophallus titanum* uprears its canopy of foliage—a grand object, even without its flower. The side benches are occupied with Bromeliads, dry and powdery, and mostly destitute of flower at this season.

The *Show House* (No. 4) is gay with spring flowers—including Tree Peonies, among them a double white variety, of great beauty; *Clianthus puniceus*, *Lachenalia*s, with others too numerous to mention. Although the most generally attractive house, this is not the one which will longest detain the connoisseur or the botanist.

The *Herbaceous Ground*.—Among the improvements carried out during the last winter may be mentioned a direct entrance to the Herbaceous Ground by means of a path leading at right angles from the main walk to and from the Cumberland Gate. A gateway has also been constructed in the middle of the wall in the herbaceous ground, communicating directly with a flight of steps leading into the centre of the rock garden. This is a convenient arrangement for the visitor, and has a special fitness, as linking the rockery with the herbaceous ground, which is to a large extent the nursery for the rock-garden. It may be expected that the herbaceous ground will not in future be the desert waste it has hitherto been as regards visitors. There will also be less excuse for the difficulty which some people complain of in finding the whereabouts of the rock-garden.

In the Succulent-house some *Bomarea*s are in flower, such as *B. Caldasiana* and *B. frondea*, which make one wonder why they are not more grown. *Senecio macroglorus* shows its flower-heads like stars of gold pendent from the firmament. It is an old plant, but we do not remember to have seen it to such advantage. A large *Pitcairnia*, *P. ferruginea*, is throwing up its flower spike, which promises to be a very conspicuous object shortly, while *Calpurnia lasiogyne*, a Laburnum-like shrub, with pinnate leaves, is very attractive.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By G. WYTTES, Gardener, Syon House, Brentford.

TOMATOS.—These, if sown as previously advised, should not be left in the seed-pans longer than is necessary, that is till the first rough leaf is formed. In potting, use large 60's, and a light, rich compost, and put them in a warm house after potting, and shade for a few days. If there is a little bottom-heat, it will bring them on rapidly. Repot into 6-inch pots when the small pots are filled with roots, and grow on as near to the roof-glass as possible in an intermediate-house; anything higher than this induces a thin growth. To get good plants well set

with fruits, afford another shift, this time into 9 or 10-inch pots, and employ a stronger kind of soil and a smaller quantity of manure, and grow them as sturdy as possible. A late fruit-house or Peach case is then a suitable place for them, finally hardening off and planting out in the middle of the month of May. A few of the plants may be afforded still another shift, and he in the ground still in the pots against a south wall at that date, and well supplied with manure. These will give good returns some weeks before the others. Seed may be sown for succession, and if the plants are given liberal treatment, they will be in 6-inch pots by the usual planting-out time. The best mode of training Tomatos is with one stem, taking away all side shoots, and providing stakes for properly securing them from the first shift.

FRENCH BEANS.—Those early sown will need manure-water of some kind, and others sown last month should be supported by means of twigs or splints and bast, and top-dressed, but should not receive any manure till a good set of pods is secured. Before flowering and after setting, syringe the plants freely in fine weather, which will help to keep under red-spider. For the early forcing of Beans, small pots are necessary, but from this date 8-inch and larger pots will be better. If a house can be spared for these plants which has a bottom-heat bed, much larger crops may be had by sowing or planting out on a bed of prepared soil; and if the house is at present occupied, the Beans may be sown in pots or boxes, and transplanted afterwards. Beans with larger pods may now be sown, and Canadian Wonder is one of the best of these large Beans, and which, with a top-dressing of rich earth, will give a second crop if the plants are kept healthy, and they are cut back slightly after gathering the first crop of pods, and are kept closer for a few days. I have also found it useful in late springs to sow a few dozen pots at this date, either in 12-inch or in 48-pots, and plant them out when ready into 12-inch, and plunge them in a cold frame. If sown in frames in rich soil, Canadian Wonder often makes a gross top growth, and does not come in much before those in the open, so that pots or boxes to keep check the growth, are best to promote early bearing. Some Beans may be sown in 48-pots in heat, and hardened-off for planting out in the open. I sow them in cold frames kept close, and plant out early, using hand-glasses to protect them for a time, and these plants come into bearing as soon as the forced Beans are over. Mohawk is the earliest Bean I have grown, and it is one of the best for the early crop.

MUSHROOMS.—The last Mushrooms in most heated houses will be got from beds which are made in March or early in April, but in cellars, Mushrooms may be grown much longer, and indeed, at any season. An open shed, facing north, is a good place at this season, better than the usual Mushroom house. Preparations should also be made for beds to the open. If made under cover, the size of the bed is of little consequence; but when in the open, more material is necessary, and a shape adopted that will throw off the rain. A good place is the foot of a north wall, and the depth of the bed about 2 feet. The material should be put up firmly, and made to slope from the wall. Spawning may take place when the heat has fallen to 50° and a covering of loam, 2 to 3 inches thick, put over the bed, then a good thickness of dry litter, to maintain the proper degree of warmth in the bed. In wet seasons, I have used waterproof coverings, but when the bed stands against a wall, these are not so necessary as for ridges in the open.

SEAKALE.—The root cuttings of the forced plants having been preserved for planting, no time should now be lost in planting them.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

PEACHES AND NECTARINES.—The young shoots of trees in the late houses are now pushing on rapidly, and may be reduced in numbers. Old trees usually produce fewer shoots than young ones, and on this account they may safely be relieved at two instead of three thinnings, removing those not required to form the fruiting wood of next year. In performing this operation, however, those shoots which have a likely-looking fruit at their base, and which are likely to be wanted to assist its proper development, may be left on the occasion of the first thinning of shoots, and stepping them at

the second thinning by pinching off the tip. If the directions as to temperature afforded in a former calendar have been followed, it may now be allowed to gradually fall to 45° at night, the house being well ventilated when warm weather permits. The month of April is notorious for bursts of bright sunshine, and occasionally cold winds, both of which call for great watchfulness on the part of those in charge of forcing houses to prevent the evil effects arising from sudden changes of heat and cold. In inclement weather it will be prudent to make use of the upper ventilators of the houses when affording air. Syringe the trees in the morning, and again about 3 P.M., and afford water at the roots when the conditions of the soil are such as to render watering necessary. Lay in the young shoots on the early-forced trees when about 7 or 8 inches long, leaving a space of about 4 inches between them. Any laterals which may spring from these can be stopped at one leaf from the starting point, except where there are blank spaces on the trellis to be filled, when the required shoots should be allowed to grow, as by encouraging the lateral shoots a large area of trellis may be quickly covered, and a check put on exuberant growth. This kind of wood will fruit freely the following year, provided it can be well ripened. Keep a sharp look out for red-spider and aphids, and if any should make their appearance syringe the trees with soapy water applied with force by the garden engine, and repeat the syringing for several successive nights, always following the application with one of clean water.

APRICOTS.—The fruits may be thinned when they are the size of Hazelnuts, and the thinning carried out over a period of ten days or a fortnight, going over the trees twice or thrice, according as the number of fruits is few or many, the state of health and vigour of the trees should be taken into consideration in deciding the distance at which to leave them apart. If they are exceptionally vigorous, a fruit may be left on every square of 6 inches, in ordinary vigour at 9 inches square, and a weakly tree may have one fruit to every square foot. Trees thus cropped must have manures applied as mulches or waterings, and a close watch kept to note if the trees show signs of being over-taxed, and consequently the prospects of a good crop for next year lessened. If growth seems to be at a standstill, the fruits must be still further reduced, when they have become large enough for culinary purposes. If very large fruits are looked for, the thinning must also be rather severe. Keep the ventilators open night and day in mild weather, and only partly close them if frosts threaten, and make free use of the syringe in the afternoons of bright days.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

HARDY CLIMBERS AND PLANTS SUITABLE FOR FURNISHING WALLS AND LATTICE-WORK.

If not already done, all climbing and semi-climbing plants should have the shoots or branches thinned where necessary, and rearranged. Those on walls and fences make secure with nails and shreds, employing small tarred string and Rattia-grass for subjects trained over old trees and lattice-work. Allow sufficient room in both shreds and ties for the due development of the branches. The following subjects are admirably adapted for covering high walls, trellises, arches, and old trees:—*Vitis aestivalis*, *Clematis alpina*, *C. florida*, *C. Jackmanni*, *C. montana*, *C. fammula*, *Lonicera flava*, *L. flexuosa*, *L. fragrantissima*, *Jasminum officinale*, *Bignonia capreolata*, *Ampelopsis japonica*, *A. hederacea*, *A. Veitchii*, *Rosa arvensis*, and both the yellow and white varieties of the *Bankian Rose*. The above-mentioned plants are all deciduous. *Lonicera brachyoda*, *Jasminum fruticans*, producing glossy leaves and yellow flowers, and *Rosa sempervirens*, are evergreen. All these plants should be allowed to make a free, semi-wild growth, simply supporting the principal branches, and guiding young shoots over space desired to be covered. A more formal method of training should be observed with the same plants when growing against walls and trellis-work, and at pruning time spur back the lateral growths to within one or two buds of their bases. The gold and silver-edged and blotched varieties of the Ivy are most suitable for covering walls and fences on which flowering plants are not likely to succeed. For clothing low walls, lattice-work, &c., *Escallonia macrantha*, *Eucynthus radicans* variegated, *Berberis Darwinii*, *Ceanothus americanus*, *C. azureus*, *Chimonanthus fragrans*, *Magnolia grandiflora* exoniensis,

and *M. ferruginea* are very suitable; the five last-mentioned subjects require a south wall in the southern and western counties of England and Ireland. As all the above-mentioned plants can be obtained in pots, the present is a good time to plant them. Make good-sized holes, and give ample drainage where necessary, and plant in a mixture of three parts light loam and one of well-decomposed manure. Before planting disentangle the roots, shorten them back a little, and then spread them out evenly. Make the soil firm about the roots, and water to settle it about them.

INDOORS.—Sow seed of *Pyrethrum* (Golden Feather), and prick out in shallow boxes filled with light soil, *Wigandias*, *Eucalyptus*, *Nicotianas* (Tobacco), *Solanums*, and *Hemp*. Pot off *Castorolis*, *Verbenas*, &c., and shift seedling *Cannas* into larger pots when necessary, giving them a light rich compost. Water and return to heat, and shade all from sunshine for a few days until the roots have taken to the soil.

THE ORCHID HOUSES.

By H. A. BURBERRY, *Orchid Grower, Highbury, Birmingham.*

MORMODES, CATASETUMS, CORYANTHES, STANHOPEAS, AND CYCNOCHES.—Any attention required by these Orchids should be now given. They are best grown in baskets; those for *Stanhopeas* should be without crocks at the bottom. Peat and sphagnum are the most suitable materials to plant them in. Light, heat, air, and moisture combined are most requisite during the growing season, and they will do well suspended near the roof-glass in the *Dendrobium*-house. The *Mormodes* should occupy the coolest part near a ventilator. *Cythis* are also best grown under the above treatment. These are now pushing forth their flowers from the young growths.

GENERAL WORK.—At this season work is plentiful and pressing. The system of going through houses in rotation, however, is bad, if, as I have sometimes observed, every plant is top-dressed or potted, regardless of the proper time. Various plants in any section should be potted if such attention is necessary. Shading should now be in use on bright days. Insure even the Mexican Orchids the sun by degrees, for after the long dull winter they become somewhat unused to it. Now we have bright sunshine by day and frost during the night, it is advisable to maintain a sufficient amount of moisture, as the plants sometimes suffer very much during such weather, if too dry.

THE MEXICAN HOUSE.—The species of *Laelias* with short pseudobulbs thrive best in the house of Mexican Orchids, which is of an intermediate temperature, with plenty of air afforded, and sunshine admitted. These *Laelias* are now potted up and arranged where light is abundant, and the roots are now in an active state. The supply of moisture at the root must be in great measure withheld, just keeping the plants moderately moist by affording them, say, one good watering once a week. The air of the house should be fairly moist, and the night temperature for this and the other intermediate-houses should range about 60°, according to the weather—even less than this will do no harm; and by day it may range between 60° and 70°, but it is not well to let it reach the higher degree of warmth by fire-heat alone; in cold weather, without sunshine, 60° to 65° will be found sufficiently high. *Laelia harpophylla*, *L. cinnabarina*, *L. superbiens*, and some others, to be found mentioned in the calendar for January 30, are at home in the Mexican house. Amongst others, *Cattleya citrina* is well suited here. I also grow *C. gigas*, *C. aurea*, and *C. Warneri* in this place. *C. gigas*, and its varieties, should receive but little water as yet, or it will be less likely to produce flowers; *C. Warneri* is further advanced at this period, and will accordingly require more. There are several blinds on this house, but we rarely use them, except when the sun is very bright and powerful, and it is to be feared the leaves will become scorched, which is the case after a long period of sunless skies, when some degree of habituating the plants gradually to sunlight is advisable. If a portion of the house is more heavily shaded than another, there are many other *Cattleyas*, and other species of Orchids, which find a place in it, which grow freely.

THE INTERMEDIATE HOUSE.—The cool and Mexican Orchids now being put into trim for the

season, and the plants growing in the intermediate house, will next claim attention. Plants of *Madevalla tovarensis*, *Oncidium macranthum*, and other *Oncids*, *Odontoglossum grande*, and any others just beginning to put forth new growth, may be potted, if found to need it, but the various houses of Orchids should not be taken in rotation, and every plant re-potted regardless of the proper time for doing this operation. *Cattleya Trianae*, whose new roots are showing, should not be allowed to grow to any great length; and *C. Percivaliana* may be repotted in peat and sphagnum moss. I prefer to pot the *Cattleyas* very firmly, but to do this, good fibrous peat must be used.

THE HARDY FRUIT GARDEN.

By H. MARCKHAM, *Gardener, Mereworth Castle, Maidstone.*

PROTECTING WALL TREES.—With a favourable change in the weather, the fruit buds of *Apricots*, *Peaches*, *Nectarines*, &c., will soon be open, and be in full bloom. They therefore will need protecting against frost, hail, and cutting wind. Glass coping is probably the best of all protections, but in the absence of this, canvas blinds, drawn up and let down by the means of pulleys, will answer, as also will folded fish netting fastened to poles let in the ground, with the top resting a few inches above the wall; but in either case avoid heavy shading, as this weakens both flower and shoots. In the case of a few trees, *Spruce* boughs may be used, but should be placed on thinly. If the buds are not too advanced, they may be slightly syringed with diluted tobacco or *Quassia*-water, as a preventive against green and black-fly. Keep the alleys free of weeds, and slightly prick up with the fork the soil that is likely to bake and crack open in dry weather. Do not dig the borders with a spade for other crops, as by so doing many of the best roots get destroyed. Young late-planted trees, or those which may have had their roots lifted, should have a final treading before being secured to the walls. In fastening the branches, leave the ties or shreds loose, so that they do not cut the bark. Take care when driving in the nails, as an accidental knock on the bark with the hammer very frequently leads to gumming. Pull all the shoots into position, so that the nails do not touch the bark. Should dry weather prevail, water, if needed, to give the trees a good start.

NUTS.—These should be pruned at once, if not done. Nuts, like many other fruit, should not be over-fed to produce too strong wood, or they seldom fruit satisfactorily. Keep the bushes trained basin-shape, leaving each branch with plenty of fruitful wood. Suckers should be removed, and the ground slightly pricked up to form sufficient loose soil for hoeing, &c. Young trees should have attention first, and all pruning carefully done. I like a clear stem of 15 inches, from which three to five shoots should be trained, always cutting to a bud pointing outwards. Where the Nut thrives, with good attention few fruits pay better.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Garden, Swansea.*

BOUVARDIAS.—Cuttings of these plants early struck will now be ready for potting singly into 48s, in a compost consisting of two parts loam and one part each of leaf-mould and rotted manure, with a free addition of sharp silver sand. *Bouvardias* may be grown successfully in low pits or houses where a temperature of 50° to 55° can be kept by night, and a proportionate rise by day afforded. It is necessary to keep them rather close until they get established, when air must be admitted—gradually at first—when the weather is favourable. Should still more plants be needed, no time may now be lost in getting cuttings put in, and for these choose the young shoots when they are about 3 inches in length. Insert four or five round the sides of a 4-inch pot filled with a sandy compost, and surfaced with silver-sand, placing them in the propagating-frame; they will speedily make root under ordinary care. Old plants of *Bouvardia* which may have been cut back, and have now made some amount of growth, may be shifted into slightly larger pots, using a rich compost. Grow them in a genial temperature until the roots have taken to the new material.

HARD-WOODED PLANTS.—These plants, native mostly of the Cape and Australia, will now require attention in the way of potting and re-surfacing. Specimen *Pimeleas*, *Boronias*, and *Acacias*, which

have done blooming, should be cut back after being but moderately watered for several weeks. Cut back the first two to within about 4 inches of last year's growth; and straggling growths only of the last-named plants, so that the plants may be kept in somewhat regular shape. Water must be afforded not very abundantly to these plants until the new shoots have reached a length of from 1 or 2 inches. Specimens in need of more root space should be shifted forthwith. *Acacias*, *Telopeas*, *Banksias*, *Melaucias*, *Ficus australis*, &c., should be given a compost consisting of two parts fibrous peat and one of fibrous loam, with sand in sufficient quantity to keep the whole porous; and all plants having very fine roots should have a compost consisting wholly of fibrous peat, with sufficient sharp sand to ensure porosity; and good drainage is necessary for all of these plants. Previous to repotting any plant, loosen the roots on the outside of the ball with a sharp-pointed stick, or any specimens which have attained the desired size and require repotting, may have the sides and bottom of the ball pared off. Young plants may go into pots two or three sizes larger than those previously occupied. Always pot firmly, and leave sufficient space over the ball for affording water. Repotted plants may be kept somewhat close for two or three weeks, and light syringings performed morning and evening, with a light kind of shading employed in bright weather from 11 A.M. to 2 P.M.

THE GREENHOUSE.—There will be no difficulty in keeping this structure gay, there being no lack of flowering-plants in season. Re-arrange these weekly, replacing those past their best with fresh ones from the reserve and forcing-pits. Keep everything neat and clean about the house, especially the foliage of *Camellias*, *Oranges*, and others with hard-shining leaves. Regulate the shoots of the various climbers as growth proceeds, watering and shading as may be required.

THE APIARY.

By EXPERT.

ARTIFICIAL POLLEN.—Where there is a dearth of early-flowering plants, artificial pollen feeding is necessary, which acts as a stimulus to colonies, the avidity with which bees will gather and carry home *Pea*-flower that has been placed in the cups of *Crocus* blossoms, being a proof that it is a suitable substitute for the real substance. Another plan adopted by bee-keepers is to mix the flour with chaff or something of a similar nature and place it in a box in a warm sunny place, sheltered from the wind. The bees are attracted to the spot, by placing a little honey in the comb on the top, after which they will need no further inducement to seek the flour. Outdoor feeding with pollen is only available in fine weather, but the *Pea*-flower can be given inside the hive, either in candy or by hanging a frame of comb by the side of the cluster, the cells having been filled with it. Wallflowers, where grown in quantity, yield much early pollen, but this year's blossom will not be available, the plants having been destroyed by frosts in most districts.

WATER.—Bees are not able to get along without water, and in spring they often have to fly long distances for it. Failing a supply close to the apiary, it should be provided, and shallow pans in which moss, cork-dust, stones, or something of the kind has been placed to provide a foothold, answers the purpose very well, and will soon be taken advantage of.

MARKETING HONEY.—A reverend gentleman has hit upon what is likely to prove a good idea for helping to create a market for honey. It is often disappointing to persons who have honey for sale, how difficult it is to find a ready means of disposing of it, mainly owing to the ignorance prevailing as to its various uses and value as a wholesome article of food, this being more especially the case amongst townfolks. The gentleman referred to has written an interesting and instructive pamphlet, entitled, *Honey, and Its Uses*, in which it is explained what honey is composed of, &c., and how it may be usefully employed as a medicine or an article of diet, either in its ordinary form or for cooking purposes, various recipes being given. He suggests that the pamphlet should be distributed by bee-keepers, and it would be easy to do this, if only with the honey they sell, his own experience being that he has found it so successful that he has succeeded in finding a market in his immediate neighbourhood for the produce of an apiary consisting of between thirty and forty stocks, and at a good price. *Expert.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

THURSDAY, APRIL 7—Linnæan.

SATURDAY, APRIL 9—Royal Botanic.

SHOWS.

TUESDAY, APRIL 5 { Brighton and Sussex "New" Horticultural (two days).

WEDNESDAY, APRIL 6 { Royal Caledonian Horticultural (two days).

SALES.

TUESDAY, APRIL 5 { The Hickox House Collection of Orchids, by Protheroe & Morris, on the Premises, Hickox House, Preston (four days).

The late Mr. E. A. Roberts' Collection of Orchids, at Protheroe & Morris' Rooms; also an Importation of *Ocimum tigrinum*, and other Orchids, at the same place.WEDNESDAY, APRIL 6 { Tree Carotations, *Lilium longiflorum*, *Gladiolus*, Greenhouse Feros, Roses, Herbaceous Plants, at Protheroe & Morris' Rooms; Choice Collection of Orchids, at Stevens' Rooms.

Clearance Sale of Plants, Heres, Carls, &c., at the Priory Nursery, Acton, by Protheroe & Morris (two days); Carnations, Begonias, Lilies, &c., at Protheroe & Morris' Rooms.

FRIDAY, APRIL 8 { At the Pond Lane Nursery, Clapton, N., Hollies, Privet, *Daphne Mezereum*, *Myrtles*, &c., by Protheroe & Morris.Imported Orchids, also 350 *Dianthus grandiflorus* superba, at Protheroe & Morris' Rooms.

SATURDAY, APRIL 9 { Roses, Fruit Trees, Carnations, and other Border Plants, Begonias, Tuberoses, Conifers, Shrubs, &c., at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—46°·7.

A PAPER of considerable importance has recently issued from Rothamsted, by the able pen of Sir J. B. LAWES and Dr. J. H. GILBERT, on the above subject, of which we give an abstract.

There can be no doubt, that both the scientific interest and the practical value of our leguminous crops depend very much on the amount of nitrogen which they contain, and on the sources of their nitrogen; and especially on the great differences in these respects between them and the representative of the other families of plants with which they are grown, either in alternation in our rotations, or in association in our meadows and pastures.

It is well known that under the conditions in which farm and garden crops are grown nitrogenous manures have very direct effects in increasing the produce of Wheat, Barley, and Oats, of Turnips, Mangel, and Potatoes. This is the case, notwithstanding the fact that in the cereals the increased produce consists characteristically of the non-nitrogenous substances starch and cellulose; in the root crops, of the non-nitrogenous substance sugar; and in Potatoes, of the non-nitrogenous substance starch. Leguminous crops, Peas, Beans, Clover, &c., not only accumulate much more nitrogen over a given area of land under equal conditions, and contain a higher percentage of nitrogen in their dry substance, than the crops above enumerated, but there is abundant evidence to show that they also derive much nitrogen from the combined nitrogen of the soil and subsoil, and further, that they probably take up much as nitric acid; but in spite of this, it is generally recognised, that direct nitrogenous manures have comparatively little effect in increasing the produce of such crops.

The Rothamsted experiments reveal this apparently anomalous result, that the crops which are characterised by yielding a comparatively small amount of nitrogen over a given area, by containing a low percentage of nitrogen in their dry substance, and by yielding large amounts of the non-nitrogenous products—starch, sugar, and cellulose—are especially benefited by the application of nitrogenous manures, and under their influence yield greatly increased amounts of those bodies; whilst the leguminous crops, which contain a much higher percentage of nitrogen, and yield much more nitrogen over a given area of land, under the same soil and season conditions, are much less benefited by such manures.

The authors say, without attempting to give an adequate physiological explanation of this curious result, some of the facts bearing upon it may be briefly stated, as follows: the non-leguminous crops having comparatively limited power of accumulating nitrogen under given soil conditions, they generally require nitrogenous manuring; the amount of nitrogen assimilated to a great extent rules the amount of chlorophyll formed. Chlorophyll formation is an essential condition of carbon assimilation; the amount of carbon assimilated is the chief measure of the quantity of produce; and since the more special or characteristic products of the non-leguminous crops are the non-nitrogenous substances—the carbohydrates—the natural result of the increased assimilation of nitrogen, and the consequent greater luxuriance, is an increased formation of the bodies which are their essential or characteristic products.

Thus, while it can hardly be said that there remains an unsolved problem in the matter of the sources of the nitrogen of our non-leguminous crops—of Wheat, Barley, and of grasses, as representatives of the great family of the Gramineæ; of Turnips, representing the Crucifere; of some varieties of Beet, representing the Chenopodiaceæ; and of Potatoes of the Solanaceæ—it must be admitted to be quite otherwise, so far as our leguminous crops are concerned.

It is nearly a century ago since the question whether plants took up, or evolved, free nitrogen, became a matter of experiment and of discussion; and it is just about half a century since BOUSSINGAULT commenced experiments to determine whether plants assimilate free nitrogen. From his results, he concluded that they did not; and those obtained at Rothamsted about thirty years ago, confirmed the conclusions of BOUSSINGAULT. In fact, the authors concluded, that under the conditions of those experiments, which consisted of sterilisation and enclosure, in which, therefore, the action both of electricity and of microbes was excluded, the results were conclusive against the supposition that the higher chlorophyllous plants can directly fix free nitrogen, either by their leaves or otherwise. Nevertheless, it has long been admitted that existing evidence was insufficient to explain the source of the whole of the nitrogen of the Leguminosæ; that there was, in fact, a missing link.

According to some even recent experimenters, gain of nitrogen is not limited to our leguminous crops, and the modes of explanation of the gains which have been observed are extremely various. Thus, it has been assumed that combined nitrogen was absorbed from the air, either by the soil or by the plant; that there is fixation of free nitrogen within the soil by the agency of porous and alkaline bodies; that there is fixation by the plant itself; that there

is fixation within the soil by the agency of electricity; and, finally, that there is fixation under the influence of micro-organisms within the soil, both with and without the accompanying growth of higher plants.

But of all the recent results bearing upon the subject, those of HELLRIEGEL and WILFARTH, with certain leguminous plants, seem to be by far the most definite and significant, pointing to the conclusion that although the higher chlorophyllous plants may not directly utilise free nitrogen, some of them, at any rate, may acquire nitrogen brought into combination under the influence of lower organisms, the development of which is, apparently, in some cases a coincident of the growth of the higher plant whose nutrition they are to serve.

The results obtained by these German experimentalists were of such fundamental and far-reaching importance, that it seemed desirable the subject should be further investigated with a view to their confirmation or otherwise. Accordingly, it was decided to take it up at Rothamsted, which was done in 1888. The investigation was continued in 1889 and 1890, and is still (1892) in progress.

Having briefly described their earlier experiments, which, under conditions of sterilisation and enclosure, showed that neither Gramineæ, Leguminosæ, nor other plants, directly assimilate the free nitrogen of the air, the authors give an account of their recent investigations which do show fixation of free nitrogen. The plants dealt with included four annuals, namely, Peas, Vetches, Beans, and yellow Lupins; also four plants of longer life, namely, white Clover, red Clover, Sainfoin, and Lucerne.

The results with Peas, Vetches, and yellow Lupins, were very definite and striking. They abundantly illustrated the fact that under the influence of suitable microbe-seeding of the soil, there was nodule-formation on the roots, and coincidentally, increased growth, and gain of nitrogen beyond that supplied in the soil and in the seed as combined nitrogen, presumably due to the fixation, in some way, of free nitrogen.

With some of the other plants the growth was not so satisfactory, partly owing to failure to ensure suitable infection of the roots.

As bearing upon this curious and interesting point, the authors refer to some experiments and results of Professor NOBBE, who undertook an investigation, in the first place to determine whether leguminous trees, as well as our agricultural leguminous plants, were susceptible to microbe infection and nodule formation; and, secondly, to ascertain whether there is one nodule-forming bacterium, or whether many bacteria have the property—each description of plant, or perhaps each group, having its special bacterium.

The plants experimented with were Peas, yellow Lupins, and Beans; also, as trees, Robinia pseudacacia (Locust tree), *Cytisus laburnum* (Laburnum), and *Gleditsia triacanthos* (Honey Locust). To each of these were applied microbe-seeding from various sources; in some cases only soil extracts, and in others pure cultivations, either from soil-extracts or from the root-nodules of different plants. When soil-extracts only were used, the results were somewhat irregular. For example, with Peas, a better result was obtained by the use of *Gleditsia*, Robinia, or *Cytisus* soil-extract, than of Pea soil-extract. With Robinia, on the other hand, the best result was obtained with Robinia soil-extract.

But when pure cultivations were employed, the general result was, that more effect was pro-

The Sources of Nitrogen of our Leguminous Crops.

duced on any particular description of plant by the bacteria obtained from the same description, than by those derived from other descriptions. Thus, with Peas there was more produce, and more nitrogen assimilated, by the application of pure cultivations of Pea-nodule and Pea-soil

of the microbe infection from another than from the same description of plant. In some cases infection had more effect than manuring with ammonium-salts or nitrate. NOBBE concludes, however, that the results can leave no doubt that the Pea and the Robinia bacteria have different

BERT say that obviously much more evidence is needed in regard to any difference in character or relative prevalence, at different periods in the life and growth of the plant, and under different conditions of soil, both so far as mechanical state and porosity, and richness or otherwise in



FIG. 61.—ARISTOLOCHIA CLYPEATA: FLOWERS, CREAM-COLOURED, WITH PURPLE SPOTS. NATURAL SIZE. (SEE P. 435.)

bacteria, than by that of Lupin nodule, Lupin soil, Robinia nodule, or Robinia soil bacteria. On the other hand, the Robinia nodule bacteria, which showed no action with Peas, had marked effects on Robinia. Still, this did not apply in all cases, there being sometimes more produce, and more nitrogen gained, under the influence

physiological actions, which indicate, if not different species or varieties, at any rate different race or nutrition modifications.

The conclusion drawn from the experiments of NOBBE, that there are various nodule-forming bacteria, is consistent with the results obtained at Rothamsted; but Messrs. LAWES and GIL-

available supplies of combined nitrogen are concerned, before any clear conception can be attained of the connection between nodule-formation, luxuriance of growth, and gain of nitrogen. How the fixation of nitrogen is to be explained must be left to a future occasion.

LINNEAN SOCIETY.—At an evening meeting, to be held on Thursday, April 7, 1892, at 8 P.M., the following papers will be read: 1, "On the Phenomena concerned in the Production of Forked and Branched Palms," by D. MORRIS, F.L.S.; 2, "Gland-like Bodies, &c., in the Bryozoa," by A. W. WATERS, F.L.S.

LIST OF CULTIVATED ORCHIDS.—In the *Revue Horticole*, M. MOTTER gives the commencement of a list of the genera of Orchids in cultivation, evidently founded on the list given by Mr. BURBIDGE in a special supplement to the *Gardeners' Chronicle* on May 9, 1885, though the fact is not stated.

SERENO WATSON, whose death we announced in our last issue, was one of those quiet retiring men whose value can only be estimated by his immediate associates. He was born in 1826, and originally practised medicine, but became botanist to the United States Geological Expedition for the Exploration of the Fortieth Parallel of Latitude. Subsequently he became Assistant to Dr. ASA GRAY at Harvard, and devoted the remainder of his life to continuing and extending the work of the master. Botanists looked to him to complete the enumeration of the plants of the United States left incomplete at the death of GRAY, and a good deal has indeed been done in this direction. So far as horticulture is concerned, WATSON'S chief title to respectful memory lies in his *Botany of California*, in the elaboration of which he took the largest share.

HYBRID ANTHURIUM.—Among the raisers of these very showy flowers, M. DE LA DEVANSAYE, of Angers, is one of the most prominent. Among his more recent successes are A. M. de la Devansaye, a hybrid between A. Wardi and A. Titanum; A. Marie Thérèse, raised between Andegavense and Mr. Hardy. To these First-class Certificates were awarded at the last meeting of the National Horticultural Society of Paris. Thirty-five hitherto unnamed seedlings were also shown. A First-class Certificate was also awarded to the same enthusiastic amateur for twenty spikes of Vanda tricolor, with 150 flowers. M. DE LA DEVANSAYE also showed specimens of Vanda Schilleriana, aurea, Pescatorei tricolor (Luxembourg variety), tigrina var. pallens, formosa, Veitchii, cœrulescens, &c.

A NEW FERN.—Messrs. DICKSONS, of Chester, send us a specimen of a Maidenhair Fern, *Adiantum Capillus-veneris* var. *imbricata*, which was described and illustrated in our columns so long since as 1888, but which has only now been sent out. Its hold wedge-shaped pinnules are not unlike those of A. Farleyense on a small scale.

READING AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—Among the many gardeners' societies in operation in the present day, that of Reading appears to be one of the most useful and successful. It has just issued its fourth annual report, which shows a steady increase of members, there being now 140 on the books. The meetings are held fortnightly, and are made of greater interest by exhibits of plants, fruits, &c. The Society possesses a library, the books being largely read by the members. Papers on subjects of interest to gardeners are read, and discussions encouraged; and the attendance of members is always large. Summer excursions are also made to places of horticultural interest, large numbers of the members joining in them.

THE ROYAL HORTICULTURAL SOCIETY OF SOUTHAMPTON.—The members of this Society held their annual meeting on Thursday, March 31, and, according to the annual report and financial statement, the Society is not in a very flourishing condition. Last year was an unfortunate one for the Society, resulting in the addition of over £80 to the already heavy debt. Over £60 of this deficit was incurred in the endeavour to re-establish the Chrysanthemum show. The spring show for the current year will be held on Whit Monday, June 6, and the summer exhibition on July 30 and August 1.

MR. W. T. THISELTON-DYER.—We are glad to note that the Royal Society of New South Wales has awarded to the Director of the Royal Gardens, Kew, the Clarke Memorial Medal for special services rendered to the Colonies and India. Mr. DYER'S talents for organisation and administration have been conspicuously evident in his endeavours to bring about cohesion and co-operation between the several botanical establishments of the colonies, and between them all, with Kew as a centre. Mr. DYER, in acknowledging the receipt of the medal, gracefully acknowledges the continuous and loyal assistance of every member of the staff, and continues:—"The connection between Kew and the Australian colonies has always been peculiarly close, and I find that this is no less than the third occasion upon which it has been recognised by your Society. That connection began in the last century by Sir JOSEPH BANKS, who, although not actually connected in any official way with Kew, was virtually its Scientific Director. It was resumed by the splendid work on the elucidation of the Australian Flora of my immediate predecessor in office, Sir JOSEPH HOOKER, and it culminated in the preparation at Kew by Mr. BENTHAM of his classical description of the whole Australian flora. It is, I feel, no small distinction to be associated in the eye of Australian scientific men with these two eminent recipients of the Clarke Medal. My own work has, I feel, been the much humbler one of continuing a tradition which, by the wisdom of the Government, has made Kew as much an imperial as a local institution. The services to which you allude have become so much a matter of routine that they scarcely seem to possess any exceptional merit. Their reward, if they deserve any, continually manifests itself in the kindness and sympathy which Kew never fails to receive at the hands of its colonial correspondents. If anything is needed to lighten the continuous and, perhaps, sometimes onerous labours of the Kew staff, it is the feeling that they are working not merely for a limited section of the home community, but for the welfare and gratification of intelligent persons in every part of the Empire. Kew has undoubtedly in the last half century been successful in effecting much for the advancement of many material interests. Its highest work has, however, perhaps, been accomplished in the encouragement and help which it has been able to afford to the cultivation of science in England beyond the seas. In Australia, with its splendid universities, energetic scientific societies, and fine botanic gardens, it sees an offshoot of the best home intellectual life, which must always command its warmest sympathy."

RAIN AS A SOURCE OF NITROGEN FOR VEGETATION.—In connection with the question of the nitrogen compounds that are at the disposal of plants, a German scientist, C. F. A. JUXEN, has recently been inquiring whether there are any nitrogen compounds in the rain which can be made use of during the growth of vegetation. Of course, rain, *per se*, is only water, but in its passage through the atmosphere it finds various gases, volatile substances, and finely comminuted solids, arising from various sources, and being a great solvent, many of these are carried down by it to the soil. JUXEN collected a large number of samples of rain-water, and analysed them. He found that a good deal of nitric acid and ammonia occur, which, when calculated out to so many pounds per acre, reach to considerable figures. These figures are given in tables in the original paper, but are too many for quotation here. We refer our readers to the *Forsch. Gebiete Agronomie* Phep., xiv, pp. 367, 368, for further details. But it may be observed that the results seem rather high, because the rain was collected from the neighbourhood of a populous village, where the production of ammonia and nitric acid due to the decomposition of organic matter would be probably greater than in the open country.

EARTH WORMS.—We read in the *Wiener Illustrierte Garten Zeitung* for March, that if a

spade be pushed into the soil in a perpendicular position and shaken rapidly to and fro by the handle, the worms will creep out of the earth for a considerable space round about, when it is an easy matter to catch and put them into a vessel. For the domestic fowl these form a nourishing food and delicacy. If a bed of vegetables, or what not, is regularly searched in this manner, an enormous number of big and little worms can be caught, and no trouble will be experienced for several weeks.

ELECTRIC LIGHTING FROM WINDMILLS.—Messrs. CARWARDINE, of City Road, E.C., some time ago erected a Halladay windmill on the top of their building, and within the last few weeks have installed the electric light, which may now be seen burning brilliantly each night, and which is produced simply by the power of the wind. The installation consists of a dynamo capable of developing a current of about thirty amperes, at a pressure of about seventy volts, and by means of an automatic apparatus the output is kept constant though the speed of the mill may vary, and the accumulators are thus charged at an uniform rate of speed. The charging circuit is switched on when the speed is high enough, and switched off when it drops too low. The whole apparatus is automatically governed, so that a steady and uniform current is forced into the cells. Any of our readers who may care to inspect this novel installation are invited by Messrs. CARWARDINE & Co. to do so.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO BRIDGE ROAD, S.E.—In aid of the funds of the above Institution, the LADY MAYORES intends to hold a Rose Show and Fruit and Flower *Fête* at the Mansion House on June 24.

MAIDSTONE ROSE SHOW.—The Maidstone Rose Club have decided to hold their annual show on Tuesday, June 28.

EUADENIA EMINENS.—In one of the side-shelves of the T-range at Kew is a plant in a 48-pot of this very remarkable Caprariaceae shrub in full bloom. It is not showy enough in colour to please some folk, but in form it is calculated to please the eye, and stimulate curiosity. The plant, which is remarkable for the great length of its two upper petals, which are of a greenish-yellow colour, was introduced from West Africa by Mr. BRILL, and was figured in our columns on April 29, 1882, since which time we have scarcely seen it. It is satisfactory to find that so fine and curious a plant can be flowered in a small state.

THE CHANGES WHICH RIPENING CHERRIES UNDERGO.—A developing fruit appears to be comparable with a chemical laboratory on a small scale; and, for the matter of that, as in any portion of a growing plant. Here we have inorganic matter converted into organic matter, and the latter changed by the life-processes into other varieties of organic matter, in a way which we can only marvel at. Last summer, ripening Cherries were made the subject of a special study by W. KERN, who has recently published the details of his research, and the conclusions arrived at, in the *Zeitschrift für Analytische Chemie* (vide xxx., pp. 401–407). He specially examined the changes which take place in the chemical composition during the growth and maturity of *Prunus cerasus*. The variety studied was the early Griotte, specimens of which were gathered from a single tree, at intervals of seven to ten days, and analysed. We may notice that, as the fruit ripens, the percentage of water decreases, the dry substance increases, so does the acid, and of course, too, the total amount of sugar. In the earlier stage of maturity, citric acid (the acid of Lemons), malic acid (the acid of Apples and succinic acid are present), but nine days before perfect maturity is reached, the latter quite disappears. Invert sugar is present from the start, and in the last stage is 10 per cent of the entire weight. Dextrose and levulose (two sugars) are present, with inositol, another sweet substance at first, but towards the end the inositol occurs merely as a trace. The progressive

increase in the percentage of acid during the whole period is not in harmony with the old view that the sugar is formed at the expense of the acid. The disappearance of succinic acid, as ripening is approached, suggests the theory that the other acids are formed synthetically. Cane-sugar is present only in the leaves, in proportions which increase as the ripening is approached, but subsequently diminishes. No starch was detected at any stage in the growth of the fruit, though the parenchyma cells of the peduncle showed starch granules increasing in amount as the fruit ripened.

THE JERUSALEM ARTICHOKE.—In a paper contributed by M. G. LECHARTIER to *Annales Agronomiques* for February 25, and dealing with the various mineral constituents of the Jerusalem Artichoke, the author thus epitomises his observations:—"The leaves of the same plant are found to present great diversity of composition as regards mineral matters, according to the year, the nature of the soil, and of the manures, the stage of growth, and the position on the stem. Such variations are much more considerable than in the tubers or seeds. There is no relation between the proportion of mineral principles in the various organs of a plant, and the amount of the crop. A plant which formed part of a heavy crop is not always richer in phosphoric acid and potash than one forming part of a smaller crop. Whenever any one of the essential constituent principles of the leaves of a plant, phosphoric acid or potash, falls below a certain ratio, they alter, turn yellow, and die. This alteration is prematurely effected in many leaves, the more so in proportion as the soil is poor. A comparison of the component parts of prematurely sere and of green leaves respectively, renders it possible to estimate the nature of the principles which are especially lacking in cultivated soil. The leaves elaborate and store mineral principles which are afterwards utilised for the nutrition of the youngest parts of the plants, and especially the tubers and seeds. This fact explains the variations which can be induced in their composition by subjecting them to differing influences."

SELF-HELP EMIGRATION SOCIETY.—Secretary, E. WILSON GATES. The objects of this Society are to assist, by means of grants or information, in emigrating to Canada and other colonies, those suited to become colonists. The Society gives information gratis to all comers, as to which colony the applicant is most likely to succeed in. It investigates the character of applicants as far as possible, and declines to help those who are unlikely to become good colonists; but it takes by the hand those who are suitable, and helps them to obtain the amount required. The fundamental principle of the Society is self-help, which means that every intending emigrant must provide, personally, or through friends, a contribution towards the cost of his or her emigration; and usually the larger portion of the cost is thus provided. The Society also gives Canadian introductions to persons of a class superior to the ordinary emigrant, who, though able to pay their own expenses, are glad to avail themselves of the Society's help in the way of guidance and advice. The Society does not merely assist them to the port of landing, and there leave them to take their chance. It has more than fifty voluntary agents and correspondents in various parts of Canada, to whom the emigrants are sent. These correspondents inform the Committee in London as to what class of emigrants they can receive, and how many they can find employment for. They are also provided by the Committee with sufficient funds to enable them to supply the Society's emigrants (in case of need) with food and lodging until they can find employment, which is usually obtained in a day or two at most. The Society has, in addition, seventeen correspondents in Queensland, Victoria, South Australia, Tasmania, and New Zealand. All able and willing to work on the land are most readily received in Canada, and other British colonies. Many more domestic servants are required than ever apply. For artisans of all kinds there is a limited and varying demand. Clerks, professional men, and those ac-

customed to mercantile pursuits are not wanted. Contributions will be thankfully received and acknowledged by the Treasurer, 54, Lombard Street, E.C.; or by the Secretary, at the office, Memorial Hall Buildings, Farringdon Street, E.C.

M. BALANSA.—The death of this renowned botanical collector is announced. M. BALANSA had travelled widely in Asia Minor, South America, New Caledonia, and at last met his fate in Tonquin. M. BALANSA's collections are esteemed by botanists for their general excellence, and the care with which they were prepared.

THE ROCK GARDEN AT KEW.—The *Revue Horticole* for March 16, contains an appreciative notice with plans and good illustrations, of the rock garden at Kew, certainly one of the most delightful and interesting features of our noble garden.

HOW TO GAIN SPACE.—Seeds of *Cocos Weddeliana*, in small pots, are sunk in a bed of sand, which is spread over the stages of the greenhouse, and then covered with another layer about 3 inches deep, on which are stood small pots containing cuttings of *Araucaria excelsa*, each covered with a bell-glass. When these cuttings have rooted, they are taken away, as is also the sand which covers the seeds of the *Cocos*, which by this time have germinated, and are just ready to be brought to the light. This ingenious plan is pursued in the houses of MM. DE SMET FRÈRES at Ledeborg, near Ghent.

BRABEA ROEZLI.—The only specimen of this plant which exists in Belgium is growing in the houses of MM. DESMET FRÈRES, and has about twenty leaves.

MR. W. J. GRANT.—The friends of this gentleman will be glad to know that he is making satisfactory progress towards recovery, after the very serious accident which befel him on December 3 last.

THE HISTORY OF KEW GARDENS.—An authentic history of Kew Gardens has been so long wanted, that its appearance in any form is a matter for which we cannot be too thankful; but it has seemed to me, and doubtless to many others, that it ought to be sent forth into the world in, at all events, a decent dress. This is not the case with Mr. THISELTON-DYER's exceedingly valuable *Historical Account of Kew to 1841*, which is not provided with any dress at all, and with not so much as a title-page. Those who care anything for the subject, would be glad to pay a few shillings for a book of so much interest, and of such permanent value. It would then take its proper place on one's bookshelf, and not be relegated to the inferno of miscellaneous pamphlets, which have a tantalising and temper-trying habit of getting lost or mislaid, which is pretty much the same thing. The form of Mr. THISELTON-DYER's pamphlet is no doubt due to the inexorable requirements of governmental red-tapeism. As, however, we are at present compelled to accept the great variety of out-of-the-way information in its pamphlet form, perhaps you will kindly allow me to point out a few additional facts which I have come across in my rambles among old books. In the first place, Mr. THISELTON-DYER does not seem to know of an interesting little book entitled *A Description of the Gardens and Buildings at Kew*, to which is added a *Short Account of the Principal Gardens in and about Richmond and Kew*, which is undated, but was printed at, and sold by, P. NONNAR, Brentford, about the year 1760. There are two copies in the British Museum, one of which is an exact reprint issued a few years—perhaps ten—after the earlier one. This little book is illustrated with eight good engravings "in perspective," arranged as follows:—(1), The Palace from the Lawn; (2), The Menageries and Pavilion; (3), The Aviary and Flower-garden; Lake Island; (4), Temple of *Æolus*, Bellona, and the House of Confucius; (5), The Wilderness, Alhambra, Pagoda, and Mosque; (6), Lake and Island seen from the Lawn, the Bridge, Temple of Victory, *Arethusa*, and Pagoda; (7), North Ruin;

and (8), South View of the Ruin. The authorship of the book is now unknown, but it was evidently written by one who knew the gardens well, and it is very likely that HORNE TOOKE if he did not actually write it, had something to do with it. As regards the fine view, to which Mr. THISELTON-DYER refers, of a portion of Kew Gardens, which occurs in HORNE TOOKE's *Petition of an Englishman* (1765), and of which view a slightly-altered copy appeared in the first number—May, 1767—of the *Political Register*, a reference to the *Public Advertiser* would have obviated the necessity for repeating the *Political Register's* wrongly-quoted allusions. "Anti-Sejanus" was one of those political ranters with unreasoning animosities to which every period gives birth. He was a frequent contributor to the *Public Advertiser*, and was in his best "form" when denouncing some real or imaginary abuse. In that Journal for August 3, 1765, he brought a charge against Lord BUTE of erecting palaces, &c., out of the public moneys. A reply to his aspersions appeared in the same newspaper for August 26, 1765, by a correspondent who signed himself "J. J." In this instance, as in so many others, the Earl of BUTE was most unfortunate in his advocates, who, it seems to me, did him much more harm than many of his most violent assailants. It may be mentioned that this letter of "J. J." with those of "Anti-Sejanus," and of many other writers, were reprinted in book-form, in two volumes, under the title of *A New Collection of Interesting Letters and Papers, Selected out of the Public Prints, from the Accession of his present Majesty to May, 1767*. Mr. THISELTON-DYER's copy of the *Political Register* is apparently a mutilated one, for he says "the second initial [of the letter signed 'J. J.'] is lost, but it may be conjectured that the writer was JOHN HAYFIELD, who was a protégé of Lord BUTE's." In my copy of this periodical the second initial is there plainly enough, and so it is in the original quarter—the *Public Advertiser* of August 26, 1765; so that, if initials go for anything, the letter was not written by JOHN HAYFIELD. The points I have touched upon appeared to me to possess a certain amount of interest, and therefore worthy of being recorded in connection with Mr. THISELTON-DYER's valuable "account" of the garden. W. Roberts.

INJURY BY FROST TO FRUIT TREES.—Mr. HANSNERE, the gardener at Beaumont Park, Loughboro', Leicestershire, sends us the following:—"I have enclosed a few shoots of Pears, Plums, and Apricots for you to kindly examine, and note the effects of the severe frost on the bloom and wood-buds. These were taken from the central parts of well-established wall trees 14 feet in height. We had on February 17, 37° of frost, or 5° below zero, the readings being taken from four thermometers, and all were exactly alike. I have never before experienced anything like it before. I should be glad to hear if any other readers of your paper have similar experience." [The buds were in all cases dead or dying.]

ARISTOLOCHIA CLYPEATA.*

The drawing from which the cut, fig. 61, was taken, was sent us by a continental correspondent, whose letter we have unfortunately mislaid, under the name of A. Duchartrei, and indeed the two plants are very similar in foliage. The flowers are, however, widely different, though belonging to the same section. *A. clypeata* is one of the most handsome of a handsome group, but one which does not find favour, probably because of the offensive odour exhaled from the flowers, and partly because their subtle and subdued coloration does not commend itself to a generation accustomed to crude tints and magenta dyes. The present flower, the form of which is sufficiently indicated in our illustration, has a yellowish-white or cream-coloured ground, thickly beset with arborescent purple spots. A large elliptical black blotch immediately over the tube is

* *A. clypeata*, Loudon and André, *Illustr. Horticolæ*, 1870 t. 40.

a characteristic feature of the flower, and serves as a beacon to attract insects. The flower-tube is lined with white hairs pointing downwards, so that while entrance is easy, exit is difficult. The insect thus trapped scatters the pollen on the stigma in its efforts to escape, and thus effects its fertilisation. Some insects, it is clear, must escape, else they could not be pollen-carriers; others remain prisoners, and meet a miserable ending in the tube of the flower.

FOREIGN CORRESPONDENCE.

A LARGE AMERICAN NURSERY.

ALLOW me to make a few remarks concerning one of the most extensive nursery and florist's businesses in the world, viz., that carried on by Mr. John Lewis Childs at Floral Park, New York. Floral Park is one enormous garden and park, laid out with great taste, and is situated about 12 miles from the cities of New York and Brooklyn, in the richest and most fertile part of Long Island, having the L.J.R. Railway running through the gardens, and Floral Park station, where the two main buildings are situated, with thirty trains daily running to and from New York City and Brooklyn. The park is about 9 acres of ground in extent. Mr. Childs has, bordering on the railroad, 150 acres, all covered with the leading kinds of seeds, bulbs, fruit, &c. The *Gladiolus*, the largest stock of the kind in the world, will this summer cover 50 acres. The greenhouses, which are in most cases 200 feet in length and 40 feet wide, cover several acres of ground. More than 200 men are employed in the months of March, April, and May. The establishment is worked to its full capacity most of this time both by night and day.

Mr. J. L. Childs, besides being a nurseryman, is the editor and publisher of the *Mayflower*, a periodical appearing monthly, which has a circulation of over 250,000 copies. His catalogues this year number 400,000, requiring 140 tons of paper, and worth, when printed, 35,000 dollars. The covers, coloured plates, and engravings cost more than 29,000 dollars; add to these items the cost of postage, 5 cents per copy = 20,000 dollars, and there is the large total of 84,000 dollars.

THE WINTER AND THE ROSES.

It cannot be so much the frost as the changes in the weather, which have been so sudden, going from one extreme to another, that have injured our Roses, many of which are hard hit, and probably not a few dead; but the full extent of the mischief done can as yet scarcely be estimated, and will only be apparent when they ought to begin to grow, and when, I fear, many of the Teas will be found to have perished. Some of this state of things is, no doubt, owing to the immature condition of the wood, which was far from ripe. It may be that Teas which now show little signs of life will break from the base, if own-root plants, as they often do, and it will be well to defer the pruning to as late a period as possible. J. S.

BIARRITZ.

THOSE who came to Biarritz last January expecting to find the first three months of the year all sunshine have been much disappointed, though their disappointment has been somewhat modified by reading the daily reports of the weather in England; rain and wind we have had here in plenty, but no snow, and not much frost, and the daily temperature, both highest and lowest, has generally been 10° above that of London. When I left Cheshire on January 18 there was 1 foot of snow lying in England; but here on the 20th, and for two or three days after, we had weather which would have done credit to an English May; butterflies were flying about in the town, lizard hunting insects about the walls, and standard Camellias in full flower in the villa gardens. Since that time we have not been favoured with more than two or three such days in each week; and

excursions are planned only to be put off, as there have rarely been two fine days together.

The country here can hardly be called pretty, excepting the view of the Spanish coast line of mountains, and the distant high Pyrenees in their white winter dress. To the north we soon get into the monotonous sand dunes covered with Pinaster, all with a slice of bark cut off to collect the turpentine. These woods reach with little intermission nearly to Bordeaux. Southwards the country is hilly; the hills, rising with steep slopes to 300 or 400 feet, have along the intervening hollows deep gullies, and streams giving evidence of frequent flooding. The rainfall is, in fact, two or three times that of London, and as the soil is mostly alluvial clay, mixed with drift, walks across country are not to be accomplished in winter without braving plenty of mud. But besides this, though more than half the area of these hills is unenclosed and uncultivated waste, there are no footpaths from village to village; the lanes follow the contour of the steep hills, and when passable, generally end abruptly in a homestead with two or three barking dogs, and a peasant proprietor, who would resent his fence being surmounted, though there is no other way of getting through. These fences, moreover, are steep banks, mostly topped with Gorse, and bounded by a deep ditch. You cannot take a line in any direction without coming upon these unsightly little farms; and you are further interrupted by coppice-woods, often of great extent, the growth being very thick, and containing a large proportion of thorny Robinia. It is better, therefore, to keep the high road—those dull French roads, lined with shorn Planes and Poplars—and to make such *détours* as appearances may invite you to try.

We are taking a walk of this kind about the middle of February, and noticing the flora of the district. Ferns and moss are abundant on the banks, especially *Asplenium trichomanes* and *A. adiantum nigrum*, *Scolopendrium*, and varieties of *Polystichum*. The low boggy ground is full of large plants of *Osmunda regalis*, on which the dry leaves remain. The unenclosed hill-sides are mostly covered with Heather and short Gorse, which is mown every two or three years, perhaps in the hope of improving what little pasturage there is. I have seen no kind of winter-flowering Heath, but recognise *Erica vagans* and *Menziesia polifolia* in abundance. English spring flowers there are in plenty, but far earlier than we know them at home. The wet ground is full of *Cardamine pratensis*, out from January onwards; the "Palm" or sallow catkins are all yellow at the same season. The lane banks are as full of *Primroses* as they are in Devonshire; amongst these the pure white variety is common. I sometimes observe a red one in the bunches, thousands of which are sold in the streets to English visitors; and I am told that these, too, are found wild, which is likely enough.

The common English Daisy is in all profusion wherever there is short grass, and many other flowers and weeds remind us of home; but mixed with them is a good deal that is absent or rare in England. The narrow-leaved *Pulmonaria* abounds everywhere, both on banks and in woods, the flowers being very rich in colour. Here and there through winter, the little blue stars of *Lithospermum prostratum* appear amongst the yellow of the Gorse; it is abundant on the commons here, but is not at its best till April. The hedges are commonly festooned with the evergreen *Smilax aspera*, and on the stony banks *Rubia perigrina* abounds. Both woods and roadsides are overgrown with miniature forests of *Ruscus aculeatus*, which often has the monopoly of a large space; it still retains its large scarlet berries. The Wood-Anemone does not seem very abundant here, but it is common near Bayonne, where a large proportion of the plants belong to the blue-flowered variety, the *A. Robinsoniana* of gardens. Dogtooth Violets and Hepaticas occur sparingly, but not very near the town. The Barfield Oxlip, too, grows along some of the water-courses, but the Cowslip is absent. *Fritillaria meleagris* is local. There is an island in the Adour nearly covered every spring-tide, four miles above Bayonne, on which it grows almost like

a planted crop. I found it in full flower there early in February; roots I had from there several years ago, continue to flower in my garden in Cheshire more than a month earlier than others collected for me near Reading. Amongst many thousands I could not find one with white flowers.

Everywhere, on the road-side banks, in company with Dog-Violets, and wild and barren Strawberries (*F. vesca* and *F. fragariastrum*), is a pretty creeping Potentilla, I think called by native botanists *P. splendens*; it has very pure white flowers, and white anthers, by which it attracts notice amongst the Strawberry flowers. A little Oxalis, called, I think, *O. corniculata*, is also very plentiful, flowering all the year round. Then there is a *Ranunculus*, with flat, three-lobed, horizontal root leaves, gaily marbled with red and white. I am told it is *R. nemorosus*. It might be worth cultivating, if it would retain its gay character in a garden. *Trichonema Bulbocodium* must not be omitted—it is abundant on all the sandy downs throughout the district, a white variety being also plentiful; it makes the racecourse here bright on sunny days, from January onwards. But perhaps the most interesting flower in the district is the parasitic *Lathraea clandestina*, common where Alders grow in stiff, wet soil; it began to show itself before the beginning of March, and abounds along the valley of the Nive. It is said to be satisfied with Poplars, or one or two other trees, as hosts, but all I have seen were on Alder.

Besides the plants I have mentioned, there are others which, though not in flower, are so easily recognised, and so common in the district, that I may speak of them; one is *Asphodelus albus* (*ramosus* var.). This is so universally abundant both in woods and on waste lands, pushing up its leaves with the new year, that one gets weary of the sight of it. English visitors have an idea that Daffodils, of which I hope to speak another day, are common near here, and in spite of my assurance that they will find none, go out to hunt for them; they come back and report that they have found woods full of leaves of Giant Daffodils, not yet in flower, being, of course, *Asphodels*. The predominant shrub of all roadsides, lanes, commons, and sand-dunes, growing almost in the streets of Biarritz, is *Cistus salviifolius*. It grows largest in the sea-sand of the Fir woods, the trees not being so close as to exclude the sun. I have seen broad masses of it there nearly 3 feet high, but on the common it scarcely reaches 1 foot. It does not flower till May. This and *C. alcyonoides*, which also grows close to Biarritz, but is more local, are the only rock-Roses of the district. *Daphne Cneorum* and *D. Laureola* are also plentiful; the one close to the town on wet commons to come out in April, the other, already densely covered with flowers, in woods. Above the esplanade a facing wall of loose stones, the only place on which I have yet observed green frogs, is green with *Parietaria*, *Cithrum maritimum*, *Frankenia laevis*, and a very near-growing species of *Statice*. I think the same which grows on the rocks of Llandudno; Bentham names it *Souriculaefolia*. There are two or three rare sand plants which I have not noticed elsewhere, but which I cannot mistake, and which are common close to the high water mark near the lighthouse. One is *Dianthus gallicus*, a very local species; another, *Alyssum montanum*. Both of these I have tried in vain to cultivate in Cheshire. A third is *Helichrysum stachas*, *Vinca major* and *V. minor*, and the foetid *Hellebore*. I have got through the more conspicuous of the plants which are visible here. The *Narcissus* tribe I have not included, as my investigations about them are as yet by no means complete. C. Wolley Dod.

NURSERY NOTES.

MESSRS. CANNEL & SONS, SWANLEY.

AMONG English nurseries, the well-known establishment of Messrs. H. Cannell & Sons, at Swanley, Kent, occupies a prominent position, and it has been

so frequently noticed in these pages that further reference seems almost superfluous. Such, however, is not the case. There is always something of interest to be seen at Swanley, even in winter; and a recent visit there not only revealed the fact that Messrs. Cannell & Sons continue, in the face of keen competition, to maintain the high reputation which they have always held, as regards novelties in flowers, but that they are making rapid strides towards further improvements in various subjects, where such are really possible.

Tuberous-rooted Begonias afford an example of what is being done. These have for years been a special feature at Swanley, but hitherto they have been regarded as summer and autumn-flowering plants only. A break, however, has been made, and at the present time a batch of Tuberous Begonias in full

and produces large bold trusses of delicately-tinted flowers. King of the Purples has a decided bluish-purple tint when seen in a good light, and it is said to be a very free-bloomer. A new colour, a rose, shaded magenta and white eye, may be found in Cannell's Favourite, a capital variety for cut purposes; and Lord Rosebery, bright crimson, is also deserving of notice. The above varieties are singles, and specially adapted for winter flowering. A batch of a French spotted or decorative Pelargonium named Venus, a fine white, was in full flower, as also was a new semi-double, named fimbriata alba, of the same type.

The Cinerarias, too, were making a good show, and are well worth a visit. The plants were very compact in habit, and carrying fine heads of bloom. The flowers were noteworthy for their size, as well

seed farm is situated, numerous glass structures are now being built, the extensive ranges at Swanley being now found inadequate for the rapidly increasing business. Thousands of annuals for seed purposes are grown at the Eynesford establishment, as also are many Tea Roses in pots. Hardy fruit trees, Roses, and the production of vegetable seed also receive special attention at this branch establishment.

THE GRIMSTON PLANT PROTECTOR (Fig. 62).

Most gardeners have to use protection in one form or the other for the various crops in the kitchen garden, either in spring, autumn, or winter. The old handlight is well known, and the useful *cloches* or bell-glasses less so—the former is expensive to buy and keep intact, and the latter very liable to be broken, though both when used intelligently are exceedingly useful appliances.

In the Grimston Plant Protector we have a simple, inexpensive form, equally adapted to cover rows of Peas, Beans, Lettuce, Strawberries, Violets, Primulas, Tulips, and many other things which we may want to preserve from injury by frost or rain, or to hasten the growth.

Mr. W. Denning, writing in our columns on June 15, 1872, from Grimston Park, Tadcaster, where he was then gardener, says that they forward crops about five weeks in the spring and early summer, and preserve them for about a like period in the autumn. By their use he was enabled to supply good, firm, well-blanching Cos Lettuce by the end of February in that year. He also found them useful for Potatoes, Carrots, French Beans, Turnips, Radishes, Parsley, Mint, early Celery, &c.—in fact, everything that comes early in the season from warmer climes than ours. These appliances are made usually in 8-foot lengths, costing about 10s. each complete, and they require no putty or glazing in the ordinary sense of the term, and are readily ventilated, the ventilation being regulated in accordance with the weather. They may be made use of singly, or several put end to end. The ends, whether of a single protector, or several together, are closed with pieces of board, over which the glass is made to slide. Plants under them require plenty of water when the sun has gained power in April and May, and later, and this is readily afforded by tilting the protector.

HOME CORRESPONDENCE.

GREENHOUSE BLINDS.—Having recently erected a 2-span greenhouse, about 40 feet in length, which is so far advanced that little remains to be done but to make some arrangement for shading in sunny weather, I shall be much obliged if any of your experienced contributors can advise me on this point. On an older, but smaller house, I have for many years used light canvas, stretched on two poles, one being fixed, the other serving to roll up the blind on. This plan has two rather serious disadvantages. One is, that in order to protect the glass, and prevent constant breakage, a stout spline of wood is required to be fixed across the lower end of the rafters, which is an objectionable feature. The other is, perhaps, less serious—unless the path in front of the house be very narrow; the ends of the poles project beyond the eaves, and, under certain circumstances, are a nuisance. They must be of a fair length, or a long pole cannot be easily manipulated. Where the ridge of the house is surmounted by a crest, it is next to impossible to adopt the old horizontal roller, which is pulled up by a cord into a box at the summit. I take it for granted that no one but a market gardener will think of distemping the inside of his glass. The disadvantages of this are too obvious to require stating. Some two or three years since, something was said and written concerning a stading made of thin laths or splines. I think of German origin. Can any of your correspondents report favourably of this system, or give any practical details about it? The question of shading is one which concerns so many amateur horticulturists, and others, that I trust I shall be

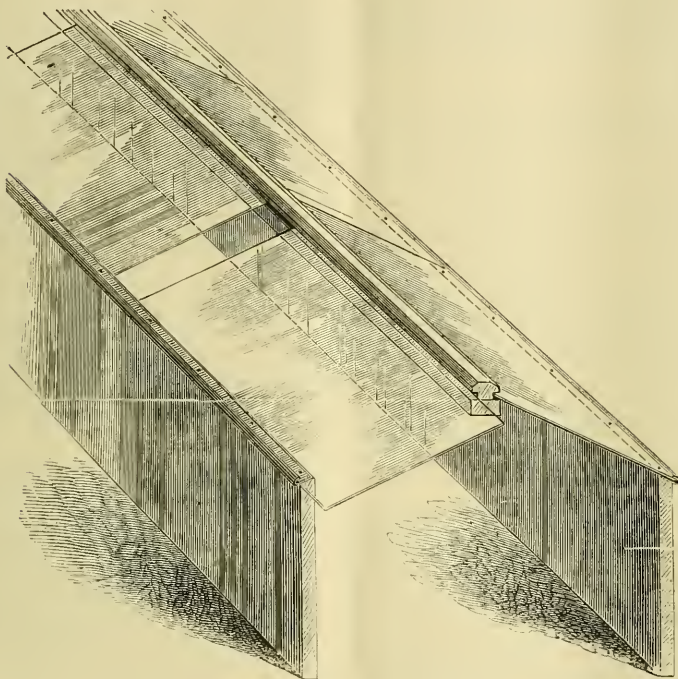


FIG. 62.—THE GRIMSTON PLANT PROTECTOR.

bloom forms a striking feature at Swanley. The plants, at the time of our visit, were growing vigorously in 5-inch pots, and were bearing blooms $5\frac{1}{2}$ inches in diameter. All those opened were of the single-flowered type, and of various colours. The tubers were potted early in the year, and had been brought on in a brisk heat.

Another specialty at Swanley just now is the house of zonal Pelargoniums. This is a span-roofed structure of the ordinary type, but it presents a very gay appearance. The plants are noticeable for their dwarf habit, and the trusses and pips of bloom for their enormous size. Many of the latter were fully $2\frac{1}{2}$ inches in diameter, and of good form and substance. Numerous varieties, all of which are good, are grown, but pressure on our space precludes mentioning only a few of the best of the recently-introduced kinds. For brilliancy, a bright scarlet, named *Brilliantissima*, was most conspicuous; while among the salmones, Mrs. Robert Cannell will be a certain favourite. The last-named is very dwarf in habit,

as brilliancy and variety of colour. Named varieties of Cinerarias are a feature here, and affords proof of the care and attention taken in selecting and keeping the various kinds true. Improvements in this direction are made every year, and the result is, than an extensive list of capital varieties are now to be seen at Swanley. A few good kinds are, Baron Schroder, magenta colour, white ring around dark centre; Emperor William, a rich bluish shade, rose tinted at base; Mechanical, magenta; and the better known March Past. For general decorative purposes, the ordinary seedlings are exceedingly useful, the plants being of good habit, and well flowered.

Numerous other things are made a specialty at Swanley, and amongst them the house of winter-flowering Begonias is just now worthy of notice. This includes all the best known varieties, and conspicuous among the hundreds of plants grown, we noticed a variety named *President des Bonnelis*, a rich bronzy-leaved kind, with reddish flowers.

At Eynesford, where Messrs. Cannell's extensive

exposed for troubling you with these up to date queries. *T. W., Ipswich.*

PLANTING POTATOS.—The present is a seasonable time to discuss the best various methods of Potato culture. Some growers prefer to use farmyard manure, and others object to it, but the finest crop that I remember having observed was one of Magnum Bonum, which produced ten tons of tubers to the acre. They were planted in the ordinary field manure on land that had been well worked, and which was in a good state of tilth. A heavy dressing of partly-decayed farmyard manure, mainly that from the stables, was spread in the trenches struck out by the plough, and on this manure the sets were laid, 15 to 18 inches apart, and 3 feet space was afforded between the rows. The haulm grew nearly a yard high, the plants just touching each other across the furrows. It was a sight to be remembered, so evenly was the growth of the plants disposed. For garden cultivation, where the soil is generally richer, I prefer to dig in the manure in the autumn, turning up the soil as roughly as possible. At the end of March, or the first week in April, we get the bulk of our varieties planted, but afford no further manuring, merely dig over the land again, breaking the clods so that the roots may in every direction run in easily. By this method the ground is put into good tilth in spite of its being rather of a heavy nature. Where some persons make a mistake in growing Potatoes is by allowing too many tubers to grow from one tuber, by which means they crowd one another, and the stems have not sufficient space for their full development. One strong growth is better than half a dozen weaker ones. Two shoots is a fair number to leave when the tubers are looked over and selected for planting. If any should by chance get missed, the best plan is to pull up some of them as soon as they appear above the soil. *E. M.*

CAMELIAS.—Were it not for Messrs. William Paul & Son, of Waltham Cross, but few blooms of Camellias would be seen at the meetings of the Royal Horticultural Society; and an enumeration of a few of the leading varieties shown comes appropriately after the article by "J. C." on p. 342. If some of the blooms were small, they were yet fresh and bright, and any lack of size could be accounted for largely on the ground that the blooms were not fully expanded. Of dark-coloured varieties, *Machiana* was the premier, several blooms being shown of large size, and beautifully imbricated. *Iubricata* is of a good shade of scarlet, and its white form was equally attractive; indeed, the white varieties abounded, among them, *Montirani*, *Princess Charlotte*, with its beautiful shell petals; *Centifolia*, a fine white, handsomely reflexed; and the old *Alba Plena*. *Reine des Fleurs* was of a pale salmon-red colour, though it is generally regarded as being of a much deeper hue, from vermillion to a deep rich crimson. *L'Amour*, pale pinkish-red, is a very fine variety; *Comtesse de Derby*, soft pink, flushed with red; *Adeleide Benvenuto*, delicate blush; *Comtesse d'Hainault*, delicate pink, margined white, very pleasing indeed; and the old *Donkelaar*, still one of the freest, made up a select collection. The latter is a good grower, and though the leaves are somewhat small, the flowers are large, and they are produced in great profusion. As a conservatory specimen, it has few superiors; the flowers when in their best form are of a warm rosy-crimson colour, handsomely mottled and flaked with white. There is reason to fear the *Camellia* is just now passing through a period of something like neglect, and it is well public attention should be called to this valuable greenhouse evergreen shrub by such exhibitions as that above alluded to. *R. D.*

CULTURE OF ORCHIDS.—I thank "E. H. W." for his letter on p. 364 of the *Gardeners' Chronicle*, though I have long ago learnt his lesson, that "to make each plant happy in its own way" is the secret of success with Orchids, as with alpinists, and with all other plants which in Nature affect stations with variety of soil, aspect, and climate. The point I had in my mind in my previous letter was, rather, that once having made a plant happy, amateurs like myself should be shy to alter their treatment on the strength of *dicta*, however authoritative, since it would seem that different growers produce equal results by the most diverse modes of treatment. As long as a plant is not happy, experiment, and experiment, and experiment. I found, for instance, some three years ago, that my bushes with a southern aspect were killing by inches my *Odontoglossums* of the crispum type, in spite of shading, damping, and all else

I could do. At last I removed them for the summer months into a cold frame facing north, where they began to form healthy growths, and after a second summer, I put a 2-inch pipe round the pit, to exclude frost, and the plants have just wintered in the same pit. Of course, after such plants have been brought to death's door, as mine were, much patience is necessary before I can speak of success. I also last summer transferred to this pit all my *Sophronitis*, just as "E. H. W." recommends. When I heated the pit, I put iron rods along close to the glass, from which the plants are suspended by copper wires, completely circumventing the slugs which used to do damage. I do not think it is usually known that slugs have a regular feeding-time (10.30 p.m. here in Rugby), at which hour I nearly always visit my houses and look round, especially after I have noticed the trail of a slug in the morning, with the result that I hardly ever fail to find the enemy the same, or, at furthest, the second evening. Perhaps some other amateurs may be ignorant that the flowers of *Catleya aurea* have a remarkable fascination for slugs. Last autumn, the very first night it opened, the flowers were completely ruined by a large slug which I caught in the act the second night. My houses are, of course, very small, or I might have to adopt some other slug trap. *L. C., Rugby.*

MIGNONETTE.—It would be difficult to name any flower more generally appreciated than good Mignonette in mid-winter, and to obtain the desired results, the method I adopt is simple. About the middle of August is the best time for sowing the seed, and a 4½-inch pot is a suitable size for sowing in. These should be carefully crocked, a layer of coarse siftings of soil laid over the crocks, it being very necessary that the drainage be as good as it can be made. Over the siftings, some charred refuse may be put into the pots, as it is a substance that the roots take to, and for filling the rest of the space, good sandy loam should be used. As soon as the seedlings are large enough to handle, thin out all but five of the strongest in each pot, and grow them on in a cold frame, removing the lights entirely on all favourable occasions, until the damp and frost of the autumn are likely to injure them, when they should be removed to a light, airy place, where an equable temperature of about 47° is maintained. Mignonette dislikes a damp, confined air; still, the soil must not be allowed to get dry, as a check from this source is much against the proper development of the flower spikes. *G. B. Claydon, Holbeck.*

POTTING CALANTHES.—As a rather large grower of this class of plants, perhaps you, Sir, will kindly allow me to detail my experience in the culture of Calanthes, as it may interest some of your numerous readers. In potting we use nothing but loam and dried cow-dung, the pots are of a size specially made, being 1 foot in diameter at the top and 9 inches deep; few crocks are used, as I find Calanthes are gross feeders and require plenty of space for their roots. In pots of this size eight bulbs are placed, and they are so arranged that the young growths starting from their bases grow towards the centre of the pot; our Calanthes are grown in a Muscat vinery, where they seem to be at home under the shade of the Vines, for the bulbs of those of the Veitchii type grow from 9 to 15 inches long, and about 2 inches in diameter near the base. Often such bulbs as these produce two spikes each, which grow from 3 to 4 feet long, and are studded with their delightful flowers for the greater part of their length. Manure-water is used freely during the growing season, and a top-dressing of dried sheep-droppings greatly assists the bulbs to swell. *C. H.*

GLADIOLI IN ROSE BEDS.—It matters not whether one grows hybrid perpetuals or Tea Roses, there is always a partial cessation of flowers in the autumn, but by planting some Gladioli amongst the Roses, the beds may be rendered gay at that season, and nowhere else do Gladioli look better or more at home with their surroundings, the tall flower-spikes coming clear above the Rose bushes, which form a suitable setting for them. The Gladioli which I planted last year in this manner were the new hybrids of Lemoine, which are better adapted for the positions named than *G. gandavensis* or *G. brencchleyensis*, being taller and having branching spikes, and the flowers are handsomely blotched, and thinly set on the stems. The corolla are said to be hardy, and on the strength of that statement I had left the whole of them in the soil. I am glad to find, on examining some of them the

other day, that they are quite safe; but being amongst the Tea Roses, the ground was slightly protected by Bracken laid in between the branches and over the tops of the bushes. If these Gladioli should, after further trial, prove quite hardy, they will be largely grown, lifting and storing being thus got rid of. As it will be interesting and of use to know how they have stood in other places, and under what conditions, perhaps some of our many correspondents will kindly report. *J. S.*

REQUESTS TO DOMESTICS.—Under this heading "F. S." writes, on p. 406, in reply to a question raised by "W. P.," as to "Whether a gardener can claim to participate in legacies given to a testator's domestic servants?" I think that there is little doubt but that he may prove his right to the legacy, providing the testator's will states, "domestic servants," or, "all my domestic servants," without any other qualification. As stated by "F. S.," everything turns on the exact wording of the bequest. A few years ago, my then employer died, leaving legacies to servants, worded thus in his will: "One year's wages to all my domestic servants, and servants employed in the stables." In this instance, I applied to the executors' solicitors for payment of the legacy. They replied, "The question is one of considerable difficulty, and we have advised the executors to take the opinion of the judge as to whether gardeners and under-gardeners are entitled to any legacy under the will." Eventually they brought the case before Mr. Justice Stirling, who, looking at the special words in the will, decided against my claim. From his ruling, he implied that had the wording been simply "domestic servants," without the clause relating to the stables, he would at once have decided in my favour. I should advise "W. P." to obtain the exact words relating to this part of the legacy, then he can better determine the strength of his case. *C. H. D.*

NEW PEA, SUPERABUNDANT.—As its name implies, this variety of Marrow Pea is a heavy cropper, and it grows about 2½ feet high. The seeds are of a dark green colour, and of excellent flavour. I observed a good breadth of it at Wem last August, the plants forming broad sturdy brushes, growing from 15 to 18 inches apart, which needed only short sticks to support them. A nice dish of Peas could have been gathered from each plant. It is a seedling of Mr. Eckford's raising, and it will doubtless make its mark. *W. D.*

A TRIO OF PEAS.—I was pleased to read in the *Gardeners' Chronicle* the favourable remarks upon the Peas which I selected as a trio, especially as I know Mr. Markham to be an authority on vegetables. With Peas, as with Peas, it is almost impossible to choose a given number from amongst many good varieties without clashing with the choice of other cultivators, as locality and soil have much influence on these and other vegetable productions. Since my note appeared, a friend writes me that I "made a mistake in preferring William I. to Veitch's Extra Early." Well, perhaps, if I were favoured with the soil of my friend's garden, I might alter my opinion—but as it is, I like Extra Early; but as here grown, side by side, and under the same treatment as that afforded William I., it is harder and a better cropping Pea than its companion, whereas if our soil were a warm one, Extra Early might be the favourite. I have only praise for Autocrat, Mr. Smith's favourite Pea, its constitution, flavour, and bearing properties being alike excellent, and our soil, when it is properly prepared for Peas, admirably suits main crop and late varieties. Criterion, however, whilst possessing the good qualities of Autocrat, continues in good bearing condition much longer, and I choose it for that reason. Like your correspondent, I have no difficulty in procuring peackits. *T. Coomber.*

GLADIOLIUS BRENCHELEYENSIS.—I knew the raiser of this variety, it was Mr. Hooker, of Brencley, near Tonbridge, in Kent, hence the name. It was a chance seedling from Gandavensis, but it was preceded by a variety called Bowiensis, one not so good in colour of flower, size, or length of spike and pose—by which I mean position of flowers on the spike, the tendency of many kinds being to produce their flowers on all sides of the spike instead of in two rows, all facing well to the front, a *sine quid non* from a florist's point of view. Where Bowiensis originated I do not know. Before Mr. Kelway came to the front, the only European raiser of meritorious seedlings was the ex-gardener to the Emperor Napoleon III., Monsierr Souchet. He used a few acres of ground close to

the forest of Fontainebleau as a nursery, and he sent out many superb kinds, whilst his cornus were always large, firm, and free from disease. Some of his first seedlings were distributed in 1863-4. James Veitch, Eurydice, Madame Furtado, Miltou, Meyerbeer, Newton, Molière, Dr. Lindley, and Shakespeare, the last now one of the finest Whites, but, as a rule, too early for exhibition. Souchet found his worst enemy the ver blanc, or larva of the cockchafer, but he also suffered from the ravages of the disease which I have called "chlorosis," by what authority I forget. Without doubt, certain varieties are particularly subject to it; I may say, speaking generally, the white-flowered kinds, and it is more fatal in cold and dry seasons than in moderately wet and growing summers. I have not found that moderate manuring is hurtful, but the dung used should be quite decayed, and should not touch the corn at the time of planting, indeed it is best dug in the autumn before, *Thomas Bunyard, Ashford.*

JOHN RUSKIN STRAWBERRY.—I thank your correspondent heartily for bringing under the notice of your readers an account of my forced Strawberries, every word of which is true; but I may mention that I was particular in penning the paragraph alluded to, that the fruits weighed half an ounce each. I have received quite a number of letters on the matter, casting doubts on my statement that I got 40s. a pound for them, and, in reply, I have referred them to my salesman, Mr. G. Munro, Covent Garden Market. John Ruskin Strawberry is remarkably good all round, being an excellent setter and bearer, and beautifully perfumed, and of fine flavour for the season. *R. Gilbert.*

CORNUS SANGUINEA.—Mention of this plant recently, by Vegabond, with reference to the "blood-red colour of the branches," leads me to ask whether *C. alba* is not intended. This is the plant that makes such a telling effect, and is by far the more worthy of the two of the name "*sanguinea*." *C. alba* has blood-red branches, and white fruit, on account of which the name is given; while *C. sanguinea* is so called by reason of the intensely dark red of the leaves before they fall in autumn; it has dark purple fruit. *R. Irwin Lynch.* [The kind of the young shoots is red. Ed.]

COCKLE PIPPIN APPLE.—I have looked in vain for this delightful Apple in the catalogues issued by Messrs. Bunyard & Co. and Messrs. Rivers & Son, and yet it appeared to me, judging from what I have recently been eating of my own growth, that it well deserves the character given of it in the *Fruit Manual* as "an excellent dessert Apple of the finest quality." Its proper name appears to be Cackle's Pippin, it having been raised by a person of the name of Cackle, at Godstone, in Surrey, and it has become somewhat extensively grown in this and the adjoining county—Sussex. Perhaps the warmth of the southern counties suits it better than colder and moister localities. *R. D.*

CLUB IN BRUSSELS SPROUTS.—When recently at Boune-mouth, my attention was called to a piece of Brussels Sprouts. It is said that in this neighbourhood the Cabbage tribe are greatly subject to club, the Brussels Sprouts especially. In the case of the piece I saw, the young plants were put out in trenches about 4 inches in depth. Then comes the time when club sets in, the plants soon showing evidence of it. The trenches are at once filled with soil, which is practically earthing-up the plants. The result is, the bottom of the stalk throws out a number of young roots, and a new lease of life is given to them, they become vigorous, and bear excellent crops. One of the plants was lifted for my inspection, and I found all the original roots and base of the stalk had rotted away; but the new roots had fastened upon the soil, and a saved and useful crop rewarded the cultivator. *R. D.*

SCARLET BERRIED AND OTHER ELDERS FOR SUBTROPICAL GARDENING.—Primarily, a tree which grows as freely as the common Elder (*Sambucus nigra*), having large pinnate leaves, with deeply serrated pinnae, forming a splendid appearance when covered with panicles of Grape-like fruit, brilliant scarlet in colour, is deserving of general culture. Such is *Sambucus racemosa*, yet how little and seldom seen in gardens. An old writer suggested budding it on standard stems of the common kind. Apart from the ornamental

character of this species, and of the variegated forms of *Sambucus nigra*, when grown as ornamental shrubs or trees, I suggest their usefulness as ornamental foliage plants in connection with summer subtropical gardening. The fact that *S. racemosa* is much grown in the gardens of Paris goes far to support the idea. As an inhabitant of the uplands of Siberia, as well as the south of Europe, it is necessarily fairly hardy, whilst the free-rooting characteristics of inserted cuttings or truncheons assure ready propagation. The stately contour of young plants of *S. racemosa*, and the ornamental character of the leaves, especially of *S. racemosa laciniata*, constitute them rivals to *Aralias*, *Grevilleas*, &c. In the gold and silver-leaved varieties of the ordinary *S. nigra*, the former more particularly, a volume of colour can be produced early in the spring and throughout the summer, second to none amongst free-growing foliage plants, suitable for hands in large beds, &c. What I suggest is, that plants of suitable sizes be maintained in pots for this particular purpose, by which means variety in grouping can be easily resorted to each planting season. The *Sambucus* delight in free highly-enriched soil; the work of potting the stock occasionally would, therefore, be a trifling matter, whilst, owing to their proverbial early growth, it would only be necessary to transpose them from the reserve ground out-of-doors, wherein they had been wintered, to the summer quarters, to insure ready and immediate display, along with the many more tender subjects requiring so much more preparation and house-room throughout each long winter. *William Earley.*

ARE AMERICAN APPLES POISONOUS?

I NOTICE that a number of articles have appeared in the English press, stating that American Apples are poisonous because of the arsenic used in fighting the Codlin moth. While it might seem probable that we are willing to poison our friends in England, we should have some hesitation in poisoning ourselves, for everyone eats the very same kinds of Apples which we ship to England, and no one ever thinks of them being poisonous! In fact, there has never been a case of poisoning reported from the eating of sprayed Apples. The following statements appeared in an English paper some time ago, and as most of them are untrue, I cannot refrain from calling attention to them. There is no doubt an uneasy feeling about American Apples, arising from a lack of knowledge of the facts. Among other things, the article in question says that "it is admitted that the American Apple-growers are compelled to depend upon the use of arsenic in solution as an insecticide in their orchards, that this insecticide is used upon the fruit itself until it is completely saturated, that it is applied to the fruit several times before it arrives at maturity, and, if the weather continues dry, the arsenic clings to the fruit, and what is not absorbed through the skin remains on it, forming a fine coating, which most evidently be detrimental to health, especially where the fruit is consumed to any extent."

Instead of being used until the fruit is "saturated," the Paris Green or London Purple is never used more than twice, and often only once; and when used twice, the last application is made when the Apples are smaller than the end of one's thumb. From three to four months intervene between this last spraying and the harvesting of winter fruit, and every trace of arsenic is washed away before the Apples are half grown. Repeated chemical analyses have failed to detect any poison on the edible fruit; and the fact that every American eats Apples in profusion without thought of any poisonous qualities, and absolutely without injurious results, is sufficient proof that the above insinuations are false. The "fine coating" of arsenic, to which the article refers, is nothing more than the wildest fiction.

The article continues as follows:—"The best three sorts of Apples as regards quality that are put upon the English markets are those raised at home and those consigned by the Tasmanian and American growers. Our own take the lead, and the others in

the order assigned them above. Now, if we compare the three together, we find a delicate tint about the American fruit which is not to be found upon either of the others. Again, if the American Apple, before it has been handled in the barrel as it comes first to hand from the vessel, is carefully rubbed with the finger, it will be seen that a fine delicate powder in most cases is removed. This is the arsenic adhering to the skin, and, if the fruit is eaten at all, it should certainly be wiped first with a cloth. We assert that the delicate and unnatural tint referred to is produced by the arsenic which is absorbed through the skin. Medical men inform us that, when arsenic is administered in small doses, it stimulates the action of the skin and gives clearness to the complexion, and it is for these reasons, especially in America, that it has been extensively used by the fairer sex for years."

I shall not dispute the statements as to the relative merits of English, Tasmanian, and American Apples, as that subject is not now under discussion; but all the references to arsenic upon the American fruit are absolutely without foundation. The arsenic is not absorbed into the fruit. *T. H. Bailey, Cornell University, Ithaca, N.Y.* [There has been no excess of arsenical poisoning in this country, in spite of the vast quantities of Apples received from America. We believe the danger to be mythical. Ed.]

SCOTLAND.

THE HORTICULTURE CLASS IN THE HERIOT-WATT COLLEGE, EDINBURGH.

This class, which has met every Friday evening during the present session, has just closed. The lecturer, Dr. Wilson, in concluding the course, made the following remarks:—"You are aware that recently in the gardening press, notably the *Gardeners' Chronicle*, the subject of the education of gardeners has been discussed. The present movement is for good, and good only; hence, all who have decried it must, by whatever motive inspired, be doing the profession disservice. Some of the correspondents have shown a lamentable want of sympathy with their brethren, while others have shown much ignorance of the wants of the rising race of gardeners. The proposition largely debated is this, that it is impossible to teach horticulture by lectures. Whoever raised this absurd proposition, set up the proverbial man of straw, in want of something better to belabour. Seeing that nobody ever dreamed of attempting the feat, there was no cause for alarm. Nevertheless, for the sake of precision, it may be asked, What operation in gardening could not be explained in a lecture-room so as to enable the uninitiated to understand and practice it? Are not gardeners constantly beholden to the silent teachers, books, for their knowledge of new and improved methods? The shades of the great departed have been invoked to testify that it is lost time to enquire into principles, and that we dare not hope to make advancement beyond their standard. We have been told that scholarship is of little account, when a man may be a very good gardener although hardly able to write his own name. We have been implored to keep the faculties of our young men dull, in case they should be made to realise the horrors of a small salary. We have been informed that if gardeners attend to their practical duties, they have no time to study. It is certain that as time goes on we shall hear less and less of this twaddle, which is simply ignored by all earnest workers and thinkers."

"The editor of *Garden and Forest*, New York, thus puts the matter:—'Of course, the way to learn an art is to practise it rather than to read about it. But, if in addition to this practice the pupil is judiciously instructed in some of the principles of the sciences related to the art, he ought to be a more intelligent practitioner and a much broader man.' Actuated by a similar belief, it has been my proud privilege to conduct this class for three sessions."

We have cordially to thank Mr. A. D. Mackenzie, of Messrs. Mackenzie & Moncur; Mr. A. Mackenzie, of the same firm; and Messrs. James Wilson, jun., and T. Berwick, of Greenside Nursery, St. Andrews, for special lectures."

GLASGOW SPRING SHOW.

Wednesday, March 30.—Though competition was by no means strong at this popular exhibition, nevertheless a fine floral display was observed, nurserymen and florists coming strongly to the front with long tables of foliage and flowering plants of a varied and attractive character. Mr. Meston, gardener at Murchie House, was 1st, with a fine display, on a square table, his collection being rich in *Dendrobium Wardianum*, *D. nobile*, *Anthurium*, *Palme*, and *Crotons*. Mr. Millar, Castlemilk Gardens, was 2nd, with fine *Dentizias*, *Crotons*, *Dracenas*, *Amaryllis*, *Azaleas*, and *Dendrobiums*.

A fine table came from Mr. Wilson, Bantaskin (gardener, Mr. Mitchell), for exhibition only, consisting of some finely grown *Orchids*, *Cattleya Triane*, *C. Mendeli*, *Vanda tricolor*, *Odontoglossum crispum*, *Cypripedium* in variety, *Anthurium*, &c. This was a very creditable table, that was much admired by the visitors.

Palms were in great profusion, large in size and in excellent health; a long table of them was edged with *Cinerarias* and *Spiras*.

A fine attractive exhibit were the round baskets filled with flowering plants; 1st, Mr. Millar, his finest flowers being *Amaryllis*, *Spiras*, *Tulips*, *Primulas*, *Hyacinths*, &c., interspersed with *Ferns* and other foliage plants; 2nd, Mr. Muir, gardener to Mr. Anderson, Hazelden, Mearns. These exhibits would have been much improved if the baskets had been covered with *Panicum quadriflorum*, *Ficus repens*, or some other choice plants of pendent habit. Long tables were loaded by Messrs. Austin & McAslin, and Smith & Simons with a brilliant display of *Azaleas*, *Rhododendrons*, other shrubs in great variety; finely-grown bulbs, *Tulips*, *Hyacinths*, and *Daffodils*, especially were largely represented. On Messrs. Smith & Simons' table was a fine collection of new hybrid *Daffodils*, conspicuous among which were *Golden Spur*, *Courtesy of Annesley Maximus*, very fine, of deep orange colour; *Golden Plover*, *Henry Irving*, *Cervantes*, and others which created much interest.

Orchids, in specimens of three, were really of great merit—the 1st prize being justly awarded to Mr. H. Reynard, gr. to the Rev. M. Paterson, his *Dendrobium thysiflorum*, with nine finely-developed racemes, and others opening, was in fine health and of much excellence. *Dendrobium nobile pendulum* and *Cattleya Mendeli* were also in fine form; 2nd prize, Mr. Reid, gr. to W. Campbell, Esq., *Williamswood*, who had *Dendrobiums nobile* and *Wardianum* finely flowered with large spikes.

In the collection of six specimen stove and greenhouse plants were huge *Gleichenias*, in grand health.

Tulips were largely represented, in pans of about three dozen bulbs in each; also *Crocus*, in great variety, *Polyanthus*, and *Daffodils*.

Hyacinths, arranged on a table about 50 feet long, had many admirers, and were, on the whole, good. Mr. Millar was 1st for twelve, and he also carried off the 1st prize for six.

Bonquets were few; the 1st prize was awarded to Mr. Murray.

Sprays and *buttonholes* were numerous and good.

Mr. Peter McKenzie, florist, &c., exhibited wreaths and crosses in great numbers, also *bouquets*, forming a very attractive exhibit.

The vegetables consisted of a solitary collection of eight sorts, in which was a fine dish of forced *Ash-leaved Potatoes*, good *Celery*, *Rhubarb*, and *French Beans*. Fruit was represented by some fine *Strawberries*, *Pines*, and a few *Apples* and *Pears*, by Mr. McKenzie, florist. M. T.

SOCIETIES.

ROYAL HORTICULTURAL. Scientific Committee.

MARCH 22.—Present: W. Blandford, Esq., in the chair; Rev. W. Wilks, Mr. Lynch, Mr. Michael, Rev. G. Engleheart, Dr. Hogg, Prof. F. Oliver, and Dr. Masters.

Hybrid Narcissi.—Rev. G. Engleheart exhibited further specimens of his reciprocal crosses between *N. triandrus* and *N. monophyllus*, which showed that the same results accrued in whichever direction the cross was effected. A Botanical Certificate was awarded to Mr. Engleheart, in recognition of the interest and success of his experiments.

Swellings on Ribes.—Mr. Michael reported that he had discovered no *Phytoptus* on the specimens submitted to him.

Basal Disease of Daffodils.—Rev. W. Wilks exhibited specimens of this disease, which Mr. Michael considered as very likely to be the result of the attacks of a mite, *Rhizoglyphus Robinii*. Mixtures of sulphur and soft-soap, or of carbolic acid, were recommended as likely to be beneficial.

Sugar-cane Attacked by Boring Insect.—Mr. Blandford showed specimens of canes attacked by a boring beetle at the nodes. The direction of the perforation was from within outward.

Birch Bark.—Mr. Burbidge sent specimens with the following letter:—

"I beg to send for the inspection and consideration of your committee some fragments just taken fresh from the trunks of *Betula papyracea*, reared here from seeds kindly sent from the Royal Gardens, Kew, some ten or twelve years ago. It can be written upon with ease with an ordinary pen and ink, as these examples will show. Its texture is very soft and fine, except here and there, where transverse corky lentils occur. It would be interesting to know the part this exquisitely finely-textured bark plays in the economy of the tree, as contrasted with other barks of a more rough and corky texture, such as, say, *Quercus*, *Sabur*, or *Cork Oak*. Both are, no doubt, identical in their being practically impervious to water, either from within outwardly, or vice versa. As a contrast, I send a small piece of stem of *Araucj* (*Schubertia*), or *Physianthus grandiflorus*, with settled, rugose, corky bark, arranged around a stem quite green, and doubtless rich in chlorophyll.

"*Ginkgo Seeds.*—I also enclose seedlings of the 'Maiden-hair' or 'Ginkgo Tree' of China and Japan (= *Ginkgo biloba*). Dr. E. B. Wright, M.D., F.R.S., Professor of Botany in the University of Dublin, saw the ripe fruits in one of the public gardens at Rome last autumn, a crop of golden Plum-like fruits among the Maiden-hair-like leaves, and succeeded in obtaining a supply of the seeds through H. M. Ambassador, the Marquis of Dufferin and Ava.

"I am enabled by the courtesy of Dr. Wright to send a few of these fresh seeds for the inspection of the committee, as well as seedlings raised from the same, sown on December 8, 1891, in a mean temperature of 60° Fahr. The fleshy covering of these seeds, analogous to that of our native *Yewberry*, is edible, and is used as dessert in China and Japan according to Siebold and other authors. It is well known that this tree rarely if ever fruits in Britain, a fact due to its diocious character.

"These seeds also illustrate a very interesting physiological fact mentioned by Sachs (*Zeit. Book*, p. 655). 'If the temperature is sufficiently high, the green colouring substance [chlorophyll] is found in the cotyledons of Conifers, and in the leaves of *Ferns* in complete darkness, as well as under the influence of light.'

"I am by no means certain that *Ferns* and *Conifer* seeds alone possess this peculiarity, which is common to other seeds, as notably to those of *Acacia pseudo-platanus*, the common *Sycamore*, the *Sea Kale*, *Crambe maritima*, and possibly others which I have not examined.

"*Doryanthes excolata.*—It may be of interest to state, that the *Spear Lily* of New South Wales (= *Doryanthes excolata*) is just now opening its flowers in this garden, the crimson Lily-like flowers being congested on a scape 10 feet high and 2 inches in diameter."

Other specimens sent by Mr. Burbidge comprised *Candollea cuneiformis*, *Erythronium Hartwegi*, *Asparagus plumosus* in flower, *Masdevallia chimara* var. *Rozeili*, *Arisema ringens*, *Stapelia deflexa* in fruit, *Coccoloba platycladon*, *Acer macrophyllum* (buds), *Begonia corallina*.

Obituary.

THOMAS BRETT COWBURN.—We are sorry to have to record the sudden death of Major Thomas Brett Cowburn, F.R.H.S., aged fifty-three, late of the 52nd regiment of Light Infantry, and which occurred on the 22nd inst. He was a county magistrate of both Gloucestershire and Monmouthshire, and his residence, Dannel Hill, near Chepstow, is situated on

the wooded cliffs immediately above the Wye, opposite the Wyndcliffe, commanding extensive views of both the Severn and the Wye. He was a great lover of *Orchids*, stove and greenhouse plants, as well as herbaceous plants and British *Ferns*.

Major Cowburn was, perhaps, better known amongst *Fern* cultivators, and partly from his discovery on a wall at Dannel Hill of that bold and beautiful form of *Scolopendrium crispum* named *Cowburni* (Lowe), which received a First-class Certificate from the Royal Horticultural Society at the *Fern Conference* in 1890. He took great interest in the *Fern* show that is to be held this summer at the Royal Horticultural Society. During the past few years he had been engaged raising crossed *Ferns* to further prove multiple-parentage, and looked forward to the present year for the development of a large number of plants. His sound judgment, amiability, firm friendship, added to his desire to help on any good work, will cause him to be long remembered, especially by those to whom he was personally known. E. J. L.

WILLIAM BROWN.—The greatly respected gardener and estate manager at Elmdon Hall, Solihull, near Birmingham, for close upon forty years, died on March 22, from apoplexy. The deceased gardener received his gardening training chiefly in Warwickshire gardens, and amongst other places he was at Walton House, Sir C. Mordaunt's seat in that county, under Mr. Cobb. On Mr. Hamond, the former gardener to—Alstone, Esq., resigning, Mr. Brown was offered the situation at Elmdon, which he took, and subsequently the charge of the home farm and woods were added to his charge. The Elmdon Hall specimen stove and greenhouse plants were famed in the Midlands for a great number of years, but for some few years past they had ceased to be exhibited for prizes. A large number of Mr. Brown's gardening friends attended his funeral.

SIR WILLIAM BOWMAN, BART.—We greatly regret to have to announce the death of this gentleman, one of the most eminent surgeons and oculists of the day. Sir William first achieved distinction at King's College, London, as a physiologist and microscopist in the days when microscopy was young, and his papers contributed to the Royal Society are still standards in their way. Subsequently he was associated in the chair of physiology with the late Dr. Todd, and served the hospital as assistant, and ultimately as full surgeon. To horticulturists he will be known for his taste in gardening and his love of plants, his garden at Joldwynds being one it is always a delight to visit. But, outside his own family circle, it is only those who were privileged to have been his pupils and assistants who could fully realise the character of the man behind whose modest demeanour and gentle kindness there was a noble spirit, zealous in the quest of all that is beautiful, good, and true. To us indeed his seemed an ideal life, so gentle was he, so helpful to his students, whether as teacher or as friend, so conscientious in his work, so pure and lofty in his aims. Sir William, who was born in 1816, died on Tuesday at Joldwynds, Dorking.

MARKETS.

COVENT GARDEN, March 31.

MARKET steady, prices remaining as last week. James Webber, Wholesale Apple Market.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.		s. d.
<i>Adiantum</i> , per doz.	4 0-12 0	<i>Geranias</i> , per dozen.	8 0 10 0
<i>Arum</i> , per dozen	9 0 12 0	<i>Hyacinthidutch</i> doz.	6 0 9 0
<i>Aspidistras</i> , per doz.	18 0-63 0	<i>Lily of the Valley</i> , pot 1	6 0 12 0
<i>Azalea</i> , per doz.	24 0-35 0	<i>Marguerites</i> , per doz.	6 0-12 0
<i>Begonias</i> , per doz.	8 0-12 0	<i>Mignonette</i> , doz. pots	8 0-15 0
<i>Cinerarias</i> , per doz.	6 0-10 0	<i>Primula sinensis</i> , doz.	4 0-6 0
<i>Cyclamens</i> , per doz.	9 0-18 0	<i>Palms</i> , various, each	2 0-10 0
<i>Cyperus</i> , per dozen	4 0-10 0	— specimens, each	10 0 8 0 0
<i>Dracenas</i> , each	1 0-8 0	<i>Pelargonium</i> , Scar-	
<i>Erica</i> , various, dozen	12 0-18 0	let, per doz.	8 0 9 0
<i>Ferns</i> , various, doz.	4 0-9 0	<i>Solanum</i> , per dozen	9 0-12 0
per 100	8 0-15 0	<i>Tulips</i> , per doz. pots	6 0-8 0
<i>Ficus elastica</i> , each	1 6-7 6		

Bedding plants, various, in boxes, 1s. to 3s.

FRUIT.—AVERAGE WHOLESALE PRICES.

		s. d. s. d.
Apples, Canadianian	per doz.	40 0-0
Novia Scotia, per	doz.	8 0-14 0
Burrel	doz.	10 0-25 0
Apricot, per doz.	bl.	2 0-4 0
Grapes	per doz.	2 0-5 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

		s. d. s. d.
Acacia or Mimosa	per doz.	2 0-4 0
French, per bunch	16-20	0 0-0 0
Aureoline, 12 bunches	16-30	0 0-0 0
Arum, per doz. bl.	12-16	0 0-0 0
Arisea, p. doz. sprays	6-9	0 0-0 0
Camellias, white, doz.	2-3	0 0-0 0
red, per doz.	10-16	0 0-0 0
Carnations, 12 blms.	2-3	0 0-0 0
Cineraria, 12 blms.	6-9	0 0-0 0
Daffodils, double	per doz.	2 0-4 0
single	per doz.	2 0-4 0
— various	per doz.	2 0-4 0
Eucharis, per dozen	4-6	0 0-0 0
Freesia, doz. bur.	2-4	0 0-0 0
Gardenias, per dozen	3-6	0 0-0 0
Heliotrop, 12 sprays	6-9	0 0-0 0
Hyacinths, 12 sprays	2-4	0 0-0 0
Jacqueline, per doz.	10-16	0 0-0 0
Lilac white (French)	per bunch	4-6
Lilium Harrisii, doz.	4-8	0 0-0 0
Lily of the Valley, per	doz. sprays	6-9
Maiden Hair Fern,	12 bunches	6-12
Marguerite, per doz.	3-6	0 0-0 0
— bunches	per doz.	3-6
Mignonette, 12 bunch.	4-6	0 0-0 0

ORCHID-BLOOM in variety.

		s. d. s. d.
Artichokes, Globe	each	0 4-0 6
Rans, French, bl.	per doz.	1 6-2 0
Beet, red, per dozen	20-30	0 0-0 0
Carnations, per bunch	4-6	0 0-0 0
Chiliflowers, each	0 3-0 6	0 0-0 0
Celery, per bundle	10-30	0 0-0 0
Cucumbers, each	0 9-1 3	0 0-0 0
Endive, per dozen	20-30	0 0-0 0
Herbs, per bunch	0 9-1 3	0 0-0 0

POTATOS.

First public sale of new crop from Canary Islands on Tuesday. Sold at prices from 7s. for small to 11s. 6d. for large. Markets firmer; tendency to harden prices, especially for best goods. Best samples, 90s. to 110s.; medium, 65s. to 75s.; inferior, 55s. to 65s. per ton.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.					
	ACCUMULATED.										
	Above 42° for the Week.		Below 42° for the Week.				No. of Rainy Days since Jan. 3, 1892.	Percentage of possible Duration for the Week.			
	Day-deg.	Day-deg.	Day-deg.	Day-deg.							
0	1 +	14	26	—	9 + 153	3	—	69	111	26	13
1	1 +	21	33	—	30 + 166	2	—	45	55	40	35
2	1 aver	18	33	—	32 + 138	2	—	45	41	42	15
3	3 +	14	38	—	51 + 155	2	+	47	37	28	24
4	2 +	22	42	—	39 + 106	4	—	43	42	27	24
5	1 +	19	27	—	51 + 112	1	—	37	36	31	27
6	1 aver	16	26	—	28 + 129	6	—	45	30	30	25
7	1 aver	17	23	—	34 + 128	4	—	44	33	37	26
8	1 +	29	17	—	4 + 95	6	—	46	37	31	27
9	1 aver	23	14	—	50 + 78	4	—	48	60	11	21
10	1 +	27	15	—	67 + 83	6	—	44	76	23	25
11	1 +	27	2	—	35 + 41	4	—	51	71	14	30

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.
Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending March 26, is furnished from the Meteorological Office:—

"The weather during this period varied a good deal from time to time. Over the Kingdom generally it was dry, but some showers of rain or snow were experienced in most places. Over the greater part of 'England and Scotland' it was frequently fine and bright, but in most parts of 'Ireland' a great deal of cloud prevailed.

"The temperature slightly exceeded the mean in 'Scotland, N. and E.,' and just equalled it in several of the more north-western districts; in the east and south however, it was below the normal value, the deficit in 'England, E.' being 3°. The highest of the maxima were (as a rule) recorded towards the end of the week, and ranged from 61° in 'Scotland, E.,' and 60° in 'England, S.' and 'Scotland, W.,' to 55° in the 'Midland Counties' and 'England, N.W.,' and 51° over 'Ireland.' The lowest of the minima, which occurred at the beginning of the period in the southern districts and at its close in the north, ranged from 21° in 'Scotland, N. and E.,' to 28° in 'England, S.W.,' 29° in 'Ireland, N.,' and to 39° in the 'Channel Islands.'

"The rainfall was a little more than the mean in 'England, E.,' but less in all other districts. In most of the western districts and over central 'England' the fall was very slight.

"The bright sunshine exceeded the mean in the north and north-west of Great Britain, as well as in the 'Channel Islands,' but showed a slight deficit in the south and south-east, and a considerable deficit in 'Ireland.'

NOTICES TO CORRESPONDENTS.

CHRYSAETHREUM AND BLACK APHIS: *F. B.* Syringe with, or dip the plants in a solution of tobacco-water, say, 1 quart of commercial tobacco-juice to 1 gallon of warm water, in which 1 oz. of soft-soap is dissolved. One or two applications will clear off the insects.

CINERARIA AND VIOLETS: *H. T.* *Finchshade Abbey.* Fine blooms of Cineraria, almost too large; the Violet Marie Louise is well known to be one of the best varieties; your soil seems to give a particularly rich shade of colour to it.

CYCLAMENS: *W. S.* Yes, large, but not larger than many we have seen.

DENDROBIUM WARDIANUM: *W. P.* The flower sent is that of a fairly good variety.

DOUBLE SPATHED ARUM: *Hon. A. C.* Not a distinct species, but only a variation. The change is very common, scarcely a week passing in the season but one or more are brought to our notice. Mark the plant, to see if it behaves in the same manner next year, as it would be desirable to perpetuate it if possible.

EEL-WORM: *R. D.* You are mixing up two totally different things. The worm you mention is 4 to 5 inches long; the eel-worms are only visible under the microscope.

JAPANESE WINE BERRY: *T. D.* This is *Rubus phoenicolasius*, and may be obtained at some of the larger fruit nurseries. We cannot as a rule recommend dealers.

LILium LONGIFOLIUM HARRISII: *H. W.* It is very likely that excess of water, due to a loose soil in the pot, is the cause of the blooms becoming diseased.

MANURE-HEAP: *P. A.* Superphosphate of lime will fix the ammonia of manure-heaps if put on the top, or better, in layers between the manure. Peat will do the same, also charcoal, ashes, dry loam, and gypsum. Manure-heaps are best made under cover, but if out-of-doors, they should have a clay bottom.

MELONS: *F. B.* Sow at once in a hot-house or hot-bed frame, three seeds in a 60-pot, and preserve the strongest, pulling up the others. When the roots touch the side of the pot, repot carefully, low down, in a large 48 or 32 pot; just cover the ball with fresh soil, and fill up with soil in twice as the plants gain strength. They will form roots

up the stem in this stage. Always use warmed compost—sandy loam, with a little leaf-mould. Melons always grow best with bottom-heat, and they should be kept close to the glass, or drawing will ensue.

NAMES OF PLANTS: *G. H. M.* 1, *Narcissus pseudo-Narcissus*, var. major; 2, *N. pseudo-Narcissus* bicolor; 3, *N. odoratus*; 4, *N. incomparabilis*; 5, *N. incomparabilis*.—*G. H. K.* 1, *Daphne Mezereum*; 2, *Skimmia japonica*, the *S. oblata* of gardens; 3, *Thuya dolabrata*; 4, *Retinospora plumosa aurea*; 5, *Pseudo-taxa Douglasii*, the *Douglas Fir*; 6, *Cryptomeria japonica* var. Lobbi; 7, a *Picea*; probably *P. nigra*.—*F. A. G.* *Sansevieria zeylanica*.—*R. Y. A.* 1, *Pelargonium*, double zonal—we cannot give you the name; 2, *Lotus pterophyllus*.—*G. M.* 1, *Polemoniumeruleum variegatum*; 2, *Sedum Sieboldii*; 3, *Alyssum variegatum*; 4, *Alternanthera versicolor*; 5, *Alternanthera*, probably aurea. Poor scraps when gathered; think what they must be when they reached us.—*B. W.* We are unable to name your plant.—*T. H. W.* 1, *Culogyne cristata*; 3, *Justicia carnea*; 4, *Acacia* species, send when in bloom; 5, *Ficus stipulata*; 6, send when in bloom; 7, *Skimmia Fortunei*, generally, but erroneously, called *S. japonica*; 8, *Cytisus fragrans*.—*A. D.* 1, *Dendrobium pulchellum* of gardens, syn. *D. Loddigesii*; 2, *Maxillaria variabilis*.—*R. W.* *Lælia Lindleyana*. The *L. Harrisii* have had a check of some kind.—*Canellius*. 1 to 5, send to some nurseryman who makes a specialty of them; 6, *Polypodium nigrescens*.—*G. H.* 1, *Cupressus Lawsoniana*; 2, *Retinospora obtusa*; 3, *Cupressus (Retinospora) obtusa*; 4, 5, *Retinospora plumosa*; 6, *Thuopsis dolabrata*.—*Droctonia*. 1, *Dracena Lindenii*; 2, *Pilea muscosa*; 3, *Ficus Parrellii*; 4, *Streptosolen Jamesoni*; 5, send when in flower.

PHEASANT-EYED NARCISSEUS: *Narcissus*. The second year of flowering, when the foliage begins to turn yellow, the bulbs should be taken up and sorted, and the larger ones planted on land that was manured for some earlier crop. Plant these 6 inches apart in the lines, and the lines made 1 foot apart. Deep ploughing is good enough; they do not like loose soil. The next size plant in nursery lines to grow for two seasons, when they will probably produce flowers; these need not be disturbed till they have flowered twice. The young brood may be grown on.

SPAWN ON VINE BORDER: *A.* The mycelium or spawn of one of the Hypogæa Truffles, probably from its smell, that of *Melanogaster ambigua*. The rounded bodies which have the appearance of *Hymenogaster* are really masses of soil compacted and covered by the spawn. *C. B. P.*

TOXICOPHILA THUNDERB: *Tori*. Very good spikes of this charming plant.

TWO GLASS HOUSES: *G. W. S.* All things being equal, we should suppose that the warmer situated house would be less costly in the matter of fuel, and the produce slightly earlier, with healthier internal conditions, as with a much exposed house the fires would have to be driven harder than is necessary in cold weather with a house warmer placed.

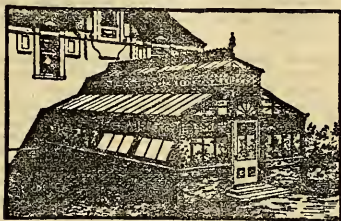
VINE DISEASE: *L. D.* and *R. H. B.* The Vine sent shows no fungoid disease, but a morbid development of the cells, which grow out into long hairs. The appearances seem to indicate an excess of heat and moisture, and deficient ventilation.

COMMUNICATIONS RECEIVED.—*G. W. W.* D.—*F. V. M.* Melbourne.—*R. H. B.* T. F. D.—*T. F. A.* I. D.—*Angers*.—*G. M.*—*Dickson*.—*J. S. M.* H. Melbourne.—*W. W. N.* A. Olesca.—*Cocking* & Co., Yokohama.—*Abasia* Caucasus.—*J. H.* & Sons.—*W. W.* J.—*Sutton* & Sons.—*T. W.* H. S. Williams & Son.—*J. B. A.* F. too late.—*C. de B.* J. D.—*J. O'B.* D.—*D. G.* Taber.—*J. C.* Harvey, Los Angeles.—*J. S.* R. M.—*Pomum*.—*Dr. Kriazin*.—*F. Snider* & Co.—*J. C.* E. C. H.—*H. J.* C.—*Cineraria*.—*F. R.* and Market Land.—*Narcissus*, next week.

PHOTOGRAPHS RECEIVED (with thanks).—Cape Town.—*Alce*, no letter.—*J. C.*, Cheltenham.

DIED.—*Mrs. Hemley*, wife of Mr. Henry Hemley, senior, of Hassocks, Sussex, died on the 29th ult., from bronchitis, in her seventy-eight year.

RICHARDSON'S



HORTICULTURAL BUILDINGS.

MANY
PRIZE MEDALS.

WARMING and
VENTILATION of
Churches and Public Buildings
(as well as Greenhouses).

W. RICHARDSON & CO.,
DARLINGTON.

The Original and Only Makers of the

GENUINE RIVETED TRENTHAM BOILERS



WITH SOLID ENDS. Also—
SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
Thoroughly (a Most Important Point).

These Boilers, after long experience, have
proved themselves the Most Efficient, Economical,
and Lasting Boilers extant.
Every other kind of Boiler, Sockets, Flanges,
and Expansion-Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

THE DOUBLE-POINTED NAIL.

The best Fence Nail invented. This Nail renders
any wooden fence perfectly unclimbable. It is a
complete protection against trespassers and cats.
In use at Hunt Park and Hull Racecourses, Lord's
Cricket-ground, and hundreds of other places.

A—HAMMER HEAD. B—CHISEL EDGE.

Price of Fence Nails in Malleable Iron:—1½, 2,
2½, 3, 4, 5, and 6 in., 7½, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

DURRAN'S PATENT NAIL SYNDICATE, Limited,
43 & 44, UPPER BAKER STREET, LONDON, N.W.

STOCK	SIZES
Inches.	Inches.
14x12	20x15
16x12	20x16
18x12	22x16
20x12	24x16
16x14	20x18
18x14	22x18
20x14	24x18

21-OZ. and 16-OZ. Foreign, of above sizes, in boxes of 100 feet
and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered
free and sound in quantity, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
84, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote Chronicle.

CARSON'S PAINT

F patronised by 20,000 of the Nobility, Gentry,
and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES,
Greenhouses, Frames, &c.

1 Cwt., and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.
and BAOKHOL'S WALK, DUBLIN.—Discount for Cash.

SANKEYS' FAMOUS GARDEN POTS.

BULWELL POTTERIES, NOTTINGHAM.

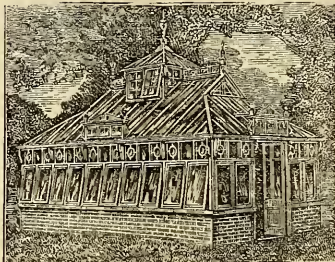
Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong
and well made, and in every respect highly satisfactory."

Messrs Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden
Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your
'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10
Orders. Half Carriage on £5 Orders. Samples Free.

BECKETT BROS., CHELMSFORD.



Thoroughly Practical and Experienced Horticultural Engineers
in all branches connected therewith.
Price List and Estimates free on application.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
At 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN

TREE GUARD,

"The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

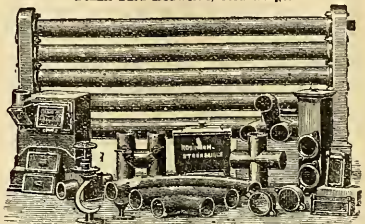
"The Whittier, Herefordshire,
Dec. 28, 1887.

"DEAR SIR,—I have now had
an opportunity of trying your
PORCUPINE TREE
GUARDS, and they seem
quite to answer my pur-
pose, so you may send me
50 more as before. I en-
close cheque for your
account.

Yours truly,

RICHD. GREEN.
Messrs. Hill & Smith.

THOS. W. ROBINSON,
Dennis Park Ironworks, Stourbridge.



EXPANSION JOINT HOT-WATER PIPES,
SOCKET HOT-WATER PIPES.

Illustrated revised Price List on application, free.



FOR DESTROYING WEEDS, MOSS, &c.

ON CARRIAGE DRIVES,
GARDEN WALKS, ROADS, STABLE-YARDS,
WALLS, STONEWORK, &c.

Saves more than twice its cost in Labour. No Smell.
One application will keep the Walks and Drives
clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied
with your composition and its price that we have used it abso-
lutely. I have every confidence in recommending it."

Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cam-
bridge, says:—"There can be no question with regard to its ef-
ficacy."

Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included);
in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20
gallons, 1s. 4d. per gallon. Special quotation for larger
quantities. Carriage paid on 10 gals. and upwards.

Used in the proportion of one gallon to twenty-five gallons of water.

THE ACME SUMMER SHADING, White and Green.

For SHADING GREENHOUSES, CONSERVATORIES, &c.
Does not wash off with the rain. Can be used WARM or COLD.
1 lb. makes ½ gal. In tins, 1 lb. 1s.; 2 lb., 2s.; 4 lb., 3s. 9d.

For particulars of ANTI-FUNGUS POWDER for Tomato
Disease, Mould and Mildew on Roses, Vines, &c.; KENTISH
PLANT MANURE, SOLUBLE MANURE, ZINC LABELS,
NINE METALLIC INK, &c., apply to the
Sole Proprietors and Manufacturers,

THE "ACME" CHEMICAL CO., Limited,
Tunbridge, Kent;
and Carlton Street, Bolton, Lancashire.

SLUGICIDE (REGISTERED).—Certain death
to slugs and snails. The greatest boon to Gardeners ever
invented. 1s. 6d. per box, of all Seedsmen. Trade terms.
"THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

EPPS'S selected PEAT,

For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton,
or truckload. SPECIAL ORCHID PEAT in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse. Crystal
and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE,
fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECT
TICIDES, and all other Garden Requisites. Peat Moss Litter.
The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for
37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d.
BROWN FIBROUS PEAT for Azaleas, Rhododendrons,
and Ferns, 4s. per sack; 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM,
each 2s. 6d. per sack; 5 for 10s. PREPARED BOTTING
COMPOST, 4s. per sack; 5 for 18s. All sacks included.

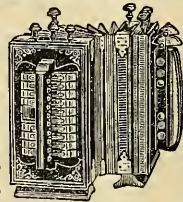
Send Postal Order for Sample Sack.
Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.

RICHARDS'
NOTED ORCHID PEATS,
Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco-
Paper, Insect-ticks, Weed-Killer, and all garden Sundries, at
the shortest Notice. Special Railway Rates to all parts.
The Horticultural Stores, 1, Belvedere Crescent,
Lambeth, London, S.E. Chief Post Office and Grounds—
Ringwood, Hants. Samples and Price List post-free.

GREENHOUSES FOR THE MILLION.
—Cheapest Note for any kind of Glass Erections in the Country. Note the following:—100 feet by 20 feet, £100; 100 feet by 18 feet, £80; 60 feet by 12 feet, £60; 30 feet by 10 feet, £20. Several excellent Second-hand Houses marvelously Cheap. Hawkins' "Perfection" System of Glazing is the best, and defies competition. Estimates Free. Do not buy without first having price from **HAWKINS, Horticultural Builder, Ashford, Middlesex.** Established 1871.

CHEERFUL WINTER EVENINGS. CAMPBELL'S BROAD REED MELODEONS (Patent). GRAND NEW MODELS.

MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS



MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS
MELODEONS

NO HOME SHOULD BE WITHOUT ONE.
CAMPBELL'S world-famed MELODEONS have Organ and Celestial Tone and Charming Bell Accompaniments. The Solemn Psalm, the Soul-stirring Hymn, the cheerful Song, and the Merry Dance can all be played on these charming instruments. No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.

To readers of the *Gardeners' Chronicle*.

OUR GRAND PRIZE MEDAL "GEM" MELODEON.
3s. 6d. 6s. 6d.
With Two Sets of Broad Reeds, Organ and Celestial Tone, sent neatly packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 6s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.

To readers of the *Gardeners' Chronicle*.

OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON.
10s. 10s.
WORTH DOUBLE.
With Two Sets of Broad Reeds, Organ and Celestial Tone, and the Charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS. Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales:—"Campbell's Patent Melodeons are the finest instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

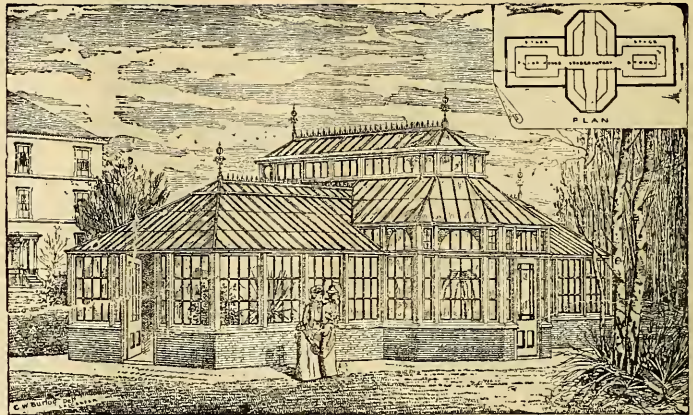
N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready. 100,000 of those valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS,
118, TONGATE, GLASGOW.
ESTABLISHED 50 YEARS.

EXTRA STOUT strong-tanned NET, 2 yards wide, 1½d. yard; 4 yards wide, 3d. yard; 6 yards wide, 4s. per 100; 4 yards wide, 2s. per 100 yards. NEW TWINE NETTING, 1 yard wide, 1½d. yard; 2 yards wide, 3d. yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. COTTON NET, nine meshes to square inch, 1½ yards wide, 7d. yard run. W. CULLINGFORD, 24, Eastern Road, Plaitow, E.

TANNED NETTING.—For Preserving Fruit Trees, Flower Beds, &c., from Frost and Blight. 35 square yards for 1s.; any width sent. Carriage paid on all orders over 5s.

HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

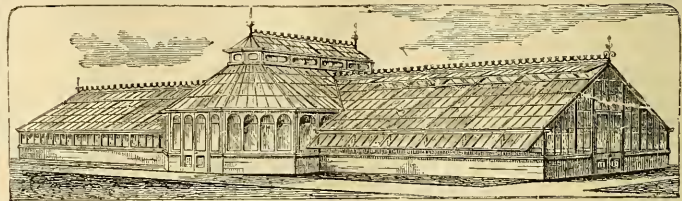


MESSINGER & CO.'S New CATALOGUE of Greenhouses and Heating Apparatus.

Just issued, will be found the most complete, practical, and reliable guide to all about to build, alter, or heat Greenhouses. Illustrations of every description of Glasshouse, from the largest range of Winter Gardens to the simplest forms of Portable Greenhouses, Plant Protectors, and Garden Frames; also of all the best kind of Boilers, Hot-water Pipes, and all appliances for heating. This Catalogue, possessing hundreds of illustrations of all the latest improvements in greenhouse building and heating, is on a scale never before attempted. It should be in the hands of every one interested in gardening, as it contains many practical hints on the subjects of which it treats, the result of many years' experience. Price, 2s. post-free.

A large number of the illustrations are taken from greenhouses erected by us in various parts of the country; an inspection of this Catalogue shows, therefore, the efficiency of which has been well tested by actual use. The advantages possessed by us enable us to carry out work with the utmost promptness, and in the very best style, at prices which defy competition. Surveys made, and gentlemen waited on in any part of the country. Plans and Estimates free on application.

MESSINGER & COMPANY, LOUGHBOROUGH.
London Office:—163, Falmerton Buildings, Old Broad Street, E.C.



Five 1st Prize Medals recently awarded in open competition.

Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that the VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Sashes, Hotbed Boxes, &c., always in stock. Plans, Estimates and Catalogues free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

GARDEN FRAMES in great VARIETY.

Surveys made in any part of the Country.
LADIES AND GENTLEMEN WAITED UPON BY
SPECIAL APPOINTMENT.

GARDEN FRAMES in great VARIETY.



No. 60.
PORTABLE PLANT
PRESERVER.

CASH PRICES.
CARRIAGE PAID.

6 ft. by 3 ft. ... £2 0 0 6 ft. by 4 ft. ... £2 5 0
12 ft. by 3 ft. ... 3 2 0 12 ft. by 4 ft. ... 3 15 0

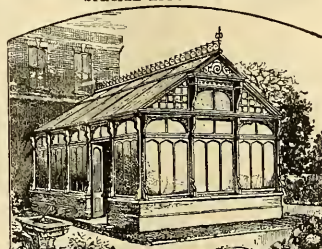
No. 73.
NEW SPAN-ROOF
GARDEN FRAME.



CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 12 ft. by 6 ft. ... £5 14 0
8 ft. by 6 ft. ... 4 4 0 16 ft. by 6 ft. ... 7 4 0
All Frames made of Select Red Deal, painted three times, and Lights glazed with 21-oz. sheet glass.

Carriage paid on Orders of 40s. value.

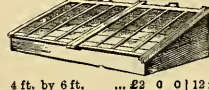


BOILERS of ALL MAKES and SIZES.

No. 74.
THREE-QUARTER
SPAN
GARDEN FRAME.

CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 12 ft. by 6 ft. ... £5 17 0
8 ft. by 6 ft. ... 4 5 6 16 ft. by 6 ft. ... 7 8 6



No. 75.
MELON AND
CUCUMBER FRAME.

CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 0 0 12 ft. by 6 ft. ... £4 3 0
8 ft. by 6 ft. ... 3 0 0 16 ft. by 6 ft. ... 5 6 0

CUCUMBER-FRAME LIGHTS.

6 feet by 4 feet, painted and glazed ... 14s. 0d. each.
6 feet by 4 feet, unpainted and unglazed ... 5s. 6d. ..

Catalogues of all our Manufactures. post-free on application.

BOILING WATER OR MILK.
E P P S'S
GRATEFUL-COMFORTING.
C O C C O A
BREAKFAST-SUPPER.

THREE MILLIONS
 HAVE BEEN PAID BY THE
RAILWAY PASSENGERS
ASSURANCE COMPANY,
 FOR
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
 A. VIAN, }

GARDEN REQUISITES.
 Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo
 Canes, Rustic Work, Manures, &c. Cheapest Prices of—
 WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

SIX CABINET PORTRAITS, 3s.; three for 1s. 2d.
 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d.
 Eighteen Enlargements, 3s.; three for 1s. 6d. Stamp size, 2d. for
 1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order,
 and in about ten days you will receive Highly-finished Copies,
 with Original.—FRANCIS AND CO., 29, Ludgate Hill, London.

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE AND SMITH'S COKE delivered in Trucks
 loads to any Station in England and Wales.—Address,
 G. J. EVKSON, 28, Corporation Street, Birmingham.

ORCHID PEAT; best Quality; BROWN
FIBROUS PEAT for Stove and Greenhouse use. RHO-
 DODENDRON and AZALEA PEAT. Samples and Prices of
 WALKER AND CO., Farnborough, Hants.

HORTICULTURAL SHADINGS AND
NETTINGS, TIFFANY, COTTON WOOLS, and
WADDINGS. Supply 1 Wholesale by—
 JOSEPH COOKSON, 21, New Cannon Street, Manchester.

Now Ready, price 1s. by post, 1s. 2d.
THE MANIFESTATION OF DISEASE IN
FOREST TREES, THE CAUSES AND REMEDIES
 by CHARLES E. CURTIS, F.S.I., F.S.S., Professor of Forest
 Entomology, &c.
 London: HORACE COX, The Field Office, Brecon's
 Buildings, E.C.

FARMS, ESTATES, RESIDENCES.

Any one desirous of
 Renting a Farm or Residence, or Purchasing an
 Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is
 required, forwarding Name and Address, and six
 halfpenny stamps for postage, addressed, "Mid-
 land Counties Herald Office, Birmingham." The
 Midland Counties Herald always contains large
 numbers of advertisements relating to Farms,
 Estates, and Residences for Sale and to be Let.

Agricultural Economist.

AN ILLUSTRATED MONTHLY MAGAZINE, of 52 pages
 and cover. Exponent of scientific and high farming; advocate
 of co-operation in agriculture, in the supply of farm requisites,
 and the sale of produce; organ of the Agricultural and Horti-
 cultural Association, the pioneer society for mutual supply of
 pure alkalies, complete manures, reliable seeds, and imple-
 ments on wholesale terms. Specimen copy free. Subscription,
 per annum, 5s., inclusive of postage. Single copies 6d., each,
 through all Newsagents.

3, Agar Street, Strand, London, W.C.

GARDENING APPOINTMENTS.

MR. W. JARMAN, until recently Gardener at Chapel Hill
 House, Margate, as Head Gardener to Mrs. H. A. BRASSEY,
 Preston Hall, Aylesford, Kent.

MR. CLINGING, for the last 13 years Head Gardener at Marden
 Park, as Gardener and Edilist to J. BRAND, Esq., Sander-
 sted Court, Croydon.

MR. E. TAPPING, Foreman in the Gardens at Dropmore, Maiden-
 head, has been engaged as Head Gardener to the Viscount
 TEMPLETON, Castle Upton, Antrim, Ireland, and will
 enter on his new duties early in May.

MR. WILLIAM FORRESTER, from The Gardens, Dupplin Castle,
 Perth, as Head Gardener to FREDERICK EDEN, Esq.,
 Palazzo Barbarigo, Venice.

MR. E. FRANCIS, late Head Gardener to J. J. NEWALL, Esq.,
 Forest Hall, Ongar, as Gardener to E. QUARE, Esq.,
 Hoxington House, Maching, Harlow, Essex.

CATALOGUES RECEIVED.

JAMES BACKHOUSE & SON, York and Harrogate—Soft-wooded
 and Bedding Plants.

HARLAND P. KELSEY, Highlands Nursery, Livielle, North
 Carolina, U.S.A.—Native Trees, Flowering Shrubs,
 Herbaceous Plants, &c.

ELLWANGER & BARRY, Mount Hope Nurseries, Rochester,
 New York—General Catalogue.

THE TOTTERHAM NURSERIES, Deledemaart, near Zwolle,
 Netherlands—Conifer, Perennials, Ferns, &c.

REID & BORNEMANN, Trewsbury Road, Sydenham, S.E.—
 Chrysanthemums, Roses, &c.

DR. DIECK, Arboretum, Züschen, near Messemburg—Novelties.

YOUNG LADIES who want to be INDE-
 PENDENT and make their way in the world, should
 Write for Prospectus of the Scientific Dress Cutting Association,
 272, Regent Street, London, W. Situations found for 11
 pupils at good salaries. No Lady's education is complete
 without a knowledge of Dress-making.

WILLIAM FISHER begs to THANK the
 42 APPLICANTS for GARDENERS' SITUATION
 as advertised, and to say the situation is NOW FILLED.—
 The Nursery, Burton-on-Trent.

WANTED, IMMEDIATELY, a good
 GARDENER, where assistance in gl'v. s. Wife as
 LAUNDRESS. Church people, and well recommended.—Send
 full particulars to Rev. G. HAYTON, Charlton Rectory, near
 Oxford.

WANTED, for the North of England, a
HEAD WORKING GARDENER, to work up a
 Gentleman's place expressly for Market Trade. There are
 several Vineyards, &c., large Garden, and Grass-land, intended
 for Fruit trees. An abstarner preferred. Fair wages, and
 commission, are offered to a suitable man. Give all
 particulars of qualifications, &c., to STEPHEN CASTLE, F.R.H.S.,
 Manager, Ashford Vineyard, Forlinsbury, Salisbury.

WANTED, a GARDENER, a married Man,
 without family. Must be experienced with Flowers,
 Fruit, and Kitchen Garden. Assistance given.—COL. MAIL-
 LARD, Thimbletons, Farnham.

WANTED, a GARDENER, to live in
 Lodge. One who thoroughly understands Vines,
 Orchids, Stove and Greenhouse Plants, and general Outside
 Gardening. One who understands wages and references to
 Major WEBB, Woodfield, Stourbridge.

WANTED, a GARDENER.—Must be expe-
 rienced, and willing to make himself generally useful.
 Address, describing former experience, and stating wages
 required to Mr. HOWARD, Barnmo, Broadlands Road, Highgate.

WANTED, AT ONCE, a good all round
GARDENER, under 40 (married), without encum-
 ber. Wife to undertake Laundry Work for small family.—
 Apply by letter only, stating age and wages required, three
 good rooms provided.—T., Woodlands, Purley, Surrey.

WANTED, an active MAN, as SECOND
 in the Outdoor Department of a General Nursery,
 well up in Budding, Grafting, and general Knife Work.—State
 age, wages expected, and references, to W. TROUGHTON,
 Nurseryman, Preston, Lancashire.

Plantaman.
WANTED, a good practical industrious
 Man, for a private enterprise in the Midlands,
 for propagating and growing well-chosen Stove and Greenhouse
 Plants, Orchids, Chrysanthemums, &c. Must be well up in Cut
 Flowers and Table Decorations; none but experienced men of
 good character need apply. Wages, 15s. per week; bothy, milk,
 and vegetables, &c. Write, giving full particulars and age, to
 H. E. GARDENERS' Chronicle Office, 41, Wellington Street,
 Strand, W.C.

WANTED, an English ORCHID GROWER,
 for France.—Age about 25; must have excellent
 character, and be quick, smart, intelligent, and of good
 address. Good wages.—Apply to SANDER AND CO., St. Albans.

WANTED, a thoroughly experienced man,
 as Propagator and Grower of Plants for Market. None
 need apply who have not held a similar position.
 Wages 30s. per week.—Apply, stating age, and inclose copies
 of references to H. N. GARDENERS' Chronicle Office, 41,
 Wellington Street, Strand, W.C.

WANTED, a young MAN, used to growing
 Ferns, Palms, and Soft-wooded Stuff for Market. One
 that is well-up, used to the Trade, and willing to make himself
 useful. Wages, 21s. per week.—LEWIS AND SON, Nursery-
 men, Malvern.

WANTED, a WORKING FOREMAN; one
 who has had experience in Market Nurseries, where
 Palms, Ferns, Ficus, &c., are grown. Must be quick, ener-
 getic, and trustworthy. House on place, and good wages in a
 competent man.—JOHN ROCHFORD, Page Green Nursery,
 South Tottenham.

WANTED, as FRUIT FOREMAN, a prac-
 tical Man, who has had experience in the growing of
 all kinds of Outdoor Fruit Trees, and is capable of Managing a
 Staff of Men. A thoroughly competent man is required, to
 whom a good Salary will be given.—WM. PAUL AND SON,
 Waltham Cross.

WANTED, a smart active young MAN, in
 the Plant House, just started to Potting and Water-
 ing. Wages, 18s. per week, with pay for Sunday duty.
 Apply, in own handwriting, stating experience and references,
 to W. G. BAKER, Botanic Gardens, Oxford.

WANTED, AT ONCE, a good all-round
NURSERYMAN, for Outside Work. Must understand
 Budding, Grafting, Pruning, and have a good knowledge of
 Herbaceous Plants, and used to Spade-work; also a good young
 MAN, as ASSISTANT in Retail Shop. Seeds and Plants. Will
 have to attend Markets, &c.—Full particulars, with reference
 and wages required, to W. CROSSLEY, 18, Vicar Lane, Leeds

Nursery Trade on Borders of Lancashire.
WANTED, a PROPAGATOR, well up in the
 Propagation of General Market Stock. Also, WANTED,
 a good WREATH and CROSS MAKER, to fill up spare time in
 the Greenhouses.—Apply, stating experience, wages
 expected, and age, to PRIMULA, Messrs. Hurst & Son,
 152, Houndsditch, London.

WANTED.—Several good MEN for the
 Jobbing Department as regular hands. Good wages
 to suitable men.—Apply, in writing, to W. CUTBUSH & SON,
 Highgate Nurseries, London, N.

WANTED, a JOURNEYMAN, for the
 Houses.—Must have had not less than five years'
 practice. Wages, 16s. per week, with Bo. Hy. Milk, and Veget-
 ables.—Apply to W. WALLIS, Hartwell, Hatfield, near
 Tunbridge Wells.

WANTED, a JOURNEYMAN for the
 Houses.—Send testimonials to W. LAPHAM, the
 Gardener, Farnborough, Cork.

WANTED, a young MAN, as SECOND,
 Inside and Out. Must have a knowledge of Fruit and
 Plant growing under Glass, and be active and obliging. State
 ages required, and full particulars, enclosing references.
 —WILLIAM DAY, Highbury Gardens, Sandgate, Sheffield.

WANTED, an experienced MAN, for Fur-
 nishing, Window-box Filling, and General Work in a
 London Florist's.—Apply, stating experience, salary expected,
 &c., to the GRAND FLORAL DEPOSE, 283, Regent Street, W.

WANTED, at ONCE, TWO GENERAL
KNIFEMEN, for Budding and Grafting. Constant
 place for suitable men.—Apply to J. SMITH & SON, West
 Drayton, near Uxbridge.

WANTED, an active young MAN, quick at
 Potting and Tying; used to Ferns and Soft-wooded
 Stuff. Wages 18s. per week.—T. BALDWIN AND SON,
 Edith Nursery, Burchall Road, Leyton.

WANTED, a MAN, used to planting and
 Digging. Also a young MAN used to a Market
 Nursery, for Potting, Watering, &c.—J. SOLOMON, Queen's
 Road Nursery, Walthamstow, E.

A GENTLEMAN FLORIST has a VACANCY
 FOR A PUPIL.—Apply, B. M. Gardeners' Chronicle
 Office, 41, Wellington Street, Strand, W.C.

WANTED, by W. BIRCH, FLORIST, 20,
 High Street, Notting Hill Gate, W., a steady,
 respectable young MAN for General Work. Must be
 experienced.

WANTED, an IMPROVER, under the Inside
 foreman. 15s. per week. Reference for character to
 RALPH CROSSING, Penarth Nurseries, South Wales.

WANTED, an IMPROVER, under Glass.—
 A young man, well up to Watering, Pricking off, and
 general Plant Work.—Apply, stating all particulars, testi-
 monials, and wages expected, to HEAD BROS., Victoria and
 Castle Nurseries, Penrith.

WANT PLACES.

TO GARDENERS, AND OTHERS
SEEKING SITUATIONS.

The Pressure upon our space at this season of the
 year is so great, we are compelled to state
 that advertisements received after 6 P.M. on
 Wednesday will, in all probability, be held
 over to the next week.

Advertisers are cautioned against having letters
 addressed to initials at Post-offices, as all
 Letters so addressed are opened by the
 authorities and returned to the sender.

SANDERS, St. Albans, can thoroughly
 RECOMMEND several first-class HEAD GARDENERS.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of **HEAD GARDENER, BALIFFE, FOREMAN, or JOURNEYMAN.** Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BALIFFES, or GARDENERS, JAMES CARTER AND CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 257 and 258, High Holborn, W.C.

SCOTCH GARDENERS.—I have at present several very superior MEN on my Register, whose character and ability will bear the strictest investigation.—**JOHN DOWNE**, Seedsmen, 144, Princes Street, Edinburgh.

Gardeners, Farm-Baliffs, Foresters, &c. DICKSON'S Royal Nurseries, Chester (Limited), are always in a position to **RECOMMEND MEN** of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

Head Gardeners.
JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of **GARDENERS and BALIFFES** and **HEAD GARDENERS** for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gentlemen seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several **HEAD and UNDER GARDENERS** of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to **THOMAS BUTCHER**, Seed Merchant and Nurseryman, Croydon.

GARDENER (HEAD); age 33, married.—**J. E. McLEAVE**, eight years Head Gardener to R. Heywood Jones, Esq., Baisworth Hall, is open to re-engage ment with any No-homes, as he has acquired a thoroughly practical Gardener. Has had nineteen years' experience in all branches; is thoroughly conversant with the requirements of a good establishment. Testimonials of the highest order.—Catsclough, Walsford, Cheshire.

GARDENER (HEAD).—**Mr. Hall** wishes to recommend a thoroughly efficient Head Gardener, where five or more are kept.—**Mr. BEEVERS**, The Gardens, Farham Chase, Slough, Bucks.

GARDENER (HEAD), where two are kept; age 27.—**J. ANDERSON**, Gardener, Chairman, Dean, Worthing, wishes to recommend his Foreman, J. "Kilmer," to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD), in good establishment.—**Married**, no family. Abstainer. Life experience in Early and Late Forcing all kinds of Fruits, Flowers, Vegetables, Mushrooms; also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' experience as head employer, and sixteen years' experience.—**J. D.**, Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD), where two or more are kept; age 23.—**J. BOWDEN**, Gardener, Keston Court, Sudbury, wishes to recommend G. Saunders, who has been with him for six years, to any Lady or Gentleman requiring a good all-round Gardener. Life abstainer.

GARDENER (HEAD); age 33, married.—**Mr. WILLIAMS**, Blenheim Palace, Woodstock, wishes to recommend John Coles to any Lady or Gentleman requiring an efficient and competent Gardener, who thoroughly understands the management of a large Establishment; for the last seven years Principal Foreman at Blenheim.

GARDENER (HEAD), where three or more are kept; age 30.—**C. HEWITT**, Gardener to C. E. B. Young, M.P., Daylesford, Chipping Norton, can with confidence recommend his Foreman to any Lady or Gentleman requiring a thoroughly practical man.

GARDENER (HEAD), to any Lady or Gentleman requiring practical all-round man.—Age 42, married, no family; over twenty years' experience.—**E. W.**, 31, Bridge Street, Witney, Oxon.

GARDENER (HEAD).—Middle-aged, married, no incumbrance; fifteen months in present situation, two years in previous, where no only was enforced, and all surplus produce sold. Land and Stock, or Cretaker, if required. Excellent ex-acter through life.—**S. G.**, The Lodge, Otlands, Hovey, Surrey.

£10 will be paid to any one furnishing the Advertiser with information of any Gardening changes that will lead to obtaining an engagement as **HEAD GARDENER** where six or more are kept. Well versed in every branch of Horticulture. Character will bear strict investigation.—**LAWRENCE**, Mr. T. Huish, Coxwell Road, Faringdon, Berks.

GARDENER (HEAD).—Age 30; well up in the Cultivation of Plants and Fruits under Glass, Flower and Kitchen Garden. Excellent references.—**J. J.**, 165, Denmark Hill, Camberwell, S.E.

GARDENER (HEAD); age 32, married, two children.—A **GENTLEMAN** wishes to recommend his Head Gardener. Life experience in all branches of the profession. Two and a half years' good character.—**G. CANS**, Ashwick Hall, Marshfield, Chippingham.

GARDENER (HEAD); age 34, married, no family.—**E. T. DODAT**, Esq., can highly recommend his present Head Gardener, who has lived with him five years, as a thorough practical man for a large establishment.—Please reply to **E. W. RUSSELL**, Wood Green Park, Chessnut, Herts.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 27, married; no incumbrances. Has a thorough knowledge of Vines, Peaches, Stove and Greenhouse plants, Flower and Kitchen Gardening; one year's good character, five years' previous.—**A. MATTHEWS**, Hill Crest, Addlestone, Surrey.

GARDENER (HEAD WORKING); age 29.—**W. GOWAR**, Gardener to A. Aker, Douglas, Esq., Chelston Park, Maidstone, can with confidence recommend to Forests, W. Andrews, to any lady or gentleman requiring the services of a thorough practical and reliable man.

GARDENER (HEAD WORKING).—**F. CORNISH**, The Gardens, Holdwinds, wishes to recommend his Foreman, James Pullen. Thoroughly practical in all branches, including Orchids, Stove and Greenhouse Plants, Fruit, Hardy Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING), where two or more are kept.—A **GENTLEMAN** is desirous of recommending his Gardener, who has been with him for six years. Thoroughly understands Grapes, Peaches, Melons, Tomatoes, Greenhouse Plants, and Chrysanthemums. Flower and Kitchen Garden. Married, no children.—**F. H.**, Wilfield, Berkhamstead.

GARDENER (HEAD WORKING).—Age 46, married; well up in all branches. Flowers, Fruit, Vegetables. Protestant. Good character.—**W. M.**, Miss Gibbs, Upper John Street, Kilkenny.

GARDENER (HEAD WORKING).—Age 30; sixteen years' practical experience, including eleven for Exhibition.—**Mr. HUGGARD**, Gardener to Viscount Downe, Dingley, Market Harboro', can with confidence recommend his Foreman, George Phillips, as above. The Viscount Downe kindly permits reference.

GARDENER (HEAD WORKING).—Single; trustworthy, intelligent, and possessed of an excellent knowledge of all branches of Horticulture. High testimonials from counties preferred.—**J. H.**, 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING), where one or two are kept.—Age 27; thoroughly experienced in Vines, Peaches, Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Excellent character and testimonials.—**W. D.**, 40, East Street, Reading, Berks.

GARDENER (HEAD WORKING).—Others kept. Age 26, married, no family; life experience in forcing Grapes, Peaches, Melons, Cucumbers, Tomatoes, Stove Plants, Flower, Fruit, and Vegetable Garden; Chrysanthemums a specialty. Taken over 100 prizes for exhibits; five years' character, and references; offers invited.—**A.**, Newton, Tisbury, Glos.

GARDENER (HEAD WORKING).—Age 31, married, one child; has a practical knowledge in all branches. Good character.—**T. CHEESEMAN**, H. Foster, Claremont Nursery, Esher, Surrey.

GARDENER (HEAD WORKING); age 30, married, one child.—**H. BALDRESON**, Esq., F.R.H.S., highly recommends the following good and very intelligent Orchids.—**W. BAYLEF**, Camer Hall, Hemel Hempstead.

GARDENER (HEAD WORKING).—Age 32, married; abstainer. Thoroughly experienced in Early and Late Forcing, Vines, Peaches, Melons, Cucumbers, Tomatoes, Mushrooms, Orchids, Stove and Greenhouse Plants; Fruit, Flower, and Kitchen Garden; House and able Decoration. Messrs. WILLS & SEGAR, The Royal Botanic Nursery, South Kensington, S.W., can with every confidence recommend C. TAYLOR as above, to any Lady or Gentleman requiring the services of a reliable and trustworthy man.

GARDENER (HEAD WORKING).—Age 31, married, one child. Understands Vines, Peaches, &c. Excellent character. Abstainer.—**J. CHEESEMAN**, Mr. Foster, Claremont Nursery, Esher, Surrey.

GARDENER (HEAD WORKING), where two or three are kept.—Age 28, single; experienced in Vines, Peaches, Melons, Cucumbers, Flower and Kitchen Garden. Five years' good character.—**W. JOINER**, Holmwood Park, Dorking.

GARDENER (HEAD WORKING), where two or more are kept.—Age 28, married when suited; thirteen years' experience in large Establishments. Good references.—**G. W.**, East Orleton Lodge, Pembroke.

GARDENER (HEAD WORKING).—Age 31, married, one child; good practical all-round Gardener in all branches. Abstainer. I can recommend T. Cheeseman as above to any Lady or Gentleman.—**Mr. FOSTER**, Claremont Nursery, Esher, Surrey.

GARDENER (HEAD WORKING).—A **GENTLEMAN**, having sold his place, will be pleased to recommend his Head Gardener to any Lady or Gentleman in want of a thoroughly experienced and reliable man. Good character in Vines, Peaches, Melons, Cucumbers, Tomatoes, Stove and Greenhouse Plants, Orchids, and Chrysanthemums; Flower and Kitchen Garden.—**G. G.**, 21, Manor Park Road, East Finchley, N.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 35. Understands Vines, Stove and Greenhouse Plants, and Kitchen Garden. Please state wages, and full particulars.—**THE GARDENER**, Yelverton Lodge, Richmond Road, Twickenham.

GARDENER (SINGLE-HANDED, or otherwise).—Age 32, single. Eight years' good character for a large fruit and vegetable garden, and for the general work.—**A. M.**, Ruscombe, near Reading, Berks.

GARDENER (SINGLE-HANDED), or where help is given.—Age 32. Thoroughly experienced in all branches; two years' character, nine years' previous.—**G. S.**, The Gardens, Wykehurst, Bolesey, Sussex.

GARDENER (SINGLE-HANDED, or UNDER).—Age 23, single. Good experience both Inside and Out. Good references from previous employers.—**G. P.**, 6, Braddon Road, Croydon, Surrey.

GARDENER (good SINGLE-HANDED).—Age 25, single; experienced in all branches; eight years' good character.—**J. G.**, S. Herbert Road, Fintney, S.W.

GARDENER (SINGLE-HANDED, or where help is given).—Age 24; two years in present situation, five years previously. Good references.—**WILLIAM NEWBURN**, M., Leominster Gardens, near Hortham, Sussex.

GARDENER (SINGLE-HANDED).—Age 26; and a half years' good character.—**G.**, Mr. W. Orchard, Otlands Park Road, Weaybridge.

GARDENER (SINGLE-HANDED, or where help is given).—Age 30, married, no family; sixteen years' experience in Vines, Melons, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Gardens; also Land and Stock. Good character from previous employers.—**A. W. McEACH**, Heddington Lane, Mit-ham.

GARDENER (SECOND).—Age 23; six years in last situation; good all-round; good character and recommendation.—**T. K.**, The Gardens, Grey Tower, Hornchurch, Essex.

GARDENER (SECOND), or JOURNEYMAN.—Gardeners requiring a thoroughly reliable, strong, active young man (age 24). Abstainer.—Apply in first instance to **HEAD GARDENERS**, The Elms, Banbury, Oxon.

GARDENER (age 27, single) seeks a place as Outdoors Man. Twelve years' experience in law and kitchen garden.—**J. E.**, 39, North End, East Unstead, Sussex.

GARDENER.—Age 33; married, no children. Advertiser wishes to recommend to any Lady or Gentleman a good practical, energetic Gardener as above.—**J. HUGHES**, Iccle Hall Gardens, Chelster.

GARDENER (UNDER); age 21.—**J. JEFFERSON**, The Gardens, Carlton House, Workshop, Notts, will be pleased to recommend a young Man that has served with him three years' Inside and Out.

GARDENER (UNDER), Inside and Out.—Age 23. Four years' good character from present situation.—**H. BARTON**, 19, Queen Street, Crook's Place, Norwich.

GARDENER (UNDER), Inside and Out.—Age 18; strong and willing. Five years' experience Good references.—**E. S.**, The Grove, Harington, Houslow, Middlesex.

GARDENER (UNDER), or JOURNEYMAN is a private establishment in the Hon or Inside and Out.—Age 22; tall. Disengaged.—**G. REID**, Little Eaton, near Derby.

GARDENER (UNDER), Inside and Out.—Age 22; six and a half years' experience; good character.—**W. METCALFE**, The Gardens, Marton Hall, Marton, R.S.O., Yorks.

GARDENER (UNDER), Inside or Out.—Age 21; four and a half years' experience; good character; abstainer.—**J. JOHNSON**, Blackmore, near Ilogstone, Essex.

GARDENER (UNDER).—Age 22; can be well recommended.—**F. FRANKLIN**, 4, Grove Road, Ealing, Middlesex.

GARDENER (UNDER), Inside.—A young Man (age 18), anxious to improve, seek a situation in a Gentleman's garden. Total abstainer. Two years' good character.—**A. H.**, Watlington Park, near Dowdham, Norfolk.

GARDENER (UNDER), Inside and Out.—Age 18; three years' in last situation. Can be well recommended.—**R. S.**, The Court, Worcester Park, Surrey.

GARDENER (UNDER), in a Gentleman's Establishment preferred.—Age 20; three years' experience in and Out. Two years' reference.—**G. W.**, 16, Munster Street, West Kensington, W.

PROPAGATOR and GROWER.—Age 32; experienced in both branches; also as Salesman in the Market. Long character.—**FRED JENSEN**, Toddington Orchard Company, Wincobcombe, Gloucestershire.

PROPAGATOR (SOFT-WOODS), and FERN GROWER, Store and other Market Staff.—Age 21; ten years' experience. Good character.—**J. H.**, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

ROSE GROWER, &c.—Age 24; well up in Clematis, Budding, Grafting, and Producing Bloom for market; eight years' experience; good references.—**A.**, 13, Chamberlain Terrace, Eastleigh, Hants.

FOREMAN, PROPAGATOR, or GROWER.—Age 24, married. Ferns, Pansies, Chrysanthemums, Tuberoses, Liliums, Tomatoes, Cucumbers, &c. Good experience in Market Nurseries.—**MORRIS**, 6, Capworth Street, High Street, Leyton.

FOREMAN, or MANAGER, of a Branch Establishment.—Advertiser (age 28) desires an engagement as above. Fourteen years' Trade experience. Energetic and energetic.—**E. B.**, 61, Church Road, West Croydon.

FOREMAN, where four or five are kept.—Age 24; nine and a half years' good experience both Inside and Out; well up in Plant Decorations; well recommended.—**G. STACEY**, Chawton, Alton, Hants.

FOREMAN, in the Houses.—Age 22; well up in Plant and Fruit Houses, and Early and Late Forcing. Good character from last and previous places. Abstainer.—**W. COLBOURN**, The Gardens, Neville Court, Tunbridge Wells, Kent.

FOREMAN, in a good place.—Age 26; thirteen years' practical experience; excellent references.—**J. SHERRING**, Messrs. Parker & Sons, St. Michael's Hill Nursery, Bristol.

FOREMAN, or JOURNEYMAN (FIRST).—Age 23; twelve years' experience in good establishments; good experience in Orchids, and in Store and Greenhouse Plants. Abstainer.—**W. DYER**, 3, Hursthouse Terrace, Buxley, Kent.

FOREMAN, in a good establishment.—Age 21; seven years' experience in Fruit and Plant Houses; also done Decorations. Can be well recommended.—**J. GODDARD**, Wottonham Lane, Woking, Surrey.

FOREMAN, Inside.—Age 21. **T. OSMAN**, The Gardens, Otter-haw Park, Chertsey, will be pleased to recommend W. Shoemith to any one requiring a thoroughly practical man.

FOREMAN, Inside, in good Establishment.—Age 21; thoroughly understands Store and Greenhouse Plants, and Fruit Culture. Good character from present and previous situations. Abstainer.—**W. DOWN**, Muddleton, Longprish, Hants.

FOREMAN, in a good Establishment.—Age 29, single. General experience in all branches; highest references as above from good Establishments.—**F. H.**, Mrs. Parsons, Pampford, Cambs.

FOREMAN, or GARDENER. Age 26.—**Mr. McLEOD**, Dover House Gardens, Kewhampton, S.W., will be very pleased to recommend W. Wood to any Gardener requiring a Foreman.

FOREMAN, in the Houses, in a good Establishment.—Age 38; ten years' practical experience. Excellent character. Can be well recommended. Bothy preferer.—**H. C. GARDENH**, Coulsdon Common, Surrey.

FOREMAN (INSIDE).—Age 24. **Mr. OSBORNE**, The Grove Gardens, Teddington, can thoroughly recommend W. Wheeler as above. Eight years' experience in all branches. Orchids included.

FOREMAN, in the Houses.—Age 26; has been in good gardens; experienced in early and late Forcing, Fruit, Plants, and Flowers.—**F. JOHNSON**, 25, Stamford Road, Fulham.

FOREMAN (INSIDE).—Thorough experience in Orchids, Fruit, and Greenhouse, and General Forcing. Good referee.—**C. F. W.**, 122, Malham Road, Forest Hill, S.E.

FOREMAN (GENERAL), in a good Establishment.—Has a thorough knowledge of Fruit and Plant growing. Can be highly recommended.—**A. COLEMAN**, Cedar Cottage, Chertsey Wood, Herts.

FOREMAN, age 25.—**J. CHANDLER** wishes to recommend his present foreman, J. Stevens, to any gardener requiring a thorough competent man in hives, or general; eleven years' experience.—**Nys Park Gardens**, Putters Bar, Middlesex.

FOREMAN, in the Houses.—Age 21; well acquainted with Orchids, Stove and Greenhouse Plants, Early and Late Forcing. Good character.—**P. BROOKER**, 18, Hayhall Road, Tunbridge Wells.

FOREMAN. Age 26; eleven years' experience in Fruits, Plants, Chrysanthemums, &c. Good references.—**W. DOUWELL**, Waddesdon, Aylesbury.

FOREMAN, in a good Establishment.—**C. PUEZY** can with every confidence recommend his Foreman, F. Lup on, as above.—**Scampton Hall**, Killington, Yorks.

FOREMAN and MANAGER (WORKING).—Age 31, married; practical experience in Growing Grapes, Melons, Strawberries, Cucumbers, Tomatoes, Chrysanthemums, &c., for market. Seven years' first-class character as Foreman.—**A. B.**, 26, Castlebar News, Ealing, W.

FOREMAN, in a good establishment.—Age 27; well versed in all branches of the profession; two years' experience; good character and testimonials.—**J. DEAN**, Lower Eaton, Hereford.

JOURNEYMAN, under a good Foreman, in a large Establishment.—Age 23. Eight years' experience in good places; good character and testimonials.—**H. C. The Gardens**, Moushill Manor, Oadlingham, Surrey.

JOURNEYMAN, in the Houses.—Age 23; seven years' experience Inside and Out; well recommended.—**J. HARDY**, 121, Bury New Road, Whitefield, Manchester.

JOURNEYMAN, in the Houses, in good establishment.—Age 21; five years' experience. Excellent character. No objection to small premium.—**T. BRADLEY**, 25, Newland's Street, Barry Dock, Cardiff.

JOURNEYMAN (FIRST), in a good establishment.—Age 23. Eight years' experience; three years in present situation. Good references from past and present situations. Bothy preferred.—**F. FARLEY**, The Gardens, Bell House, Dulwich.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; five years' experience. Bothy preferred.—**G. M.**, 12, Belvedere Cottages, Church Road, Wimbledon, Surrey.

JOURNEYMAN, in the Houses, under good Foreman.—Age 21; good character from present situation. Bothy preferred.—**F. PIKE**, The Cottage, Iping, Mahurds, Sussex.

JOURNEYMAN (FIRST), in a good private establishment.—Age 21; seven years' experience. Can be well recommended by previous employers.—**F.**, Post Office, Swaleys Junction, Kent.

JOURNEYMAN (FIRST), in the Houses.—Age 23; six years' experience. Good character and good references.—**T. COUCHMAN**, The Gardens, Hartwell, Harfield, Sussex.

JOURNEYMAN (FIRST), in the Houses under a Foreman in a good establishment.—Age 24. Bothy preferred.—**H. MIDDLETON**, 53, The Grove, Ealing, W.

JOURNEYMAN (FIRST), in the Houses, in a good establishment.—Age 22; good references.—**T. CUTLER**, Widmore Lodge, Bromley, Kent.

JOURNEYMAN, Inside.—Age 21; four and a-half years in present situation. Outside and In. Can be well recommended.—**Mr. MORRIS**, Head Gardener, Oakwood, Maidstone.

JOURNEYMAN (FIRST), in the Houses, or SECOND in a small place.—Age 27; eleven years' experience. Good character.—**G. SPECKLEY**, Swinton Park Gardens, Masham, Yorks.

JOURNEYMAN.—Age 21. Five years in the Houses. Good character from three gardeners.—**J. B.**, The Cemetery, Luton Beds.

JOURNEYMAN, in a good establishment.—Age 22.—**J. BUSBY**, Bleasworth Lodge, Harrogate, can with confidence recommend a young man as above. Eight years' experience. Three in present situation.

JOURNEYMAN (FIRST), in the Houses in a good establishment.—Age 23. Two years in present place. Good reference. Bothy preferred.—**T. KIPPING**, Ashridge Park Gardens, Great Berkhamstead, Herts.

JOURNEYMAN (SECOND), Inside, in a large Private Establishment.—Age 19; five years' experience, three under Glass. Excellent character.—**H. ROUSE**, Malpas, Brumpton, York.

JOURNEYMAN, Inside, under a Foreman.—Age 22; used to Table Decoration; five years' experience Inside and Out. Bothy preferred.—**F. E. The Gardens**, West Stoke, Chichester.

JOURNEYMAN, Inside and Out.—Age 20. Good experience; four years' excellent character from present situation. Height, 6 feet.—**E. H. HEWER**, Voleshall, Highworth, Wilts.

JOURNEYMAN, Inside, or Inside and Out.—Age 23; seven years' experience. Good character. Total abstainer.—**HARRY DONNELLY**, Everingham, York.

JOURNEYMAN (FIRST), in a large establishment.—Age 24; good references from past and present employers.—**W. SMITH**, The Gardens, Stanton Harold, Ashby-de-la-Zouch, Leicestershire.

JOURNEYMAN, Inside; age 22.—**W. WELCH**, Hartham Park, Corsham, Wilts, wishes to recommend a young man as above. Good character, and several years experience Inside and Out.

JOURNEYMAN GARDENER, in good place.—**W. GILBERT**, Hargley Gardens, Stamford, can supply a thoroughly good young man (age 22).—Apply as above.

JOURNEYMAN, inside, under a Foreman; age 20.—**T. BRIDGES**, Milton Gardens, Peterborough, can highly recommend John Sam worth, who has been under him for four years; bothy preferred.

JOURNEYMAN, in the Houses.—Age 20; six years' experience; two years in present situation. Well recommended; bothy preferred.—**HEAD GARDENER**, Pinkney Park, Malmesbury, Wilts.

JOURNEYMAN, (FIRST, or good SECOND).—Age 23; can be well recommended by present and previous employers. Two years in present situation.—**T. FRANCIS**, Brookland Hall, Welshpool.

ASSISTANT GROWER, amongst Softwood Staff, &c.—Young man (age 21). Good character.—**W. M. Gardeners' Chronicle Office**, 41, Wellington Street, Strand, W.C.

IMPROVER, under Glass, in Gentlemen's Gardens.—Age 19.—**E. G.**, 13, Grosvenor Square, London, W.

IMPROVER, in the Houses.—Age 19, five years in present situation; bothy preferred.—**J. S.**, The Gardens, Handcross Park, Crawley, Sussex.

IMPROVER, Indoors and Out, in good establishment, where six or more are kept.—Age 14; small premium not objected to.—**HAMERKROOK**, Waddesdon Rectory, Aylesbury, Bucks.

IMPROVER.—**Mr. ABBOTT**, Head Gardener, Old Park Estate, Ventnor, recommends a young man who has been three years under him (inside), who desires to get on a de-tremum in E-state as Improver all round.—**GROVES**, 1, Cyprus Villas, Ventnor, Isle-of-Wight.

IMPROVER.—**J. E. SMITH**, Gardener to Colonel Cusumaker, will be pleased to recommend a young man (age 19) as above. Would give a small premium, if required.

TO GENTLEMEN with large Gardens.—The Advertiser, a Gardener of great experience, and a well-known skilful Horticulturist, will be open to an engagement early in May, or would tend a large garden or superintend on commission.—**OMEGA**, 99, Kennington Road, London, S.E.

TO GARDENERS.—Improver, in a Gentleman's garden, Inside, or Inside and Out.—Age 19; six years' experience.—**FRANK HARRIS**, The Langkies, Selby Oak, Birmingham.

TO GARDENERS.—A young man wishes a situation as Improver, Inside and Out; four years previous situation in gardens; suburbs of London preferred.—**H. ROUSE**, Lytham Common, Hayward's Heath, Sussex.

TO GARDENERS, &c.—A young man seeks a situation to look after Flower Beds, Pleasure Grounds, Walls, &c. Five and a half years' character.—**G. KING**, 38, Green Street, Ryde, Isle of Wight.

TO GARDENERS.—Situation wanted for a strong lad, age 16, under good gardener. Premium offered.—**MRS. COUCHMAN**, Gloucester.

TO GARDENERS.—A young man (age 20) seeks a situation in the Houses, or Inside and Out. Eighteen months' character from last place, and four years previous.—**T. HOWARD**, Loxley Lodge, Guildford, Surrey.

TO GARDENERS.—A young man wishes a situation as Improver, Inside and Out. Three years' previous situation in garden. Please state wages.—**F. BUCK**, Uxbridge, Sussex.

TO NURSERYMEN.—Situation wanted in a Market Nursery; understands the growing up of Roses, Carnations, Pansies, and other Flowers for Market Purposes.—**KIMLION**, 1, Elm Cottages, Rye Park, Huddersdon, Herts.

TO NURSERYMEN.—Situation wanted by a young man in the Nursery; age 20, single; twelve years' experience in fruit and flower gardens. Good reference.—**J. E.**, Koxborough Road, Harrow-on-the-hill.

TO NURSERYMEN and OTHERS.—Wanted, temporary employment, one to three months, Grape Thinning, or other Jutting.—**J. LUSTED**, Barwash, Sussex.

TO SEEDSMEN, FRUITERS, and FLORISTS.—**SHOEMAN**, age 22. Nine years' practical experience in Seeds, Bulbs, Plants, Flowers, and Fruit. Unexceptional references. London or West of England preferred.—**T. E. M.**, 6, Duke Street, Southampton.

SEED TRADE.—Situation wanted by a young man as an ASSISTANT to the Seed Trade. Four-and-a-half years' experience. Good references.—Apply to **W. C.**, 41, Mount Row Davis Street, London, S.W.

SHOPMAN, or MANAGER.—Age 28; experienced in Weeds, Plants, seeds, Nursery Stock, book keeping, &c. No objection to part commission. Highest testimonials.—**ALFRED**, 4, Ellerslie Road, Clapham.

TRAVELLER (successful) seeks appointment in good firm. Has occupied positions in leading London houses.—**H. S.**, *Gardeners' Chronicle Office*, 41, Wellington Street, Strand, W.C.

To Nurserymen and Gardeners. **HANDYMAN** wants employment.—**Painter, Glazier, Hot-water Fitter.** Own tools. Any district. At Rivercourt Nursery, Hammersmith; or address **E.**, 10, Secretan Road, Camberwell, S.E.

ESTATE CARPENTER.—Well up in all branches of his trade, in housework, and outside. Can be highly recommended.—**W. W.**, Elmhurst Lodge, Bevedare, Kent.

TO FLORISTS.—A young Lady, with good West-End and Provincial experience, is desirous of a re-engagement; is a good all-round hand, and has been accustomed to Manage; is a good bookkeeper, and very highly recommended.—**A. H. K.**, 2, Keith Villas, Epsom Road, Ewell.

HOLLOWAY'S PILLS.—In general debility, nervous tremor, and mental depression, these unrivalled Pills have a marvellous effect. They have won the confidence of millions in all parts of the civilised world. Conductions caused by sexual excess, or by long residence in unwholesome climates, or by sedentary habits, are wonderfully relieved by a course of this extraordinary medicine which, powerful as is its action on the whole system, is perfectly harmless to the tenderest frame. The Pills are composed of pure balsams, without the admixture of a grain of any mineral whatever, or of any other deleterious substance. They operate directly, powerfully and beneficially upon the whole mass of blood, and can we question the fact when we are indigested, cured, liver complaints arrested, the oppressed lungs brought into healthful play, and every physical function renewed and strengthened by their agency.

AWARDED TWENTY PRIZE MEDALS

AT INTERNATIONAL EXHIBITIONS AT HOME AND ABROAD.

KEITH'S PATENT BOILERS, THE "CHALLENGE," "VIADUCT," "PYTHON," &c.,

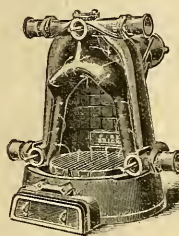
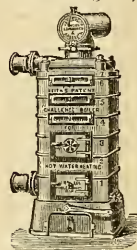
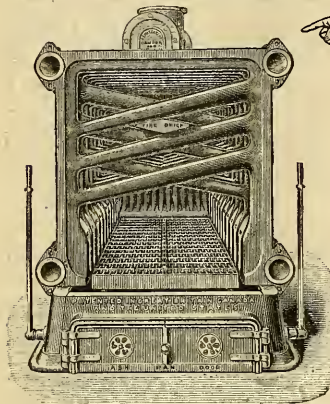
FOR HOT-WATER HEATING, "STAND FIRST," require no building work round them, are entirely water-jacketing, and heat from 50 feet up to 20,000 feet of 4-inch pipe respectively. Many thousands are in use all over the world, and the Boilers are unrivalled in power and economy.

KEITH'S "PYTHON" BOILER, as illustrated below, has 1000 square feet of effective heating surface, with 17½ square feet of fire-grate area; heats about 20,000 feet of 4-inch pipe, and is the Most Powerful and Complete Sectional "Special" Hot-water Heating Boiler in the World.

This Engraving "illustrates the most powerful form of Boiler that has yet been made for Hot-water Circulation."—Extract from *Hood, on Warming by Hot-water*, New Edition, 1891.

KEITH'S BOILERS

are almost exclusively used by Her Majesty's Government, at the Home Office, and for the Heating Work of the Prisons throughout the United Kingdom, in preference to all others.



Manufactured under thirty James Keith's Patents in Great Britain, United States, and Canada.

JAMES KEITH (C.E., Assoc. M.Inst.C.E.), Gas, Hydraulic, Heating, Ventilating, and Consulting Engineer. Established 1823. Contractor to Her Majesty's Government. 57, HOLBORN VIADUCT, LONDON, E.C., ALSO AT EDINBURGH AND ARBROATH.

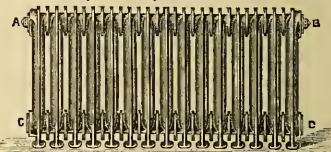
KEITH'S PATENT
RAMS &
Self-acting,



HYDRAULIC
RAM-PUMPS,
For Raising Water.



The very HIGHEST EFFICIENCY attained in Self acting Hydraulics, by KEITH'S RAMS.



KEITH'S PATENT "UNIVERSAL" RADIATORS,
For Hot-Water Heating. Made in One Piece, and in many Sizes and Modifications. No Joints to Leak. Thousands in use.

International Horticultural Exhibition,

EARL'S COURT, S.W.

OPENING DAY, MAY 7th, 1892.

INTENDING EXHIBITORS should make **immediate APPLICATION FOR SPACE,**
WHICH IS RAPIDLY BEING TAKEN UP.

THE EXHIBITS WILL INCLUDE—CONSERVATORIES and FORCING HOUSES—BOILERS—LAWN MOWERS, ROLLERS, and GARDEN TOOLS—GARDEN TENTS and SEATS—FLOWER STANDS and SUMMER HOUSES—ORNAMENTAL IRONWORK and FENCES—FERNERIES and ROCKWORK—GARDEN POTTERY, STATUARY, FOUNTAINS, &c.—PAINTS, LABELS, FIBRES, MANURES, INSECTICIDES—PEATS and FUEL—TREE TRANSPLANTING MACHINES—BOUQUET HOLDERS, PAPERS, TUBES, &c.—MACHINERY for SEED-CLEANING and EXTRACTING ESSENTIAL OILS—PERFUMES, FRUIT EVAPORATORS, PUMPS—COLLECTIONS of SEEDS of all KINDS—DESIGNS for ESTATES and GARDENS—PHOTOGRAPHS of TREES, &c.—ESSAYS on GARDENING and FORESTRY.

There will be, in addition to the above, displays of every branch of Industry of interest to

PRACTICAL & SCIENTIFIC HORTICULTURISTS.

ADDRESS—THE SECRETARY, INTERNATIONAL HORTICULTURAL EXHIBITION,

EARL'S COURT, LONDON, S.W.

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, April 2, 1892. Agent for Manchester—JOHN HEYWOOD.

The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2676.

No. 276.—VOL. XI. {THIRD SERIES}

SATURDAY, APRIL 9, 1892.

[Regt. as a Newspaper.] PRICE 3d. POST-FREE, 3d.

NOTICE TO ADVERTISERS.
FRIDAY NEXT, April 15, being GOOD FRIDAY, the "GARDENERS' CHRONICLE" will be published on THURSDAY, April 14.
ADVERTISEMENTS for NEXT WEEK must therefore reach the Office not LATER than WEDNESDAY MORNING, April 13.

CONTENTS.

Annons, are they evergreen?	499
Apple bushes, forming	458
Apple Sturmer Pippin	469
Berry-bearing covert	461
Black Currant as an anti-Dentaria grævis	473
Books	473
Annals of the Royal Botanic Garden, Calcutta	468
British Guiana	461
Brown spots on leaves	467
Camellias, grafting	461
Chicago Exhibition	465
Dentaria grævis	469
Diseases of the reproductive organs of plants, caused by fungi	472
Eucalyptus fruiting	468
Florida's flowers	462
Glazing clip	473
Herbaceous border, the	473
International Horticultural Exhibition	464
Journal of the Royal Horticultural Society	464
Kew Gardens, history of Law notes:	458
Fern puffering	473
Malbours	474
Mignonette, Golden Queen	460
Natal Botanic Garden	464
New croatoeworth plants	455
Cypripedium x Cleopatra	453
Nursery notes:	474
Orchids at Messrs. Lewis & Co., Southgate	469
Primulas at Messrs. J. Carter & Co.	470

ILLUSTRATIONS.

Apples, diamond leaved	458
Apple, double horizontal cord	459
Apple, single cord	459
Exhibition-ground, Earl's Court	467
Glazing clip	473
Grafting	461
Plum, double cord	459
Ranunculus cortusifolius	465

CLEMATIS FOR BEDDING.—Now is the time for planting, 100 to 20 best kinds, my selection, for 50s.—CHARLES NOBLE, Bagshot.

RASPBERRY CANES.—Norwich Wonder, strong and well rooted, free on rail. At 18s. per 1000, cash with order. Not less than 1000 supplied. ALBERT BATH, Vine Court, Sevenoaks, Kent.

Spring 1892.
CHARLES TURNER'S general and descriptive CATALOGUE OF FLORIST FLOWERS and other PLANTS is now ready and will be sent free on application. The Royal Nurseries, Slough.

CAULIFLOWER PLANTS. 2s. per 100; LOBELIA, Emperor William, 2s. per 200; LOBELIA, white, 2s. per 100; CALCEOLARIA, Golden Gem, 4s. per 100. L. SOLOMON and SON, Winchmore Hill, N.

CARTERS'—THE BEST SEEDS.
CARTERS' HOLBORN PRIZE PRIMULA.
CARTERS' VICTORIA PRIZE CALCEOLARIA.
CARTERS' BRILLIANT PRIZE CINERARIA.
The finest strains in cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN.
237 and 238, HIGH HOLBORN, LONDON, W.C.

Grape Vines—Grape Vines—Grape Vines.
B. S. WILLIAMS AND SON have some extra strong Fruiting and strong Planting Canes still on hand. Full particulars as to Prices and Varieties on application.
Victoria & Paradise Nurseries, Upper Holloway, London, N.

ROSES! ROSES! ROSES!—Plant now 100 strong dwarf, H.P. Roses for 25s.; or £10 per 1000. The finest in the Trade.
Send for Sample Duzzen, 5s. Cash with Order.
CATALOGUES, free on application.

C. H. GORRINGE, Roseland Nursery, Eastbourne.

STANDARD ROSES, 14s. per doz. Bush Roses, 6s. per doz.; best named Clematis, 14s. per doz.; Ampelopsis Verticill, 4s. per doz.; Variegated Ivy, 4s. per doz.; Mrs. Sinkins Pink, 12s. per 100; Ferns, in pots, 15s., 24s., and 48s. per 100. Catalogue, gratis and post-free.
H. ENGLISH, Clevedon Nurseries, Clevedon.

W. D. BUNDAY, of Covent Garden Market, No. 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPES, &c. Good references.

FERNS! FERNS!—Trade.—Greenhouse and Store, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cuneatum, Aralias, Cyperus, and Primulas, all in 45s., 6s. per doz. Genistas, Palma, and Ficus, 1s. each. Large Ferns, 10 best sorts, 5s. 6d. per doz., in 48s. Cinerarias, Spiræas, and Cyclamens, full bloom, 9s. per dozen, in 48s. Adiantum cuneatum and P. tremula, extra size, 1s. 2d. per doz., 16s. and 20s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

Vegetable and Agricultural Seeds.
H. and F. SHARPE'S SPECIAL PRICED LIST of the above-named SEEDS comprises all the finest varieties of 1891 growth, and at prices very favourable to purchasers. Those in the Trade who have not yet received a copy can have one on application to Wisbech.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 9d. per 100.
RICHARD SMITH AND CO., Worcester.

150,000.—Special Offer of Kentias.
W. ICETON has a large quantity of the above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £20 per 1000.
W. ICETON, Putney, S.W.

WANTED, a quantity of MAIDENHAIR FERNS, in small pots, for Potting on. Lowest price to R. PESTER, Winchester Hill.

WANTED.—Market, 600 CHRYSANTHEMUMS, rooted. Quote price.
Apply, A. MORRIS, 6, Gordon Villas, Hampton.

WANTED, choice CUT FLOWERS for SALE in COVENT GARDEN MARKET; good prices made. No. 40, Strand, and 170, Chequer weekly.—S. DENSON AND CO., The Nurseries, 22, Maida Vale, Egham Road, W.

WANTED, CALADIMUS MINUS, RUBESCENS and ARGYREUS. State price per dozen or 100 to L., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.O.

WANTED, PLANTING SEAKALE. Prices to CLIBRAN and SON, Altrincham.

WANTED, a few thousand RHODODENDRON STOCKS.—Send price to—J. CHEAL AND SONS, The Nurseries, Crawley, Sussex.

THE BEST LAWNS are produced from—

SUTTON'S GRASS SEEDS, which should now be sown either to Make New Lawns or Improve Old Lawns. See full directions in—

SUTTON'S LAWN PAMPHLET, Sent post free by SUTTON AND SONS, READING.

Now is the Time to Plant PEONIES, PYRETHRUMS, DELPHINIUMS, and GALLIARDIAS, the most showy of all Hardy, Easily-grown Perennial Plants. For Priced Lists, see KELWAY'S SEED and PLANT MANUAL for 1892, 1s., post-free (deducted from first order), to those unknown to us. KELWAY'S GLADIOLI.—Now is the time to plant. Priced Descriptive List, free.
KELWAY AND SON, Langport, Somerset.

The Best Present for a Gardener. VINES and VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
New Edition.
Price 6s., post-free, 5s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

PRIZE PANSY PLANTS, and other PERENNIALS, in boxes containing one and a half dozen each. Prize Fancy, or Tricolors PANISIES, 1s. 9d. per box; POLYANTHUS, Show, 1s. 6d. per box; SWEET WILLIAMS, WALLFLOWERS, and DOUBLE DAISIES, 1s. per box. The above are Extra Strong Plants, and are sent Carriage Paid. Enclose Postal Order with order.
R. H. BATH, Osborne Farm, Wisbech.

SMALL SHRUBS, &c.—Abies orientalis, 4 years, 40s. per 1000; Cupressus erecta viridis, 8 to 9 inch, 30s. per 1000; Escallonia macrantha, 9-inch, 8s. per 100; Lonic, purple, 3-year, 30s. per 1000; Laurustinus, 6 to 8 inch, 7s. per 100; Oaks, Evergreen, 10 inch, 50s. per 1000; Pinus Cembra, 3-year transplanted, 40s. per 1000; Pinus Nordmannia, 2-year transplanted, 6s. per 100; Rhododendron, 4 to 6 inch, 40s. per 1000; New, English, 2 year, 20s. per 1000; Thuis Lobbi, 10 to 12 inch, 40s. per 1000; do, 15 to 18 inch, 50s. per 1000.
GARLIES MITCHELL, Nurseryman, Stranraer.

DAVIS'S BEGONIAS.—Superb in Quality. Double, 12s. to 63s. per doz.; Single, 9s. to 30s. per dozen. For Bedding, Double, 6s. to 13s. per doz.; Single, 4s. to 6s. per doz. Two of the best Double grown are Altheafors, 5s., and Mauvette, 3s. each. My Catalogue, the best published, describes nearly 300 of the best Varieties, free.
B. E. DAVIS, Begonia Grower, Yeovil, Somerset.

FWELER'S MEALY BUG DESTROYER.
For the eradication of this most troublesome pest. It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s. 6d., 5s., and 10s.; half gallon, 21s.; one gallon, 42s. each. CORRY and CO., Limited, 13, 15, 17, Finsbury Road, E.C. Sold by all Seedsmen.

THE CHADBORN and COLDWELL MFG. CO.,

Makers of the Patent "EXCELSIOR" LAWN MOWER, 223, UPPER THAMES STREET, LONDON, E.C.
Registered Telegraphic Address: "LAWY MOWERS, LONDON."

J. WEEKS AND CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.
King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from our own, and over carriage paid. London Agent: Mr. GEO. SGR, 10, Victoria Road, Putney.
WM. THOMSON AND SONS, Clonsford, Galashiels, N.B.

SALES BY AUCTION.

Wednesday Next.

A fine collection of 500 well-grown DWARF ROSES, from France; a collection of STOVE and GREENHOUSE PLANTS, imported and home-grown LILUMS, a consignment of AZALEA MOLLIS, from Ghent; 150,000 TUBEROSUS and AMARYLLIS, BEGONIAS, FRUIT TREES, CONIFERS, LAURELS and FLOWERING SHRUBS, GLADIOLI, LILY OF THE VALLEY clumps, and a fine collection of BORDER PLANTS.

MR. J. C. STEVENS will SELL by AUCTION the above, at his Great Rooms, 3, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 13, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Tuesday Next.

MESSRS. PROTHEROE & MORRIS have received instructions from Messrs. CHARLES WORTH, SHUTTLEWORTH & Co., Henton, Bradford, and 213, Park Road, Clapham, S.W., to offer at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on Tuesday next, April 12, at half-past 12 o'clock, an exceedingly fine and well-grown lot of ORCHIDS, conveniently lotted to suit the trade and large buyers. Some of the most rare and valuable species and varieties will be found among them, notably, *Orchidium aureum*, *Calanthe veitchii* in flower, *Houlletia* species now in flower, *Odontoglossum Keckii*; *Epidendrum Frideirici* Gulemi, in flower; *Oncidium* *variegatum*, *variegatum*, in flower; *Odontoglossum polyanthum*, in flower; *Lelia grandis* tenebrosa, *Maxillaria Sanderiana*; *Cyclopogon Massagense*, *Orchidium macrochiton*, in spike; *Cattleya Schilleriana*, *Oncidium globuliferum* (var. red), *Mitella* candida grandiflora, *Oncidium curtum*; *Dendrobium Phalenopsis Schroderianum*, the Giant Mott Dendrobium, *Cypripedium hirsutissimum*, *Vanda cordata*, and many others. Also 30 lots of well-grown Established Orchids, *Odontoglossum cinctum*, *Odontoglossum punctatum*, *Orchids* in flower and bud, *Orchid* Pent, &c. On view morning of Sale, and Catalogues had.

Wednesday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, April 13, at half-past 11 o'clock, JAPANESE LILIES in variety, 300 Double and 1800 Single BEGONIAS, PALMS, GREENHOUSE FERNS, 500 STANDARD and DWARF ROSES, GLADIOLI LEMONI, and 2000 CHRYSANTHEMUMS, 170 SPECIMENS OF BACULUS PLANTS, NYMPHEAS, WOOD TRELLIS, &c. On view morning of Sale, and Catalogues had.

Wednesday Next.

39,000 ARECA LUTESCENS, 65,000 GEMINI, including *Elegans*, *Gracilis*, *Princeps*, and *Scotiana*, 1,000 MARTINEZIA EROSA. An importation received direct for unreserved sale. MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on WEDNESDAY NEXT, April 13.

On view morning of Sale, and Catalogues had.

Wednesday Next.

HELIANTHUS LEUCIFOLIUS (the Canadian Sunflower). MESSRS. PROTHEROE AND MORRIS will include about 1000 Roots of the above in their SALE on WEDNESDAY NEXT, April 13.

On view morning of Sale, and Catalogues had.

Dulwich Common.

Sale of well-grown STOVE and GREENHOUSE PLANTS, ORCHIDS, &c., by order of the Executors of the late A. Bruce, Esq.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by AUCTION, on the Premises, at the corner of Gallery Road, opposite Dulwich College, Dulwich Common, one mile from Dulwich Station, L.C. & D.R., on MONDAY NEXT, April 12, at 12 o'clock precisely, without reserve, the whole of the well-grown STOVE and GREENHOUSE PLANTS, comprising about 150 Orchids, including *Vanda tricolor*, grand plants; *Vanda tenebrosa*, *Dendrobium Farneri*, *Cattleya*, *Cypripedium*, and others; 1800 Geraniums, in variety; *Gloxinias*, *Begonias*, 11 fine *Eucharis amazzonica*, *Crocus*, *Dracenas*, *Adiantum Farleyense*, *Lapageria alba* and *rubra*, 30 *Camellias*, and *Azaleas*, large plants; and many others; also Garden Implements, consisting of mow and 2-hill Rakes, Hand-lights, Water-barrow, Garden-seats, Pair of Rustic Vases, 2 Green's Lawn-mowers, in capital condition; 2 Garden-rollers, Flower-pots, &c. May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

May be viewed on Friday and Saturday prior to the Sale, Catalogues had on the Premises; of Messrs. DEUCE and ATTLEE, Solicitors, 10, Billiter Square, E.C.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Kingston on Thames.

Opposite the County Council Office. MESSRS. PROTHEROE AND MORRIS are instructed by W. Clay, Esq., to SELL by AUCTION, on the Premises, Elm Villa, Grove Road, Kingston on Thames, on TUESDAY NEXT, April 12, at 12 o'clock precisely, the whole of the well-grown GREENHOUSE PLANTS, comprising *Camellias*, *Azaleas*, *Ferns*, *Dracenas*, 1250 Maidenhair Ferns, 10 *Stephanotis*, 9 *Lapageria alba* and *rubra*, a few *Orchids*, 400 *Cyclamen*, in 48 and 60 pots, a beautiful strain, the greater part being in flower; 300 *Pelargoniums*, 1000 zonal and golden coloured *Geraniums*, 40 capital spanned Greenhouses, three being 50 feet by 16 feet, the other, 75 feet by 16 feet; 1400 feet of 4-inch hot water piping, patent ventilating gear and saddle boiler, a 12-light span-roofed potting shed and packing shed, office, desk, water barrow, and other items.

May be viewed the day prior to and morning of Sale. Catalogues had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Milford Hill, Salisbury.

UNRESERVED SALE of the well-grown COLLECTION of EXHIBITION STOVE and GREENHOUSE PLANTS, formed by Lieutenant-Colonel PEPPER, and which have been so successfully exhibited at the principal shows.

MESSRS. PROTHEROE AND MORRIS are instructed by Lieutenant-Colonel PEPPER (who is giving up exhibiting), to SELL by AUCTION, on the Premises, Milford Hill, Salisbury, on WEDNESDAY, April 27, at 12 o'clock precisely, the whole of the valuable COLLECTION of EXHIBITION STOVE and GREENHOUSE PLANTS, including specimen *Crocus*, *Palma*, *Cycads*, *var. Ericas*, *var. Allamandas*, *Clerodendrons*, and a small collection of ORCHIDS. Further particulars will appear next week.

Orchid Sale for Easter Decoration.

MR. THOMAS B. JAMES will SELL by AUCTION, on TUESDAY NEXT, April 12, at 12 o'clock, at his Rooms, 2, Baking, Birmingham, 560 ORCHIDS in FLOWER, gathered from well-known Collections in the United Kingdom, and on the Continent; also a consignment of imported *DENDROBIUM WARDIANUM* GIGANTEUM LOWI and *D. FORSTII* GIGANTEUM. The Orchids are of the finest quality, and will be sold to suit all buyers. Messrs. Hugh Law & Co.; also an importation of *ODONTOGLOSSUM ALEXANDRE* (Eacho type), *CATTLEYA LABIATA* and *ANTHURUS YENDI*, *ODONTOGLOSSUM* *var. Schroderi*, *DENDROBIUM PHALENOPSIS* *var. Schroderi*, from Messrs. Charlesworth, Shuttlesworth & Co., every plant, with the exception of one or two specimens in flower, will be sold absolutely without reserve. Commisions carefully executed, and purchases promptly dispatched.

N.B.—WANTED, CONSIGNMENTS of CUT BLOOM, to arrive for SALE on TUESDAY and WEDNESDAY NEXT. Highest Market Prices obtained.

Unprecedented Nursery Sale.

Owing to the Ground being required for Building purposes, MESSRS. R. B. LAIRD AND SONS have instructed Mr. DAVID MITCHELL, Horticultural Auctioneer, to DISPOSE of, by PUBLIC AUCTION, on WEDNESDAY and THURSDAY, April 12 and 13, each day at half-past 11 o'clock, the whole of their immense stock of STOVE and GREENHOUSE PLANTS growing in their numerous Glass-houses at West Coates Nurseries, Haymarket, Edinburgh (previous to the Houses being removed and re-erected at the Nurseries, Murrayfield). The Stock consists of magnificent Specimens *Greenhouse Rhododendrons*, such as *Fragrantissima*, *Princess Alice*, "Dennison's", *Countess of Haddington*, &c. Also fine examples of *Indian Ardisia*, in all the leading sorts, in splendid health, and many of them coming into bloom. Choice lot of *Palms*, *Crocus*, *Eucharis*, magnificent *Pitcher Plants* (rare kinds), also large Tree Ferns with fine stems, and without exception, the grandest lot of *Candelabra* ever offered for Sale by Public Auction. For size and descriptions see Catalogues, which are in preparation. West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

West Coates Nurseries, Edinburgh, April 4, 1892.

Ashford Parochial Charities.

TO NURSERYMEN AND OTHERS.

TO BE LET, BY TENDER, for 21 years, or a less term if desired (subject to the approval of the Charity Commissioners), from OCTOBER 11 next, the SHOP, OUTAGE, STOREHOUSE, 3 GREENHOUSES, communicating with each other; 2 WAREHOUSES, and 1a, 3r, 10p, or 10p-reabouts, of NURSERY GROUND, close to the Ashford South-Eastern Railway Station, and now in the occupation of Messrs. Ranyard.

Copy of proposed Lease and Conditions of Letting can be seen at the Offices of Messrs. Hallett & Co., 11, Bank Street, Ashford, Kent.

Possession of the property could probably be obtained previously to October 11, by arrangement with the present tenants.

Tenders, Sealed, and Endorsed "Tender for Nursery Premises," to be sent to me by APRIL 20 next.

The Trustees do not bind themselves to accept the highest or any Tender.

HORACE HAMILTON, Clerk.

11, Bank Street, Ashford.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

March 23, 1892.

EXHIBITIONS.

RICHMOND HORTICULTURAL SOCIETY.

The SUMMER SHOW will be held in the OLD DEER PARK, RICHMOND, on WEDNESDAY, June 29, 1892. For Schedules, and all particulars, apply to—
J. H. FORD, Hon. Sec.
22, George Street, Richmond.

GRAPE VINES.—Large stock of well-ripened Canes. Tarragon, Rhabarbar, Strawberries, Whole-sale and Retail.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

NEW CHRYSANTHEMUM. Mrs. Robinson King, new Golden-Yellow Incurved sport from Golden Empress. Awarded six First-class Certificates. The true certificated variety. 5s. each, 3 for 7s. 6d.
R. OWEN, Chrysanthemum Grower, Maidenhead.

ORCHIDS A SPECIALITY.—Please write for Well Illustrated Price List of well-established, healthy, and easily grown plants.
W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

CHOICE PANSIES.—Trimardeau or Giant Pansies, Cassier's, Bugnot's, and Odier's Giant Blotched, and Benary's La Plus Ultra. Price, per 100 or 1000, on application.
S. DENSON and CO., 22, Maiden Vale, London, W.

ANEMONE JAPONICA ALBA.—Flowering roots, 10s. per 100.
A. YOUNG, Nurseryman, West End, Esher.

JOHN RUSKIN.—Earliest STRAWBERRY in commerce, indoors or out. Grand Forcers. 12s. per 100, nice plants, good roots. This Strawberry has made 40s. per lb. this season in Covent Garden.
W. HORNE, Perry Hill, Cliffe, Rochester, Kent.

LAXTON'S SEEDS AND STRAWBERRIES.—Best novelties and best standard sorts. 100 Certificates. Send for Descriptive Priced Lists.
T. LAXTON, Seed Grower, Bedford.

ASPARAGUS.—Fine, strong, healthy roots, as good as money can buy; 1 year at 2s. per 100; 2-year, 3s. per 100.
T. B. DOLBY, Hope Nursery, Boston, Lincolnshire.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MOARTRUP, The London Nursery, 4, Maiden Vale, London, W.

10,000 EUONYMUS (Green), bushy, well-grown, 18 inches to 30 inches, 6s. to 15s. per dozen. Less by the 1000. Cash with Order.
J. J. CLARK, Goldstone, West Brighton.

NICOTINE SOAP.—An effective and speedy Eradicator of Scale, Thrips, Green Fly, Mealy Bug, Red Spider, American Blight, and all Parasites affecting Plants, without injury to Foliage. Price 1s. 6d., 3s., and 5s. 6d.; 14lb., 15s. 6d.; 28 lb., 15s.—CORY and CO., Limited, 13, 15, and 16, Finsbury Street. To be obtained through all Seedsmen and Florists.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have an immense stock of

ORCHIDS,

Both Established and Semi-Established, and they are constantly receiving

IMPORTATIONS

from various parts of the world.

INSPECTION IS VERY EARNESTLY INVITED.

The COMPANY'S Prices are all fixed as low as possible, with the view of inducing liberal Orders.

PRICED AND DESCRIPTIVE CATALOGUE
Post-free on Application to the Company.

THE VINEYARD AND NURSERIES,
CARSTON, NEAR LIVERPOOL.

FOR ORCHIDS, and GARDENERS
to Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World, 30 minutes from St. Pancras.

Trade Offer of Large Palms.

W. ICKETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application.
W. ICKETON, Putney, S.W.

LOVEL'S YORKSHIRE STRAWBERRIES.—We offer for Cash, good sorts in nice plants, carriage paid, at 3s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample Dozen, 6d. Descriptive LIST free.

W. LOVEL and SON, Strawberry Growers, Driffield.

MESSRS. SQUELCH and WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empty and labels supplied. Reference, London and County Bank, Covent Garden Branch.

Many Acres of Lilies of the Valley!
T. JANNICH, Largest Grower of LILIES
OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 3-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Price and terms on application.
T. JANNICH (Eily of the Valley Grower) by special appointment to H.R.H. the Prince of Wales, Dersingham, King's Lynn, Norfolk.

FUCHSIAS.—FUCHSIAS.—Madame Milly Roberts, Mrs. Rundle, Masterpiece, Frau Emma Topp, Molesworth, George Fry, Beauty of Cleveland, Mrs. Short, Premature, Snowcloud, Phenomenal, Madame Thibaut, Ellen Lys, Joseph Bonini, Warrior, and Gustave Dore. Will send 12, chosen from above, strong plants, for 25s. 6d.; 24 var. eties, 4s. 6d.; 36 var. eties, 6s.; free.
G. WILLY, Saltgrave, Chesterfield.

THE "BEST" LAWN SEEDS.

New Circular, Post-free, on application.

DICKSON'S NURSERIES CHESTER

(LIMITED)

DANIELS BROS.,

TOWN CLOSE NURSERIES,
NORWICH,

BEG to offer the following Plants, Bulbs, &c., which they can highly recommend:—
Carnations and Picotees. A very choice collection, s. d. including all the newest and finest sorts, 6s., 9s., and 12 0
Carnation, "Germania." Beautiful pure yellow. The best, fine plants ... 3 for 4s., each 1s. 6d.
New Garden Pink, "Her Majesty." Beautiful pure white, deliciously scented, 3 for 4s., each 1s. 6d.
Delphiniums. Single and double-flowered, choice named sorts, strong plants ... 6s. and 9 0
Gaillardias. Large-flowered hybrids, in beautiful valety, to name ... 9s., 12s., and 15 0
Perennial Phloxes. A splendid collection. Established plants to name ... 4s. 6d., 6s., and 9 0
Pyrethrums. Double-flowered. A grand collection, including the newest and choicest sorts. Established plants ... 6s. and 9 0
Single-flowered, in brilliant variety ... 6 0
Paeonies, Herbaceous. Double-flowered, choice named sorts ... 12s., 15s., and 24 0
Hardy Flowering Plants. We have a splendid collection of these, which we offer as follows, including such fine subjects as Anemonis pallida, Chrysanthemum maximum, Doronicums, Erigeron, Helenium, Frenchies singulatae, Senecio pulcher, &c.:—
100 in 100 choice varieties ... 20 0
50 " 50 " " established ... 17 6
25 " 25 " " plants ... 10 0
12 " 12 " " " plants ... 6 0

Begonias, Tuberous-rooted. Large brilliantly-colored flowers of all the most beautiful shades. Good strong flowering tubers in splendid mixture ... per 100, 30s. 4 6
Double-flowered, very fine mixed ... 9s. and 12 0

Glaudiolus Gandavensis. Choice named sorts—
4s. 6d., 6s., 9s., and 12 0
In splendid mixture ... per 100, 20s. 3 0
New hardy hybrid. A charming class with large, handsomely-stained or blotched flowers. Very choice mixed ... per 100, 24s. 3 6

Tuberose, American Pearl. Fine bulbs—
per 100, 17s. 6d. 2 6

ALL CARRIAGE FREE.

FRUIT TREES.—APPLES, PEARS,
PLUMS, OORERIES, per 100 or 1000. Fruit Stocks, Offer. Descriptive CATALOGUES, post free, on application. FLETCHER BROS., Ottershaw Nurseries, Chertsey, Surrey.

PANSIES.—Finest Show and Fancy Pansies, in 50 Grand Named Sorts, my selection, 25s. per 100; in 100 Sorts, 30s. per 100. Catalogue free, on application.
JOHN FORBES, Hawick, Scotland.

A RARE OFFER.—Fifty packets of guaranteed Genuine FLOWER SEEDS; above hardy varieties, 1s. Also large parcel of assorted VEGETABLE SEEDS, 2s. post free.

T. RICHARDS, 2, Craubham Street, Oxford.

Geraniums, Lobelias, Calceolarias, Ferns, &c.
JOHN SOLOMON offers:—**GERANIUMS:** Henry Jacoby, West Frighton Gem, Queen of the Belgians, F. V. Raspail, 10s. per 100. LOBELIA: Emperor William, best blue, 2s. 6d. per 100, 20s. per 1000; Snowball, pure white, 3s. 6d. per 100, 25s. per 1000. CALCEOLARIAS: Golden Gem, 5s. per 100, 40s. per 1000. FERNS: Pteris tremula, Pteris cristata, Pteris major, in 24-inch pots, fit for 48s. 12s. per 100. All the above are sure to give satisfaction. Packing included. Cash with order.
Queen's Road Nursery, Walthamstow, E.

FERNS, MUSK, VIOLAS, CALCEOLARIAS, &c.—Ferns, in large tubs, quite ready for potting. Pteris tremula, Pteris cristata, &c., 12s. per 100; Harrison's Giant Musk, strong plants, 10s. per 100; Calceolaria Golden Gem, 5s. per 100; Tropeolum Hall of Fire, grand climber, 8s. per 100; Mrs. Siskins Pink, 8s. per 100; Violas, 6 distinct colours, named, 5s. per 100; Coleus, 6 best market varieties, 10s. per 100.

Boxes and packing free for cash with order.

GOWERS and EMBERSON, Comely Bank Nursery, Walthamstow, E.

CLEARANCE SALE OF PALMS,

DRACENAS, &c.
Strong Small Palms, averaging 10 to 12 inches high, of SEAFORTHIA ELEGANS, LATANIA BORONICA, ARECA SAPIDA, CORYPHA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of each, 14 plants in all, 5s. 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.

Price per 100 or 1000 on application.

* LATANIA BORONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.

* CHAMEROPS EXCELSA, 3 feet high, with pot averaging 12 fine leaves, 30s. each.

* Ditto ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.

* DRACENA CANIFOLIA, 5 to 6 feet high, 21s. each.

* Ditto ditto 4 feet high, 15s. each.

* PHOENIX TENUIS, 3 feet high, 5s. each.

Ditto ditto 2 feet high, 18s. per dozen.

* DRACENA INDIVISA, 3 feet 6 inches high, 5s. each.

* Ditto RUBRA, 2 feet high, 18s. per dozen.

* Ditto CONGESTA, 2 feet high, 18s. per dozen.

* SEAFORTHIA ELEGANS, in 60s, fit for 48s, strong, 6s. doz.

Price per 100 on application.

Those marked * are Packed Free, but not Carriage Paid.

W. OWEN, 106, Stamford Hill, N.

CLEMATIS—CLEMATIS—CLEMATIS.

NOW is the best and safest season to plant out the above, named fashionable and hardy CLIMBERS.

Descriptive CATALOGUE, and LOWEST PRICES IN THE TRADE for really strong ONE-YEAR-OLD plants, will be forwarded FREE BY POST on application to "THE GROWERS."

WOOD and INGRAM, The Nurseries, Huntingdon.

N.B.—Please mention this paper when writing us.

L'HORTICULTURE INTERNATIONALE

(Orchid Emporium), Leopold Park, Brussels.

THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN,

cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation, and Importations every week. LISTS and CATALOGUES on application.

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on FLORISTS' FLOWERS and HERBACEOUS PLANTS. It contains full and accurate descriptions of all the best Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Peonies, Pansies, Pinks, Primulas, Pentstemons, Petunias, Phloxes, Pinks, Potentillas, Pyrethrums, Verbenas, Herbaceous Plants, &c.; also of my true and reliable strain of

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now justly celebrated all the world over. In 5 distinct series, crimson, purple, scarlet, white, and Wallflower-leaved white, each sort, 1s., 2s. 6d., and 5s. per packet.

It is an indispensable Reference-Book on all sections of Florists' Flowers, and should be referred to by all buyers of flowers.

Free on application.

JOHN FORBES, Nurseryman, Hawick, Scotland.

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES. Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

SPECIAL OFFER to clear.—Delphiniums, Scarlet Lychnis, Cardinal Lobelia, White Finks (strong clumps), Polyanthus, Harrison's Blush, all at 1s. per dozen; Lobelia Emperor William, 2s. per 100; Daphne Cneorum, 4s. per dozen; Euonymus radicans, 2s. per dozen.
W. CALLINGHAM, Bracknell, Berks.

BARR'S SEEDS, BULBS AND PLANTS.
VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus coccineus, Tulips, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.

BARR AND SON, 12, King Street, Covent Garden, London.

KELWAY'S SEED MANUAL

for 1892.
"Of the many manuals, &c., we certainly have seen none to surpass Messrs. Kelway's in plain, practical usefulness."—*Agriculture*.

1s., post-free (deducted from first order) to those unknown to us.
KELWAY AND SON, Langport.

Covert for Game.

RHODODENDRONS, PONTICUMS,
1 ft. to 1½ ft., 16s. per 100, 140s. per 1000; 15 in. to 20 in., 22s. per 100, 200s. per 1000; 1½ to 2 ft., 25s. per 100, 220s. per 1000; 2 ft. to 2½ ft., 40s. per 100, 350s. per 1000; 2 ft. to 3 ft., 60s. per 100, 400s. per 1000. The above sizes are fine, bushy, well-rooted plants.

PINUS AUSTRIACA, 4 ft. to 5 ft., 40s. per 100, 300s. per 1000, singly grown, stout, and well-rooted.

Catalogues and samples free on application.
JOSEPH A. SMITH, Moor Edge Nurseries, Tansley, near Matlock, Derbyshire.

Seeds.—Carriage Paid.—Seeds.

DICKSON AND ROBINSON'S
DESCRIPTIVE CATALOGUE for 1892.

Enumerates the Best and Choicest Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOS; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application.

COLLECTIONS OF VEGETABLE SEEDS, from 5s. to 8s.

COLLECTIONS OF FLOWER SEEDS, from 2s. 6d. to 8s.

Seed Warehouse, 12, Old Millgate, Manchester.

Quality not Quantity.

THE PENNY PACKET SEED COMPANY,

(BIDDLE & Co., Proprietors),

LOUGHBOROUGH, LEICESTERSHIRE.

We invite those about to purchase garden seeds to send for a copy of our complete Seed Catalogue and Guide, which will be sent gratis and post free on application.

3000 Varieties catalogued, 500 Illustrations.

JOHN GREEN, F.R.H.S.,

Has Now Ready 1,000,000 Good Things.



SEND FOR

ILLUSTRATED CATALOGUE
OF ALL
THE BEST THINGS.



The above prices are for J. G.'s Selection; purchasers wishing to select for themselves, should send at once for Catalogue.

JOHN GREEN, Nurseries, DEREHAM.

TRADE OFFER OF PALMS.

COCOS Weddelliana, in thumbs ... at 20s. per 100,
in 60s, ... at 55s. per 100,
KENTIA Fosteriana and Belmoranana, in thumbs, at 20s. per 100,
in 60s, at 60s. per 100,
in 48s, at 24s. per doz.,
in 32s, at 45s. per doz.

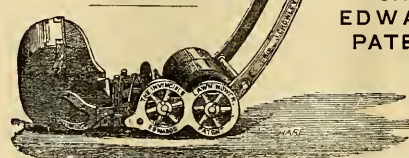
SEAFORTHIA Elegans, in 60s, ... at 32s. per 100,
in 48s, ... at 25s. per 100.

W. Icton has "Ade Stock of Asparagus plumosus nanus, in 48s and 60s"; Pandanus Vici, Pandanus Lindenii, and Ficus elastica.—W. ICTON, Putney, S.W.

GOLD MEDAL LAWN MOWERS

'INVINCIBLE'

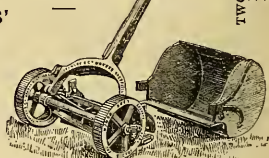
NEVER
BEEN
BEATEN.



SAML.
EDWARDS'
PATENTS.

'VICTOR'

EASY
TO
WORK.



TWO HANDLES same price.
Light in Construction.
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE,

"HERCULES" BRAND (Regtd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



"Are you not afraid those children will injure the Hose or stop the water?"
"Oh, no! This SPHINCTER GRIP ARMOURD HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of."

CONTRACTORS to all DEPARTMENTS of HER MAJESTY'S GOVERNMENT and the HORTICULTURAL and AGRICULTURAL SOCIETIES.

HUNDREDS OF UNSOLICITED TESTIMONIALS.

BEWARE OF WORTHLESS IMITATIONS, and send for ILLUSTRATED and DESCRIPTIVE CATALOGUE (post free on application) of HOSE and GARDEN WATERING APPLIANCES and FITTINGS of every kind.

HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891.

No Exhibition Medal or Award has ever been secured by any other firm for Armourd Hose.

OFFICES and SHOW ROOMS—**9, MOORFIELDS, LONDON, E.C.** Works—LONDON and NORTHAMPTON.

Seed Potatoes.

H. AND F. SHARPE invite the attention of the Seed Trade to their fine selected stocks of SEED POTATOS, comprising all the varieties worthy of cultivation. They have been grown expressly for Seed, and the samples will be found very fine and well dressed. The prices will compare favourably with those of other growers.

Seed Growing Establishment, Wisbech.

CABBAGE PLANTS (Autumn Sown), of Enfield, Defiance, First Ham, Drummer, and Thousand Head, 5s. per 1000, on rail. LETTUCE, Cos and Cabbage, and TRIPOLI ONIONS, 6s. per 1000, on rail; 1. 6d. per 100, free. **GOLDFLOWER PLANTS**, mixed, large-flowering, 3s. per 100, 20s. per 1000. **PANSY**, Yellow, White, Black, Stained, and Edged, or Mixed, 5s. per 100, 43s. per 1000. **SAGE PLANTS**, 4s. per 100, 30s. per 1000, on rail.

EDWARD LEIGH, Cranleigh, Surrey.

SHRUBS, &c.—Arbor-Vite, American, 2½ feet, 20s. per 100; Berberis aquifolium, 1 to 1½ feet, 8s. per 100; Cotoneaster Simonsii, 2 feet, 10s. per 100; Laurels, Colchic, 2 feet, 12s. per 100; rotundifolia, 2 feet, 16s. per 100; Portugal Laurel, 2 feet, 20s. per 100; Rhododendrons ponticum, 1½ to 2 feet, 25s. per 100, 2 to 2½ feet, 35s. per 100, 2½ to 3 feet, 45s. per 100; English Yews, 1½ to 2 feet, 20s. per 100, 2 to 2½ feet, 30s. per 100; Aruncaria imbricata, 2½ to 3 feet, 30s. per dozen, 3½ to 4 feet, 45s. per dozen; Cupressus Lawsonii, 2 to 3 feet, 20s. per 100, 3 to 4 ft., 30s. per 100; C. erecta viridis, 2 to 2½ feet, 30s. per 100, 3 to 4 feet, 40s. per 100; Thuia Lobbi, 3 to 4 feet, 30s. per 100, 5 feet, 50s. per 100, 6 feet, 70s. per 100; Thujaopsis dolabrata, 3½ to 5 feet, 24s. per dozen.

GARLIES MITCHELL, Nurseryman, Strauser.

ORCHIDS A SPECIALTY.

Many new, choice, and rare species and varieties always in stock.

HARDY HERBACEOUS PLANTS.

One of the finest collections of these plants known.

CHRYSANTHEMUMS.

A grand collection, approved novelties, write for our new Descriptive

CATALOGUES, NOW READY,

and Post-free on application to

PITCHER & MANDA,
The United States Nurseries,
HEXTABLE, SWANLEY, KENT.

100 ACRES OF
"EVERGREENS"
TO SELECT FROM.
Regularly Transplanted.
Hardily-Grown.
Lift with balls of earth, so can be conveyed any distance & safely planted.
Inspection invited. Catalogues free.
— PLANT NOW. —
DICKSONS Nurseries CHESTER
(400 Acres.)

GET AT HARTLAND'S, CORK,

Pkt. His April Queen Broccoli, Aster White Mignon, Pkt.
1s. 6d. Victoria Forget-me-not, Lenten Rose, Mam- 1s. 6d.
moth Verbeas Ne Plus Ultra, Phlox Drum-
and 2s. 6d. mondii, Dracena-leaved Beet, 2s. 6d.
6d. Primula, Gloxinia, Cineraria, Double and Single.
His "Soleil d'Or" Golden Double Quilled Perennial Sunflower,
3 Plants, post free, 2s. 6d.
Lobelia, Herbaceous, Firefly, 3 Plants, post-free, 2s. 6d.
WM. BAYLOR HARTLAND, F.R.H.S., Seedsman, Patrick
Street, Cork, Ireland.

* 5s., 7s. 6d., and 10s. 6d. Boxes of Cut Daffodil Blooms to all parts of the United Kingdom, for Easter Decorations.

CANNELL & SONS
Have a splendid lot of ROSES,
both Standards and Dwarfs,
Also many thousands of Teas in
pots. Satisfaction certain.
SWANLEY, KENT.
ENOUGH FOR THE WISE

NEW SINGLE PYRETHRUM, "JUBILEE."

First-class Certificate, Royal Botanic Society, London,

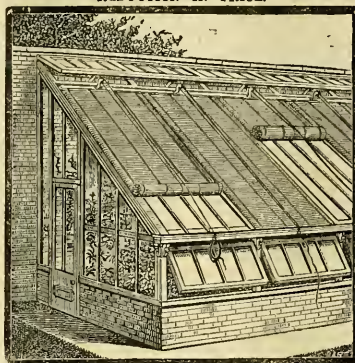
June 15, 1888.
One of the most beautiful Single Varieties in cultivation;
dwarf in habit, bearing in abundance very deep Carmine
flowers.

See Editor's remarks in *The Garden*, June 20, 1891—
"Flowers, deep carmine; the richest-coloured variety we
have seen, and very handsome."
Well-established plants, ready for delivery in April, 2s. each
(usual discount to the Trade).

W. BALCHIN & SONS,
HASSECKS NURSERY, SUSSEX.

PARISIAN BLINDS.

REDUCTION IN PRICE.



MADE OF WOOD and ZINC ONLY.
AWARDED 40 PRIZE MEDALS.

W. RICHARDSON & CO., Horticultural Works, DARLINGTON.



JAS. BOYD & SONS,
Horticultural Builders and
Heating Engineers,
PAISLEY.

**HORTICULTURAL
STRUCTURES**

of every description,
in either Wood or Iron,
or both combined.

Wooden Chapels,
Shooting Lodges,
Tennis Courts,
Cottages, &c.

Hot-water Apparatus
for warming
Buildings of every
description.
Illustrated Circulars
Post-free.

Complete Catalogue, 3s.

BOULTON & PAUL, MANUFACTURERS, NORWICH.

Improved Pea Trainers.

To be used instead of
Pea-sticks.



Hurdles 4 ft. long.

Cash Prices.

3 ft. high, 4 ft. high, 6 ft. high. 6 ft. by 3 ft., each ... 2 6
1/3 each, 1/9 each, 3/6 each. 6 ft. by 4 ft. " ... 3 6

Galvanized Pea and Seed Guards.

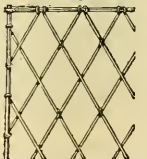


ILLUSTRATED CATALOGUE of all our Manufactures,
free on application.

BOULTON & PAUL, NORWICH.

Diamond Wire Trellis.

For Training Plants.



Cash Prices.

Stock Sizes, 5-in. mesh,
Light quality, " s. d.
6 ft. by 3 ft., each ... 2 6
6 ft. by 4 ft. " ... 3 6

3 ft. long, 6 in. wide,
Two end pieces to the dozen
lengths.

CASH PRICE, 4/6 per dozen.

Illustrated Catalogue of all our Manufactures,
free on application.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO
THE LONGFORD WIRE CO.

(LIMITED),
WARRINGTON.



INNES' FERTILITAS.—THE VINE and
PLANT FOOD.—Of all Nursery and Seedsmen, or direct.
15s. per cwt., carriage paid to all Stations. References and
testimonials of the Sole Maker—
W. INNES and CO., Sunnyside Vineery, Littleover, Derby.

STANDEN'S (PATENT) MANURE.

ACKNOWLEDGED to be unrivalled for
Efficiency and Economy, as most satisfactory and lasting
results follow the application of the smallest quantity. In
new and coloured Tins, 6d., 1s., 2s. 6d., 5s. 6d., and 10s. 6d.,
and in Kegs, 2s. 10s. 6d.; 5s. 10s. 6d.; 112 lb., 32s. each.

Sold by all Nurserymen and Seedsmen.

SOLE MANUFACTURERS:

CORRY & CO. (Limited),
13, 15, & 16, FINSBURY ST., LONDON, E.C.



TRADE MARK.



TRADE MARK.

THESE WELL-KNOWN MANURES

ARE USED BY THE

Leading Growers,
Royal Botanic Society,
Royal Horticultural Society,
Royal Parks,
London County Council,
Throughout the United Kingdom,
And in Every Quarter of the Globe.

Sold by SEEDSMEN, FLORISTS, and NURSERYMEN,

in 6d. and 1s. Packets, and SEALED BAGS:—
7 lb. 14 lb. 28 lb. 56 lb. 112 lb.
2s. 6d. 4s. 6d. 7s. 6d. 12s. 6d. 20s.

Or direct from the Works in 1s. Packets, post free, or Bags
of either size, Carriage Paid (as sample), in the United King-
dom, for Cash with order as above.

The respective Trade Mark is printed on every Packet and
Bag, and also impressed on the Lead Seal attached to the
mouth of each Bag. The only Guarantee of Genuineness.

PRICES OF CRUSHED BONES IN VARIOUS SIZES
ON APPLICATION.

CLAY & SON,

Manufacturers and Bone Crushers,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

THE PATENT

SILICATE MANURE.

This manure is chemically distinct from all
other Manures, and has been proved to supply
the place of sunshine, and has the power of
hastening the colouring and ripening of Grapes,
Tomatoes, Peaches, &c., beyond any other
Manure.

If you Try It Now

You will Order later on.

The Gardens, Chatsworth, January 14, 1891.
"I have tried your Manure on soft-wooded plants, and am
much pleased with it. It may be used with perfect safety by
the most inexperienced. (Signed) O. THOMAS,"
Gardener to the Duke of Devonshire.

Mr. O. Thomas has, since expressing this opinion, been ap-
pointed Head Gardener at Windsor to Her Majesty the Queen.
Prices in Sacks, at Works, 10s. per cwt.; £2 per
½ ton; £3 15s. per ½ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

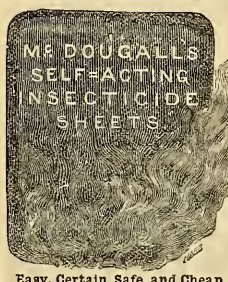
NATIVE GUANO.—BEST AND CHEAPEST
MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags.
Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent
Carriage Paid to any Station in England, on receipt of P.O. for 5s.
Extracts from 16th Annual Collection of Reports:—

NATIVE GUANO, FOR POTATOS, VEGETABLES, &c.
H. BRAYWORTH, Potato Grower, Reading, used for Potatoes,
Onions, and Carrots, results:—"Very good; never had better
crops."—J. BUTLER, Sittingbourne:—"Used for Potato,
Celery, and other Market Garden Crops, with very good results;
Potatoes large, clean, and free from disease. Best and Cheapest
Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c.
J. FEED & SONS, Streatham, used for Fruit Trees and Roses,
results:—"Very satisfactory; we use no other Guano now
consider you preferable to Peruvian."—J. FINE, Orrell
Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers,
and Flowers, with satisfactory results. Most excellent for
Potatoes, and many other things. The Cheapest Manure in the
Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge
Street, Blackfriars, London, where Pamphlet of Testimonials,
&c., may be obtained. AGENTS WANTED.

REDUCTION IN PRICE!



ARE IN GREAT
DEMAND.

Exterminate all
Insect Pests without
Injury to Foliage.

No HOT COKES.

Vastly Superior
to Tobacco Paper,

and Adopted by
Sir Trevor Lawrence,
Bt.; Baron Schroder;
Rt. Hon. Jos. Cham-
berlain; Sir Leopold
Rothschild, Bart.;
Messrs. Veitch, Chelsea;
Sutton Reading;
Carter & Co., Holford;
Hugh Low, Clapton;
Laing, Forest Hill;
Sweet, Whetstone, &c.

Easy, Certain, Safe, and Cheap.

Sheets, 9d. (for 1000 cubic feet in parcels) 9s. per D
of 1 dozen, also 1/2, 1/3, and 1/4 gross. at 13 to 20.

McDougall's Liquid Insecticide.—For Use under Glass.

"Garden and Fruit Tree Wash.—For Outdoor Use."

"Plant Food or Manure.—For Vines, Fruits, & Plants."

[NOTE.—Also all above, for Cottage Gardens, in 6d. & 1s. Sizes.]

All Free from Poison. Patented and Sole Makers—
(London: 10, Mark Lane.

Manchester: 68, Port Street.
Glasgow: 70 to 78, King Street.

IMPORTANT

TO GARDENERS, AMATEURS,
AND OTHERS, WHO FUMIGATE HOUSES
TO KILL "FLY," OR "THRIP."

You will shortly be ordering your Spring Supply of
Fumigating Material. Why lay in a heavy stock of tobacco
paper, uncertain in quality, often disappointing, and very
unpleasant to use, when you can have a SAFE, RELIABLE
article, and one that is pleasant to use?

THE FIRST
OF ITS
CLASS,
AND STILL
THE ONLY
ONE



On which you
can thoroughly
depend. The
manufacture is
much improved,
and it can be
ordered without
any risk of the
disappointments
often attending
other fumigating
materials.

PRICES:—
For houses with 1000 cubic ft., No. 3 Roll, 1/2 each; Post
a capacity of 2000 " " " 1/9 " " Free.
The Rolls may be cut for houses of a smaller capacity, or
to make up required quantities, of any length.

LEMON OIL INSECTICIDE.—The safest and most
effective Liquid Insecticide for dipping or spraying.

PRICES, post free:—Pints, 1s. 10d.; quarts, 3s. 3d.;
half gallons, 5s. 9d.

CLIBRAN'S EUGARIS MITTE KILLER.—A truly
valuable remedy, has saved thousands of bulbs.
PRICES, post-free:—Half-pints, 1s. 9d.; pints, 2s. 9d.;
quarts, 4s. 9d.; half-gallons, 8s.

OR FROM YOUR SEEDSMAN.

CLIBRAN'S OLD-FIELD NURSERIES, ALTRINCHAM;

10 & 12 MARKET STREET, MANCHESTER;
And Principality Nurseries, Dewdney, Llanidno.

GISHURST COMPOUND used since 1859
for Red Spider, Mildew, Thrips, Greenfly and other
blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a
winter dressing for Vines and Orchard-house trees, in latter
from cake for American blight, as with an emulsion when
paraffin is used. Has outlived many preparations intended to
supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on
wet ground. Boxes, 6d. and 1s. from the Trade.
Wholesale from PRICE'S PATENT CANDLE COMPANY
(Limited), London.

For Green and Black Fly, American Elight, Camellia
Scale, Red Spider, Mealy Bug, Brown and White Scale,
Worms, Wood Lice, &c.

"PICRENA," THE UNIVERSAL INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.

15, PRINCES STREET, EDINBURGH, July 15, 1887:—"Dear
Sir, I have thoroughly tested a sample of a new Insecticide
which you were so good to send me. At the rate of 1 oz. to a
gallon of water at a temperature of 95°, I find it kills Green
Fly immediately. Double this strength, or 2 oz. to a gallon at
120°, sends the fate of Scale of all sorts in a few seconds;
while 3 oz. to gallon at same temperature effectually dissolves
Mealy Bug, and so far as I have yet observed, without the
slightest injury to leaf or flower, and it is withal a most
agreeable medium to work with. All our insect remedies
are applied through common syringe, or garden engine, a much
severer test of efficiency than when applied by hand-washing
or spray.—I remain, dear Sirs, yours truly. (Signed) A.
MACKENZIE," of Messrs. Mathew & Sons.

Victoria and Paradise Nurseries, Upper Holloway, London,
January 7, 1888. "GENTLEMEN—I have given your Insecti-
cide, 'Picrena,' a good trial in competition with many others,
I am pleased to say that I have found it to be more effective
in destroying Mealy Bug and other insects than anything we
have ever used. It ought to command a good sale. (Signed)
B. S. WILLIAMS,"

Sold by Chemists, Nurserymen, and Florists,
in Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in Tins (1 and 2
gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and
upwards, 8s. per gallon.

Prepared only by
DUNCAN, FLOCKHART & CO., Chemists to the Queen,
Edinburgh.

May be had from B. S. WILLIAMS, Victoria and Paradise
Nurseries, Upper Holloway, London, and from
WILLIAM EDWARDS AND SON, 187, Queen Victoria
Street, London.



FOR DESTROYING WEEDS, MOSS, &c.

ON CARRIAGE DRIVES,
GARDEN WALKS, ROADS, STABLE-YARDS,

WALLS, STONEMWORK, &c.

Saves more than twice its cost in Labour. No Smell.

One application will keep the Walks and Drives
clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAL & CO., Palace, says:—"We are so satisfied
with your composition and its price that we have used it abso-
lutely. I have every confidence in recommending it."

Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cam-
bridge, says:—"There can be no question with regard to its
efficacy."

PRICES:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included);
in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20
gallons, 1s. 4d. per gallon. Special quotation for larger
quantities. Carriage paid on 10 gal. and upwards.

Used in the proportion of one gallon to twenty-five gal. of
water.

THE ACME SUMMER SHADING, White and Green.

For SHADING GREENHOUSES, CONSERVATORIES, &c.
Does not wash off with the rain. Can be used WARM or COLD.
1 lb. makes 2 gal. Tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 6d.

For particulars of ANTI-FUNGI POWDER for Tomato
Disease, Mould and Mildew on Roses, Vines, &c.; KENTISH
PLANT MANURE, SOLUBLE MANURE, ZINC LABELS,
NEW METALLIC INK, &c., apply to the

Sole Proprietors and Manufacturers,

THE "ACME" CHEMICAL CO., Limtd.,

Tunbridge, Kent;
and Carlton Street, Bolton, Lancashire.

"Nothing Succeeds like Success."

HUGHES' (SOLUBLE)

INSECTICIDE

FIR TREE OIL

The most reliable and best of all Insecticides
for destroying Insects and Vermin on Plants
and Fruit Trees, also on Animals, and Birds;

and as a Disinfectant & Bleacher in Washing
Clothes. Full Directions on the Labels of
each Bottle.

Sold by Seedsmen & Chemists, 1/6, 2/6, & 4/6; 1/2 gallon
7/6, 1-gallon 12/6, or less in larger quantities.

A Treatise on FIR-TREE OIL as an insecticide, its
application to Plants and Animals, sent post free on
application to the manufacturer, addressed to

E. CRIFFITHS HUGHES, Victoria-st., Manchester.

Wholesale from the London Seed Merchants and
Patent Medicine House.

NEW YORK.—A. ROLKER & SONS.

May be had through all Seedsmen and Chemists.



Prices:—1 Gall. 3/4 (tins included),
5 Gall. 2/9 per Gall., 10 Gall. 2/6 per
Gall., 20 Gall. 2/3 per Gall., 40 Gall.,
3/4 per Gall. Carriage paid on 5 Gall.
and upwards.

Kills all Weeds on Garden Walks,
Carriage Drives, &c., &c. Brightens
the Gravel. One application will keep
the Walks Clear of Weeds for a
whole Season.

Prepared Solely by

The Boundary Chemical Co., Ltd.,

LIVERPOOL.



The late Mr. GEORGE BEDDOES, Gardener to E. G. Wrigley
Esq., J.P., Howick House, Preston, says:—"I have used your
Sprayer with great effect in the Orchid House, &c."
Write for PRICE LISTS at once to The "STOTT"
DISTRIBUTOR CO., Ltd., Barton House, Manchester.

SAVE HALF THE COST.

GARSDIE'S BEDFORDSHIRE
COARSE AND FINE

SILVER SAND

Is admitted by the
leading Nurserymen
to be the Best

Quality obtainable in the Trade.

Consumers should Buy Direct from the Owner of these
Celebrated and Extensive Pits, which contain a practically in-
exhaustible supply of Splendid Sand, and thus save half the
ordinary cost. NO TRAVELLERS OR AGENTS.

Apply direct to the Proprietor for Samples and Price
per Ton on Rail or Canal. All Orders executed with the utmost
promptness and under personal supervision. Special Rail-
way Rates in force to all parts. All kinds of PEAT supplied
at lowest possible prices. Sample Bag sent on application to

GEO. GARSDIE, Jun., F.R.H.S., Leighton Buzzard, Beds.

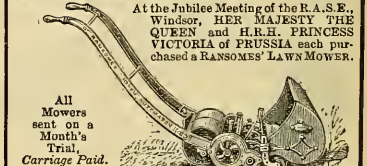
SLUGICIDE (REGISTERED).—Certain death

to Slugs, fertilizes the soil, perfectly harmless to plants
and domestic animals. The greatest boon to Gardeners ever
invented. 1s. 6d. per box, of all Seedsmen. Trade terms.

"THE SLUGICIDE CO.," 6, Marlborough Street, Bristol.

RANSOMES'

At the Jubilee Meeting of the R.A.S.E.,
Windsor, HER MAJESTY THE
QUEEN and H.R.H. PRINCESS
VICTORIA OF PRUSSIA each pur-
chased a RANSOMES' LAWN MOWER.



All
Mowers
sent on a
Month's
Trial,
Carriage Paid.

LAWN MOWERS,

The Best in the World.

In all sizes to meet every requirement.

"NEW AUTOMATON," the Best Gear Machine.

"CHAIN AUTOMATON," the Best Chain Machine.

"ANGLO-PARIS," the Best Small Machine.

"EDGE CUTTER," the only one of real service.

"RANK CUTTER," the Best for Cutting Slopes.

THE BEST PONY and HORSE-POWER MOWERS.
Orders executed promptly by all Ironmongers.
RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

GARDEN FRAMES, GREENHOUSES, &c.
All sizes and descriptions made on our patent HINGED FOLDING-UP principle. One of the best contrivances ever introduced. Will fold up for convenience of carriage, moving about, &c. *Liverpool being the largest and cheapest market for timber and glass, we, having the finest English and American machinery, are enabled to supply goods of the same quality at the highest priced makers at the low prices of the "rubbish" makers. This is a fact. Try us.*
STAR MANUFACTURING CO., 17, Goree Piazas, Liverpool.



And for all Glass Structures that require Shading.
Sold in packets, 1s each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen.
The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—
CORRY AND CO. (LTD.), Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS



FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vinerias, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. **HOT-WATER BOILERS and HEATING APPARATUS**, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps.
PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

EXTRA STOUT strong-tanned NET, 2 yards wide, 1½d. yard; 4 yards wide, 3d. yard; or 2 yards wide, 10s. per 100; 4 yards wide, 30s. per 100 yards. **NEW TWINE NETTING**, 1 yard wide, 1½d. yard; 2 yards wide, 3d. yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. **COTTON NET**, nine meshes to square inch, 15 yards wide, 7d. yard run.
W. COLLINGFORD, 24, Eastern Road, Plaistow, E.

RICHARDS' NOTED ORCHID And Other **PEATS**, Loom, Sand, Manures, Mats, Netting, Shadings, Tobacco-Paper, Insecticides, Weed-Killer, and all Garden Sundries, at the Shortest Notice. Special Railway Rates to all parts.
The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Chief Peat Depot and Grounds—Ringwood, Hants. Samples and Price List post-free.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. **SECOND QUALITY**, 5s. per sack; 5 for 22s. 6d. **BROWN FIBROUS PEAT** for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. **PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM**, each 2s. 6d. per sack; 5 for 10s. **PREPARED POTTING COMPOST**, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPS'S ^{selected} PEAT,

For ORCHIDS, STOVE PLANTS, Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT** in sack only. **Richmond LOAM**, superior LEAF-MOULD, and Fibrous Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.**
The Original Peat Depot, RINGWOOD, HANTS.

BROWN and BLACK FIBROUS PEAT, 25s. per Ton, or £5 per Truck of 4 Tons; Bags, 5s. each; 10 Bags, 45s. **PEAT**, for forming Rhododendron, Bog, and American Plant Beds, 21s. per Ton, or £4 4s. per Truck of 4 tons; Bags, 5s. each; 10 Bags, 45s.
THOMAS WALKER, Tekels Park, Camberley, Surrey.

MOSS, fresh-gathered green Sphagnum, large Crowns, picked, and Squeezed, 5s. per sack; quantities cheaper.—**Mr. HAINSWORTH, Rock View, Gillinggate, Kendal.**

GARDEN REQUISITES, as supplied to the Royal Gardens. **COCOA-TREE FIBRE REFUSE**, 1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton truck, 30s., free on rail near works. **Fine ORCHID PEAT**, 8s. 6d. per sack. **BROWN FIBROUS do.**, 5s. per sack, 5 for 22s. 6d. **BLACK do.**, 4s. 6d. per sack, 5 for 20s. **FIBROUS LOAM, BEAF-MOULD, and PEAT-MOULD**, each 3s. per sack. **Coarse SILVER-SAND**, 1s. 6d. per bushel, 11s. 10s. 25s. per ton. **CHARCOAL**, 8s. per sack. **SPHAGNUM**, 1s. 6d. per sack; all sacks and bags, 2d. each. **RUSSIA MATS**, 10s. 6d. to 18s. per dozen. **RAFFIA, VIRGIN CORK, STAKES, &c.** **BONES**, 1-inch, 11s. per cwt. **Pure BONE-DUST**, 11s. 6d. **TOBACCO-PAPER**, Spécialité, 10d. per lb., 2s. 10s. for 21s. **CLOTH**, 1s. per lb., 2s. 10s. for 26s. Price List, free.
W. HERBERT and Co.,
Hop Exchange Warehouses, Southwark Street, London, S.E.

"FRIGI DOMO" CANVAS.

Registered Trade Mark.
If you fail to obtain this Valuable Canvas from your local Seedsman, send a post-card to—

BENJ. EDGINGTON, (LIMITED),
2, DUKE STREET,
London Bridge, S.E.,

Who will reply by return, with Samples and full Particulars.

"FRIGI DOMO" CANVAS.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

AWARDED TEN GOLD AND SILVER MEDALS.



REGISTERED NO. 13,195.

PRICES of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
ARMoured.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices—
1-in. dia., test quality ... 36/3 1-in. dia., ex. stout qual. 52/0
" ex. stout quality 43/7 " best quality ... 52/0
" best quality ... 45/0 " ex. stout qual. 60/7
All Hose Carriage Paid and despatched same day as order is received. **MAKER TO HER MAJESTY THE QUEEN.**
OLDEST and MOST RELIABLE HOUSE IN THE TRADE. Also Maker of Hose for Delivery, Steam, Fire, Suction, and Lead Manures, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING, ROOFING FELTS, SACKING, &c., Post Free, from
ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM _____ TO _____
_____ THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.

1892.

Please send me "THE GARDENERS' CHRONICLE" for _____ Months,
commencing _____, for which I enclose P.O.O. _____

Please Note that all Copies sent Direct from this Office must be paid for in advance.
THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.,
April 9, 1892.

RHODODENDRONS.—Best named sorts, nice bushy plants, 12s. per dozen, or £4 per 100; Standard do., with fine heads, well-budded, 3s. 6d. and 5s. each.

RHODODENDRON PONTICUM, 12 to 18 inches, 14s. per 100, or £3 per 1000.

AZALEA PONTICUM, 12 to 18 inches, 25s. per 100, or 4s. doz.

.. **MOLLIS**, about 9 inches, budded, 40s. per 100, or 6s. doz.

.. **AMENA**, nice bushy plants, budded, 6s. and 9s. per doz.

PORTUGAL LAURELS, bushy, transplanted, about 12 inches, 15s. per 100, or 2s. per dozen.

The above are offered in any quantity by—

W. H. ROGERS, Red Lodge Nursery, Southampton.

CINERARIA, DIXON'S SUPERB GIANT.

The Choicest Strain in the Country.

In Sealed Packets, 1s. 6d., 2s. 6d., and 5s. each.

Price to the Trade on Application.

For full Description and Illustration, see *Gardeners' Chronicle*, January 2, 1892.

E. P. DIXON & SONS, HULL.

SANKEY'S famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

INTERNATIONAL HORTICULTURAL EXHIBITION,

EARL'S COURT, S.W.

OPENING DAY, MAY 7, 1892.

£1500 GIVEN AWAY IN PRIZES TO BOTH NURSERYMEN AND AMATEURS.

Chairman of the Executive Committee, H. E. MILNER, Esq., F.L.S., Assoc. M Inst.C.E.

General Committee:—

* Mr. H. E. MILNER, F.L.S., C.E., 7, Victoria Street, S.W. Chairman.

.. R. BALLANTINE, Chairman Chrysanthemum Society, 7, Distaff Lane, Cannon Street, E.C.

.. W. BENNETT, F.R.H.S., Rangemore Gardens, Barton-on-Trent.

.. P. BARR, F.R.H.S., 12, King Street, Covent Garden.

.. P. BLAIR, Trentham Gardens, Stoke-on-Trent.

.. W. BULL, F.L.S., F.R.H.S., King's Road, Chelsea, S.W.

.. W. BUDEN, Bagshot Park, Bagshot.

.. H. CANNELL, F.R.H.S., Swanley.

.. H. T. CUTNISH, F.R.H.S., The Nurseries, Highgate.

.. R. DEAN, F.R.H.S., Rensleigh Road, Ealing.

.. J. DOUGLAS, Mem. Council F.R.H.S., Great Gearys, Ilford.

.. E. O. GREENING, 186, Creek Road, Deptford.

* Mr. G. GORNOX, F.R.H.S., Editor *Gardeners' Magazine*, 1, Priory Park, Kew.

.. H. HERBST, F.R.H.S., Kew Road, Richmond.

.. J. HUDSON, F.R.H.S., Gunnersbury House, Acton.

.. E. HILL, F.R.H.S., Thing Park, Tring.

.. W. JACOBSEN, F.R.H.S., Mar time House, Frome.

.. J. JENNINGS, F.R.H.S., A cott, Leighton Buzzard.

.. JOHN LEE, F.R.H.S., 78, Warwick Gardens, Kensington.

.. WM. LEE, F.R.H.S., Royal Vineyard Nursery, Hammersmith, W.

.. F. Q. LANE, F.R.H.S., Great Berkhamstead.

.. D. P. LAIRD, 17, South Frederick Street, Edinburgh.

.. J. MCINDOE, Hutton Hall, Guisborough, Yorks.

* W. MARSHALL, F.E.S., Chairman Floral Committee, R.H.S., Auchensraith, Bexley.

.. A. MCKELLAR, Sandringham, King's Lynn.

Mr. G. T. MILES, F.R.H.S., Wycombe Abbey, High Wycombe.

.. W. PAUL, F.L.S., F.R.H.S., Covent Garden, W.C. [Combe.]

.. H. M. POLLETT, F.R.H.S., Fernside, Bickley.

.. G. PHIPPS, F.R.H.S., Victoria Nursery, Reading.

.. J. SMITH, F.R.H.S., Mentmore, Leighton Buzzard.

.. A. TURNER, F.R.H.S., Royal Nursery, Slough.

.. H. TURNER, F.R.H.S., Royal Nursery, Slough.

.. H. WILLIAMS, F.L.S., F.R.H.S., Upper Holloway, N.

.. W. H. WILLIAMS, F.R.H.S., The Nurserie, Salisbury.

.. J. WRIGHT, F.R.H.S., Sub-Editor, *Journal of Horticulture*, 171, Fleet Street, E.C.

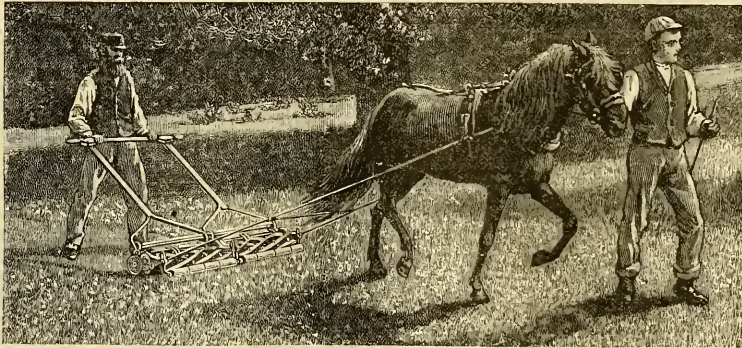
.. B. WYTHE, F.R.H.S., Editor *Gardening World*, 1, Clement's Inn, Strand, W.C.

* G. WYTHE, F.R.H.S., Syon House, Brentford, W.

* Members of the Executive Committee.

INTENDING EXHIBITORS should make immediate Application for Space, which is rapidly being taken up. It is hoped that Noblemen and Gentlemen who are not intending to exhibit, will allow their Gardeners to compete in the various classes.

DISPLAYS in every branch of Industry of Interest to Practical and Scientific Horticulturists. For Schedules of the General Exhibits, Flower Shows, and all information, address the Secretary, G. A. LOVEDAY, Esq., B.A., International Horticultural Exhibition, Earl's Court, London, S.W.



THE

"NEW EASY" LAWN MOWER.

The **LIGHTEST RUNNING** and **CHEAPEST ROLLER** Machine. **UNEXCELLED DURABILITY.**

Made in all Sizes, from 10 to 24 inches.

The **LARGEST SIZE EASILY WORKED BY ONE MAN.**

Illustration shows two 24-in. Machines coupled together, doing the work of a 50-in. Horse Machine, at one-third the initial cost.

SOLE LICENSEES—

SELIG, SONNENTHAL, & CO.,
85, Queen Victoria St., London, E.C.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, &c.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London." Telephone, No. 4763.

CARTERS' INVICTA LAWN SEEDS

Forms beautiful
VELVET LAWNS
In 8 to 12 Weeks.

For making a New Lawn, order 4lbs. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 14lbs. of Carters' Lawn Manure, costing 4s. 6d., for every 1,000 square feet.

For Small Lawns order a 1s., 1s. 6d., or 2s. 6d. packet. A 1s. 6d. packet will sow 150 square feet of New Lawn.

To Renovate or Improve a Lawn, order 4 lbs. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 28lbs. of Carters' Lawn Manure, costing 7s., for every 2,000 square feet.

ABOVE PARCELS CARRIAGE FREE.
CARTERS' PAMPHLET UPON THE MANAGEMENT OF LAWNS, free for two stamps.

ROYAL SEEDSMEN BY SEALED WARRANTS.
237
238' **HIGH HOLBORN, LONDON.**

THE SUTTON LAWN MOWER.

FIRST-CLASS AWARD

AT THE

TASMANIAN EXHIBITION, 1892.

"I am indeed pleased with your Lawn Mower, which does its work in a very satisfactory manner. It is as nearly noiseless as possible, with very easy draught."—Mr. JOHN GRIFFITHS, Gardener to P. Williams, Esq.

Sizes: width of cutter, from 8 in. to 22 in.

Prices: from £2 15s. to £9 10s.

Package and Carriage Free to any Railway Station in the United Kingdom.

THE SUTTON LAWN MOWER

can only be obtained direct from

SUTTON & SONS, READING.



THE

Gardeners' Chronicle.

SATURDAY, APRIL 9, 1892.

AMONGST THE ROSES.

EXCEPT in the case of those who grow Roses under glass, the month of March in this year of grace gave little scope for writing about them; as, however, we may be soon hoping to have weather more favourable to our getting amongst the Roses, it may not be an unfavourable time to take stock of the past, and look so far as we can forward. Although the winter has not in any way equalled its predecessor in severity, we have had some hard times for the Rose garden; there were some very severe nights in the early part of February, but some fine days at the end of the month led us to hope that we had passed through the worst. Some of us (I know I did) took off the mulching from our beds, and our feelings were very much worked upon when we found the thermometer sinking to 18°. We thought of our poor beloved shoots, and wondered how they fared; but the days were longer, the sun was bright, and there was a good deal of sunshine; and on looking round to-day and examining some of the hybrid perpetuals, I do not see that they are injured judging from the non-discoloration of the pith or bark. Of course, pruning has been entirely out of the question, unless some persons have, in the more favoured districts, performed the operation in February. A good deal has been written lately upon the artificial character of our modes of treating Roses—that we induce an artificial and unhealthy type of tree, and that it would be better to prune less. Well, if a multitude of pretty but medium-sized flowers is all that is aimed at, this result can be obtained. Where space is to be had, the pegging-down is, no doubt, a good plan to obtain a large quantity of bloom; but quantity is thus obtainable at the expense of quality. For a garden show, no plan is better than that of pegging-down, but as that can only be done properly in the autumn, it forms no part of the operations now to be thought of.

The first of these is pruning, about which a great deal has been written, and concerning which various opinions are held. There is one thing which to me is pretty clear—that this year must be one of hard pruning. In many localities the wood has been, I hear, very materially injured, although I have not, as yet, discerned any discoloured pith in my plants; but one must not be deceived by the apparent soundness of the centre of the shoots. What I am afraid of is, that as some of us took off the protecting mulching, the buds at the base of the plants may have been injured, for although it may not have lasted long, yet a frost of 14° is something to reckon with; a great deal will

SPECIAL CHEAP OFFER.

To clear ground.

THUJA LOBBII, 2 to 2½ feet, 5s. per dozen.
AUCUBA VIRIDIS, red berrying, 1 to 1½ ft., bushy, 4s. per doz.
CRYPTOMERIA ELEGANS, 2½ to 3 feet, 5s. per dozen.
CUPRESSUS LAWSONIANA, 3 to 3½ feet, 4s. per dozen.
LAURUSTINUS, 2½ to 3 feet, 5s. per dozen.
CUPRESSUS ERECTA VIRIDIS, 5s. and 6s. per dozen.
IVY LATIACULATA, marbled foliage, very strong from open ground, would make hedges of cuttings, 6s. per dozen.
VINCA VARIEGATA, in clumps, 3s. per dozen.
T. L. MAYOS, The Nurseries, Llangarrog, Ross.

PLANTING SEASON.

HARDILY-GROWN FOREST, FRUIT, & ALL OTHER TREES & PLANTS, EVERGREENS, ROSES, &c.

NURSERIES 400 ACRES: VERY EXTENSIVE STOCK. Inspection invited. Priced Catalogue Gratis & Post Free.

DICKSONS THE NURSERIES (LIMITED) CHESTER.

NEW CHRYSANTHEMUMS FROM AMERICA.

A. LADENBURG, ETHEL PAULE,
ADA H. LE ROY, MAMIE CRAIG,
RUTH CLEVELAND,

All Prize winners, and the finest lot ever introduced at one time.

Strong plants now ready, 4s. each, the set, 18s.

Send for Descriptions.

H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

FERNS
If you wish to have
CHOICE, VARIED & BEAUTIFUL COLLECTION OF FERNS
different from those commonly seen
you can obtain such from
W & J. BIRKENHEAD.
FERN NURSERIES SALE, MANCHESTER
who have 1400 DIFFERENT KINDS to
select from. CATALOGUE ON APPLICATION.

WEBBS' NEW BEDDING ASTER.

Specially recommended for bedding purposes, producing a magnificent effect when planted in masses of separate colours in the open garden. The plants are dwarf and compact in habit of growth, and the varieties uniform in time of flowering.

Rose	per packet	1/-
Dark Crimson	"	1/-
White	"	1/-
Pink	"	1/-
Deep Red	"	1/-
Light Blue	"	1/-
Mixed Colours	"	1/-
Six Distinct Colours, separate ..		3/-

All Flower Seeds delivered Free.

WEBBS' SPRING CATALOGUE,

Containing Six Coloured Plates, &c. Post-free, 1s.

ABRIDGED EDITION, Gratis and Post-free.

WEBB & SONS, WORDSLEY, STOURBRIDGE.

depend on locality, and one is constantly hearing of puzzling facts, for which it seems difficult to account. Thus, Mr. Ben. Cant, of Colchester, the veteran Rose grower, says that while his dwarf Teas have been considerably injured, his half-standards have not suffered, and these half-standards have not been protected. Mr. George Bunyard, of Maidstone, tells me his Teas have suffered more by the frosts of last month than from any during the previous part of the winter; even *Homère*, one of the hardiest of them, being severely handled.

It will now be time to get at the hybrid perpetuals for pruning, as I have already in the autumn cut out the old flowering-wood, and left only those shoots on which I depend for this year's bloom, the operation is not quite so troublesome a one with me. When pruning is properly done, it is a long and painstaking operation; a rough-and-tumble way will not do. Roses must be treated according to their several constitutions and habits. You may have a few *Etienne Levets*, and then, perhaps, some *Reynolds Hole*. Now, to rush at these with a pruning-knife, and treat them in exactly the same manner would be an unwise proceeding; the one is a strong grower, and the effect of cutting it hard would be, and often is, to make it throw out a number of shoots, but little flower. This, therefore, must not be cut hard; but, if you treat *Reynolds Hole* in that way, you will get little growth, and nothing to supply you for next season. There remains, therefore, now only the strong shoots to be pruned, and these the careful amateur will use his discretion about, although I am afraid this season will not allow him very much discretion in the matter, as Mr. Frost has been before him with his particularly keeo pruning-knife.

Then, as regards Teas, they have had another trying time of it, and the late March frosts, have, find, severely injured mine. We must give up the notion that the Teas are as hardy as the hybrid perpetuals, for the havoc that has been wrought amongst them makes this fact unpleasantly palpable; and where deaths have not ensued, they have in many cases been severely crippled, and I imagine *Madame de Watteville* retains the had character of being the most tender of Teas, for I hear on all sides of its having perished. However, the pruning of this class may very well be postponed for some time.

When the beds of hybrid perpetuals have been pruned, they should be made clear for the summer. Where exhibiting is the main object, there are some amateurs to whom this is a very secondary consideration, and they give the Roses a fresh mulching, which is left on during the summer months. This is a practice I never followed but once, but then to such manifest discomfort of some friends who were staying with us, and so destroyed their pleasure of looking at the Roses, that I have never since ventured to try it. My plan, as soon as the pruning is over, is to gather up the cuttings, rake off the larger portion of the winter mulching, and then to what is called in this county "pitter" in the shorter portion of the manure, and then make the beds neat for the summer.

It is a curious proof of the revulsion of feeling that has taken place with regard to the French Roses, that while in former years there used to be a rush to get a sight of any catalogue that professed to furnish us with an account of novelties, the matter is now treated with indifference. The results of the past six years are not encouraging, we have had so few additions of any account to our exhibition Roses, especially amongst the hybrid perpetuals, that we now exhibit a stolid indifference, and in truth there does not seem any prospect of much further improvement. Has it happened with them as with the *Pelargonium*, the *Fuchsia*, and other flowers, we have reached so high a standard of excellence, but little scope seems to be open for further progress. Nothing of late years has excelled some of our old favourites, and then some of our choicest additions have come

from our own shores, where we have the opportunity of seeing them before they are sent out, can see them in their own quarters, and hear much of them from others, advantages which we cannot of course possess with regard to the French Roses. *Wild Rose*.

NEW OR NOTEWORTHY PLANTS.

CYPRIPEDIUM × CLEOPATRA (*Hookera* × *cananthum superbum*), new var.

The foliage of the first plant of this cross which has flowered, and which is not yet a strong one, much resembles that of *C. Hookera*. The surface of the leaf presents that handsome mosaic of dark green and ivory-white so well known in that species. Also in the matter of the tall scape and in the general conformation of the flower too, *C. × Cleopatra* greatly resembles *C. Hookera*, but it has larger flowers, in which the influence of the handsome *C. cananthum superbum* ×, is at once remarked in the lurid glow of the purplish-crimson colouring on the upper portion of the dorsal sepal and the outer halves of the petals. The dorsal sepal has green radiating lines from the base upwards, which change their hue as they pass into the bright purplish-crimson of the upper half, which itself gets lighter as it approaches the narrow white margin.

spending one's time in training bushes?" the answer would obviously be, independently of the better appearances attained, to spread outwards the branches, so that the middle part or inside of the crowns would receive their due share of sunlight and air, and in this way be made as fruitful as the outside parts.

There are some Apples, as for instance, *Cox's Orange Pippin* and *Ecklinville Seedling*, which naturally grow in a spreading manner; these of course need no training, either as bushes, standards, or half-standards, but others on the contrary, as *Schoolmaster*, *Baumann's Red Reinette*, *Annie Elizabeth*, and *Margil*, which naturally have a more or less erect habit are much improved if their branches are trained outwards whilst young, say up to six years from the graft, and whether the trees stand in the orchard or kitchen garden by the sides of the paths, it matters not, the training is just as easily performed.

Stout stakes driven into the ground a few feet away from the stem of the trees opposite the branches to be trained, afford the readiest means of securing them in position, fastening the branch with tarred cord. Seldom will all the branches on one tree require training at the same time, and after two years, those which have been tied down may be loosened from the stakes, the acquired position having become fixed. At no other time can this kind of training be better carried out than the present. *E. Molyneux*.

[Beside the bush form, the cordon is finding much favour amongst those cultivators who prefer an

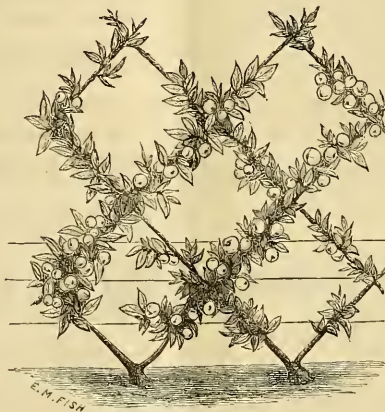


FIG. 63.—DIAMOND FENCE OF APPLES.

The lower sepal is greenish-white tinged with rose; the petals are greenish at the base and bright purplish-crimson at the tips; and on the upper and lower margins are a few chocolate warts. The petals are ciliate, and there are a few scattered hairs on their surface at the base. The lip is yellowish-green tinged on the face and sides with purple, and with numerous purple dots on the infolded lobes. The staminate is of a yellowish colour tinged with rose, and marked with green in the centre. It is a very pretty variety, which was raised and flowered by Charles Winn, Esq., The Uplands, Selly Hill, Birmingham. *Jas. O'Brien*.

FORMING APPLE BUSHES.

ALTHOUGH this form needs but small amount of attention from the gardener beyond what may be accomplished with the pruning-knife, it cannot be denied that time spent with this view in the early spring does much to lay the foundation of the future bush. Although a scientific method—as it were—of pruning the last year's shoots to buds pointing outwards or inwards has its uses when properly carried out, it is not sufficient for all varieties to give or preserve the desired form. Some Apples have an erect habit which is not too favourable to the crop that they may carry. Some persons may feel inclined to ask, "what is the advantage of

average quantity of large, well-coloured fruits to great quantities of small ones. The cordon in its several forms (see figs. 64, 65 and 66), on account of the small space it occupies, admits of it being planted by the sides of walks, and in such positions and because of its comestableness, the thinning of the fruits, stopping of the shoots, and measures to keep it free from insects, can be readily carried out. The diamond fence of Apples (fig. 63), is merely a variation of the double cordon, the stems being trained right and left in an oblique direction, and so closely planted that they cross each other, forming diamond-shaped spaces. *En.]*

THE HISTORY OF KEW GARDENS.

(Continued from p. 394.)

THE year 1820 was eventful for Kew. George III. and Sir Joseph Banks both died, and the library and herbarium of the latter (who had been permitted to retain the dried collections made by the Kew collectors) were bequeathed to the British Museum. It was the desire of Sir Joseph Banks to found a herbarium and botanical library at Kew, and it is believed that Hunter House, afterwards occupied by the King of Hanover, was purchased for the purpose, and one of the rooms on the ground floor was fitted as a library. But the project fell through. Nevertheless, the idea has been realised, for the library is

now contained in the same building, and the herbarium in part, but chiefly in a large extension to the north.

George IV. at first took much interest in Kew, but the high character of the gardens was not maintained. A foreigner, Professor Schultes, in an account of Kew (*Philosophical Magazine*, 1824), expresses his disappointment, especially with regard to the naming of the hardy plants. But after all, the botanic garden and arboretum at that period were very small.



FIG. 64.—DOUBLE HORIZONTAL CORDON APPLE. (SEE P. 458.)

On this point, we may quote the Director's history verbatim: "About 1823, when Professor Schultes visited Kew, the aspect of the small portion of the grounds to the north, near Kew Green, which then constituted the whole of the botanic garden and arboretum, must have been very singular and totally different from what it is at present. It consisted in fact of a series of inclosures surrounded with brick walls, the greater portion of which have since been removed." The arboretum was only about 5 acres in extent, and occupied the area between the entrance

were nearly all that broke the view; and the pond lying between the Palm-house and museum was of much greater extent, covering the site of the Palm-house, and stretching westward in the form of shallow lagoons.

During the reign of George IV., no regular collector was employed, but some of the Kew gardeners in the colonies contributed to the gardens. Thomas Frazer, who went to St. Helena in 1821 to cultivate vegetables for the East India Company's ships,

returned in 1825, and brought home a twig of the Weeping Willow which grew by the tomb of Napoleon, and this twig developed into a tree, near the Director's residence, which will be remembered by many, and before which many a Frenchman removed his hat with emotional feelings. Frazer also introduced *Buddleia madagascariensis*, and the "Cabbage Tree" of St. Helena.

William Morrison, another Kew gardener, went to Barbados about 1824, to superintend a Sugar plantation, and, on returning, in 1828, he visited



FIG. 65.—SINGLE CORDON APPLE. (SEE P. 458.)

on Kew Green, the orangery, and the glass-houses to the south. As already mentioned, the fine Cedar of Lebanon and the Turkey Oak, near the Temple of the Sun, are survivors of what even thirty years ago was a dense wood. There still remains also the conspicuous *Pinus Laricio* immediately to the left on entering; and a *Celtis australis*, a *Salisburia*, a *Vistaria*, a *Persimmon*, a *False Acacia*, and *Buxus balearica*, date back to the same period; the grand old *Sophora japonica*, and the *Ostrya vulgaris* further to the south, as well as the dilapidated

Trinidad, whence he brought home a large quantity of seeds, living plants, and dried specimens. On the foundation of the West Australian colony, Morrison was taken out by Capt. Stirling, the first governor, as gardener, and later he collected seeds and sent them to this country for sale. In this way Kew acquired many additions to the collection of *Proteaceae*.

William IV. took a warm interest in Kew, but Aiton the younger had now become director-general of all the royal gardens, and Kew did not advance as a botanic garden. During this reign

In 1831 George Aldridge went from Kew to Trinidad, but his health failing he returned in 1833, bringing with him a collection of living Orchids; and in 1836 a small house was built specially for the cultivation of this class of plants.

This brings us nearly to the foundation of the gardens as a public establishment, and the appointment of Sir William Hooker as first Director in 1841. For many years previously, however, the gardens were accessible to the public on certain days, at certain seasons; and in 1838 they were open daily except Sundays, and the Pleasure Grounds from Midsummer to Michaelmas. About this time there were rumours of the gardens being abandoned, which aroused the public interest in them, and led to the appointment of a committee, consisting of Dr. Lindley, Mr. (afterwards Sir Joseph) Paxton, and Mr. Wilson, gardener to Lord Surrey, to inquire into the management and condition of the gardens. The report of this committee describes the hardy collections, the glass-houses and their contents, and the general condition of the gardens, but it was not presented to Parliament till 1840. In the meantime, however, several influential persons interested in the maintenance of Kew as a scientific establishment, had so exerted themselves, that a very brief discussion in the House of Lords decided in favour of it. A letter written by John Smith to A. B. Lambert, a prominent patron of botany and horticulture, who had a fine garden at Boyton, Wilts, and brought out the *Pinetum*, known under his name, was laid before Her Majesty and Prince Albert; and, as the Director says in the concluding paragraph of this part of the *History of Kew*, "It seems probable that, after all, the continued existence of Kew was rather due to the interest of the Sovereign than to the influence of popular agitation." *W. Betting Hemsley.*

COOL ORCHID CULTURE.

MOST of the cool Orchids, especially the *Odonoglossums*, *Masdevallias*, and some of the *Cypripediums*, delight in a very moist atmosphere, as well as copious and frequent watering at the roots, providing the drainage is good. The majority of them may be grown in pots, and this mode I should always prefer, although patches, clumps, and even margins of rockwork may be adopted when rustic and natural appearances are desired; care must be taken, however, that the pots are of a proper size. It is not possible for any cultivator to fall into a greater error than over-potting.

Newly-imported plants should be laid out singly on a shelf, and kept a little moist till they begin to grow; or they may be placed in small pots upon clean crocks. When they have made new roots and commenced growing, place a small quantity of very fibrous peat mixed with sphagnum, and a sprinkling of silver-sand around them, say, about an inch, adding according to the aftergrowth of the plant. If potted in 60-sized pots, filled within an inch of the top with clean crocks, and go on well, they will require a shift into small 48's the second season. These pots should be filled about two-thirds full of crocks; then move the plant carefully from one pot to the other, making up with the compost advised to a moderate height—say, about an inch. I have a great objection to high-potting; the plants dry quicker, and there is more difficulty in watering them.

During the growing season keep the house rather close, and maintain a moist atmosphere. It is a bad practice to stand the pots on moss, as it interferes with the egress of the water, although moss may be placed between the pots to retain moisture.

Established plants should be treated in the manner recommended for the second potting above. These should all be looked over twice in the course of the season, and repotted where necessary. In many cases the compost will require removing, and the plants put into the same size, or even a smaller pot, that it previously occupied. This should be done when the plants have not been growing freely.

In ventilating, care must be taken to avoid

original *Araucaria imbricata*, stood in the herbaraceous ground of that time. The temple of the sun was near the centre of the whole garden, and near it grew the first introduced plant of *Aucuba japonica*, dating from 1783. Outside of this comparatively restricted botanic garden were the pleasure grounds, and there were few trees between the palace and the pagoda. The row of now somewhat storm-beaten Elms, called the seven sisters, in allusion to the daughters of George III., some trees on the mound to the east, and Weeping Willows around the pond,

a spacious Palm-house was planned by Sir Jeffrey Wyattville, only to be abandoned, but what was called the architectural conservatory, immediately on the right, entering from Kew Green, now occupied by Aroids and other tropical plants, was removed from Buckingham Palace thither. In the first place it was used as a Palm-house, and after the erection of the present Palm-house and before the erection of the large Temperate-house in the Pleasure grounds, it was filled with the larger Australian plants.



FIG. 66.—DOUBLE CORDON PLUM. (SEE P. 458.)

draughts. Reduce the ventilation gradually, finally closing the light before the sun gets on the house. Cool Orchids are often brought into bad health through the sudden change from a cool, free ventilated house to a moist tropical one. Copious waterings, and damping the paths, stages, &c., morning, noon, and afternoon, are what the plants require during the growing season. In winter, much less water is required, but it ought not to be withheld altogether, and the plants should at no time be allowed to get very dry. Generally speaking, the colder the weather, the less moisture will be required, but avoid a dry and harsh atmosphere, or the plant will suffer.

Shading during summer will be required, and, if it can be so arranged, 6 inches above the rafters, to allow a free current of air to circulate between the glass and the shadings, so much the better. *A. Evans, Haslemere.*

THE ROSERY.

THE TEA ROSES IN THE FLOWER GARDEN.

It is one of the greatest merits of Tea Roses that they thrive almost equally well outside as indoors. Anyone building a Rose-house would naturally fill it with Teas, with a *Maréchal Niel* or two thrown in for early golden Roses, but there are those who still exclude this richest of all golden Roses from this class. But exquisitely beautiful as Tea Roses are under glass, they are equally or more beautiful in groups, beds, or borders in the open air. In such positions the Teas should all be grown on their own roots, and planted in considerable masses, so as to support each other, and so allow the better for a little winter or spring protection of Fern fronds.

I know that not a few rosarians deprecate any protection. They say, "No matter if the Roses are cut back to the ground line, the closer they are pruned back by the frost or knife the stronger the breaks from underground and the finer the flowers." Well, perhaps. "What of that," some may say, "our shows are not till ——" But I and thousands more grow our Teas and other Roses for personal pleasure and the embellishment of our beds and borders, and already I am longing for early Tea Roses in bud and blossom, and, with fair spring weather, I shall soon cut Roses from those masses of protected branches.

But supposing they had no protection, these would mostly have been cut to the ground line, which means that some of them might have been killed, and all put back for six weeks or two months. Hence, as nothing succeeds like success, and everyone will welcome early Tea Roses, alike in bud and blossom, I say emphatically, that a slight protection of the tops and crowns of Tea Roses pays many times over. It keeps them safe, makes them earlier, and enables them to break into new shoots with greater vigour and certainty. *Rosa.*

EARLY MARÉCHAL NIEL ROSES.

In preparing pot plants for very early forcing, it is of the utmost importance that they be grown so as to form some long, robust shoots in summer, and these should be thoroughly matured through exposure to air and sun during the autumn. If this cannot be properly accomplished in the open air or against a wall or fence, the plants should be placed under glass, say in a Peach-house, and their shoots spread out on the trellis-work. Good plants with shoots, varying from 9 to 15 feet, may be put into heat early in December, and by extra pushing a few blooms may be secured at Christmas, but they will not come so fine or freely as in January or February. The plants will be assisted by a slight bottom-heat, and the growing temperature at first should not exceed 55° or 60°, but as the bloom-buds show, the temperature may be increased 7° or 10°. At first, water must be applied sparingly, but when in full growth large quantities will be required at the roots,

but do not keep the foliage too moist. Plenty of light and air should be admitted. I am of the opinion that it is a mistake to force large *Maréchal Niel* plants very early in the season. If a succession of young pot plants are kept up for early forcing from Christmas to the end of March or thereabouts, the permanent plants will, by that time, be giving a supply. I will give as an instance the growth of some young *Maréchal Niel*s made with me last year. In February they were grafted, and turned out of 48-pots in June, where there was a little bottom-heat. Each plant made four and five growths of good size, varying from 15 to 23 feet in length, by November. These will produce a fine lot of bloom, and if grown along successfully this year, they may be had in flower by next Christmas. Good plants for forcing can be grown in 10 and 12-inch pots in a mixture of turfy loam, a few half-inch bones; and, if the loam is not very substantial, I find a little fibrous peat is beneficial. A little artificial manure mixed with the soil will keep them growing and blooming a long time. Plants which have been growing in the same pots for some years should have their drainage seen to before forcing is commenced, and a top-dressing applied. A 4 or 5-inch potful of artificial manure to each bushel of loam makes an excellent mixture for that purpose. A moist atmosphere at 55° will induce the growths to push forward, but when they are fully out, a drier atmosphere will be preferable. *A. E.*

ORCHID NOTES AND GLEANINGS.

ORCHIDS IN THE UNITED STATES OF AMERICA.

In the fine collection of F. L. Ames, Esq., Langwater, North Easton, Mass., U.S.A., there are now many specially fine Orchids in bloom, including the new hybrid *Odontoglossum* (*Miltonia*) *Bleu* ×, superbly flowered.

Among the *Cattleyas* are *C. Trianae* in abundance, grandly grown specimens and full of bloom in all shades of red, rose, and mauve, and also some pure whites. The handsomest at the time of my visit were the varieties *Sanderæ*, *Leeana*, and *Backhousiana*.

Of what are now called the white *Laelia anceps*, there were no fewer than eight varieties in flower, the best of which were *L. a. Schroderiana*, *Stella*, *Sanderiana*, *Dawsoni*, *Williamsii*, and *L. a. Amesiana*, the last-named with a tinge of rose on the petals and a very deep maroon-crimson lip, the like of which has not appeared in any other variety.

Many magnificent spotted and hybrid forms of *Odontoglossums* were flowering vigorously, including *O. excellens*. These are grown in a north lean-to house, sunk about 2 feet in the ground. This is necessary in the United States of America, where the summers are very hot and the winters unusually severe. Grown thus, the plants are cool in summer, and can be kept warm enough in winter without being roasted with fire-heat. *Masdevallias* are also well done, and among those I noticed were *M. Courtaldiana*, *M. Lauchena*, *M. Hinciana*, and the superb *M. Schroderiana*.

Dendrobiums are special favourites of Mr. Ames, and all the finest are to be found at Langwater. In flower were *Schneiderianum* ×, *Cybele* ×, *Murrhinianum*, *Cassiope* ×, *Wardianum* *Schroderi* var., *Leechianum* ×, *D. Phalaenopsis Schroderianum*, and the fine *D. Robinsonianum* ×, the best of the splendissimum section. Many superb forms of *Swainson's* old *Cattleya labiata* were in flower.

What struck me most was the really grand condition of the plants in this wonderful collection. F. L. Ames, Esq., is the Baron *Schroder* of America. These are two of the greatest Orchid lovers, but they reign in different hemispheres. One great advantage the American grower has over his British compeer is in the tobacco ribs (midribs of the leaves of *Nicotiana*), these can be bought here at one half-penny per pound, and it is the very best and safest

insecticide. The grower may strew his floors with it; put the ribs in the evaporating-troughs, place them over the hotwater-pipes in wire trays, or pour boiling water on them, and use the liquor for immersion and so keep his plants perfectly clean for a ridiculously small outlay, while the British grower has to pay from 6d. to 1s. 6d. per pound for a vile material that is not tobacco at all, and contains only a small amount of nicotine. *Visitor.*

DEUTZIA GRACILIS.

This is an easy plant to grow, but it is seldom seen in good condition in a private garden, owing to the plants being grown in the same pots for a number of years. No wonder, when given this treatment, we hear gardeners say their *Deutzias* do not flower well. If given the following treatment, plants with abundance of good flowering-wood will be the result.

Put in good strong cuttings now, about twelve in a 32-size pot, using half loam and half leaf-soil, with plenty of sand. Plunge the pots in a hotbed, and grow the cuttings on till about 6 or 8 inches high, then gradually harden off; then about the end of June plant them on a south border, not of too rich soil, 15 inches apart each way, and keep them clear of weeds till the following March, when cut them down within an inch of the soil. Serve them the same way every year till the third year. The plants will then be ready for potting by the middle of September. Take them up, and shake off part of the soil, and pot in 16-size pots, using a rough compost of two parts loam, one part leaf-soil, a little sand, and some soot—about a 32-size pot to a barrow-load of compost. After potting, put them behind a north wall for a few days. Give them a good watering, and syringe two or three times a day, but do not sodden the soil. About a week or ten days later put the plants out in the full sun to ripen the wood.

For very early forcing, it is advisable to grow a few plants in pots. The way we serve them is to pot up some of the two-year-old ones, and instead of using them for flowering, we cut them down to an inch of the pot, grow them on in plenty of heat, gradually harden off, and stand outside in full sun in the summer. These are fit for forcing in October. After flowering they all go to the rubbish-heap, but we strike about a hundred cuttings every spring, and if treated as above, ninety out of every hundred will make good plants. *Practice.*

CULTURAL NOTES.

MIGNONETTE GOLDEN QUEEN.

A CORRESPONDENT speaks highly of the above variety of *Mignonette*, which he observed recently in the gardens of Spy Park growing in capital condition in 4½ and 6-inch pots. Probably the gardener had sowed seeds in August or September last in the same pots that the plants were flowering in, and kept the plants from drawing by growing them in a low pit, the tips of the stems but a short way from the glass, and not applying more heat than was needed to exclude frost. It is no use to attempt to grow *Mignonette* in the ordinary potting compost. The best kind consists of light loam, a little charcoal dust, and one-sixth of old mortar or plaster broken small, mixed well together. Good drainage, with a handful of horse-manure nearly or quite fresh, placed over it, and the soil filled in firmly; in fact, it should be rammed hard, and sufficient space left on the top for water to permeate the whole. Slight wetting of the soil is dangerous, the feeding roots of quite young plants going to a good depth, and to afford less water than will go to the bottom of the soil is to starve them, and eventually cause their destruction. The plants must have plenty of air whenever it is prudent to afford it at all, and every means should be taken to preserve an atmosphere about the plants as free as may be from moisture; therefore, to stand them in a disused Melon-pit with the moist soil and

manure of the Melon-bed below them, or even on boards or staging over a water-soddened bottom is bad practice. A pit for winter Mignonette should be filled up with brickbats, and on the top of these a thick layer of coal-ashes should be placed and beaten down firmly; and on no part should this be more than $1\frac{1}{2}$ foot from the lights. *M. Doria*.

FORESTRY.

BERRY-BEARING COVERT SHRUBS.

The spiny-leaved *Pernettya* (*P. mucronata*) is a native of Cape Horn and many parts of South America, and since its introduction into this

within bounds in such situations. There are several varieties of the species in cultivation, which differs considerably in their habit of growth, and colour of their fruit from the type; in short, they exhibit many shades of colouring, from brilliant scarlet to pure white, and they are all suitable alike for pot culture when desirable. When the plants are wanted to decorate balconies, halls, and other places during winter, they can be removed from the open ground when loaded with their berries in autumn without any risk of injurious effect whatever. In spring the plants should be re-planted in the open ground.

The narrow-leaved *Pernettya* (*P. angustifolia*) is an interesting species, introduced into this country from Chili in 1840, which has proved to be quite hardy in most situations in Great Britain and Ireland. Like the former species, it is capable of accommodating itself to a great variety of soils and situations, and thrives well as a covert plant under the shade of trees. When fully established, its contour is that of a well-furnished evergreen bush some 4 feet high, and densely clothed with leaves of a lesser size than those of *P. mucronata*. It flowers in early summer, and its berries, which are of a light pink colour in autumn, and as these often remain on the bushes for a considerable time, the plant has an ornamental value. In all cases the ground where *Pernettyas* are to be planted should be thoroughly drained where requisite; and if the subsoil is hard and impervious, it should be broken up with a pick and allowed to lie exposed to the weather for some few months before planting. Stiff soil should have some bog earth or light friable soil mixed with it, which will assist the plants to start better at the first. *J. B. Webster*.

GRAFTING CAMELLIAS.

How often must the gardener regret his inability to make use of some variety of Camellia, cuttings of which, perchance, have been given him by a friend,

grafting being better adapted for headed-back old plants.

If the gardener have no close propagating-case, let him place a hand-light or a small garden-frame with close-fitting lights within a well-glazed brick pit, and place his grafted stocks in it, keeping them shaded till a union has taken place between stock and scion, which is readily ascertained by the latter commencing to grow from the end. The grafter should observe to let a leaf or two remain on the stock above the point of grafting, cutting back the stem on which these grow when the union is complete. As with Camellias, so with *Rhododendrons* of the *Noblesnum*, *arboreum*, *Catawbiense*, and *pontic* races, which grow well on stocks of *R. ponticum*, the whole process, as illustrated in figs. 67—69, being identical with what is recommended for the former.

BRITISH GUIANA.

THE Report on the agricultural work in the botanical gardens for 1890, which has only just reached us, is a very important document, and one which every one interested in tropical cultures should consult. The highest temperature in the shade is noted



FIG. 67.—SIDE GRAFTING, SUITABLE FOR RHODODENDRONS AND CAMELLIAS.

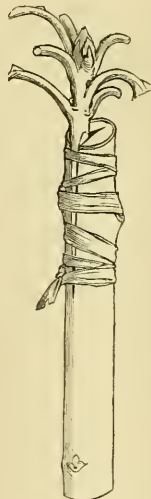


FIG. 68.—WHIP GRAFTING.

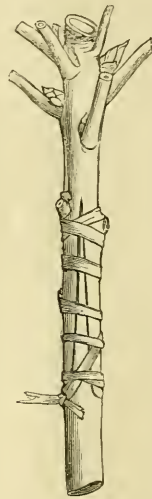


FIG. 69.—SADDLE GRAFTING.

country in 1828, has proved to be not only quite hardy, but likewise capable of growing on a great variety of soils and situations. It makes an excellent covert-plant under the shade of trees, but attains its best form of development when planted along the margins of plantations where it has the advantage of light and sunshine, as well as the shelter of the trees. In such positions it produces its pretty white bell-shaped flowers from April to midsummer in great abundance, and as these are followed in autumn by bright red berries, which often remain on the bushes for a considerable time during winter, are attractive. I have planted it with success on all classes of soil, from deep peat-bog to hard gravelly soil. Established plants form evergreen bushes about 5 feet high, well clothed with small sharp-pointed leaves, thick in texture, dark green in colour, and glossy of surface. It is not apt to be eaten or peeled to any serious extent by hares and rabbits, which is a point in its favour. It is a good lawn-plant, and well adapted for planting about suburban villas, and where space is limited, as it bears the pruning sometimes needed to keep it

from lack of a stock on which to graft them. The single-flowered or seedling forms, as well as some of the double-flowered forms of the Camellia, root readily in sandy soil, with a bottom-heat of 75° to 80°, and these when potted up may be employed for stocks in two years, if they are encouraged to make strong growth. Grafting may be done in June and July in any of its forms, but tongue or side-grafting are the more convenient ones; crown and whip-

as 89° in October, the lowest temperature 69° in July. One hundred and twenty-five inches of rain fell, the largest amount (26 inches) occurring in January. Of the total amount of 28 millions and a quarter (roughly) pounds of water per acre, there were 221 pounds of nitrogen as ammonia, and 252 in the form of nitrates. The excessive rain was unpropitious to the development of the Sugar-cane. A valuable series of experiments on the culture of this plant was undertaken, and elaborate analyses of soil, of manures, and of canes are recorded. It was found that canes of the same variety and of the same degree of maturity varied greatly in their sugar and glucose contents, so that there is scope for the "selector." Seedlings vary very greatly also in their characters, so that the old notion that the variation in the canes was due to bud-variation only is no longer tenable. The majority of the canes "arrow," that is, produce flowers freely, others less so, the amount of perfect seed that is formed being very variable. The bulk of the seedlings so far are inferior to their parents in the quantity of sugar, a few only being better.

Referring to Mangos, Mr. Jenman declares good Mangos to be fruit for the gods, while bad ones are only fit to feed hogs. A principal want in the cultivation of the plants is a dwarf variety to use for stocks. Mr. Jenman urges the culture of suitable varieties in our fruit houses, where they might readily be grown, and in a few years' time Mango cultivation might become as firmly established an item of hot-house culture as Pine-apples. "No Peaches, Apricots, Grapes, or Pine-apples in the world, rival those grown in English glasshouses," says Mr. Jenman, who suggests the possibility of British Guiana and other colonies eventually looking to England for their supply of Mangos! The remarks on Bananas and Plantains are very interesting, and to them we must refer on a future occasion.

FLORISTS' FLOWERS.

OXFORD CARNATION AND PICOTEE UNION.

THE annual report of the Union for 1891, just issued by Mr. E. S. Dodwell, is, as usual, full of interest for Carnation growers especially, and for all who admire these flowers. In that portion dealing with reports from cultivators as to the "incidence of the season," many suggestions are made of a valuable character. Mr. Dodwell—referring to the destruction of stock wrought by the sunless summer of 1890, followed by the long and severe frosts and fogs of November and December of that year, and of January, 1891, and these, again, by the blizzard of March 9—states, that these "wrought a destruction of stock, or induced a debilitation, without a parallel in the memory of florists of the longest standing." So retarding were these occurrences, that potting for bloom was not performed until an abnormally late date, and which made growth very late also; and so, instead of the usual "one-shift system—the normal rule for Carnation growth—we went upon successive shifts, giving the plant additional room only when its ball of soil had been filled with healthy roots." This is a practice Mr. Dodwell recommends in the case of all weakly-rooted or partially-ripened layers. "Let the plant have just so much food as it can healthily assimilate whilst it is sweet, bracing and strengthening the root-action with the aëration through the sides of the pot, which, however, should be plunged (say, in Cocoa fibre), and it speedily gets power of digestion, and so rapid and robust growth."

This appears to be excellent advice for growers who are troubled with weakly growers, and who, by such means as those set forth by Mr. Dodwell, can lead on debilitated plants until they can reach a more robust stage of growth. Can any more weighty testimony be added to the lateness of the season 1891 than that mentioned by Mr. S. Barlow, that he exhibited a fine stand of forty-eight Carnations at the Middleton Agricultural Show on September 18 last, R. D.

[We may add to the above, that much interesting matter for the cultivators of Carnations and Picotees is afforded by Mr. Samuel Barlow, Messrs. W. Bacon, J. Ball, A. R. Rowan, R. Ellis, J. F. Kew, R. Sydenham, Ben. Simonite, and other growers, but for which we must refer our readers to the interesting report itself. Ed.]

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, Gardener, Meworth Castle, Maidstone.

THE STRAWBERRY BEDS.—Assuming that these were properly attended to after last year's crop of fruit was gathered, by the timely removal of the runners, weeds, and some of the lower leaves of the plants, and mulched with rich manure, good crops of fruit, barring bad weather, may be expected. This kind of attention is the chief secret in fruiting the plants and making strong and well matured crowns. Our plants, especially those that are tender, notably

Sir Charles Napier, have suffered from frost and winds, and appear at the present time as bad as they did in 1889 and 1890, a state of things which I attribute to the mild weather we experienced before the frosts came. All the beds of bearing plants should be at once put in order for the coming crop; treading firmly the soil about the plants when it is in a dry state, clearing off the weeds, and affording a good mulching of manure if the soil be light and porous, thus ensuring long continuance of bearing and large fruits. Plants put out late in the autumn, or recently, may be cropped between with Lettuce or other low-growing plants for this season, but they should not be allowed to crowd the plants. Those layered early last July, and put out on good land in August, will have fine produce this year. This is undoubtedly the best method for keeping up a healthy lot of Strawberry plants. The ground may now be got in readiness for the plantation to be formed by the plants which have been forced in pots, and these should not remain in their pots a day longer than is necessary to harden them off. Trench, or deeply dig the ground, applying manure according to the requirements of the land, road-scrappings being applied to land which is very heavy, and heavy loam to that which is light, and the latter should be trodden firm before planting it.

RASPBERRIES.—These should be cut back to from 4 to 5 feet and a little more in height, if not staked, and those which have been planted this season should be cut down to within a few inches of the ground-level, so that good canes will be made. Baumforth's Seedling is a good-flavoured and useful variety, and will be more commonly grown as it gets better known. The autumn-fruiting varieties should be cut down, and only six canes to each stool allowed to grow. Belle de Fontenay is a first-rate Raspberry, which, when not cut down, produces fine berries for preserving, of a fine bright colour. All of the beds should be afforded a top-dressing, and Mushroom-bed manure, leaf-mould, and well-rotted garden-refuse, any of which will greatly improve the size of the fruit and the canes, especially if the soil be shallow and hot. Remove all useless suckers as fast as they appear, reserving only about as many as may be wanted for next year, and for the increase of stock.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

VINES which may have been started at the beginning of March, and afforded a minimum temperature of 45° at the start, with a rise of 2° each week since that time, and have been well syringed until the rods broke, will now be required to be disbudded. In doing this, where more than two breaks occur on a spur, the weaker ones should be removed, and to avoid giving the Vines a check, the thinning should be accomplished by degrees, only a few shoots being removed at one time. Subsequently, when it can be seen which of the two shoots left is the stronger, or has the best show for fruit, the other should be cut off, and the remaining shoot on the spur should also be relieved of all bunches, except the best one, which by preference should be that bunch which is nearest to the stem. With longer days, and a larger amount of sunshine, these lateral growths will grow quickly, and will require to be drawn in towards the main stem or cane, but great care will be needed in doing this at first, for it only requires a very little strain to sever them apart from the canes, and even when all may look well during the day on which the operation is performed, the following morning will reveal much loss. While this work of tying in the laterals is in progress, the sublateral may be stopped just beyond the first leaf, or, if very small, entirely removed. I would recommend the latter course being taken when the bunch-bearing shoot is allowed to extend to 3 or 4 feet in length. Continue to increase the temperature at the rate mentioned previously until a warmth of 65° is reached, which should occur about the time that the Vines are in bloom, and make free use of the syringe in the house, but not on the Vines, so as to secure humidity in bright weather until that stage is reached. These temperatures are not recommended for Muscat of Alexandria, or those requiring similar treatment in regard to warmth, and which require a temperature of 5° higher at all stages of their growth. Beds of manure may now be turned out for the vineries on the first occasion favourable for allowing the doors to stand open for that purpose, and the borders should have

the surface stirred with a digging-fork, and those which are well-drained, or are made of porous soil, will stand in need of a good soaking with warm water, which may contain some small quantity of manurial aid to growth. Vines with a tendency to gross growth and the production of small bunches, should be supplied with some of the phosphatic manures which do not contain nitrogen.

MUSCAT VINES.—The flowers of these varieties will set better under partial shade than when exposed to the sun's rays, and to secure this condition the plants should be encouraged to produce ample foliage at this stage. As their leaves are smaller and more deeply cut than those of most other Grape vines, a greater number are necessary to obtain the desired degree of subdued light during flowering. When, through inability, the Vines yield too few leaves, a substitute may be found in a thin shading thrown over the roof for a few hours in the middle of the day, when the weather is bright. The fertilisation of these shy setters may be assisted by cutting off superfluous flowering bunches from those Vines which freely produce pollen, and shaking them over the bunches when the flowers first expand. Gradually withdraw the artificial shading which may have been employed, when flowering is over, and follow the treatment advised at the beginning of these remarks.

DUKE OF BUCKLEIGH AND WHITE TOKAY.—These are two varieties which call for a few remarks with regard to the system of procedure needed to secure the best results. Both make exceptionally strong growth, but when the Vines are grown on the spur system, i.e., every lateral cut hard back when the Vines are pruned, they not infrequently fail to satisfy the cultivator in regard to the number and size of the bunches. But this state of things may be reversed if sufficient young wood be laid in to form a chain the whole length of the cane, and not cut away in the winter months. Thus, by securing shoots at this season from the spurs, something like 2½ feet apart, and on alternate sides of the stem or rod, and training these so that they may be placed close in to the rod at the winter-pruning, the best means will have been taken to obtain good crops from these two varieties of the Vine.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

GENERAL WORK.—There are always many arrears of work to be done at this date, and no time should be lost in carrying them out, and all other work that has been touched on in previous calendars. The main crop of Potatoes must now be planted, notwithstanding that it was advised at an earlier date, when in some cases the soil was not in a fit state for treading upon. I think there is nothing gained in delaying this work till late in the spring; on the other hand, the sowing should be started and not in too forward a state of growth, and rank manures should be avoided. The earliest planted lot on the warm border are now breaking through the soil, and these will require to have some fine soil drawn over the tops, or some dry Bracken or long light litter may be used instead at night, but uncovering them during the day. This kind of covering takes some little time in doing it, but it will often save the crop when merely drawing the soil over the tops is of no avail. Strawed hurdles are used by some.

SALADS.—Seeds should be sown without delay of Lettuces and Radishes, and Mustard and Cress, on a narrow border at the foot of a south wall, covering the seeds with a mat or straw till they germinate. Radishes must be protected from the attention of birds, and growth will be quicker if the plants are covered at night. Autumn-sown Lettuce plants should be transplanted to a richly-manured south border, care being taken to preserve a small ball of soil with the roots. By shading these for a few days, if bright weather occurs, they will more readily get established; more especially is this the case when the plants have been wintered in frames. If there is a deficiency of plants, those sown in heat last month will be found useful. These should be pricked out in a light, rich compost in a frame placed in a warm bed, before finally planting them in the open. If Lettuce is required in large numbers, sow an early variety thickly in boxes or in a mild hot-bed frame, and cut it for use whilst still young, and thus save the others for a time. Lettuce may be sown every three weeks for a constant supply. Veitch's Golden Queen is a desirable variety, of quick growth, and dwarf, compact habit, and it is

one of the earliest Lettuces I have grown; for later sowing, Perfect Gem is very good.

BEEF.—A small sowing of the Turnip-rooted, of Egyptian or Eclipse, should now be made, the latter being the better keeper, but it is not quite so early as the other.

WATERCRESS may be available from April to October by sowing seeds in a warm frame, and pricking out the seedlings into boxes, and later direct into a bed of light sandy compost, out-of-doors, affording it partial shade during the day, and watering or syringing the plants twice or thrice daily. The variety called Sweet Erfurt is a good one for summer use. Watercress may be planted in bunches of plants at 12 inches apart.

EARLY-BOWN CELERY should be pricked out before it becomes drawn, and if but a small quantity is required, the ordinary shallow cutting-box may be used. The compost should be light, with plenty of leaf-soil in it, and the boxes placed in full light, so that no drawing of the plants may occur. A garden-frame is much the best place for the bed. The main-crop seedlings should be thinned early, if the seed was sown thickly; and neither early or late Celeries should suffer from lack of root moisture.

HERBS.—The species of sweet herbs that are usually raised from seed may now be sown; Mint roots may be divided and replanted on well-manured land. Mint, either Spear or Pepper, should not remain for longer than three years without transplanting. Pennyroyal roots may be divided and replanted in a light compost; this plant makes a good border to the herb quarter. Chervil needs similar treatment, also Tarragon. Sage may now be increased by taking slips of the side branches with a heel, and inserting them firmly in a sandy soil. Sweet Basil that has been raised in heat may be hardened off, preparatory to planting it out on a warm border in May. Bush Basil and Sweet Basil for later use may now be sown out-of-doors. Sow Parsley thinly in quantity, and in gardens where this herb fails, the ground should be well dressed with soot and wood-ashes before the sowing.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Penrice Gardens, Swansea.

ANTHURUM SCHERZERIANUM.—Plants which have been raised from seed last summer will now require to be potted into 4-inch pots, employing as a compost fibrous peat, chopped sphagnum moss, and a small amount of charcoal and sand. After potting, stand the plants on a bed of fine shells or gravel. Large specimens of this plant, which are now throwing up their spathe, should be afforded abundance of water, and syringed overhead twice daily with tepid water.

FINE-LEAVED VARIETIES OF ANTHURIUMS.—These plants require repotting each year, and the best time for this operation is just previous to fresh growth being made. Entirely remove the old material from the roots, and as these plants do not require any great depth of soil, deep earthen pans are preferable to the ordinary flower-pots, but if the latter be made use of, they should be half filled with crocks. A compost of fibrous peat, clean crocks, and sharp sand will make a good compost for these plants; and in potting them, keep the collar of the plants well above the compost, and surface the whole with living sphagnum moss. If it be desirable to increase the stock of the plants, this may be done by dividing the crowns themselves, or by taking up the growths springing out round about the crowns of the root; the latter will generally be found to have formed independent roots, but in removing them, care should be taken to do as little damage as possible. Put these singly in pots which are just large enough to hold them, and make them secure by fastening them to a stick until established, and till then they should be kept in close frame or case, so as to prevent flagging. Anthuriums are liable to the attacks of red-spider, and as a preventive, the syringe should be freely used at closing time. During bright sunshine some light shading should be put over them, but at all times they should be grown in a light situation.

WINTER-FLOWERING BEGONIAS.—Cuttings of the above may be put to strike as soon as obtainable, giving preference to the side shoots on the main stems. In 4-inch pots, well-drained and filled with a sandy compost, insert four or five cuttings

around the edge, placing them in the propagating-frame. When well rooted pot them singly into small pots in a compost of three-parts rich loam, one of leaf soil, and sand in proportion, and pot firmly. Cut back old plants, and when they break, shift them into pots two sizes larger than they previously occupied. Grow them in a pit where the night temperature does not fall below 55°, with a proportionate rise by day. Keep the plants well up to the glass, and use a light shade during bright sunshine. The following are mostly good species for autumn and winter blooming, *Begonia nitida*, *B. odorata*, *B. insignis*, *B. Knowlesiana*, *B. fuchsoides*.

PRIMULAS AND CINERARIAS.—Seeds of the above may now be sown to furnish plants for early blooms, sowing in a mixture of two parts rich loam, and one of leaf-mould, passing it all through a fine sieve, and adding a fair proportion of sharp sand.

The seed-pans must be well drained, some of the sifting being placed above the crocks. Before sowing the seed, make the surface of the soil firm and level, and after watering it with tepid water, and allowing it to settle for an hour, sow the seeds evenly over it, and cover very lightly with sand, or some of the finest particles of soil. Place a sheet of glass over the pan, and over this a little damp moss; place the pan in a hotbed frame, whose heat has declined, and the seeds will quickly germinate.

DOUBLE CHINESE PRIMULAS.—Now that most of these have finished flowering, no time should be lost in preparing the plants for propagation by division by cutting away the decayed leaf-stalks. After this is done, mould-up the stems as far as the lower leaves with a mixture of leaf-mould, sharp sand, pressing it firmly about the stems, and standing the plants in a close pit till roots have pushed into the fresh material about the stems, which generally takes place in four or five weeks. When rooted, the crowns of plants must be divided, each with its roots, and potted singly, and kept rather close until established, when more air should be degrees be given. Shift the plants into larger pots when the roots have reached the sides of the pots, using a compost consisting of two parts rich loam, and one each of leaf-mould and decayed manure, with enough sand as will keep the soil porous.

THE ORCHID HOUSES.

By H. A. BURBERRY, Orchid Grower, Highbury, Birmingham.

THE CATTLEYA-HOUSE.—The plants of Cattleya Trianae which brighten up this house for nearly three months, are now nearly over for this season, and the not less beautiful *C. Schroderae* will take their place. It is not easy to say which is the more lovely of the labiate section of Cattleyas, or which the most useful; certainly all of them are worth growing well, and if this house contain groups of the different varieties, as it should do, there will be but very few days during the year that a Cattleya labiate of some sort will not show a flower. Cattleya Lawrenceana is another species which is now about to open its beautiful, rich rose-purple flowers. It is a very desirable species, and one that is easily grown, but likes more heat than most other Cattleyas when growing. I therefore have it removed to the Dendrobium-house as soon as growth commences, keeping it there during the summer months in company with Cattleya eldorado and *C. superba*, both of which must also have plenty of heat. *C. amethystoglossa* is another very pretty species now in bloom; the warmth of this structure is sufficient for its requirements. With sun-heat the thermometer in the Cattleya-house may now run up from 70° to 85°, provided the house is well ventilated, for anything approaching the close heat of a plant-stove should be avoided; the warmth at night should be about 60°, rather less than more. None of the Cattleyas must now be allowed to get very dry at the roots; but, on the other hand, a great supply of moisture is not yet necessary, the plant being not as yet in active growth.

THE EAST INDIAN-HOUSE.—The Phalenopsis will now rapidly be making roots and foliage, and should be well supplied with moisture and heat, and whilst direct sunshine injures these plants, they should be too thickly shaded, or placed far away from the light, these practices having a tendency to make spiny leaves, because they cannot become well matured, the evil effects of which will be remarked in the winter time. *Angraecum Sandersonianum* is a species which is now in flower, and it

is one of the prettiest of the genus, with its graceful drooping racemes of snow-white flowers, which are useful for cutting. It is a plant that should be grown in well-drained pans or baskets, in sphagnum moss, and suspended near to the roof-glass in the warmest compartment. Other occupants of the East Indian-house will generally require a good supply of moisture at this season at the root and in the air, and for the Phalenopsis a night temperature of 70° is not too warm; while that for other East Indian Orchids may range from 65° to 70° by night, unless the weather be very cold.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

PENDING OPERATIONS: THE HERBACEOUS BORDERS.—Now that the whereabouts of most of the plants in the borders are discernible, the winter surface-dressings of short manure or leaf-mould may be pointed in with a fork, taking care not to damage the roots of the plants. In cases where the borders have got low, fresh soil 2 inches deep might be added to the border with advantage, spreading it over the dressing without forking over the soil. The same remarks will apply to borders of shrubs in which clumps of herbaceous and bulbous plants are planted. Lilies of various kinds generally do well in such positions, as also Spiraeas, Tritomas, Foxgloves, Funkias, and with patches of Daffodils, Primroses, and Snowdrops.

TREES AND SHRUBS.—Recently-planted trees and shrubs, especially those standing in light soils, should be mulched, and afterwards watered at intervals, as may be considered necessary, until the plants show signs of the roots having pushed into the new soil. Timely attention being given in this direction will be rewarded by the trees and shrubs making healthy growth; it is labour well applied.

LAWNS AND WALKS.—Brush over and roll the lawns in preparation for mowing the same, and at the same time make a vigorous attempt to rid the turf of any Dandelions, Plantains, and other noxious weeds, by using Wilkes' Dock Eradicator charged with Smith's Weed-killer [We shall publish our correspondent's description of this implement next week. Ed.]. If the turf edges of walks are cut (with the edging-iron) now, the operation need not be repeated for another year, the shears if brought into use fortnightly, will keep them nice and trim during the next six months. In cutting the edges (which are easier and better done after rain has fallen), care should be taken to preserve them of the original width, if this be correct; and the curves of the walks should be accurately struck. This done, pull up all weeds that may be in the walks, and afterwards roll them. But the easiest and cheapest way to keep walks free from weeds is to water them with Smith's Weed-killer, at the rate of 1 pint of it to 3 gallons of water, being careful not to let any of the mixture touch the grass or other live edging. The effect of this preparation is not immediate, no matter in whatever way applied, but it is complete ten or twelve days after application. This preparation being very poisonous, it must not be used on walks or yards which are frequented by pigeons or domestic fowls.

INDOORS.—The propagating of *Alternantheras* and *Mesembryanthemums*, *Ageratum*, *Verbenas*, *Lobelias*, &c., should be pushed on, boxing or potting-off the rooted plants, affording them a space of between 1 or 2 inches from plant to plant in the boxes. If returned to heat, and properly attended to in regard to water and air, they will soon re-establish themselves, when they should be transferred to a cooler place. It is surprising what a large stock of *Alternantheras* and *Mesembryanthemums* can be struck in shallow boxes filled with light soil, and surfaced with sand between this and the middle or end of May, providing sufficient forcing-houses or hot-beds are at command. Attend to the watering of *Pelargoniums* and other bedding subjects, giving them plenty of air in the daytime, where this can be done without interfering with the permanent occupants of the houses in which they are still located. Where cool pits and frame accommodation are abundant, the hardening-off of bedding plants is readily performed. Prick out and pot off seedling *Begonias* as soon as they are ready, returning them to a moist growing temperature, watering through a fine-sprayed rose, and shading from sunshine until fresh growth is made.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, APRIL 12th National Rose Society: Meeting of Executive Committee.
Meeting of the Royal Horticultural Society at the Drill Hall, James Street, Westminster: all Committees.
Lecture by the Rev. G. P. Haydon, on "Diffidilis." Flowers in season, Fruit, &c., will be shown.

THURSDAY, APRIL 14th Brighton and Sussex Horticultural Society meets.

SALES.

MONDAY, APRIL 11th Clearance Sale of Greenhouse Plants and Utensils, at The Vineries, Framfield, Uckfield, Sussex, by Protheroe & Morris (two days).
Store and Greenhouse Plants, at Dulwich Common, by Protheroe & Morris.

TUESDAY, APRIL 12th Sale of Greenhouses and Stock at Elm Cottage, Grove Road, Kingston-on-Thames, by Protheroe & Morris.
Sale of Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, APRIL 13th Palm Seeds, Lilies, Begonias, &c., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—47°·8.

International Horticultural Exhibition.

The International Horticultural Exhibition, which will be opened on May 7 at Earl's Court, London, S.W., so far as can be at present

judged, bids far to be a success; at least, so far as commercial horticulture is concerned. The London public will be provided with an agreeable promenade; and, if the weather prove fairly good, no doubt the results will be correspondingly favourable. The term "international" may, for aught we know, be strictly justified; indeed, we know that considerable efforts have been made to render the Exhibition what its name strictly implies. An extension of meaning has, or did, at one time apply to the term, but which we expect will hardly be warranted in the present instance. The Exhibition must be looked on solely as a commercial venture, in which the District Railway and other parties are specially interested, and if these limitations are clearly recognised, no one will have cause for complaint. Enthusiasm on the part of the executive committee is not wanting, and rapid progress is being made in the preparations. Already the greater portion of the vast space available for exhibits is taken, and it is anticipated that in a few weeks one of the finest displays of commercial horticultural produce and sundries ever seen will be got together.

The huge building, which, by the way, covers an area of some six acres, will be chiefly devoted to horticultural sundries and glass structures. Exhibits of interest to the general public will also be forthcoming, inasmuch as, among other things, art, in the shape of picture-galleries and statuary, will be well represented. Near to the main West Brompton entrance a grotto is being constructed, and on either side of this, banks of Palms, Ferns, and other choice foliage and flowering plants will be formed. A

fountain, which will be continually playing, and decorated with variously-coloured electric lights, is being made in the centre of the building, near the band-stand, which is likely to prove a great attraction. High-class music has also been secured.

The most striking feature, horticulturally concerned, in the building, however, is the charming garden, which has been laid out under cover (see plan on p. 467). This is upwards of an acre in extent, and by skillful manipulation appears to be considerably larger. The walks curve beautifully, and on an undulating surface, the green turf and numerous beds, which will be devoted to subtropical gardening, will present a charming appearance. This undoubtedly will be a favourite resort on wet days, when it is impossible to enjoy the pleasures of an outside garden.

In the grounds, too, which will be brilliantly lighted by electricity, the work is going on apace. The gardens, which have been remodelled by Mr. H. E. MILNER, the eminent landscape-gardener, are very tastefully laid out, and cannot fail to be most attractive during the summer. Examples of gardens of all ages, including Egyptian, Greek, Italian, Jacobean, &c., are in course of preparation, and the numerous other features are being pushed forward in accordance with the plan.

As previously mentioned in these pages, there will be special exhibitions and *fêtes*, and lectures on practical gardening will be given regularly. The schedule for exhibitors is now published, and may be had on application to the Secretary, International Horticultural Exhibition, Earl's Court, London, S.W. It comprises a statement of the arrangements proposed for the Great Summer Flower Show, on May 27 and 28 (the days following the Temple Show), and when ninety-two classes are set down for competitors to show their prowess in. The prizes offered are very numerous and very liberal, so that no doubt an excellent show will be the result. On July 5 and 6 there is to be a show of Roses, Begonias, herbaceous plants, table decorations, and fruit. On August 1 to 3, Carnations, Picotees, and cottage garden produce are to be on view. Autumn flowers will be shown on September 9 and 10; hardy fruit on October 5 and 7; trees and shrubs on October 26 to 28; Potatoes will be shown from October 5 to October 13, and for which a special schedule will be issued.

It is to be hoped that the arrangers of this show will do something more than get together heaps of clean-washed specimens of the tuber. Something should be done to teach visitors which varieties are good for eating and which for exhibiting only, and at what part of the season they are at their best; the generally best forcing, early out of doors, mid-season, late, and latest Potatoes; what kinds of soils suit the Potato, and request exhibitors to name the kind of soil their tubers were grown in, and the sort of manure employed. Irishmen who still possess the famous kinds of Potatoes written about in these pages recently by Mr. BAYLOR HARTLAND, would greatly benefit and interest the Saxon by exhibiting well-grown tubers of these.

RANUNCULUS CORTUSIFOLIUS.—Although only a Buttercup, this plant excited much attention when shown at the last meeting of the Royal Horticultural Society. It is an old inhabitant, having been figured at t. 4625 of the *Botanical Magazine*, but is rarely seen in gardens. It is a native of Madeira and the Canary Islands, and remarkable for its noble foliage, the lower leaves being stalked orbicular, slightly lobed and notched at the margin. The

upper leaves are deeply three-parted and sessile. The numerous flowers are borne in a loose, erect, much-branched cyme, they are of a rich shining yellow colour, exactly similar to those of our common Buttercup, but twice the size. The plant shown was exhibited by Mr. Woon, gr. to Lord HYTON, Merstham.

THE ROYAL SOCIETY.—No fewer than sixty-four candidates are proposed as Fellows this year, out of whom the Council will select fifteen to be recommended for election. Among the sixty-four we do not see the name of one botanist.

ROSE SHOW FIXTURES IN 1892.—In addition to those fixtures which were given in our column on March 5, Mr. EDWARD MAWLEY kindly furnishes us with these:—June 28 (Tuesday), Maidstone; July 1 (Friday), Brockham; July 5 (Tuesday), Bagshot, Diss, Earl's Court (two days); July 23 (Saturday), New Brighton. Mr. MAWLEY will be glad to receive the dates of other Rose shows, for insertion in the next list, which will appear early in May.

'JOURNAL OF THE ROYAL HORTICULTURAL SOCIETY.'—The last part, issued in March, contains the papers read at the Conference on *Asters* and *Sunflowers*. Professor GOODALE's paper on the genus *Aster* is a useful summary of the genus. It appears that the plants are as variable in their native homes as in our gardens, and that by selection alone, or by cross-breeding, great results may be compassed by the horticulturist. The variability of the *Aster* is curiously shown by the illustrations which are given from various sources. Mr. DAWAN's paper on *Sunflowers* is an honest piece of work, for which those interested in the correct nomenclature of these plants will be thankful.

NATAL BOTANIC GARDEN.—Mr. J. MEDLEY Woon continues his useful labours in this garden. In his last report he tells us that he has definitely ascertained that the source of *Natal Aloes* is *A. ferax*. With a view to supply fruit for the Johannesburg market, the culture of Pine-apples has become a matter of importance, and Mr. Woon details the steps he has taken to secure a supply of suckers. Some confusion exists as to the nomenclature of the varieties—a confusion that perhaps might be dispelled if Mr. Woon placed himself in communication with the Royal Horticultural Society, and one, moreover, that suggests the desirability of adding to the Lindley Library a series of coloured illustrations of the principal types of Pines.

M. ALF. VAN IMSHOOT'S ORCHIDS.—M. VAN IMSHOOT possesses a collection of Orchids which, as regards the number of species and varieties, is one of the most remarkable in Ghent. He is a true collector. Such amateurs are becoming increasingly rare. This orchidist has now in bloom:—1. *Epidendrum Wallisii*, a very fine variety, with golden-yellow petals, speckled with chestnut, which is so dark as to be nearly black; 2. *Dendrobium Kingianum* album; a very rare and charming variety of *D. Kingianum*—the petals are white, and the lip white striped with bright carmine; 3. *D. splendissimum grandiflorum*, a hybrid raised by Mr. SEZEN of VIERUM's establishment; in appearance it is similar to *D. Ainsworthii* X, but it is more coloured, and the flowers double the size; 4. *A. Zygopetalum*, apparently new; the pseudobulbs are round, terminated by narrow leaves like grass leaves; the raceme is over 3 feet long, and bears fifty flowers; the lip dark blue, and somewhat resembling the flower of *Z. Gauthieri*; 5. *Lycaste laelioglossa*; a large flower, with yellow petals and brown sepals, the lip, which is yellow, seems covered with whitish down; 6. *L. fulvescens*, large flower, clear brown in colour, the base whitish—the orange lip fringed with fine whitish hairs; 7. *Ceoloyne Parishii*, an exceedingly pretty Orchid, the flowers of which resembles *C. pandurata*; the petals are tender green, the lip white, slightly tinged with green and barred with black.

TURNER MEMORIAL PRIZES.—The following prizes are offered by the trustees of the above for the present season, viz., a Silver Cup of the value of £5, for twelve single tuberous Begonias in flower,

from the Royal Horticultural Society's schedule of prizes for 1892. Two Silver Cups, each of the value of £5, are also offered through the National Dahlia Society, at the exhibition to be held at the

Royal Nurseries there by intending exhibitors. Mr. J. DOUGLAS, Ilford, is the Secretary to the Trustees.

CHICAGO EXHIBITION.—We have received the



FIG. 70.—*RANUNCULUS CORTUSIFOLIUS*: FLOWERS, YELLOW. (SEE P. 461.)

to be exhibited at the Conference on Begonias to be held at the Chiswick Gardens of the Royal Horticultural Society on August 23 and 24. A Silver Cup of the value of £5 is also offered for nine double tuberous Begonias in flower on the same date and at the same place. Further particulars may be obtained

Crystal Palace, September 3, 1892—one for twenty-four show and fancy Dahlias, and the other for twelve bunches of Cactus and decorative Dahlias. The prizes are open to amateurs only. These four cups will be in the custody of the late Mr. CHARLES TURNER's family at Slough, and may be seen at the

following letter for publication: "The Department of Horticulture, realising the importance of the Pansy, and the prominent position it holds as a spring and summer flowering plant, is desirous of having them displayed to the very best advantage during the early months of the Exposition in 1893. With this end

in view, the Department solicits donations of seed in order to carry out their plans, and show to the vast number of people who will visit the Exposition during these months, the immense strides that have been made in the cultivation of this flower during the past few years. Seeds of only the very best varieties are desired, in quantities to ensure at least 250 plants of each at the time final planting is made. All varieties, such as Emperor William, Beaconsfield, and others, that come true to colour, should be separate, and the colours marked plainly on each package. Varieties sent in mixture should have marked on them the habit of the plant, whether bushy or spreading. Two sowings of each kind will be made, one in July, and one in August. All seed should arrive not later than July 1, 1892, addressed to Department of Horticulture, World's Columbian Exposition, Chicago, Ill., U.S.A. Duplicate invoices of varieties will facilitate the work of recording. Those contributing seeds will receive credit for same by having their names and addresses advertised in connection with the display, and in other ways." JOHN THORPE, Chief, Bureau of Floriculture; J. M. SAMUELS, Chief, Dept. of Horticulture.

NATIONAL AURICULA AND PRIMULA SOCIETY (SOUTHERN SECTION).—The exhibition of the National Auricula and Primula Society will be held in the Drill Hall, James Street, Westminster, on Tuesday, April 19. At the luncheon, which will be provided at the Hotel Windsor, Victoria Street, at 2 p.m., for the judges, members, and their friends, Sir JOHN T. D. LEWELYN, Bart., is expected to preside.

INTERNATIONAL FRUIT EXHIBITION, 1892.—The schedule of prizes of this exhibition, which is to take place on the Thames Embankment, and which will be opened on September 28, is now rapidly approaching completion, and will be issued shortly. It contains several novel and interesting features; among them, nurserymen are invited to contribute collections of fruit trees, showing the various types, and also modes of training for different purposes, so as to have an educational value. It is thought desirable to give intimation of this in advance of the issue of the full schedule, that nurserymen may make the necessary preparations. Other classes for nurserymen have been arranged as follows:—Collection of trees bearing fruit, in pots, with dishes or baskets of hardy fruits, artistically arranged on a space 24 ft. by 6 ft. Collection of hardy fruits, in baskets or dishes, arranged on a table 15 feet by 6 feet. Collection of English market fruits, including Tomatoes and Cucumbers, arranged on a table 12 feet by 6 feet. It is intended to award medals in each of the above classes at the discretion of the judges. The Secretary of the Exhibition is Mr. RICHARD DEAN, Ranelagh Road, Ealing.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the committee of the above took place at Anderson's Hotel on the 31st ult., Mr. R. BALLETINE in the chair, there being a large attendance of members, including representatives of affiliated societies. A letter was read from Mr. LEOPOLD DE ROTHSCHILD, "regretting exceedingly he is unable to comply with the request of the National Chrysanthemum Society to become its President during the present year, owing to his numerous engagements." By a unanimous vote, the Secretary was instructed to invite Sir EDWIN SAUNDERS, Fairlawn, Wimbledon, to become the President of the Society for the present year, and he, as we subsequently learnt, has accepted the position. The Secretary reported that the schedules of prizes, as amended, had been accepted by the annual general meeting, and were in the hands of the printer, also that a considerable number of advertisements had been received. As one-third of the fifteen members forming the Floral Committee go out of office annually, but are eligible for re-election, the Secretary reported the retiring members to be Messrs. L. Castle, J. P. Kendall, E. Sanderson, H. Shoesmith, and J. Wright (Temple),

Messrs. H. Shoesmith, J. P. Kendall, J. Wright, E. Sanderson, G. S. Addison, C. E. Shea, D. B. Crane, E. Vince, and W. Herbert Fowler, were nominated, and on a show of hands being taken, the first five named were declared duly elected. An additional meeting of the Floral Committee will be held in the month of September, owing to the great increase in the number of early varieties, making seven meetings in all. Seven new members were elected, and the proceedings terminated with a vote of thanks to the chairman.

DIE NATÜRLICHEN PFLANZEN FAMILIEN.—This work progresses steadily. The last issued part contains the Polygonaceae by Dr. UNO DAMMER, and the Chenopodiaceae by Dr. VOLKENS, both freely illustrated.

FLOWERS IN SEASON.—Some particularly bright and fresh-looking *Viola* blooms have reached us from Messrs. DORRIS & Co., Rothsay, N.B. The plants, they inform us, have been grown in a cold greenhouse for two months, and at present they are full of flower. As subjects for the south country amateur's greenhouse, these *Violas* are to be recommended, for, blooming as they do, before the sun gains power, the flowers last a considerable time on the plants, and do not run out.

LATE FLOWERING OF APRICOTS.—In a communication just received by one of our correspondents from Mr. J. KIPLING, The Gardens, Knebworth, Herts, he alludes to the backwardness of vegetation, and remarks that "not a single blossom of Apricot was expanded before the month of April came in, a circumstance that has not happened before in my twenty-five years' experience here. I have known Apricots to be bursting into blossom the latter end of January, and frequently in February, and generally before March was out, but never before so late in April; indeed, all the fruit trees are very late in blooming this season, a good augury, I hope, of escaping damage from late frosts." Trees may now be said to be leaping into leaf and blossom, and exhibit unwonted activity of growth.

THE COLOURING OF FRUITS.—Contrary to the general belief, a correspondent, well-known as a fruit grower in Mid-Kent, says that in spite of the great quantity of rain that fell in the early autumn months last year, and the prevalence of cloudy skies, his Apples, Pears, Peaches, and Nectarines were never of better colour. We remarked the same in the various collections of fruits seen at various exhibitions. It may be that the slow rate at which fruit ripened last autumn, and the consequent long exposure to such sunlight as was vouchsafed us, had in the end results, so far as colouring is concerned, equalling those observed in sunny years.

MESSRS. SUTTON AND SONS IN TASMANIA.—We notice in the *Launceston Examiner*, of February 20, that no fewer than thirteen First-class Awards were gained by Messrs. Sutton and Sons, of Reading, at the Tasmanian Exhibition.

BEAUFORTIA SPARSA.—Those who may require an autumn-flowering shrub for the greenhouse should obtain this brilliant crimson-flowered West Australian plant, figured in the last number of the *Botanical Magazine*. The flower is of the bottle-brush form, resembling *Callistemon* or *Metrosideros*, but the bundles of flowers are pendulous, the shoot being proleged, as in those through and beyond the flower. The cultivation required by the plant is the same as that found to answer with *Acacia*.

INTERNATIONAL BOTANICAL CONGRESS AT GENOA.—We have received the following communication from Professor PENZIG:—"The city of Genoa wishing to solemnise the fourth centenary of the greatest geographical discovery of all time, the work of her renowned citizen, CHRISTOPHER COLUMBUS, considers the most appropriate way of accomplishing this would be to assemble in an international congress the societies of geography

and of natural science. The Italian Botanical Society has therefore the honour of inviting the botanists of every nationality to a general assembly in Genoa in order to communicate and to discuss the latest discoveries and new ideas, and to increase the good feeling amongst scientific men. The Congress will be held in Genoa from September 4 to 11, 1892. Nearer the time fixed, a paper will be sent to botanists to which those wishing to attend will sign their names; at the same time they will receive a detailed programme of the projected meetings as well as of the public excursions and festivities offered by the Municipality of Genoa to their visitors; the Italian Botanical Society will also offer its colleagues various excursions on the shores of the Mediterranean and in the Maritime Alps. At the time of the Congress will also take place the inauguration of the new botanical institute built and presented to the University of Genoa by the munificence of the Comm. THOMAS HANBURY, as also the opening of an exhibition of horticulture, and of products exchangeable between America and Italy. Italian botanists cordially invite their colleagues of every nation in order that their presence may render this Congress more important, and give it an essentially cosmopolitan character, for above all things it aims at strengthening by the powerful influence of science the bonds of fraternity between nations. All enquiries and communications concerning the botanical congress should be addressed to Professor O. PENZIG, R. Università, Genoa.

COCKLE PIPPIN.—This excellent late dessert Apple is synonymous with Nutmeg Cackle, Nutmeg Pippin, Brown Cackle Pippin, and White Cackle Pippin, and was figured and described in these columns in the issue for May 7, 1846. It is there stated to be one of the few late-keeping Apples which acquired anything like their usual favour in that unfavourable season. Dr. BOLL, in his *Hertsfordshire Pomona*, says that the tree is an excellent bearer, and hardy, but apt to canker.

THE INFLUENCE OF SUGARS ON PLANTS.—Some very curious experiments have recently been performed by MONTEVERDE with branches of Lilac, Monkshood, Peas, and Vetches, in order to determine what effect, if any, the carbohydrates, e.g., the sugars, have upon the accumulation of asparagine in these plants. Asparagine is a substance of complex constitution which occurs in numerous plants. It is most abundantly found in Asparagus, the Marsh-mallow, and Mangel Wurzel; but it occurs in many other plants, especially in the cereal grasses, Peas, Beans, &c., and communicates to them a particular property. MONTEVERDE plunged branches of Lilac in distilled water and in a 4-per-cent. solution of glycerol, and then kept them in the dark; at the end of fifteen days they contained an abundance of asparagine, but neither starch nor mannitol. Branches of the same plant kept in solution of glucose, cane-sugar, or mannitol formed no asparagine in a month, but contained much starch and mannitol. Peas, Vetches, and Monkshood, which do not stand the dark well, were kept in the light in an atmosphere deprived of carbonic acid; when plunged in solutions of glucose or cane-sugar, they were completely deprived of asparagine in ten days (*vide Annales Agronomiques*, xvii., pp. 376, 377).

THE ACTION OF SOME SOIL CONSTITUENTS ON FRUIT AND VEGETABLES.—It appears that the constituents of the soil influence the constitution of fruit and vegetables to a greater extent than has hitherto been believed. An illustration of this occurs in the *Annales Agronomiques* (xvii., pp. 352–354), in a paper by A. GASEND, who states that he has found traces of boric acid in Grapes, Apples, Potatoes, Radishes, Lettuces, and in some Peas. In all these cases, the soil also contained boric acid. It is curious to notice that GASEND could not discover boric acid in all the kinds of Peas which he examined, even when the soil upon which they were grown contained a marked amount of this substance. The obvious conclusion is, that some selective action has taken

place. Saffron also appears able to reject boric acid. The Grape is evidently a considerable absorber of this acid, and wine made from the juice has been found to contain as much as five or even ten milligrammes per litre.

BROWN SPOTS.—The occurrence of brown spots on leaves grown under glass without trace of fungus or insect is familiar enough. They have been generally attributed to scorching, from the sun acting on a wet surface, to imperfections in the glass, or to drops of water acting as burning-glasses. A Swedish naturalist, Mr. JONSSON BENGT, has, as we learn from the *Botanical Gazette*, been re-investigating the matter, with the following results:—"The true burnt spots are easily distinguished by their most frequently elliptical form, with the longest diameter often from east to west, and if they occur

become able to cause a kind of burning—for instance, when hanging down from the inside of a glass cover. The author has come to the conclusion that in most cases the burnt spots are due to the poor quality of the covering glass, by the air-bubbles of which the sunlight becomes concentrated so as to produce burning of the leaves.

REMOVAL OF THE LEAVES.—M. MUNTZ has been making experiments with a view to ascertain whether the removal of the leaves of Vines, as frequently practised in the vineyards of France, is advantageous or not to the vintage, and he records his experiences in the *Comptes Rendus* for February 22. In certain regions of France, especially the South-East and West, it is customary just before the Grapes are ripe, to pick off the leaves which shade them—that is, those on the lower part of the stock—sometimes

in hindering the action of some of the leaves. Then, again, the leaves taken off are the adult ones, which have no further need of sugar-forming materials, and therefore the sugary matter formed in their tissues passes to the fruit. The author's experiments were made in a comparatively dry season, and he thinks that the results might be different in a wet year, when the water might cause the Grapes to rot, were the leaves to shadow them and check evaporation, and so induce mildew; therefore, he prefers to pass no absolute judgment until he has studied his subject under other climatic conditions. It may, however, be safely stated, that any higher temperature to which the bunches may be subjected decidedly does not imply a greater proportion of sugar. Growers should, if they deprive their Vines of leaves, do so in moderation, bearing in mind the suggested drawbacks that such a plan may involve.

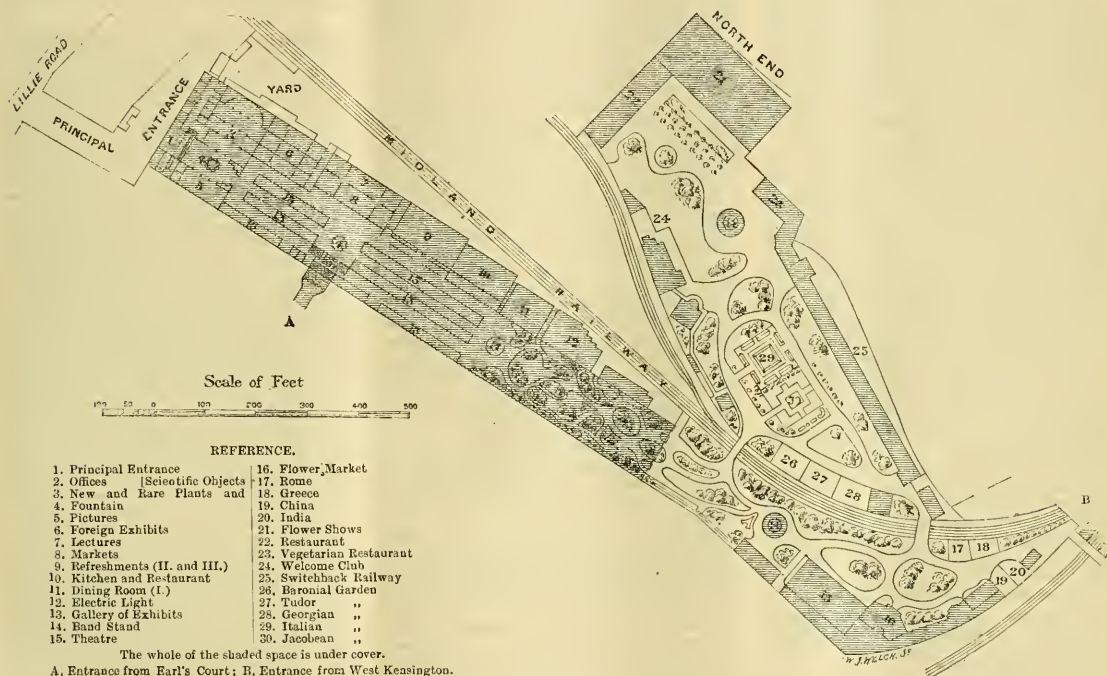


FIG. 71.—PLAN OF EXHIBITION GROUND, EARL'S COURT, LONDON. (SEE P. 464.)

several together on one leaf, they form always longitudinal rows from east to west, the spots in the middle being the largest. He has made a series of experiments so as to test the different theories which have been enumerated above. It has been thereby proved that drops of water are unable to cause any kind of burning by their own heat. Further, as shown by SACUS, the vegetative cell of land-plants is able to stand a heat of 51°C . All the experiments made by the author in that direction gave negative results, so that NEUMANN'S theory cannot be correct. Some experiments were made with water of a temperature above 60°C , but even this did not affect the leaves. As regards the supposition that drops of water might have the same effect as lenses, it is quite clear that drops which have fallen on leaves merely represent half-lenses—a fact to which already DE CANDOLLE has called attention. And it is shown by experiments, that only when the drops of water were out of contact with the leaves, do they

in the proportion of 25 or even 30 per cent. of the whole foliage. If, on the one hand, the direct rays of the sun, the freer circulation of air, and the more rapid evaporation of moisture condensed on the Grape, all of which are consequent upon the loss of the leaves, are favourable to the ripening, it may, on the other hand, be asked whether, at the season when the Grape should be forming sugar, the removal of so many leaves still in full vigour, and whose chief function it is to assist in elaborating sugary matter, will not be more injurious than useful? The author inclines to the latter opinion, after experiments made in the vineyards of Vergnes and Beaulieu (Gironde), where the practice has been followed from time immemorial, and where this year the Grapes on examination were found to be acid and deficient in sugar, yielding wine poor in colour and quality. In fact, the effects of a deficiency of leaves may be compared to those consequent on a late attack of mildew, which has a similar effect

ROOT-HAIRS.—An important part of the report of the Research Association for the North-eastern Counties of Scotland for the year 1891, just issued by Mr. JAMIESON, the Director, to the members, is taken up with a description of root-hairs, and the precise action of phosphorus on and in plants. During his investigations, Mr. JAMIESON discovered luminous points or protuberances from which a clear light was strongly reflected. The protuberance, on closer investigation, was found to be the margin or lip of a well-defined aperture, such as GASPARINNI long since thought he had detected. Turning to the mineral matter which is assimilated by plants, examination of the finely-divided insoluble mineral matters which are applied to plants as manure, showed, that while a large proportion of the particles are too large to pass into the aperture of the root-hair, another large proportion is sufficiently small to pass through the aperture. This is supposed to be a confirmation of the doctrine, that plants take up

their solid food in the solid form through the root-hair apertures, because in the numerous experiments that have recently been performed on phosphates, no point has been more satisfactorily proved than that the degree of effectiveness corresponds with the degree of division; for it is evident, that if the aperture doctrine be true, only such particles as can pass through the aperture will be available. It is known by experiment, that whilst the amorphous phosphates, such as coprolite, can be used by the plant, the crystalline phosphate, apatite, has very little effect. This has been proved distinctly by very many experiments, although hitherto no very satisfactory explanation was known why it should be so, but the inability of the particles to glide up the slippery tube of the hair may explain it. DARWIN has shown that earth-mould is formed by worms swallowing particles limited in size to the size of the worm's mouth. These particles are first smeared by the worm with an alkaline fluid, and then made use of to triturate its food, and finally are ejected on the surface of the ground. Similar, Mr. JAMESON ventures to suggest, may be the action of the plant root-hair, namely, that potash is essential to provide a glutinous slippery fluid, and that when the root-hair comes in contact with a particle sufficiently small, the particle—by gentle suction upwards—is drawn bodily into the root-hair. We would, however, counsel an attitude of philosophic doubt on the matter till further investigations be made.

WEEDS.—Professor HALSTED, who has charge of the Exhibition of Weeds at the Chicago Columbian Fair, has sent out a circular requesting specimens from all States and Territories. Seeds are especially desired, as well as seedlings in various stages of development. The root-system, flower and flower-cluster and seed-vessel are also essential. If the weed is large, specimens must be procured while they are small enough to mount the whole plant, roots and all, upon a herbarium-sheet not over a foot in length. The collecting must be done during the present season, and the specimens sent in for mounting, labelling, &c., by December 1. This is the first time an exhibition of weeds on such a scale has been attempted. If properly carried out with the aid of diagrams, it should be the means of conveying a great amount of useful information.

DAFFODILS.—At the Exeter Gardeners' Improvement Society on Wednesday evening, March 30, an interesting paper was read by Mr. A. HOPE on "Daffodils," in which the origin, classification, and cultivation of the flower, were minutely described. A more extended cultivation of the bulbs was strongly recommended.

A GOOD PRICE FOR A TREE.—At a sale of trees at Langford Grove, Witham, Essex, recently, a large Willow was knocked down at auction to Mr. PERRY, of Sible Hedingham, for £46. Several other trunks fetched high prices.

BECKENHAM HORTICULTURAL SOCIETY.—This society has just been re-organised, and promises to become a very successful institution. The leading gentry and growers of the neighbourhood have given it their assistance. A summer show is fixed for July 27, and prizes to the value of £70 are offered. Mr. T. W. THORNTON, 42, High Street, is the secretary.

PLANT PORTRAITS.

ANTHURIUM HYBRIDUM, O. J. Quintus. — A cross between *Anthurium Andreanum*, and possibly, *A. ferrierense* X. *Gartenflora*, t. 1367.

COLOEUS LENTIGINOSA, *Orchid Album*, t. 442.

CYRIPEDIUM (hyb.) GODSEFFIANUM. — A hybrid raised by Mr. Norman Cookson out of *C. Boxalli* by pollen of *C. hirsutissimum*. *Revue de l'Horticulture Belge*, April.

DENDROBIUM ATRO-VIOLEACEUM, *Orchid Album*, t. 441. — A comparatively new species from New Guinea, described by Mr. Rolfe in *Gardeners' Chronicle*, 1890, vol. vii., p. 512. Segments oblong, white thickly beset with purplish spots; lip 3-lobed, rich green, striped with purple.

DENDROBIUM BIGIBIUM, *Lindenia*, t. 317.

DENDROBIUM CRYSTALLINUM, *Orchid Album*, t. 441.

LILIA EXONIENSIS X, *Orchid Album*, t. 443.

LESPEDeza BICOLOR and **L. SIEBOLDI**. — Hardy, ornamental shrubs. *Garden and Forest*, March 9.

PANCRATIUM FRAGRANS, *Revue de l'Horticulture Belge*, April.

PLUM "CHAROT". — A Japanese variety, with purple fruit; said to be of good quality. *Revue Horticole*, March 16.

SORBARIA VIOLEACEA, *Lindenia*, t. 319.

STAUROPSIS WAROCQUEANA, *Lindenia*, t. 318.

STREPTOCARPUS GALPINI (a new species), figured in the *Garden*, March 19.

BOOK NOTICE.

ANNALS OF THE ROYAL BOTANIC GARDEN, CALCUTTA.

THE third volume, recently issued, contains monographs on the species of Pedicularis inhabiting the Indian empire, by Dr. Prain; on the Magnoliaceae and Myristicaceae of British India, by Dr. King; and of the genus Gomphostemma, by Dr. Prain. Each monograph is copiously illustrated.

The monograph on Pedicularis is very elaborate, both as regards morphology and geographical distribution. Floral characters alone can be depended on in this genus for the distinction of nearly-allied species, says Dr. Prain. It is to be hoped that some histologist may take up the subject, as it is not unlikely the microscopical characters of the plants might supply other points of distinction, or, more probably, of characters available for synthetic purposes, and certainly for physiological use. The geographical distribution of the species, and the inferences to be derived from observed facts, are very lucidly discussed. The species are distributed throughout eight provinces, as follows:—Circum-polar, with a percentage of fifty-two endemic species; European, with 85 per cent. of endemic species; Siberio-Turkestan, with 65 per cent.; Japanese, 66; American, 87; Caucasian, 73; Chinese, 71; and Himalayan, 89 (fractions omitted in each case). Maps and drawings accompany a most conscientiously elaborated monograph.

As an illustration of the manner in which species become extinct, we quote what Dr. King says as to *Magnolia Campbellii*, the flowering of which in this country has heretofore proved somewhat disappointing:—

"This is in every respect one of the most superb trees of the semi-temperate forest zone of the Eastern Himalaya. Specimens of it, 150 feet in height, used to be common at the time of Sir Joseph Hooker's visit to the province in 1849; most of these larger examples have long since been converted into timber, for the wood is of excellent quality . . . The flowers are of the most lovely rose colour (occasionally they are white), and are sweetly scented. They appear while the plant is leafless, which detracts much from their effectiveness." The figures in Dr. King's monograph of the Indian Nutmegs (*Myristica*), will prove valuable aids in determining the species of a very difficult group.

HOME CORRESPONDENCE.

EUCALYPTUS FRUITING.—I was somewhat interested in a short paragraph in your issue of February 6, p. 180, from "C. H. H. Sparkhill, Birmingham," in which he speaks of some young plants of *Eucalyptus globulus* that flowered there, and asks if they flower often. A correspondent replied from Bournemouth in your issue of February 13, stating that some young plants about 10 feet in height flowered there. Again, in your issue of February 20, a correspondent wrote from North Wales, saying that some plants of *Eucalyptus globulus* flowered there and formed their seed capsules, but they were much larger, about 40 feet in height; but in all three reports I am very sorry to hear the frost of last winter has killed the plants. Now with regard to the flowering of *Eucalyptus globulus*, I was much surprised to read in the two

first instances that it had flowered on plants so young, as I have never known it to flower under about fifteen years, unless under very favourable circumstances. I have one tree, about twenty years of age, which flowered for the first time two years ago, and some younger trees about twelve years of age which had not flowered up to last winter, when they were much damaged by the frost; but older trees than these flower every year, also do other varieties, and form plenty of seed vessels, the seed of which will germinate very well. *Eucalyptus globulus* flowers in the gardens here about the end of July, *E. resinifera* or Red Gum flowers in the gardens here about the end of May, *E. pipirita* or Peppermint Gum in June, *E. pallens* or White Gum in May, *E. robusta* or Stringy Bark in July. I have also *E. saligna*, *E. macrocarpa*, *E. leucocorymbus*, *E. platycarya*, *E. glauca*, *E. corymbosa*, *E. corymboxyl*, *E. carophylla*, and *E. citrifolia*, but these have not flowered yet. Some of the sorts of *Eucalyptus* flower earlier than *E. globulus*. I will try and get a photo, if it will come out well, of a large *Eucalyptus globulus*, and send it to you, the tree is about 110 feet high and 10 feet round the trunk. T. Shorman, The Gardens, Roselle Bay, Jersey.

PARCEL POST AND GARDEN PRODUCE.—There can be no doubt whatever but that the high anticipations formed as to the benefits likely to accrue to gardening through the establishment of the Parcel Post, have not been justified. The reasons are pretty obvious. With the exception of flowers, all garden produce is heavy, and its transit costly. Still further, much fruit is so soft, that it could only be sent, with any degree of safety to other parcels, in air or liquid-tight boxes or tins. Even for fairly hard fruits, such as Apples, Pears, green Gooseberries, &c., it is needful to have stout boxes or baskets; and for such fruits as ripe Gooseberries, Currants, wall fruits, Plums, Cherries, or ripe Apples and Pears, even stouter packages are needful, and the quantity of packing material must be considerable. Thus, at the outset, a box or basket capable of carrying six pounds of fruit, would cost threepence at the least, and it would certainly take threepence more for its transit. Then with six pounds of contents, the postage would amount to 1s. 1½d., adding 3d., cost of box, would be 1s. 4½d., so that, were but 2d. per pound charged for the contents, the total cost of what would doubtless be, at the end of the journey, six pounds of much damaged fruit, would be 2s. 4½d., and if we add another 1½d., for probable total weight of the package, there would be a cost of 2s. 6d., for what could be purchased in any ordinary shop for a much less sum. To send fruit in a light or thin package would be to court absolute destruction to the whole. In the case of vegetables, it is difficult to assume that any could be sent per post at a profit to the purchaser, except, perhaps, good Sea-kale, Asparagus, shelled Peas, or Cucumbers, for package and postage would add fully 30 per cent. to the cost. To enable the Parcel Post to be made useful to gardening, it does seem to be absolutely essential that there should be a very material reduction of existing rates. Whilst useful enough for dry goods, light, easily-packed articles, and even for flowers, yet the rates, as at present, are almost prohibitory for fruit and soft produce. If the Post-office cannot carry goods of this description cheaper, then is there little hope that the Parcel Post will ever be of much service to our vocation. As to selling garden produce by Parcel Post samples, I fear we have a good deal yet to learn in respect of common honesty, so far as not mere samples, but of actual stocks are concerned. It is a matter for humiliation to find that such is the care taken by senders or packers of fruit abroad to our markets, that consignments can always (?) be relied upon to come fully up to anticipations, whilst at home we invariably strive to give a meretricious aspect to so much of our produce by placing the best on the top and the poorest below. What wonder, in such case, that the foreign brands find ready purchasers? When, in regard to all descriptions of market products, sample and average stocks are identical in quality, better results may be looked for. The great aim, however, should be to excel the foreign producer in quality as well as in quantity, especially in having the whole of a consignment equal to the best sample. We have not at home, as is the case in France, any intermediaries in the shape of wholesale packers, who purchase from myriads of small growers, assort carefully, and as carefully pack all fruit, and send it over here in the very best form and condition. Such intermediaries may or may not be desirable. In any case, there is so much room for improvement in the

matter of evenness, and assorting of our garden produce for market, that we cannot too soon take it in hand. A. D.

STINGING OF THE SKIN BY PRIMULA OBSCURA.—In a Birmingham nursery, where this plant is grown extensively, the young men who were engaged in potting the plants experienced an itching sensation in the arms and hands, followed by blotches, and it occurred to the manager's wife that an application of Condy's fluid might be beneficial, and half a wine-glassful was placed in cold water, and the arms and hands were bathed with it, allowing the lotion to dry on the skin, and relief very soon followed, and soon afterwards the itching and blotches disappeared. I recommend all who have to do with *Primula obscura* to have a little Condy's fluid by them in readiness. It is not every one who suffers, but those who do will find nothing better as a remedy. W. D.

LITTLE-KNOWN APPLES.—I trust you will permit me to support Mr. Wilks' appeal to those who have good but little-known Apples, and especially those of good local reputation, to send grafts to Chiswick, that they may be there collected for trial, and be either identified, or be otherwise distinguished. I made the suggestion originally at one of the meetings of the Fruit Committee, and was pleased to learn that it was about to be acted upon. There is an admirable illustration to be found in the fine Apple, Albury Park Nonsuch, which Mr. Leach has had a Certificate of Merit for; and the very handsome, good-flavoured variety, May Queen, Certificated to Mr. Crump of Madresfield Court at the last meeting. Both appear to be very valuable late-keeping varieties, but, all the same, it would be well if grafts were sent to Chiswick for growth. It is all very well to plead that we have too many Apples already. That may be so; but, on the other hand, there are many really fine local Apples of which generally little is known, and which have merits that would, for good keeping or late market purposes, place them in the front rank of varieties. It is these we want to see rescued from comparative oblivion, and put into general cultivation. In doing that, we are but doing what the Canadians have done for themselves—seek for the best. O! varieties that ripen before Christmas we have plenty. It is the late keepers which it is so desirable to hunt up and offer to the public. Our fault in relation to late varieties for market is, that we do not grow enough of them in sorts to be able to put large quantities on to the market, all sampled and well preserved. It is really too absurd to suppose that we cannot do so well as the Canadians in Apple production, if we will but try. A. D.

SCILLAS.—Hardy Scillas are among the most beautiful of spring-flowering bulbous plants, and are deservedly worthy of extensive cultivation. They are very hardy, will succeed in almost any soil or situation, and require to be planted in early autumn, when the bulbs are resting. There is nothing, I think, more beautiful for edgings in the early spring than the rich blue of *Sibirica*, which flowers at the same time as the Snowdrop, and, if associated with it, the rich blue and the pure white make a charming and effective display. It is also admirably adapted for planting in masses or clumps, the effect of its superb colour when so employed being very beautiful. *Scilla sibirica* is also well suited for culture in pots, but they must be kept in a cool-house or frame, and not subjected to heat. G. Parrant, Ashby Saint Ledgers Lodge, Rugby.

RODRIGUEZIA PUBESCENS, Robt. f.—Reference is made at p. 426 to my determination of this species having been called in question by M. Cogniaux, who is of opinion that the recently-introduced plant is a new and distinct species. Cogniaux says of *R. pubescens*, "Gynostème très finement et densément pubescent," and of *R. Lindenii* "Fleurs entièrement glabres," which must include the column (gynostème), as no character to the contrary is given. Now this only confirms my determination, for of seven racemes kindly sent by M. Linden every one has a pubescent column, and certainly all belong to *R. pubescens*, Robt. f., the original *Burlingtonia pubescens* of Dr. Lindley, with whose type specimens they have been carefully compared. There is some little variation in length and density of the racemes, size of flowers, the paler or deeper yellow of the crest, and the amount of pubescence on the column; and in one case the latter was so reduced in amount, that at first I thought the column

was really glabrous, though there was not a shade of difference in other respects. More careful examination, however, revealed the minute pubescence at the base of the column. The other characters pointed are those between a small and a large specimen of the same species. The figures and specimens certainly belong to *R. pubescens*, a most beautiful and floriferous species, which, unfortunately, is now burdened with an additional synonymy. R. A. Rolfe.

ANONAS: ARE THEY EVERGREEN? (see p. 376).—In the "Notices to Correspondents," in No. 273, it is stated that *Anona squamosa* is an evergreen plant, and that if the leaves fall, it is owing to lack of sunshine or heat. So far I have seen in South America, Venezuela, Demerara, Dutch and French Guiana, I consider the *Anona muricata* to be evergreen. *Anona squamosa*, A. Chirimolia, A. loxensis are among those plants which, after a short rest, cast off all their leaves. His Excellency Aristakes Azarian, of Constantinople, has grown in his plant-houses for several years tropical fruit trees. The different kinds of *Anona* are planted out in a temperate-house, and, as I have said, during a period of about five weeks, the tree is without any leaves. After this growth re-commences. Fruit was produced here two years ago which ripened in the month of December, and about 80 per cent. of the seeds produced nice plants. Joh. Dekkers, Chief Gardener, Buyguydere, Constantinople.

APPLE STURMER PIPPIN.—I am quite in agreement with every word that your correspondent has said in favour of Cockle's Pippin Apple, and would like to recommend a companion to it in the shape of Sturmer, the flavour of which is equally good, and which will keep in most years till June. A great mistake is often made in gathering late kinds too early; the end of October, and even later, if the weather is mild, is soon enough for these. Here, in Sussex, they often leave the Golden Knob till the leaves are falling from the tree. It is the first few weeks after gathering that late keepers suffer most, more especially should the weather prove mild; and were it possible to keep the Apple-room under 40°, the period to which many kinds could be kept would be extended for that reason. I much prefer a fruit-room inclined to be damp rather than dry, and most certainly it should have a north aspect, and be provided with shutters to exclude the light. This year I placed my Sturmer Pippins in barrels, and filled up between the fruit with clean sand, and it has answered very well indeed, and they come out as fresh and plump as when gathered; next autumn I intend to try sea sand and Cocoa-nut fibre, just to see the effect. But before I close, I must not forget to mention that Sturmer, which, by-the-by, is a seedling from the Ribstone, is of good flavour, a free bearer, and the tree a hardy constitution. Some thirty years ago, I was going to raise some seedlings from it which would even distance the parent, but, alas! I used the wrong tree for the female parent, and the six big trees in the orchard live to tell my mistake. J. Rust, Eridge Castle.

CHOISYA TERNATA.—This evergreen has for some years now been looked upon in this garden as an acquisition as a plant for a wall, and the warmer position it is planted in the better, provided water is freely supplied at the root during growth; for if the roots suffer from lack of it, red-spider is apt to infest the plant, and cause the leaves to be discoloured, to the loss of much of its beauty. The foliage is useful for placing in small vases with flowers, especially white ones. South Hants.

HYLURGUS PINIPERDA, THE PINE-BEETLE.—It used to be considered a good remedy for this devastating insect to dust the points of the Pine trees infested with it with flowers-of-sulphur; at any rate, it prevented the beetles from eating out the centre of the young shoots. Miss Ormerod, in her book on insects and means for their destruction, does not mention this fact. What do our foresters say to it? M.

PRUNING DENDROBIUMS.—Your correspondent, "B. P.," in his letter, renders, I think, but little real service to the generality of growers of these plants, most of whom will require something more substantial than his bare assertion. How is it that "B. P.," being a grower of such gigantic specimens as he describes, has not proclaimed long ere this his methods, so that others might, by following his directions, have similar results? "B. P." should come out from behind his sheltering *nom de plume*,

and then we should all be better able to judge of his methods, and take the measure of his successes. On pruning of *Dendrobiums* my ideas are well known, and no purpose will be served by repeating them here; but there are two facts worthy of notice in "B. P.'s" letter. The first may help to account for his remarkable plants and extraordinary cultural skill; I refer to his wonderful powers of imagination, for he evidently looks at my Bamboo-tips and fine wire through a magnifying lens of strong power, so that the first look like rods fit for staking a *Chrysanthemum*, and the other wire strong enough to suspend an Orchid basket. Probably the Bamboo-tips will soon grow into hop-poles, and the wire into bars of iron. Those who have read my remarks on these plants in some of my former *Calendars* will readily understand which are the species I cultivate in heat, and it was to these that I was referring. H. A. Burberry.

CALANDRINIA UMBELLATA.—This *Chilian* plant is not an annual although generally it is treated as one, but it may be kept in the greenhouse through the winter; *C. grandiflora* is even more amenable to greenhouse treatment, and becomes shrubby. Both species make lovely beds early in the summer, if seeds be sown at this season, six in a large 60-pot, thinning out the seedlings to two in a pot, and growing them on in a cold frame or the greenhouse, and affording them one shift into larger pots if they are likely to become cramped at the root. The bed should be deeply dug and manured with leaf-mould or Mushroom-bed dung, and the undivided plants put out in May, 1 foot apart. A. B. C.

EUCALYPTUS TREES FLOWERING IN ENGLAND.—From 1845 to 1851, in the gardens at Braxted Park in Essex, the seat of the late Sir Charles Da Cane, there were growing in the open trees of *Eucalyptus pulverulenta*; from 1849 to 1851, when the trees were from 30 feet to 40 feet high, they bloomed freely. The late Mr. Robert Marnock of the Royal Botanic Gardens, Regent's Park, who paid me visits during these years, expressed himself much surprised and pleased to see these trees so hardy, and blooming so freely. Geo. Taber, Rivenhall.

NOTES ON CURLED KALES.—The seeds of some of Messrs. Sutton & Sons' of Reading, varieties sent to me for trial, and reported by you last March, were sown, and the following is my opinion of the produce. Sutton's *Exquisite Green-curved Kale*, dwarf: A very good strain indeed, beautifully curled, and quite hardy, not one plant being injured in a fair-sized batch after the long trying winter we have experienced; when cooked, these were of good flavour, not at all strong. Sutton's *Extra Green Curled Kale*, tall: A very good strain, and true to name, but, to my mind, it is not likely to prove so useful in ordinary-sized gardens as the above named variety. Sutton's *Exquisite Dwarf Curled Kale*, purple: is an excellent strain, quite hardy, mainly useful, as I take it, for decorative purposes, being quite distinct in this respect from most of those I have seen. For culinary purposes, it has no advantage over the *Green Dwarf Curled Kale*, and in appearance is not its equal. Henry J. Clayton, Grimston Park Gardens, Tadcaster, Yorkshire.

NURSERY NOTES.

ORCHIDS AT MESSRS. LEWIS & CO'S, SOUTHGATE.

THE Orchid nursery of Messrs. Lewis & Co., Chase Side, Southgate, London, N., is as yet but a young establishment, whose main object may be said to be the supplying of amateurs, principally, with healthy and good novelties. For the amateur of limited means who is desirous of adding rare species to his collection when they get down to prices within his means, it is of great assistance to correspond with such an establishment. For the Orchid nursery at Southgate, which was begun by providing suitable new houses for the plants which were going to be in them, a good future is in view; and as it is under the management of one so well acquainted with the requirements and value of Orchids as Mr. P. Weathers, a guarantee is afforded that the subjects cultivated will be true to name.

For Cattleyas and Lælias a new house is in course of construction. At present they occupy a roomy span-roofed structure, and are remarkable for their good condition, and especially the large number of plants of hitherto undowered *Lælia purpurata*, which are well furnished with flower-sheaths, the development of whose flowers for the first time in England, on these particular plants it will be interesting to watch. Here, also, are some very peculiar forms of *Lælia elegans*, some of which are about to flower; and on one side of a house the stock of *Odontoglossum vexillarium* is thriving, while on a shelf overhead are plants in flower of the handsome Madagascar *Disa incarnata*, with its singularly-shaped yellow and scarlet flowers, and which flowered at Southgate this season for the first time under cultivation. There are also some very fine imported *Dendrobium Wardianum* and *D. spheerium*, the latter showing flower freely.

In the Cattleya-house, the first of the C. Mendellii, C. Schroderae, some C. Trianae, *Lælia harpophylla*, a large specimen of *Brassia verrucosa*, *Dendrobium aggregatum* mjsus, and other *Dendrobies*, and many specimens of *Trichopilia suavis* were in flower.

In a small lean-to at the end are some splendid specimens of *Phalenopsis Schilleriana* and *P. amabilis* in grand health, some of the leaves being 12 to 15 inches in length. There are also smaller plants of *D. grandiflora*, some of which are in flower; and a fine batch of *Angraecum sesquipedale*, *A. articulatum*, and other species—many with stout flower-spikes. Here, too, are some rare *Cypripediums*, viz., *C. niveum* × *Lowii*, *C. delicatulum* × *C. Juno* ×, and some seedlings, which have not as yet flowered; and coming into bloom are a number of *C. Volontanum*, *C. Haynaldianum*, and *Dendrobium Phalenopsis Schroderianum*.

In the *Dendrobium*-house—a lean-to with a glazed partition at the back above the stage—there is a good show of a very fine and richly-coloured strain of *D. nobile*, which came into the country some years ago, and which is yet equal to most of the newer varieties which have appeared in recent importations of this plant. The strain of *D. Wardianum*, too, is very good, the flowers large and round; and *D. primulinum* and other species are in bloom, while at one end is a large batch of *Ada aurantiaca*, many of which are blooming; and, suspended from the roof, a quantity of *Sophranitis grandiflora*.

The *Odontoglossum* and *Masdevallia* houses are well stocked, and the whole place shows neatness and careful arrangement, and is kept in the best order possible which the presence of the workmen engaged on new extensions of the houses will allow.

CHINESE PRIMULAS AT FOREST HILL.

On paying a visit to the nurseries of Messrs. Carter & Co., of Forest Hill, I noticed that the firm's manager, Mr. Sharnan, has succeeded in producing some very beautiful varieties. The various improvements in the colour, form, and substance of the flowers are carefully noted, the numerous span-roofed glass-houses being filled with plants arranged in the various colours, all of them for seedling purposes.

The blue *Primula* originated with Messrs. Carter about twelve years ago, and they have greatly improved it year by year. It came as a chance seedling by crossing a pinkish-coloured variety, named *Roy Morn*, and a white kind. At first the flowers were small, but now they are 2 inches across, and of a lovely porcelain-blue colour. Another characteristic of this blue *Primula* is the form of the seed-pods, which are quite conical; the variety, too, requires a little more warmth to develop its beauties than the ordinary varieties do. The greatest advance in this colour is the Holborn Porcelain.

Messrs. Carter & Co., are also endeavouring to obtain a yellow *Primula*. We have distinctly blue and yellow varieties of the common *Primrose*, and there cannot be any reason why there should not be a deep yellow variety of the Chinese type. Messrs. Carter have a white variety in which quite half of

the flower is formed of its bright yellow centre, and they have another with yellow foliage; both of them are fixed, and come true from seed. In one case I found a bloom in which there was a streak or two of deep yellow in the white margin. Here is surely a good beginning, if it could be followed up by crossing such a flower with its own pollen. It may, therefore, be reasonable to suppose that we shall yet have a bright yellow self. The variety with the enlarged yellow centre and white margin was crossed with Holborn Blue. All the seedlings produced rose-coloured flowers with the exception of one, which was blue. Nones were white; they are of a pale rose, and a few are really fine.

A curious break has produced what is termed the Fern-leaved type, with the leaf-stalks a blackish-red, and salmon-coloured flowers with orange centre. It has been named *Negro*.

Many of the most beautiful varieties are chance sports. I noticed a singularly beautiful white variety named *Elaine*, the flowers a pure ivory-white, the leaves a dark green. This was an accidental sport from a variety with deep crimson-red flowers. The progeny has retained the deep dark green leaves and red footstalks; nothing is changed but the flowers—the rich crimson is gone, and has left not a tinge of colour in young or old flowers. Now, in many of the white varieties there is a flush of colour as the flowers decay; there is none in this. These rich crimson-red varieties, I believe, were originally from Nice.

There are about 7000 plants in all the various colours, in single and double varieties, set apart for seedling. Rose and pink colours are well represented, bright deep pink and rose to pale blush. A variety with delicate salmon flowers of much substance and handsome form was conspicuous. There are other forms of white besides *Elaine*, but, as a rule, the white varieties are readily distinguished by the paler green of the leaves, which have also green foot-stalks. Other colours are carmine, magenta, and vermilion. The last-named colour may be thought by some not to exist in *Primulas*, but no other colour so well describes these bright forms obtained from what was first termed the Chiswick Red. All the colours are arranged in groups by themselves, and it is really astonishing how true they are to each other. The plants are similar in habit; the flowers are of great substance and circular in form, and by measurement about 2 inches in diameter, less or more.

The semi-double varieties are now to be found in as great variety of colour as the single. They are probably more useful as cut flowers, and they produce seeds as freely as the single varieties. *J. Douglas.*

SOCIETIES.

ROYAL HORTICULTURAL.

Tuesday, March 22.—List of Awards.

ORCHID COMMITTEE.

MEDALS.

Silver Banksian.

To Messrs. F. Sander & Co., St. Albans, for a group of *Orchids*.
To Messrs. Charlesworth & Shuttleworth, Clapham, for a group of *Oncidium sacrodes*.

To E. Miller Munday, Esq., Shipley Hall, Derby (gr., Mr. W. Elphinstone), for a group of *Dendrobium Phalenopsis Schroderae*.

First-class Certificates.

To Moorea irrurata, Rolfe, from Royal Botanic Gardens, Glasnevin.

To *Dendrobium Phalenopsis Schroderiana* var., shown by E. Miller Munday, Esq., Shipley Hall, Derby (gr., Mr. W. Elphinstone).

Awards of Merit.

To *Dendrobium infundibulum*, Cassiohridge var., shown by E. Moun, Esq., Cassiohridge, Herts.

To *Dendrobium Phalenopsis Schroderiana* delicata, shown by E. Miller Munday, Esq., Derby.

Botanical Certificates.

To *Epidendrum Leachianum*, shown by Messrs. F. Sander & Co.

To *Megacallium falcatum*, from Botanic Gardens, Glasnevin.

FLORAL COMMITTEE.

MEDALS.

Silver Floral.

To Messrs. G. Paul & Sons, Chebunt, for a group of *Azaleas* and *Lilacs*.

Silver Banksian.

To Messrs. James & Sons, Slough, for a group of *Cinéraires*.
To Messrs. Barr & Sons, Covent Garden, for a group of *Narcissus*.

To Messrs. Cutbush & Sons, Highgate, for a group of miscellaneous plants.
To Messrs. B. S. Williams & Son, Upper Holloway, for *Clelveas* and *Azaleas*.

Bronze Banksian.

To the Duke of Northumberland, Syon House (gr., Mr. G. Wythes), for a group of plants.
To G. E. Smith, Esq., Cobham, for a group of flowering shrubs.

First-class Certificates.

To *Ranunculus cortusifolius*, shown by Lord Hilton, Mersham (see p. 465, fig. 70).

Awards of Merit.

To *Amaryllis Eclipsa*, shown by Messrs. J. Veitch & Sons, Chelsea.

To *Euoymus japonica compacta*, shown by Messrs. B. S. Williams & Son.

To *Rosa Caroline Testout*, shown by Messrs. G. Paul & Sons, Chebunt.

To *Rosa Damask*, shown by Messrs. W. Paul & Sons, Waltham Cross.

To *Amaryllis Silver Queen*, shown by Messrs. G. Paul & Sons.

FRUIT AND VEGETABLE COMMITTEE.

Award of Merit.

To Seedling Oranges shown by C. E. Smith, Esq.

Cultural Commendations.

To Mr. H. Roberts, Prestwold, Loughborough, for Seedling Cucumbers.

To Mr. C. W. Leach, Albury Park, Guildford, for Tomato Lady Bird.

To Messrs. J. & M. Poupart, Mortlake, for Asparagus.

THE LIVERPOOL HORTICULTURAL ASSOCIATION SHOW.

MARCH 15, 16.—The ninth spring show of Hyacinths, Tulips, Azaleas, and forced hardy plants, under the auspices of the Liverpool Horticultural Association, was held in St. George's Hall. Mr. O. H. Williams carried all before him in the Hyacinth classes, obtaining the first prizes for eighteen distinct varieties, and for a group of twelve distinct varieties, and also for six. Amongst the specimens he exhibited, all of which were rich in bloom and of a very fine size, the most noticeable were Queen of the Blues, King of the Blues, Odalique, John Bright, Fabiola, Isabella, and La Graudesse. This gentleman also secured 1st prize for a group comprising six pots of *Polyanthus Narcisus*; for eighteen Hyacinths, three bulbs in a pot; and for an exquisite bouquet of cut flowers of different varieties. In the Hyacinth class, the 2nd prize was secured by Lieut.-Col. Gaskell Wootton; and the 3rd by Mr. John Aikin, Prince's Park. The comparatively few exhibits in Orchids were very good, the 1st prize being secured by Mr. T. Sutton Timmins, for a magnificent plant of *Coleogyne cristata*, which had on it as many as 520 separate blooms. Other plants which were noticeable for their beauty of colour and symmetry of appearance were *Dendrobium Wardianum*, *Cattleya Trianae*, and *Cattleya labiata*, the latter, which was exhibited by Mr. R. N. Dale, commanding particular attention. Another interesting feature of the show were four tables of miscellaneous plants, all of which were much admired. That exhibited by Mr. Alfred L. Jones won the 1st prize.

There were only two entries in the class devoted to Grapes, Sir A. B. Walker securing the 1st prize, and Mr. A. R. Gladstone the 2nd. Azaleas and Rhododendrons were not as plentiful as sometimes is the case, although the former class was represented by some very beautiful plants. The Tulips also were meagrely represented.

A word of praise is due to the excellent exhibition of flowers and plants by nurserymen. In particular, the group of *Amaryllis* exhibited by Messrs. R. Ker & Sons was considered as one of the most attractive features of the whole exhibition. Messrs. T. Davies & Co., and the Liverpool Horticultural (Cowan) Company, also exhibited magnificent collections of flowers, and Messrs. Fishlock Brothers contributed a number of beautiful bouquets. *Liverpool Mercury.*

CRYSTAL PALACE.

MARCH 19.—The usual features which characterise spring shows were to be seen at the Crystal Palace exhibition, which was held on this date. The Hyacinths and Tulips, as a whole, were good, and the Azaleas and similar plants made a bright display. The competition in several classes, however, was not very keen.

Messrs. H. Williams & Son, Fortis Green, Finchley, was placed 1st for thirty-six Hyacinths in the open class; and Mr. H. Shoemith, gr. to

M. Hodgson, Esq., Shirley Cottage, Croydon, was a good 2nd. Mr. Shoemith also gained 1st prizes for twelve Hyacinths, Tulips, and Narcissi, showing in each class remarkably good produce. Mr. C. Nunn, Maze Hill, Greenwich Park, was 2nd for Hyacinths in the amateurs' class; and Mr. J. Lambert, gr. to II. W. Segeleke, Esq., 2nd for Tulips.

Messrs. H. Williams & Sons were 1st with Tulips and Narcissi in the open classes, and Mr. W. B. Morle, Regent Street, W., 2nd.

Cinerarias were very fine, especially those shown by Mr. J. Ford, gr. to Sir C. Pigott, Bart., Wexham Park, Slough, who gained 1st prizes in the open and amateurs' classes. The plants shown were fully 3 feet in diameter, and remarkably well flowered; Mr. J. Slater, gr. to T. Northard, Esq., York House, Lower Sydenham, was 2nd in both classes.

Various collections of Cyclamen were shown, the best being staged by Mr. D. Phillips, Langley Broom, Slough, and Mr. C. Edwards, Hillingdon. The St. George's Nursery Co., Hanwell, Messrs. J. Odell, Hillingdon, and Mr. Thos. Pesteridge also showed Cyclamen in good form.

Azaleas were best shown by Mr. C. Nunn, and Mignonette by Mr. W. B. Morle. The last-named exhibitor was also 1st for Lily of the Valley, and Mr. Jannoch, Dersingham, a close 2nd.

The best group of stove and flowering plants was put up by Messrs. J. Laing & Sons, followed by Mr. H. James, Castle Nursery, West Norwood, and Mr. Nunn, Greenwich Park. In each case the plants were tastefully arranged.

Miscellaneous groups, of course, made the best display. Messrs. Cuthush & Sons, Highgate, staged a collection of spring-flowering plants; W. Paul & Sons, Waltham Cross, Camellias and Roses; G. Paul & Sons, Cheshunt, Roses, Lilacs, and Amaryllis; B. S. Williams, Upper Holloway, Cliveias, Azaleas, &c.; J. Peed & Sons, Norwood, wreaths, bouquets, &c.; P. End, cut flowers and wreaths; and Mr. T. Jannoch, Dersingham, a charming group of Lily of the Valley, for which a Silver Medal was awarded.

First-class Certificates were awarded to Mr. T. S. Ware, Tottenham, for *Shortia galacifolia*; Mr. T. Jannoch, Norfolk, for *Adiantum Capillus-veneris*; Mr. J. Odell, Middlesex, for *Cyclamen King of the Crimsons*; The St. George's Nursery Co., Hanwell, for *Cyclamen Brilliant*; Messrs. Paul & Son, Cheshunt, for *Canna Souvenir de François Goulem* and *Miss Sarah Hill*, and *Amaryllis Strawberry Queen* and *Scarlet Queen*; Mr. B. S. Williams, Upper Holloway, for *Euonymus japonicus compactus* and *Amaryllis Ophelia*; Messrs. Laing & Son, Forest Hill, for *Dracena Bartelli*, *Bertolonia*, *Madame Auguste van Geert*, *Argyreauna*, *Comte de Kerchove*, *Souvenir de Gand*, and *Anthurium atro-sanguineum*.

BRIGHTON AND SUSSEX HORTICULTURAL ASSOCIATION.

MARCH 29, 30.—This old association is going to hold four exhibitions during the present season, and their first spring show was held on the above dates. There could not be better or more suitable rooms than those of the Brighton Dome and Corn Exchange, and we were sorry to see so few competitors. In many classes there were no entries, and only a very few contained more than two competitors; while several were only represented by one exhibitor. The exhibits were of fair merit, and only needed more of them to make a first-class show. The following is a short list of the prizes:—

Open.—A group of plants for effect, Mr. Meachen, gr. to Mrs. Armstrong, Woodale, Preston, 1st; no other competitors. For another group, Messrs. Peed & Son, of Norwood Road, S.E., were awarded 1st; Mr. H. James, Castle Nursery, West Norwood, 2nd. These were two really good groups, and prettily arranged. They contained Palms, Acacias, Orchids, Azaleas, Anthuriums, Spireas, Crotons, Cyclamen, &c. In the open class for pot Roses, there was only one exhibitor; the prize going to Mr. Meachen. No one competed in the amateur's class for pot Roses. For 12 Cinerarias, 12 Mignonette, 12 Cyclamen, 12 Primulas, and 12 Lily of the Valley, Messrs. Peed & Son were 1st. Mr. Meachen being 2nd; this order was kept throughout these five classes, no 3rd prizes being awarded. Mr. Meachen was the only exhibitor in a class for 6 *Deutzia gracilis*, also for a small group of plants arranged for effect, for 6 Primulas, for 6 greenhouse Azaleas, and for 6 Cyclamen; the 1st prize being awarded him in each of these five classes. For 12 Hyacinths, Mr. Hodgson, Shirley Court, Croydon, was 1st with good specimens; Messrs. Peed & Son being placed 2nd. Mr. Hodgson

was also 1st for Tulips, and showed some fine examples. The same gentleman was 1st for 12 pots of Narcissus, being followed by Messrs. Peed & Son; no 3rd prize awarded. For 6 pots of Hyacinths, single spikes, Mr. Shoemith was 1st, Mr. Anderson 2nd, and Mr. J. Sykes 3rd. The last named was the only competitor in a class for 6 pots of Tulips.

Amateurs.—For 6 pots of Hyacinths, Mr. Hodgson, Croydon, was 1st; T. B. Rogers-Tillstone, Esq., Moulescombe, 2nd; and J. Sykes, Esq., Preston Road, 3rd.

Special prizes were awarded to Mr. Meachen, for a group of Orchids; Mr. G. Miles, Dyke Road Nurseries, for a group of plants; and to Mr. G. W. Piper, the Nurseries, Uckfield, for a box of ten-anted Roses. This box had excellent examples of Catherine Mermet, The Bride, White Perle, Sunset, Souvenir d'un Ami, Niphotos, Mdme. de Watteville and Jean Ducher.

Messrs. Barr & Son, of Covent Garden, exhibited a collection of Narcissus, &c., that were staged in their usual style, and received much admiration.

BRIGHTON AND SUSSEX "NEW" HORTICULTURAL.

APRIL 5, 6.—This newly formed society held its first show on the above dates in the Corn Exchange, and far exceeded general expectation, considering the unfavourable season and other adverse circumstances. There were six groups of plants arranged down the side of the hall, made up of excellent material. 1st, Mr. Geo. Miles, nurseryman; 2nd, Mr. Turner, gr. to Sir Greville Smyth; 3rd, Mr. Fry, gr. to C. W. Catt, Esq.

There was a spirited competition for the prizes given for groups of Callas in bloom, Messrs. W. E. Anderson, A. Netley, and F. Collis taking the awards in the order of their names; Mr. E. Murrell showing a large bank of fine plants not for competition.

A fine group of Azalea indica was sent by Mr. G. Miles; and Mr. Vigor, Withdene, had a large collection of Boronias, Azaleas, Ericas, and other generally useful plants, making a praiseworthy exhibit.

Messrs. Batchin sent some splendid plants of Orchids, Palms, Acacias, Azalea indica, which they had arranged with good taste, filling a large space in the middle of the hall; and at one end of the hall they had arranged, in varieties, a group of *Tetratheca ericoides* forming a feature seldom seen at exhibitions. These plants were in fine condition. This firm exhibited a fine group of named Narcissus blooms and some other plants. Messrs. W. Miles also had a large collection of plants tastefully arranged for effect, Palms being used largely.

Mr. G. W. Piper sent splendid Tea Roses, consisting of two stands of eighteen each, and one of twelve, three blooms in a truss. These were very fine, as good as June Roses. There was only a moderate number of Hyacinths and Tulips, Messrs. Fry, Netley, Collis, Simms, and Miller taking the higher awards.

Lily of the Valley were not largely shown, and the chief prizes were taken by Messrs. Gore, G. Miles, and Netley. *Lachenalia*s were well done, and made a nice exhibit, the plants being dwarf and the blooms well coloured, Messrs. Wickham, Fry, and Fairs taking the awards in the order of their names.

A fine group of *Gloxinia*s was shown by F. Mowatt, Esq. (gr. Mr. House), and some beautifully grown *Anemones* came from M. Wallis, Esq. (gr. Mr. Hill). Mr. W. Miles' Cyclamens were very fine, and he easily secured the first place. Dr. Moore taking the same position in the smaller exhibit.

Dielytras spectabilis were nice plants, Mr. Hill taking first with plants of dwarf growth. Messrs. W. Miles had the best Spireas, and some good pots of Mignonette were shown by Messrs. Grelly, Fry, and Miles. *Primula sinensis* were well grown plants, of very compact growth, and with numerous blooms, including also double forms. A nice lot of plants of *P. obconica*, shown by Messrs. Collis, Fairs, and Simms, took 1st and 2nd prizes in this class for these plants, which was a well contested one. Azalea mollis and Stocks were well shown by Messrs. W. Miles & Co., and *Cytisus* in quantity and of excellent quality by Messrs. Miles and Fry. Amongst the *Deutzias* and *Pelargoniums* shown by Messrs. Miller, and Gore, no variety was remarked in the latter, the Pearl, a fine white, being the only one shown.

There was good competition for the best stand of cut blooms, and some choice Orchids and Rose blooms were observed in the winning lots, Messrs.

Gore, Baker, and Miller, took the prizes in order as named. The other cut flower classes were not much contested.

Mr. Gore had a nice group of flowering plants well arranged for effect, but not in competition. Mr. Hefman, gr. to Viscount Gaye, sent good specimens of Cucumbers, and a dish, quite ripe, of the Noble Strawberry. Messrs. Cheal, Crawley, sent a collection of Apples and Pears, the former in good condition for the season; and they exhibited, moreover, plants and cut flowers, filling a large amount of space.

This, the first exhibition of this society, formed a great contrast to those which were held early in the year, the large hall being filled with really good subjects; and it was most creditably managed by the committee and the society's secretary, Mr. Mark Longhurst. *A Correspondent.*

ROYAL CALEDONIAN, EDINBURGH, SPRING SHOW.

APRIL 6.—This was considered one of the finest shows the Society has held in April, in a cultural sense (competition being also keen); but the absence of the usual large Palms, Rhododendrons, &c., gave a somewhat meagre appearance to the Waverley Market. The exhibits which created the larger share of attention were the classes for Orchids—a large table being filled with specimens of great size and much excellence:—1st, Mr. McIntyre (Glen Gardens) had in the class of six, fine examples of *Dendrobium Wardianum*, *Cypripedium Boxallii*, with about fifty open flowers; *Cymbidium Lowii*, with eleven spikes; *Odontoglossum Edwardii*, *Cologyne cristata* var. *Lemoniana*, *Cymbidium eburneum*, with about twenty open flowers. 2nd, to fine *Cattleya Lawrenceana* and *Trianae*, and a *Vanda* *suavis* in fine form. In the 3rd prize lot was an immense specimen of *Dendrobium nobile* full of bloom.

In the class for three Orchids, Mr. A. Findlay exhibited a most creditable trio—a large plant of *Dendrobium thyrsiflorum* finely flowered, *Cymbidium Lowianum*, and *Cypripedium Boxallii*. For the best single specimen, Mr. Findlay was justly first with a fine *Vanda suavis* with seven spikes.

The tables from nurserymen filled a large space, and the floral display was attractive with the usual flowers of spring, Azalea mollis, A. indica, Cliveias, Ericas, Cyclamens, Rhododendrons, and bulbs. Messrs. Methven, Ireland & Thomson, and Dickson & Co. being the leaders in the tables for Exhibition only, and Messrs. Dickson & Sons had a fine collection of *Confera*, very effective, in which were *Rut-nospora plumosa aurea*, *Thuopsis dolabrata*, *Cupressus Lawsoni* *aurea*, very distinct and well grown. This exhibition took first prize in this class.

Mr. Ker, of Aigburth, near Liverpool, had a splendid display of *Amaryllis*, which was greatly admired. They were interspersed with *Spirea astilboides* with pleasing effect; *Eurydice*, *Amphion*, *Puritan*, *Daphne*, *Impator*, *Seraphis*, were among the finest. The tables, for gardeners, for arrangement, were only two in number, the first prize being awarded to Mr. G. Wood, Oswald Road. He had fine *Dracenas*, Palms, *Odontoglossums*, *Anthuriums*, &c. Mr. Chrichton, gr., Southfold, had a good and close 2nd.

Azaleas were numerous, Messrs. Laird, nurseryman, exhibited extensively in the various classes for nurserymen. Their first prize A. mollis were very fine, both standards and dwarfs. In the other classes Empress of India, Stella, Mrs. Turner, and Marshal McMahon were among the best.

Rhododendrons of the greenhouse class were of much merit. *Frangantissima*, *Gibsoni*, *Princess Alice*, and *Countess of Haddington* were in fine form. Foliage plants of large size were well represented. Mr. Chrichton was awarded 1st prize. A table of beautiful *Malmaison Carnations* of sorts, interspersed with Ferns, made an attractive display. They were exhibited by Messrs. Laing & Mather, Kelso.

Pelargoniums were finely flowered, and in great numbers. Mignonette, alpine plants in pots, Spireas, *Deutzias*, *Primula obconica*, *Primula Sieboldi*—this variety was exceedingly fine in pink, white, and carmine colours; and Cyclamens were strongly represented in their classes, and the competition strong.

The 1st prize Cyclamens were of special merit. Mr. Kirk, of Norwood Park, Alloa, had an extra fine twelve—one plant had over seventy-five blooms; and the same exhibitor was awarded 1st for six pots,

also finely in bloom. Mr. McIntyre, Darlington, was a good 2nd.

Hyacinths, as usual, made a fine and attractive display. The 1st, in the class of twelve, was awarded to Mr. D. McLean, Craigends. The same exhibitor took 1st also in the class for eight; General Havelock, Cesar Peter, Marie, La Neige, and King of the Blues were among the best. Messrs. Laird took the lead in the nurserymen's class for twenty-four sorts, which were even and finely grown.

Polyanthus, Tulips, with other showy bulbs are, as usual, in strong force, and covered large table space.

Cut flowers were represented mostly by Orchids, Roses, and Gardenias. In this class, Mr. McIntyre, who had 1st prize, had a very rich exhibit of *Odonoglossums*, *Dendrobiums*, *Lycaste* Skinneri, and *Cymbidiums*. Mr. Sharp, Freeland, had also a fine display, forming a good 2nd.

Sprays, bouquets of forms and sizes, were largely represented by choice Roses and Orchids; and some fine exhibits were in this class, and added greatly to the brilliancy of this excellent exhibition.

Fruit and Vegetables.—Fruit was fairly represented by four exhibits of Grapes, two bunches of each, 1st prize being awarded to Mr. Smith, gr., Oxenford Castle, with fresh and tempting Lady Downes, which is still the best for use as the latest Grapes. Allcantes were fine in colour, but footstalks were dried up, and this Grape is generally represented at this season with fine-looking skin only.

Strawberries were tabled in the finest form ever seen at a spring show in Edinburgh by Mr. W. G. Pirie, gr., at Selkirk, who had a fine dish of Laxton's Noble, very large in size, and rich in colour. The same exhibitor took the lead admirably with six pots of the same kind.

Apples were very fine for the season, fresh, and mostly richly coloured, especially Reineette du Canada, Galloway Pippin, Cellini, Cox's Orange Pippin, Blenheim Orange, and Ribston Pippin; Mr. Potter and Mr. Dow took the lead among over fifty dishes.

Pears would have been much better at home—they were shabby.

Vegetables were good, and made a very attractive display on a large table—Asparagus, Green Peas, Seakale, Tomatoes, Potatoes, were good among forced kinds. Mr. Robertson, gr. to Lord Campbell, had 1st, for a collection of twelve sorts; Mr. Johnstone, gr., Hawick, was 2nd. Roots of all kinds, Leeks, and Rhubarb, were good, and strongly represented.

DISEASES OF THE REPRODUCTIVE ORGANS OF PLANTS, CAUSED BY FUNGI.

(Continued from p. 367.)

INFECTION OF HOST PLANT BY *U. AENEÆ*.

This subject is not so completely understood as could be wished. In the first place, in this *Ustilago* and most of its allies, the spores mature on the host-plant, ripen, and become scattered by the wind and weather, long before the grain itself ripens; whereas with bunt the spores do not mature until the Wheat is ripe. The smutted ears have entirely disappeared by the time harvest arrives, but the spores germinate as soon as they become moist, or at any rate, in the course of a day or two; and unless they happen to come in contact with a newly-germinated Oat, they perish; but there can be no Oats, in the ordinary course of Nature, in this condition, at this period of the year. There is no question but that the host-plant is infected by the gonidia, and there is no doubt that the gonidia are produced within a short period—it may be hours, or it may be days—of the time when the spores are sufficiently moistened. An advance was made by decorticating the seed and dusting the spores on the bare kernel. This method was adopted by Mr. A. S. Wilson some years ago, and also more recently by Mr. Jensen, of Copenhagen. On April 12, 1889, I dusted twenty decorticated kernels (Exp. 996) with *U. aeneæ*, and obtained, on July 25, 60 per cent. diseased plants; twenty-two control plants being all healthy (Exp. 1006). The fact of the smutted ears maturing and scattering their spores at the time the healthy Oat plants are flowering, seems to point to the possibility of infection taking place simultaneously with the fertilisation by the

pollen. On July 14, 1888 (Exp. 934, 935), I dusted the spores of *U. aeneæ* abundantly on the heads of some Oats which were flowering. The seed was saved and planted in the following spring (exp. 988), forty-five plants came up all of them perfectly healthy. The same year Swingle performed the same experiment, but on a much larger scale at Manhattan, Kansas; his result was practically the same. The idea that the parasite in this case enters its host plant's seed at the time of fertilisation must be abandoned.

Brefeld did a number of infection experiments by applying the germinating gonidia produced in nutrient solutions to very young Oat plants. He was very successful, obtaining from 17 to 20 per cent. diseased plants when the application was made to Oats in the very earliest stage of germination, and he found the percentage of successfully infected plants rapidly declined as the infection was made upon Oats in which the germination had advanced further, until the green leaves had pushed 1 cm. through the sheath-leaf, after which time no infection took place. That with Brefeld successful infection of the embryonic plants should occur is not to be wondered at, when he speaks of their epidermis being "riddled by drill holes" by the germ tubes of the gonidia; rather the surprise is, that he did not get a large number of diseased plants as the result of this infection (only 17 to 20 per cent.). He found, however, by mixing the spores with fresh horse-dung, applying this to the soil and planting Oats in the mixture, that he got from 40 to 46 per cent. smutted plants. According to Brefeld's investigations, the gonidia exhaust the nutrient solution in about four days, hence it is necessary to employ fresh dung for such an experiment.

These observations of Brefeld supply then the missing link in the life cycle of *U. aeneæ*, bridging over the interval between the ripening of the spores and the infection of the embryonic plant. If the spores when they are scattered, fall upon the leaves and straw of the Oat, they will remain there in a dormant state until the straw be eaten by animals (e.g., horses), in their excreta, the gonidia multiply themselves, and if an Oat germinate in or near the dung it will become infected with the smut.

This, however, is not the only way in which infection can occur, for as we have already seen, the application of the spores to the decorticated kernel, or even soaking the Oats in spore charged with water, will have the same effect. And further it has been conclusively shown by Jensen, that the disease can practically be prevented by dipping the seeds for a short time in heated water; and also, although less effectively, by dressing them with a weak solution of copper sulphate. The efficacy of the warm water treatment has been confirmed by other observers, notably by Swingle.

WHEAT SMUT (*USTILAGO TRITICI*, Pers.).

This resembles the previous species in converting the ear which it attacks into a pulverulent mass. The colour of the spore-mass is black, but with a distinct tinge of yellow—an olivaceous hue. In shape, the spores are more regular than those of the previously-described species, the majority are oval, although some are subglobose or subangular; they present the same appearance of being lighter on one side. The epispore is echinulate, excepting a small area on the lightest side, through which the promycelium emerges.

In water, they germinate rather more slowly than do those of *U. aeneæ* and Hordei. The promycelia attain their full size in about twenty-four hours (18 to 45 by 3 to 4.5 mk.); they are usually septate, always remain attached to the teleutospores, and do not produce gonidia. In pure water the percentage of spores which germinate is small. In nutrient solutions, germination is much more rapid and vigorous. Numerous branches are given off from the segments of the promycelium near the septa, which soon form a tangled mass, difficult to trace out. No gonidia or free segments are produced. It is not very common in this country, and does not seem to be prevented by the copper-sulphate dressings.

THE COMPACT BARLEY SMUT (*USTILAGO HORDEI*, Pers.) = *U. TECTA*, Jensen.

This differs from all its allies by not converting the affected ears into dusty masses. Each grain remains enveloped in a whitish membrane, consisting of the metamorphosed remains of the glumes, palea, &c., of the diseased florets all matted together; usually the awns escape. The investing membranes is whitish in colour, not very fragile, and allows the escape of the spores through fissures which occur in it. The spore-masses themselves are compact, and contain a fair amount of the tissues of the host-plant, which have escaped destruction by the disease, in the form of whitish shreds. The spores, moreover, do not readily fall apart, so that it is never dusty like its congeners. The spore-masses are quite black; the spores are almost always spherical, or subangular. The epispore is perfectly smooth.

In water, the spores germinate after a few hours; the promycelia in twenty-four hours become once or twice septate. They now produce gonidia pretty freely; these fall off almost as soon as they are formed. The gonidia are narrowly cylindrical or subovate; they frequently bud off secondary gonidia, either when detached, or sometimes while still attached to the promycelia. The promycelia frequently become detached from the spores in such quantities as form a white sediment in the culture-drop. Germination ceases at about the end of the fourth day.

In nutrient solutions the spores behave in a similar way, but the gonidia are more abundant, rather larger, and had more profusely.

According to Jensen, this species, like bunt, infects its host from those spores, which adhere to the exterior of the seed. It is really prevented by treating the seed with copper sulphate, or by the hot-water treatment.

THE COMMON OR DUSTY BARLEY SMUT (*USTILAGO NUDA*, Jensen).

This differs from the preceding (*U. Hordei*) very much in the appearance of the affected heads, they being, in fact, reduced to dusty masses, in the centre of which the rachis alone escapes. The spores, which have no tendency to cohere *en masse*, have an olivaceous hue, and are mostly oval in shape, generally regular in size, and from 4.5 to 8 × 4 to 5 or 6 mk. The paler areas are very distinct, and comprise a quarter to half the spore. The epispore is echinulate, the germ-spore large, and the spore contents homogeneous.

In water the spores germinate rather more slowly than those of *U. Hordei*. The first appearance of the germ-tube is as a minute elevation on the surface of the spore; in twenty hours it is from 20 to 46 mk. by 2.5 to 4 mk., continuous or septate, sometimes bunched, but always remaining attached to the spore from which it originates; in ten hours more it attains its full length. No gonidia are formed, but from some of the segments of the promycelium, or from a knee-joint fusion, long slender germ threads are thrown out, 50 to 150 × 1.5 to 2 mk., the tips of which are filled by protoplasm. These germ-threads grow for four or five days, and attain a length of 300 to 400 mk. They never branch. No gonidia are ever formed, nor does the promycelium break up into segments.

In nutrient solutions after forty-eight hours the free ends of the branches and promycelium become swollen, and other segments of the latter become empty of protoplasm, but no gonidia are ever produced.

Little is known with regard to the entrance of the fungus into its host, although it is a parasite which causes great injury to the Barley crops in this country. Dressing the seed with copper sulphate will not prevent it. Jensen found, however, that the treatment by hot water was effectual.

With regard to the exact mode of infection, I performed the following experiment (Exp. 985): The smut spores were applied to some Barley plants which were just flowering in 1888. The resultant seed was planted March 23, 1889. On April 11 the plants were well above ground; on July 2 it was found that there were 120 healthy ears, and forty smutted

ones. It may be added that all my previous experiments of applying the spores to Barley seeds and germinating grain had been failures. It is quite possible, however, that although it does not produce gnomia either in water or in nutrient solutions, that it may be a dung-spread species. The disease is exceedingly common on the Barleys in Norfolk, and it is possible that the previous sheep-feeding of the Turnips may have some connection with its production; at any rate it is quite a subject for the Board of Agriculture to take up, and to inquire by circular from cultivators as to whether it is more common on Barley grown on land which has been fed off or not.

Jensen draws attention to a very curious circumstance in connection with these two Barley smuts. Prior to 1888, this one, the *U. nuda*, was by far the most common in Denmark. In the following year, 1889, it became much less common, while the other species, *Hordei or tecta*, is now the more frequently met with; *tecta* is now not only the most common in Denmark, but also in Sweden, and in the north of Germany. With regard to the practical application of the warm-water treatment for the prevention of *U. nuda*, Jensen recommends soaking the seed Barley for six hours in cold water, letting it remain damp for four hours longer, and dipping in water at 53° C. By this means, not only are both kinds of smut prevented, but he adduces evidence from seventeen experiments that the yield is increased per acre to the extent of 114 per cent. as far as Oats are concerned. This increase is partly accounted for by those plants which would otherwise have been destroyed by smut producing perfect Oats. *C. B. P.*

(To be continued.)

THE HERBACEOUS BORDER.

PENTSTEMONS AND ANTIRRHINUMS.

ALTHOUGH classed as hardy plants, the winters generally play havoc with Pentstemons and Antirrhinums in the borders if they are unprotected, and this year it is very doubtful if any have escaped destruction, unless in favoured parts of the country. In the event of cuttings of the above not having been taken last autumn, and wintered in cold frames, much loss will have to be deplored; but fortunately, we need not be long without some of one sort or another, as Pentstemons and Antirrhinums come freely from seed, and the various strains have been so much improved of late, that one may now depend on having very fine flowers, if the seed is obtained from a trustworthy source. As the season is now advanced, no time should be lost in sowing seeds, which is best performed in well-drained pans in sharp, rich, finely-sifted soil, made firm and level on the surface, watering the soil, and as soon as it is become settled, the seed should be scattered thinly and evenly, and covered with a sprinkling of sand, when, if a pane of glass is laid over the top, and the pans stood in gentle heat, the plants will soon be up, and ready for pricking-off, which may be done on a warm border, under handlights, from whence the plants may be taken, and placed out in the borders. The practice here is to put three in a patch, planting them triangularly about 6 inches apart, and if any are found to be inferior when they show bloom, these should be pulled up; but if all are fairly good, the clumps may remain, to make a fine display in the autumn, as the mixture of colours is often effective. To get Pentstemons and Antirrhinums into flower early, seed ought to be sown in the autumn, and the plants kept on a light airy shelf in any cool house or pit, and if cuttings are taken, they should be treated in the same manner. *J. S.*

FRUIT NOTES.

PEAR FERTILITY.—A coloured figure in the February number of the *Bulletin d'Arboriculture* gives a very good idea of this Pear, and of the appropriateness of the name applied to it. It is one of

Mr. Rivers' seedlings. Mr. Burvenich says of it, that it is an improved Beurré de Capiaumont.

THE BLACK CURRANT AS AN ANTIDOTE TO THE GOOSEBERRY CATERPILLAR.

The following striking case is recorded for confirmation or otherwise, from the experience of your many readers:—One portion of a large Apple orchard sub-cropped with Gooseberries, had suffered greatly from the ravages of Gooseberry caterpillar. On pointing this out to its owner, and in talking of preventives and remedies, he told me that he had found what promised to be a perfect cure, and would show it to me presently in another part of the same orchard. Arriving there, we found the Gooseberry bushes perfectly healthy, and free from the slightest trace of the ravages of caterpillars. What was the antidote? This. Here each alternate row of bushes or each other plant in the row were of Black Currants; there was no other division nor difference; and as soon as the insects reached the Black Currant cordon, their odour, or their presence—for the caterpillars never taste Black Currants—seems to say to the invading hosts, "Thus far shalt thou come, and no further."

How many readers of the *Gardeners' Chronicle* have tried this antidote, and with what results? I have tried Broad Beans, between Gooseberries with more or less success, as antidotes to the same pests. Perhaps correspondents will be so good as to name these or any other modes of planting or cropping out caterpillars, when giving their experience in regard to Black Currants. If such a persistent, hard-skinned, strongly-developed pest as the wire-worm can be mustarded out of our gardens and off our farms through persistent cropping, the practice of cropping out other pests may only be a matter of fuller knowledge and longer time. *D. T. F.*

GLAZING CLIP.

Our illustration (fig. 72) shows an ingenious and a simple device for securing sheets of glass on the roofs of glasshouses without the use of outside putty.

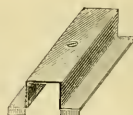


FIG. 72.—METAL CLIP, TO SECURE SHEETS OF GLASS ON GLASSHOUSE ROOFS.

These clips are made of a variety of sizes, to suit the different dimensions of sash-bars or rafters, and they can be readily fixed by any handy man. For orchard houses, where the sash-bars might be channelled to prevent drip, there is no need to bed the glass in putty; but in other kinds of houses, required to be to a certain degree weather proof, the glass may be bedded in thick white lead paint or putty. Mr. Bones, of Tower House Gardens, Chiswick, is the inventor.

VEGETABLES.

NOTES ON BROCCOLI.

I HAVE yet to learn the good qualities of Adams' Early White, notwithstanding the very favourable accounts given of it in the different seed lists. I have grown it twice, and have been disappointed on both occasions. It grows very tall, and, according to my experience, seldom produces a head worth cutting. Perhaps, however, I was supplied with an indifferently strain. To follow the Autumn Giant Cauliflower, I find Veitch's Self Protecting invaluable, and always plant it largely. With care and timely attention in the way of lifting and transplanting the best, and those about to heart, on a warm sheltered border, and with good protection during severe weather, we usually maintain a very

good supply of capital white heads throughout January and the early part of February. Snow's Superb Winter White is good for winter use, and gives every satisfaction. Osborn's is a dwarf useful variety, and usually produces good solid heads. These, however, like Veitch's Self Protecting, require to be well looked after, and as soon as they form heads, protection of some kind must be afforded. A good supply of frames, in which the plants may be heeled-in, is probably the best method of protecting; but, in the absence of these, the plants may be lifted and transplanted on a warm border, and protected. Knight's Self Protecting is too well known to need description, it being one of the best of all Broccolis in its season. Cooling's Matchless is also well worthy of notice.

For late use, the best are Veitch's Model, Gilbert's Victoria, Lauder's Late White Protecting, with Lesham Latest of All. The latter variety is, in my opinion, one of the best flavoured Broccolis in commerce, although not so late as the Model and Victoria, these two being usually good till the earliest Cauliflowers are fit for use. In the cultivation of this valuable vegetable, there are two very important essentials necessary, viz., the planting on firm land, and non-crowding of the young plants. *H. Markham.*

POTATO THE GENTLEMAN.

Now that planting is in full swing, it may not be out of place to say that those wanting a really good variety of Potato cannot do better than secure a supply of The Gentleman. I was much taken with the hardy look of the variety when it was sent out by Messrs. J. Veitch & Sons, and I purchased it, planting it largely, and being amply repaid by the goodness of the crop and its power of resisting disease. The flavour is good, either boiled or baked. Grown on heavy land, side by side with Beauty of Hebron and Covent Garden Perfection, which is one of its parents, I found no diseased Potatoes with The Gentleman, whilst of Beauty of Hebron half the crop was diseased, and Covent Garden more so. It is a Potato that if kept true will, I think, run the Magnum very hard for first place as a late variety. *John Chinnery.*

LAW NOTES.

WHOLESALE FERN PILFERING.

AT the Aximinster Petty Sessions, on Tuesday, James Durey, of the West Quarter, Exeter, was summoned for doing damage to underwood on land belonging to Sir W. Pole. Mr. Tweed, of Honiton, stated that defendant was one of a gang of pilferers who, by their depredations, did much damage to the grounds of country gentlemen. The offence at present under consideration was committed on March 19. In broad day, P. C. Gervis came upon defendant at Morwenhayes Copse, pulling up Ferns, and 2 acres of land were laid bare, and 1080 Fern-roots extracted. This flower and Fern pilfering, Mr. Tweed continued, was become a general nuisance, and he hoped an exemplary punishment would be inflicted. P. C. Gervis bore out this statement. Defendant was sent to prison for a fortnight. A second charge was preferred against him for damage to the fence by creating a gap, and evidence having been adduced by the constable and gamekeeper, a fine of 15s. inclusive was inflicted. *Devon Weekly Times, April 1, 1892.*

Apologies of the above condemnable practice, our correspondent sends the following (we purposely omit the names and addresses), culled from Exchequer and Mart, March 21, 1892:—

FERNERY.—Beautiful varieties of Devon and Cornish Ferns, 40 good roots, free, 1s. 6d.
Hardy Dorset Fern roots, various varieties, carefully packed in moss, 50 1s., 100 1s. 9d., free.

Magnificent assortment of Devon and Cornish Ferns, elegant varieties, 40 healthy plants, free, 1s. 3d.

Ferns from Cheviot Hills, mixed sorts and sizes, some evergreen, all hardy. English and Latin names attached to one of each kind, 25 1s., 50 1s. 6d., 100 2s. 6d., sent post free with hints on growing.

Forty rare hardy Devonshire Fern roots, 1s. 2d., carriage paid, 10 varieties, Maidenhair, Ceterach, Adiantum, Polystichum, Rutamurra, Scolopendrium.

Everyone is waking up to the fact, that the strong arm of the law has become necessary for checking reckless Fern pilfering. The sentence passed by the Axminster magistrates will, we think, act as a salutary warning to persons who wander about from place to place, rooting out and destroying wherever they go the most interesting plants of the country-side.

COLONIAL NOTES.

MELBOURNE.—The garden is about a mile south of the city itself, and lies on the narrow river, the Yarra, which flows through Melbourne. The situation is good, but the soil in some parts is far from the best. The Australian flora is represented by fine old specimens, if one can call anything old in such a new country, and by young plants which have been added in recent years.

The garden abounds in effective views, which are much appreciated by the citizens. As in all new countries, for instance, our own, there is a good deal of pleasant rivalry between the larger places; in the botanical gardens of Australia there is found a convenient object for comparison. The judicious visitor cannot go far wrong in his answers to anxious inquiries as to respective excellencies of the gardens, where there is much to please, and so little that calls for unfavourable criticism.

In the Melbourne Garden the most attractive groups of plants are (1) the Proteaceae, composing a striking mass of shrubs and small trees, many of which happened to be in flower; (2) the Eucalypts, by no means all of them equally good as representatives, but most of them having distinctive characters recognisable as a whole; (3) the Myrtaceae and the Acacias.

The director is much embarrassed by the peculiar condition of the labour question in Australia. Somewhat similar difficulties arise wherever the one in charge cannot employ or dismiss the workmen for whose good work he is chiefly held responsible.

Mr. W. R. Guilfoyle, the director, with his capable assistants, is organising a Museum of Economic Botany, and bringing together other appliances for the illustration of botany.

Not very far from the garden lives Baron Ferdinand von Mueller, Government Botanist. He is surrounded by his herbarium and library, to which he has devoted his life and fortune. The correspondence which he carries on is incredibly voluminous, and it is understood to be conducted wholly with his own hand. His handbook of Victorian plants is easy to use after one becomes accustomed to the dichotomous arrangement, and it is very helpful in the minuteness of its descriptions. The Baron has done hard work in economic botany as applied to Australia, and in the endeavour to make the useful plants of the colonies better known in the old world and in America. As everybody knows, such work is always a thankless and ungracious task, for the mistakes and failures in the introductions are likely to outnumber the successes. In everything concerning the advancement of the colonies, Baron Mueller has taken a hearty interest, and is in every way identified with his adopted home.

Besides the incipient economic museum at the Botanic Garden, and the large collections under the charge of Baron Mueller, there is an interesting botanical department connected with the Melbourne Museum. This is under the direction of Mr. J. Cosmo Newbery, and is now being rearranged previous to its final disposition in the new museum building. The specimens which illustrate the cereals and their products were nearly arranged at the time of my visit, and indicated that the new system would be successful from an educational point of view.

The environs of Melbourne include many munici-

palities which are commonly counted in with Melbourne proper, when the city is compared with its sister cities. Passing outside the circle of associated communities, the botanist comes upon very instructive botanical ground. One does not have far to go by rail to stand before the giant specimens of Eucalyptus, and by boat to be in the presence of queer Australian plants, like Epacris and so on, growing wild. G. L. G.

Obituary.

BENJAMIN MORGAN, on Monday, March 28, at the age of ninety-three years, at Franche, Kidderminster. The deceased was a market gardener in his later years, but he had formerly been a farmer, and at one time carried on the business of seedsman, the only one at that time in Kidderminster. He worked in his garden till last year, and retained his faculties unimpaired to the end.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

RULES and BULB CULTURE, by D. T. FISH.—This book is out of print. Will any reader of the *Gardeners' Chronicle* kindly inform A. H. C. where a copy may be obtained.

DIMENSIONS OF WISTARIA SINENSIS.—Will any of our correspondents kindly give us the largest area of conservatory wall covered with a single plant of *Wistaria sinensis*? and also inform us if the once magnificent specimen at Syston Park, is still in existence. This plant at one time covered a space of 6800 square feet, and bore in one year 5000 bunches of flowers from 9 to 12 inches in length; and the stem at 1 foot from the ground was 3 feet in circumference.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.—	TEMPERATURE.					RAINFALL.		BRIGHT SUN.		
	Above (+) or below (—) the Mean for the week ending April 2.	ACCUMULATED.				No. of Heavy Days since Jan. 3, 1892.	Total Fall since Jan. 3, 1892.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 3, 1892.	
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.					
0	2	15	41	8	189	5	63	113	48	26
1	1	27	49	24	192	5	46	55	55	28
2	1	26	42	27	180	3	47	42	51	28
3	3	25	44	58	176	3	49	38	53	26
4	2	35	53	35	195	3	44	42	56	27
5	2	35	28	47	118	3	38	37	56	29
6	4	20	52	27	162	7	47	80	59	28
7	3	19	45	36	155	4	46	64	61	30
8	0	over	42	20	101	6	47	63	71	35
9	3	29	45	45	106	5	50	61	64	25
10	4	32	48	68	124	6	45	76	74	30
11	2	26	6	42	43	4	52	72	57	33

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.
Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; 11, Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending April 2, is furnished from the Meteorological Office:—

"The weather was rather unsettled, with local falls of cold rain or snow at the beginning of the week, but soon became very fine and dry in all parts of the Kingdom.

"The temperature remained low—especially at night—during the earlier part of the period, but subsequently the day readings rose rapidly, and became very high for the time of year, although the nights continued rather cold. The lowest of the minima were recorded in most places, either on the 27th or 29th of March, when the thermometer fell to between 14° and 18° in the 'N.W.' and 'N.' districts, to between 20° and 25° in the more 'S.' and 'S.E.' districts, and to 34° in the 'Channel Islands.' The highest of the maxima occurred either on the 1st or 2nd of April, and ranged from 73° in 'England, N.E.', and from 72° in 'Scotland, E.' and the 'Midland Counties,' to 67° in 'Scotland, N. and W.' and 'England, N.W.', and to 59° in the 'Channel Islands.' The range of temperature for the week was thus extremely large, but the average values for the week were in nearly all cases below the normal value for the time of year, the deficit in most of the districts ranging from 2° to 4°.

"The rainfall was much less than the mean in all parts of the Kingdom; the only days on which any was experienced being (except in the far North) at the commencement of the week.

"The bright sunshine greatly exceeded the mean. The percentage of the possible duration ranged from 48 to 59 in 'Scotland,' from 65 to 74 in 'Ireland,' and from 51 to 71 over 'England.' These percentages are higher over the Kingdom as a whole than those recorded in any week since that ending April 5, 1890."

MARKETS.

COVENT GARDEN, April 7.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal dealers, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

BUSINESS quieter, prices giving way. *James Webber, Wholesale Apple Market.*

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Apples, Canadian and Nova Scotian, per barrel	10 0-25 0	Lemons, per case	5 0-14 0
Apples, Esiree	11 0-10 0	Pine-apples, St. Michael, each	2 0-6 0
Grapes, new, per lb.	4 6-5 6	Strawberries, per lb.	2 6-6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Acacia or Mimosa, French, per bunch	1 6-20 0	Narcissus, white, Fr., per bu.	20 4-0 0
Anemone, 12 bunches	1 6-30 0	Narcissus (various), Scilly, doz.	20 0-4 0
Arum, per doz. bl.	2 0-4 0	Orchids—	
Aspid., per doz. sprays	0 6-0 0	Cattleya, 12 blms.	6 6-9 0
Camellias, white, doz.	2 0-30 0	Odontoglossum	
—red, per doz.	1 0-16 0	crispum, 12 blms.	3 0-6 0
Cinerarias, 12 bunch.	6 0-9 0	Pelargonium, scar-	
Daffodils, double per dozen	2 0-40 0	—let, per doz.	4 0-6 0
—single	2 0-40 0	—12 sprays	0 8-10 0
—various	5 0-8 0	Primrose, doz. bun.	0 6-10 0
Eucharis, per dozen	4 0-6 0	Primula, sing., 12 bun.	4 0-6 0
Freesia, dozen, bun.	2 0-40 0	Roses, tea, per dozen	1 0-30 0
Gardenias, per blms.	2 0-6 0	—coloured, dozen	2 0-40 0
Heliotrope, 12 sprays	6 0-9 0	—yellow (Mar-	
Hycinthus, 12 sprays	2 0-40 0	chals), per doz.	1 6-4 0
Jonquils, dozen, bun.	1 0-30 0	—red, per dozen	4 0-6 0
Lily white (French)		Snowdrops, doz. bun.	1 0-30 0
—per bunch	4 6-5 0	Spiraea, 12 bunches	0 6-0 0
Lilium Harrisii, doz.	4 0-6 0	Tuberose, 12 blms.	1 0-20 0
Lily of the Valley, per doz. sprays	0 6-0 10	Tulips, p. doz. blms.	0 6-10 0
Maiden Hair Fern, 12 bunches	6 0-10 0	Violets, Parme, per doz.	2 0-30 0
Marguerites, per doz. bunches	3 0-40 0	—Czar, per bunch	1 6-20 0
Mignonette, 12 bun.	4 0-6 0	—English, 12 bun.	1 6-20 0
		Wallflowers, French, per dozen	2 0-40 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Geuistas, per dozen	3 0 10 0
Arum, per dozen	9 0 12 0	Hyacinthid. doz.	3 0 9 0
Aspidistra, per doz.	18 0-43 0	Lily of the Valley, pot 1 6-2 0	
Azalea, per doz.	24 0-35 0	Marguerites, per doz.	6 0-12 0
Begonias, per doz.	8 0-12 0	Mignonette, doz. pots	8 0-15 0
Clasarias, per doz.	6 0-10 0	Primula sinensis, doz.	4 0-6 0
Cyclamens, per doz.	9 0-18 0	Palms, various, each	3 0-10 0
Cyperas, per dozen	4 0-10 0	— specimens, each	6 0 84 0
Dracaenas, each	1 0-5 0	Pelargoniums, Scar-	
Erics, various, doz.	12 0-15 0	— let, per doz.	6 0-9 0
Ferns, various, doz.	4 0-9 0	Solanums, per dozen	9 0-12 0
— per 100	8 0-15 0	Tulips, per doz. pots	6 0-8 0
Ficus elastica, each	1 6-7 6		

Bedding plants, various, in boxes, 1s. to 3s.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes Globe,		Lettuces, per doz.	1 6-2 0
each	0 4-0 8	Mushrooms, punnet	2 0-...
Beans, French, lb.	1 6-2 0	Mustard and Cress,	
Beet, red, per dozen	2 0-3 0	punnet	0 4-...
Carrots, per bunch	0 4-0 6	Parsley, per bunch	0 3-0 6
Cauliflowers, each	0 3-0 6	Seakale, p. basket	2 0-3 0
Celery, per bundle	1 0-3 0	Shallots, per lb.	0 6-...
Cucumbers, each	0 9-1 3	Spinach, per bushel	3 6-...
Endive, per dozen	2 0-3 0	Tomatoes, per lb.	0 6-1 0
Herbs, per bunch	0 9-1 3	Turnips, per bunch	0 4-0 6

POTATOES.

NEW POTATOES.—At public sales this week prices advanced, Cucary Island produce, Rs. to 16s. 6d.; Malta (first arrival), Kidneys, 17s. to 20s.; Rounds, 13s. For Old Potatoes the market is dull. J. B. Thomas.

SEEDS.

LONDON: April 6.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., write that a stream of sowing orders is now coming to hand, which are executed at the moderate currencies prevailing; stocks in consequence are all round getting reduced into quite narrow compass limits. American red, on account of its brightness, cleanliness, and cheapness, continues in special favour. Perennial Ryegrasses keep dear, but imported Italian is slightly easier. Sanfoin in this season cheap and good. For These seeds is an improving sale. Hemp seed is firm at the recent advance. Rape seed, the market is strong. Mustard and Rape seed are without change. Scarlet Runners are now unappreciatedly low.

FRUITS AND VEGETABLES.

BONMARK, April 5.—Quotations:—Savoy, 4s. 6d. to 6s.; Broccoli, 7s. 6d. to 12s. 6d.; per tall; Sprouting do., 2s. 6d. to 3s.; Turnip-tops, 3s. to 3s. 6d.; per bag; Spinach, 3s. to 4s.; per bushel; Brussels Sprouts, 1s. 6d. to 2s.; per half-sieve; Greens, 2s. 6d. to 3s.; Turnips, 1s. 6d. to 1s. 9d.; Carrots, 1s. 3d. to 1s. 9d. per dozen bunches; English Onions, 10s. to 12s. per cwt.; Apples, 2s. to 6s. per bushel; Canadian do., 14s. to 20s.; and Newtown Pippins, 15s. to 28s. per barrel.

SPITALFIELDS, April 5.—Quotations:—Seakale, 1s. to 1s. 6d.; per punnet; Curry Kale, 4d. to 6d.; Spinach, 1s. 6d. to 2s.; per bushel; Greens, 2s. to 3s. 6d.; Carrots, 2s. to 3s. 6d.; Sprouting Onions, 2s. 6d. to 3s. 6d.; Parsley, 4s. to 5s.; per dozen bunches; Brussels Sprouts, 1s. 3d. to 1s. 9d. per half-sieve; Turnip-tops, 2s. to 3s.; Swede-tops, 2s. to 3s.; Sprouting Broccoli, 2s. to 3s. per sack; Parsnips, 4d. to 6d. per score; Cauliflowers, 2s. to 2s. 6d.; Endive, 1s. to 1s. 6d.; Cabbage Lettuce, 6d. to 1s.; Leeks, 2s. 6d. to 3s. per dozen; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; English Onions, 8s. 6d. to 9s. 6d. per cwt.; Belgian do., 7s. to 8s.; Dutch do., 7s. to 8s. per bag 110 lb.; Spanish do., 8s. to 10s. 6d. per case; Celery, 4d. to 1s.; Horse Radish, 1s. to 1s. 1d. per bundle; English Apples, 2s. 6d. to 5s. per bushel; American do., 10s. to 18s. per barrel; foreign Tomatoes, 1s. to 2s. 3d. per box; forced Rhubarb, 1s. 3d. to 2s. 6d., natural do., 2s. 3d. to 3s. 6d. per dozen bunches.

STRATFORD: April 5.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done at the undermentioned quotations:—Savoy, 2s. 6d. to 5s. per tall; Carrots, household, 30s. to 40s. per ton; do., cattle-feeding, 15s. to 20s. do.; Parsnips, 9d. to 1s. per score; Turnip-tops, 2s. 6d. to 3s. per bag; Broccoli, 2s. to 3s.; Cauliflowers, 2s. to 2s. 6d. per dozen; Rhubarb, 2s. to 2s. 6d. per dozen bunches; Mangels, 15s. to 20s. per ton; Swedes, 22s. to 2s. 6d. do.; Onions, English, 30s. to 20s. do.; do., Dutch, 8s. to 8s. 6d. per bag; Apples, English, 2s. 6d. to 6s. per bushel; do., American, 14s. to 20s. per barrel.

POTATOS.

BOROUGH: April 5.—Quotations:—Hebrons and Elephants, 70s. to 90s.; Imperators, 60s. to 90s.; Bruce Magnum, 60s. to 90s.; Dunbar do., 90s. to 105s. per ton.

SPITALFIELDS: April 5.—Quotations:—Magnum, 50s. to 70s.; Regents, 50s. to 70s.; Imperators, 55s. to 80s.; Hebrons, 65s. to 80s.; Snowdrops, 50s. to 70s.; Sutton's Abundance, 65s. to 75s.; Main Crop, 65s. to 80s. per ton.

STRATFORD: April 6.—Quotations:—Magnum, 52s. 6d. to 70s.; Imperators, 55s. to 80s.; Bruce, 60s. to 75s.; Scotch Magnums, 60s. to 90s.; Main Crops, 90s. to 110s.; Scotch Bruce, 70s. to 90s. per ton.

HAY.

Averages.—The following are the averages of the prices at the various metropolitan markets during the past week:—Clover, prime, 80s. to 102s.; inferior, do., 40s. to 75s.; hay, best, 60s. to 92s.; inferior, do., 28s. to 50s.; and straw, 20s. to 38s. per load.

CORN.

Averages.—Official statement of the average prices of British corn, Imperial measure, for the week ending April 2, and for the corresponding period in 1891:—Wheat, 32s.; Barley, 27s. 8d.; Oats, 20s. 5d. 1891: Wheat, 36s. 5d.; Barley, 27s. 10d.; Oats, 18s. 11d.

NOTICES TO CORRESPONDENTS.

AZALEA BLOOMS: A. W. Send to some nurseryman who grows Azaleas largely.

CARNATION SOUVENIR DE LA MALMAISON: J. B. The plants may be had in flower late in the summer by striking them in February in heat, and treating them in a cool but airy situation in a frame or out-of-doors during the summer months.

CHILD'S NURSERY: W. E. G., see p. 436. In the notice of this American nursery it was not stated that from it came the Amorphophallus, the Wineberry, Rubus phoenicolasius, and marvels of such a nature that had we remembered the circumstance, it would have been quite unnecessary to have added any further notice.

CHOISYA TERNATA: T. D. An excellent truss of this pretty plant.

CINERARIAS: F. R. Those plants which you wish to cross and save seed from, should be placed in a house or frame by themselves, and at some distance away from all others. Fertilisation will take place without your agency, and is aided greatly by free ventilation during bright weather. The separation of these seed bearers should take place as soon as possible after the first blooms have expanded. By proceeding in this manner for several years, and by exercising discrimination in selection, a very good strain can be obtained. There are a few points to be borne in mind in doing this, viz.: to select only those that have a fairly dwarf compact growth, and dense corymbs of flowers; well defined colours, regularity of forms, and not so great size of flower as will cause flabbiness.

CORRECTION: "J. Ruskin Strawberry." Mr. Gilbert desires us to say that it was the "firsts" only which averaged $\frac{1}{2}$ oz. a-piece. See p. 439, ante.

CREEPERS FOR COVERING THE WALLS OF A HOUSE: X. Uxbridge. In your locality (south) you may plant on the south side Magnolia grandiflora in variety, Camellia azures and its varieties, C. floribunda, C. rigidus, Chimonanthus fragrans, Berberis stenophylla, Clematis in great variety, Rose Madame Lambert, R. Gloire de Dijon, Marechal Niel, Jeanne Desprez, Climbing Devonensis, many strong-growing Teas. On east and north, Wistaria sinensis, Clematis flammula, C. vitalba, Isabella vine, Menisperm canadense, Passiflora corulea, Cydonia japonica, and its many varieties; Virginian Creeper, Hedera (Ivy) in variety, and certainly the Irish, Regeneriana, rhomboida ovata, digitata, japonica, argentea, &c. West wall: Lonicera flexuosa, L. fragrantissima, and L. sempervirens; Bigonia radicans, B. grandiflora, the finer hybrid Clematis, also more Roses, Smilax aspera, and Stauntonia hexaphylla.

FERTILISATION OF WHEAT: D. S. Müller in the *Fertilisation of Flowers*, English edition, 1833, p. 563, citing the observations of Delpon, has the following:—"Triticum vulgare. Anthers and stigmas mature simultaneously, but the flowers only expand partially and for about a quarter of an hour; they then close permanently. The flower opens suddenly, scattering all its pollen, about one-third of which remains within the flower, while the other two-thirds are shaken out. . . . Self-fertilisation leads to the production of good seed. The flowering period lasts four days, and since each flower only expands for a quarter of an hour, a very small fraction of the flowers are expanded at any one time.

GENTIANA DAVARICA, &c.: A. L. D. The best soil for the plant is bog earth, mixed with loam and sharp grit; and a wet place fully exposed to the sun would be found for it. It may be grown in pots plunged in sand, or stood in saucers. Water abundantly. Like most of the species it dislikes disturbance at the root. For Epilobium obovatum, a mixture of peat and loam, and a place in the mixed border; the flowers are rosy-pink.

MARKET LAND: Narcissus. The plants that you mention will with but two exceptions, Asparagus and early Rhubarb, bring but little money, if disposed of to salesmen or commission agents, although they all might fetch remunerative prices if supplied direct to customers. Your early Potatoes will be heavily handicapped by the supplies from Sicily, Channel Isles, Algiers, Malta, and other places. Tomatoes, Strawberries forced early, forced Asparagus, Seakale, Mushrooms, would suit your small area of garden land better. If you could obtain security for your holding, the planting of a few acres of Lord Suffield, Lane's Prince Albert, Wellington, Blenheim Orange, and Cox's Orange Pippin, would pay you better than vegetables. Say 1 acre of each variety, with Raspberries, black and red Currants, Winham's Industry Gooseberry, for picking green; Strawberries, Rhubarb, Narcissus, Anemone fulgens, Scillas, and Wall-flowers grown beneath the fruit trees, or rather big headed bushes.

MELONS: L. F. Mr. Ross' paper will be published in the *Journal of the Royal Horticultural Society*, but we cannot tell you at what time.

NAMES OF PLANTS: R. S. D. Anemone spennia var. blanda. — C. B. S. (*Capetown*). Woodfordia floribunda. — F. J. *Catmose*. Diosma alba. — *Trollius*. Daffodils: 1, N. incomparabilis; 2, N. grandifolius; 3, N. Telamonia plenius. — F. S. 1, Muscari botryoides; 2, Gymnogramma ochracea; 3, Erythronium dens canis; 4, Chionodoxa Lucilla. — *Ezenoth*. Cricium asiaticum. — J. M. Dendrobium litiiflorum. — J. S. R. T. Tropaeolum tuberosum. — S. M. *Banbury*. 4, Scilla bifolia; 2, Scilla sibirica. — *James Payn*. 1, Pteris tremula; 2, Asplenium bulbiferum; 3, Cyperus alternifolius; 4, Pteris cretica albo lineata; 5, Pteris serrulata; 6, Adiantum capillus veneris; 7, Asplenium trichomanes; 8, Neprolepis tuberosa. — *J. Urquhart*. Dendrobium Pierardi. The other is probably a species of Inga; send when in bloom.

TOMATOES: F. Holdrup. No complaints of any difficulties experienced by growers of Tomatoes in raising these plants from seeds have reached us; but we hear many of the plants dying off, or becoming attacked by fungus diseases at a later stage; and some of these diseases have been figured and described in our columns.

TREE GUARDS: J. T. B. *Port Elizabeth*. Hill & Smith, Briery Hill, Wolverhampton, Staffs.

TULIP-TREE: An Amateur. Propagation is by stratified seed, that is, seed which has been laid in layers or strata with sand or loamy soil between, or mixed with the same and left in a heap. It is as well to keep seed in this state under some kind of protection. Named varieties are grafted on seedling stocks. Layering may also be adopted as a means of increase, but the plants for some years retain a bush-like character.

VANDA TERES: A Constant Reader. Being epiphytal, the conditions should be such as will cause the development of aerial roots, i.e., moist, warm, and sunny, with Sphagnum Moss beneath them, that should be kept moist. The plants should be kept near the light. When resting much less moisture is required, but they must never be very dry. Grow them in pots or narrow borders.

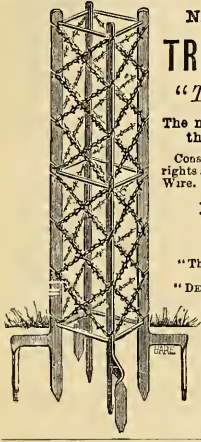
VINES: H. N. The leaves show signs of over-sulphuring or fumigating. They are also very thin and wanting in size and substance—in fact, just the kind of leaves that would readily suffer injury from these causes.

COMMUNICATIONS RECEIVED.—Old Man, writing on Peas, must send his full address before we can publish his note, not necessarily for publication, but as establishing his bona fides.—C. W. D.—W. H. A.—H. S.—H. S. K.—W. P. B., Trinidad.—T. B.—R. A. R.—Wild Rose.—J. Godsell.—R. E.—W. D.—T. H.—D. T. F.—J. C.—S. G.—J. H. Y.—A. O. New York, many thanks.—H. H. D.—F. T. J., University of Nebraska.—J. O. W.—W. E. G.—H. F.—J. B. & Sons.—F. S. & Co.—F. W. O.—H. E.—W. E.—Canon P.—J. O'E.—D. S.—J. W.

PHOTOGRAPHS RECEIVED (with thanks).—J. G., Norwich.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
At 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN TREE GUARD, "The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

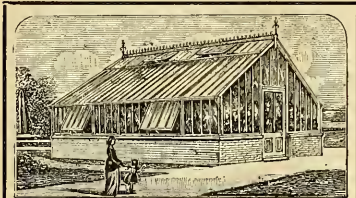
Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire,
"Dec. 25, 1887.

"DEAR SIRS,—I have now had
an opportunity of trying
your PORCUPINE TREE
GUARDS, and they seem
quite to answer my pur-
pose, so you may send me
50 more as before. I en-
close cheque for your ac-
count.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.



THIS GREENHOUSE erected and heated complete, in
any part of the country, best materials only, workmanship
guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-
work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for
immediate use, well made, painted four coats, glazed with
21-oz. glass, carriage paid:—1-light frame, 4 x 6, 36s. 6d.;
3-light frame, 6 x 8, 58s.; 3-light frame, 12 x 6, 88s. 6d.
Span-roof Frames, 12 x 4, £4 7s. 6d.; 9 x 5, £3 15s.;
16 x 6, £9 10s.

Graham Bruin & Co.,
Street, LEICESTER



21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet
and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered
free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote Chronicle

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry,
and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES,
Greenhouses, Frames, &c.

1 Cwt., and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.;
and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

GREENHOUSES FOR THE MILLION.—
Cheapest Depot for any kind of Glass Erections in the
Country. Note the following:—100 feet by 20 feet, £160;
100 feet by 12 feet, £80; 80 feet by 12 feet, £20; 30 feet by
10 feet, £20. Several excellent Second-hand Houses marvel-
lously Cheap. Hawkins' "Perfection" System of Glazing is
the best, and defies competition. Estimates Free. Do not buy
without first having price from HAWKINS, Horticultural
Builder, Ashford, Middlesex. Established 1871.

ORCHID BASKETS, RAFTS, BOATS, AND CYLINDERS, AND ALL GARDEN SUNDRIES.

SEND FOR A

PRICE LIST

from the Largest Manufacturer in the Trade,

H. G. SMYTH,

21, GOLDSMITH STREET,
DRURY LANE, W.C.

HEATING APPARATUS
BUY DIRECT FROM
THOS. W. ROBINSON,
STOURBRIDGE,
DENNIS PARKIRON WORKS
PRICE LISTS
FREE
THE MANUFACTURER
THE BEST OF ALL
HOT WATER JOINTS
TELEGRAMS:—"ALPHA"
BRETTLE-LANE

EWING'S MILDOW COMPOSITION.—The
original certain and safe remedy. In bottles, 1s. 6d.
and 3s.; per gallon, 12s. CORY and CO., Limited, 13, 15,
and 16, Finsbury Street, E.C. Sold by all Soda-men.

TANNED NETTING.—For Preserving Fruit
Trees, Flower Beds, &c., from Frost and Blight.
33 square yards for 1s.; any width sent. Carriage paid on all
orders over 15.
HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

GARDEN REQUISITES.—
Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo
Canes, Rustic Work, Maures, &c. Cheapest Prices of—
WATSON and SCULL, 90, Lower Thames Street, London, E.C.

HORTICULTURAL SHADINGS and
NETTINGS, TIFFANY, COTTON WOOLS, and
WADDINGS, Supplied Wholesale by—
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

TO HORTICULTURISTS.—GREENHOUSE
GAS COKE and SMITH'S COKE delivered in Truck-
loads to any Station in England and Wales.—Address,
G. J. EVESON, 26, Corporation Street, Birmingham.

ORCHID PEAT: best Quality; BROWN
FERIOUS PEAT for Stove and Greenhouse use, RHO-
DODENDRON and AZALEA PEAT. Samples and Prices of
WALKER and CO., Farnborough, Hants.

SILVER MOSS from Siberia, for Conserva-
tories, Church Decorations, Table Decorations, Wreaths,
Crosses, &c. Sample boxes, 1s. 3d. and 2s. 3d. post free.
Agents wanted in every town.
SILVER MOSS CO., 37, Walbrook, London, E.C.

SIX CABINET PORTRAITS, 3s.; three for
2s. Twelve Cards Portraits, 2s. 2d.; six for 1s. 4d.
Eight-inch Enlargement, 3s.; three for 8s. Stamp size, 2s. for
12. 6d.; 100 for 3s. 3d. Send Cards or Cabinet and Postal Order,
and in about ten days you will receive Highly-finished Copies,
with Original.—FRANCIS and CO., 29, Ludgate Hill, London.

THREE MILLIONS

HAVE BEEN PAID BY THE

RAILWAY PASSENGERS ASSURANCE COMPANY,

FOR

ACCIDENTS OF ALL KINDS.

64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN,

BOILING WATER OR MILK. E P P S'S GRATEFUL—COMFORTING. C O C O A BREAKFAST—SUPPER.

THE SYDNEY MAIL, AND NEW SOUTH WALES ADVERTISER.

CONTENTS.—

INTERCOLONIAL and GENERAL NEWS.
SPORTING and the FIELD, in which is incorporated BELL'S
LIFE in SYDNEY.
RECORD of RACES, and NOTES on the TURF.
CRICKET and AQUATICS.
THE FLORA of AUSTRALIA. (Drawn and engraved espe-
cially for this Journal.)
NATURAL HISTORY. (Original Articles.)
AGRICULTURE, PASTORAL, HORTICULTURE.
GOLD FIELDS and MINING generally.
STOCK and SHARE REPORTS.
ORIGINAL and SCIENTIFIC ARTICLES.
TALES by POPULAR ENGLISH and AUSTRALIAN
AUTHORS.
THE FASHIONS. DOMESTIC ECONOMY.
INDOOR AMUSEMENTS.
THE CHESS PLAYER. THE HOME CIRCLE.
COMMERCIAL NEWS.
SHIPPING INTELLIGENCE.
The SYDNEY MAIL has a wide circulation throughout the
Australian Colonies, New Zealand, Polynesia, &c. It contains
a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.

Single Copies, 6d.; Stamped, 7d.

Publishing Office—Hunter Street, Sydney, New South Wales.

ENGLAND.

The undermentioned Newspaper and Advertising Agents are
authorised to receive ADVERTISEMENTS for the
SYDNEY MORNING HERALD and SYDNEY MAIL:—

LONDON Messrs. Geo. Street & Co., 30, Cornhill, E.C.
Mr. F. Algar, 8, Clement's Lane, Lombard
Street, E.C.
Messrs. Gordon & Gotch, St. Bride Street,
Fleet Street, E.C.
Messrs. W. H. Smith & Son, 186, Strand.

BRISTOL James and Henry Grace, Royal Insurance
Buildings.

MANCHESTER... James and Henry Grace, 73, Market Street.

EDINBURGH ... Robertson & Scott, 13, Hanover Street.

GLASGOW W. Porteous & Co., 15, Royal Exchange
Place.

Copies of each Journal are filed at the
above Offices for the use of Advertisers.

AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

AMERICAN GARDENING,

WHICH INCLUDES:—

THE AMERICAN GARDEN United
THE GARDENERS' MONTHLY and HOR- in
TICULTURIST ONE.
THE FLORAL CABINET

POPULAR GARDENING

Making the Largest, Best, Oldest, Liveliest, Handsomest
Gardening Magazine in America.

THE LEADING AMERICAN JOURNAL FOR

HORTICULTURAL ADVERTISEMENTS.

Subscription Price for England

and Countries in the Universal Postal Union, 6s.

Subscriptions must commence from Jan. 1.

E. H. LIBBY, Publisher, Times Building,
New York, U.S.A.

Agents for Great Britain and Ireland:—

STEEL and JONES, 4, Spring Gardens, Charing Cross,
London, S.W., to whom Orders for Advertisements and Subscrip-
tions may be sent. A Specimen Copy post-free for 10d. (stamps).

GARDENING APPOINTMENTS.

MR. JOSEPH LIDDELL, until recently Head Gardener at
Holme Grange, Wokingham, as Head Gardener to Lord
ROGLAN, Ceintilla Court, Usk, Monmouth.

MR. G. HOLDEN as Gardener to W. A. BELL, Esq., Leybourne
Grange, Maidstone.

MR. REUBEN ASTLEY, until recently at The Dell Gardens,
Egham, as Gardener to the Princess MESTCHERSKY,
Doughine Government, Smolensk, Russia.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4	Lines	..	£0	3	0	15	Lines	..	£0	8	6
5	"	..	0	3	6	18	"	..	0	9	0
6	"	..	0	4	0	17	"	..	0	9	6
7	"	..	0	4	6	18	"	..	0	10	0
8	"	..	0	5	0	19	"	..	0	10	6
9	"	..	0	5	6	20	"	..	0	11	0
10	"	..	0	6	0	21	"	..	0	11	6
11	"	..	0	6	6	22	"	..	0	12	0
12	"	..	0	7	0	23	"	..	0	12	6
13	"	..	0	7	6	24	"	..	0	13	0
14	"	..	0	8	0	25	"	..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s. If set across three Columns the lowest charge will be 30s. Page, 2s; Half Page, 2s 10s.; Column, 2s.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender: this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week must reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months: Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

NOTICE TO ADVERTISERS.

FRIDAY NEXT, April 15, being GOOD FRIDAY, the "GARDENERS' CHRONICLE" will be published on THURSDAY, April 14.

ADVERTISEMENTS for NEXT WEEK must therefore reach the Office not later than WEDNESDAY MORNING, April 13.

PARTNERSHIP.—A young Man, with twelve years' experience, and a fair connection, wishes for Partnership, or Situation, in a good Seed Establishment, where £500 or £700, and active service, would meet with a fair return.—T. W. G. *Gardeners' Chronicle Office*, 41, Wellington Street, Strand, W.C.

MUSHROOMS.—A gentleman wishes to know of a place where he could learn the process of Mushroom culture. State terms.—Address, E. H. M., 90, Elm Park Gardens, London, S.W.

W. G. BAKER, Botanic Gardens, Oxford, in reply to the numerous (94) applicants for situation advertised in last week's issue, begs to inform them that HE IS SUITED.

WANTED, a thoroughly reliable WORKING MANAGER (married), for Scotland. Must have good practical experience in Growing for Market, under Glass, Early Fruits, Cut Flowers, Plants, Vegetables, &c., also Outside Fruits and Kitchen Garden. Must be a good Manager, pushing, and well up to his work. Character and ability must bear strictest investigation. Good wages to competent, trustworthy man. Full particulars as to character, ability, &c., with references, to S. W. *Gardeners' Chronicle Office*, 41, Wellington Street, Strand, W.C.

WANTED, a HEAD WORKING GARDENER, with good practical knowledge of Vines, Peaches, &c., and the Care of Stock, &c. Must be vigorous, active, and willing. State age, number of family, and wages required. Only a few miles from London. Will have three under him. Excellent cottage, coals, gas, milk and vegetables found. Copies only of testimonials to be sent.—R. M. *Gardeners' Chronicle Office*, 41, Wellington Street, Strand, London, W.C.

WANTED, a good all-round WORKING GARDENER.—Vines, but no forcing. Under-man kept. Lodge for man and wife without incumbency.—Rev. G. H., Drayton House, Ealing, W.

WANTED, a GARDENER, chiefly for Outdoor work, but must be well up to Bedding Stuff under Glass. Good references as to sobriety, civility, and industry necessary.—Apply to SUPERINTENDENT, St. Mary's Cemetery, Kensal Green, W.

WANTED, a GARDENER, who understands Vines, Peaches, and general Outside Gardening. Must be willing to make himself useful. Assistance given. Three rooms allowed.—E. PEARSON, Millfield, Berkhamstead.

WANTED, an intelligent young WORKING GARDENER, for a Seed-trait Ground; one interested in Hybridizing, and having a knowledge of Seed Saving, would be preferred.—State age, experience, wages, &c. to A. M. *Gardeners' Chronicle Office*, 41, Wellington St., Strand, W.C.

WANTED, a SECOND GARDENER, chiefly Inside, who understands his work. Rothy.—Apply, T. WHITFIELD, St. Catherine's House, Guildford.

WANTED, as UNDER GARDENER, a married Man, without family preferred. Must be experienced in outdoor gardening; will be required to milk and take charge of cows, &c.; wife must be a good laundress. Wages, 27s. per week, with lodging; the premises, milk, vegetables, and gas; good references required.—Apply, by letter, to W. E. The Manor House, Richmond, Surrey.

WANTED, a GARDENER (married), in Kent. Must understand Stock. Wife must be a good Laundress. Wages, 21s. per week, with cottage, &c.—Apply by letter, with full particulars, to J. S., 61, Shaftesbury Avenue, London, W.

WANTED, a GARDENER, with Wife as Laundress, near London, without incumbency preferred. Lodge provided. State age, wages, and full particulars.—Apply, by letter, to CAMPBELL PRAED, Esq., 38, Norfolk Square, W.

WANTED, at ONCE, as GARDENER, a thorough all-round, energetic man, of good character. State age and wages. No House or other emoluments. Seven miles west of London.—Address, W. J., 91, Church Street, Chelsea, S.W.

WANTED, at ONCE, a MAN of good character, who has a knowledge of Outdoor Nursery Work. State age, previous experience and wages required.—FAY AND SON, Florists, Southsea.

WANTED, as FOREMAN, in a compact place, a man thoroughly well up in Growing High-class Cut Flowers, Tomatoes, &c. for Market. Age not over 40. Highest references as to ability required.—Letters to ARTHUR ROBINSON, Seed Merchant, 8, Leadenhall Street, London, E.C.

WANTED, a WORKING FOREMAN, to take charge of a Market Garden of 40 Acres. Wage, 25s. per week, and cottage.—Apply to SKINNER AND SON, Fruit Salesmen, Covent Garden Market, W.C.

WANTED, a FIRST HAND in the Houses. Must be thoroughly energetic, trustworthy, willing, and acquainted with the general routine of a Market Nursery; good character indispensable; wages 25s. to commence, with overtime. Sunday work also paid for. Applicants must give full particulars as to experience, nature, service employed at, and time of engagements, &c.—Address, L. T., 41, Wellington Street, Covent Garden, W.C.

WANTED, a good PROPAGATOR and GROWER for a small Market Nursery. Must have a good knowledge of Dahlias. Salary required and references to J. WOOD, Trent Bridge Nurseries, Burton-on-Trent.

WANTED, a competent PROPAGATOR and GROVER, with good experience of Hard and Soft-wooded Plants. Permanent place to energetic man. State wages required. Also, energetic young MAN as IMPROVER under Glass.—COLE AND SON, Bath Nursery, Weston Road, Bath.

WANTED, THREE or FOUR young MEN, used to Growing Cucumbers.—Apply, with references and wages required, to 35, Queen Street, Cardiff.

WANTED, a young MAN, quick at potting, watering, &c., from a market nursery. Wages, 18s. per week; also One for the jobbing.—J. ILLMAN, The Nurseries, Lincoln.

WANTED, two active young MEN, well up in Cucumbers. Also TWO young MEN, well up in Soft-wooded Plants, one especially for Chrysanthemums, Wreaths, Potting, and Tying. Must be used to Market Nursery Work. Wages, 15s. per week, with comfortable bothy on the place.—Address G. A. WILLIAMSON, Bloomsbury Nursery, Timperley, Manchester.

WANTED, SEVERAL MEN, for Cucumber, Tomato, and Grape growing. State age, experience, and wages expected.—JOSEPH ROCHFORD, Turnford Nurseries, near Broxbourne, Herts.

WANTED, TWO young MEN, in a Market Nursery, one for Palm Growing.—Apply to BRUCKHAUS AND BULLING, St. Mark's Nursery, Twickenham.

WANTED, a young MAN, used to Grape Thinning and Tying Plants for Market.—Apply to OSBORNE & LAWFORD, Railroads Lane Nursery, Finchley, N.

WANTED, at ONCE, TWO GENERAL KNIFEMEN, for Budding and Grafting. Constant place for suitable men. State wages required.—Apply to J. SMITH AND SON, West Drayton, near Uxbridge.

WANTED, a GOOD HAND, for JOBBING WORK.—Must use the Scythe well. Wages, 21s.—J. D. RICHARDS, 88, Midway Park, London, N.

WANTED, a young MAN, for a Market Nursery.—Tomatoes, Cucumbers, Grapes, and Cut Flowers.—State age, experience, and wages expected, by letter only, to GRAY AND CO., South Court Nursery, Worthing.

WANTED, SEVERAL MEN, for Cucumber Growing, and General Nursery Work.—Write to R. PESTER, Winchmore Hill.

WANTED, SEVERAL smart young MEN, for the Furnishing Department. Good opportunity for young Gardeners who wish to get an insight into Floral Decorating.—Apply to WILLS AND SEGAR, Royal Exotic Nursery, 16, Onslow Crescent, South Kensington.

WANTED, at ONCE, a young MAN, for the Houses.—Constant employment to a suitable man in Cereals, Roses, Tomatoes, Cucumbers, Plants, &c.—State wages and experience, with references, to J. CLARKE, Nurseryman, Farnham.

WANTED, an active young MAN, quick at Potting, Tying, and Watering, in a Market Nursery.—Mr. ORFWOOD'S Nursery, Cowley Mill Road, Uxbridge, Middlesex.

WANTED, a strong active young MAN for flower and kitchen gardens; wages 18s. per week. Apply, with reference and age, to H. UPHILL, Whitthall Gardens, Hock, Surbiton.

WANTED, a young MAN, that has been used to grow Cucumbers, Tomatoes, and Bunch Flowers, in a Market Nursery.—One that will take an interest, and is not afraid to work, will receive every encouragement, none else need apply. Wages to commence at 24s. per week, with overtime.—GEO. CHARLTON, High Church, Morpeth.

WANTED, young MEN, used to Fruit and Flower Growing near Gloucester.—State experience and wages required to FOREMAN, Turnford Hill Nurseries, Broxbourne, Herts.

WANTED, a smart young MAN to assist in the Orchid Houses, one with Nursery experience preferred.—Apply to Messrs. CHARLESWORTH, SHUTTLEWORTH AND CO., Heaton, Bradford.

WANTED, a steady, respectable young MAN, for a Market Nursery; must be quick at potting and watering.—Apply, with reference, stating where last employed, and wages expected, to JOHN TURLE, The Nurseries, Welles, Kent.

WANTED, TWO young MEN, one used to market work, the other must have a thorough knowledge of outdoor nursery work, pruning, &c. Wages, 18s. per week; references required.—LEWIS AND WILLIAMS, Embury Nurseries, Thames Ditton, Surrey.

WANTED, good JOBBING HANDS, well up with the Seythe.—W. SEARLE, Villa Nursery, Rochester Square, Camden Town, N.W.

WANTED, a strong LAD, to work in the Garden and Stable under another. Wages to begin with, 12s. per week.—W. H. WAKELEY, Blackland's, Rainham, Kent.

WANTED, an active young MAN, well used to watering and potting, and general Plant work for the Houses, under Foreman.—Wages 18s. Good character.—Mr. C. H. GORRINGE, Roslands Nursery, Eastbourne.

WANTED, a young MAN, to Grow Cucumbers and Grapes for Market.—State reference and wages required to G. BLUNDELL, Oak Villa Nursery, Friern, Barnet.

WANTED, a young MAN, on a Market Farm in Norfolk, to grow Hardy Bedding Plants, and make himself generally useful. Wages, 25s. Apply by letter.—R. 31, Wellington Street, Covent Garden, W.C.

WANTED, a young MAN, to attend the Markets two or three days a week. State previous experience, if in Shop, Greenhouse, or Outside Nursery, with age, wages, and reference, to W. TROUGHTON, Nurseryman, Preston, Lancashire.

WANTED, an ASSISTANT, in the General Seed, Nurseries, and Floral Business. Used to Books—Wages, references, &c., to LAXTON BROTHERS, Seedsmen, Bedford.

WANTED, an IMPROVER, for the Houses, one used to Market Work.—A. GREAVES, River View Nursery, Aylestone Park, Leicester.

WANTED, AT ONCE, TWO or THREE IMPROVERS for General Market Nursery. State wages required, and apply with references, to ENOCH WHITE AND SONS, Bournemouth.

WANTED, a young man, as SALESMAN in a Nursery, and to keep Books, and make himself generally useful.—S. DENSON AND CO., 22, Maiden Vale, W.

FLORISTS.—WANTED, a thoroughly experienced ASSISTANT, good Saleswoman. Must be used to West End trade.—G. D. TAVINER, F.R.H.S., Bayswater Hill, London, W.

WANTED, a young LADY, for Plant and Flower Stall in Market.—State wages, description, and send photo, to WILLIAM SOUTHERN, Seedman, Epsom, Lancashire.

WANTED, a young LADY, with experience in all kinds of Floral work. Apply, stating abilities, wages expected, also references, to HALEY AND SONS, Covent Garden Warehouse, 360, St. Andrew's Street, Glasgow.

WANTED, a young LADY (April 20), to Serve in a West End Fruit and Flower Shop. Must understand making up Flowers, Wreaths, and Crosses. State age, salary, and experience.—38, Chandos Street, any day, 2 to 4.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should write for Prospectus of the Scientific Dress Cutting Association, 272, Regent Street, London, W. Situations found for all pupils at good salaries. No "dry" education is complete without a knowledge of Dressmaking.

WANT PLACES.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester (Limited), are always in position to RECOMMEND MEN of the highest testifier, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

Head Gardeners.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be aided and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from gentlemen seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

TO GENTLEMEN with large Gardens.—The Advertiser, a Gardener of great experience, and a well-known skilful Horticulturist, will be open to an engagement early in May, or would tend a large garden or superintend on commission.—OMEGA, 99, Kennington Road, London, S.E.

GARDENER (HEAD), in good establishment.—Married, no family. Ablest. Life experience in Early and Late Forcing all kinds of Fruits, Flowers, Vegetables, Mushrooms; also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' good character from late employer, and sixteen years' references.—J. D., Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD), age 33, married.—J. E. McCLURE, eight years Head Gardener to R. Heywood Jones, Esq., Balwyn Hall, is open to re-engagement with any Nobleman or Gentleman requiring a thoroughly practical Gardener. Has had nineteen years' experience in all branches, is thoroughly conversant with the requirements of a good establishment. Testimonials of the highest order.—Catalaugh, Winsford, Cheshire.

GARDENER (HEAD).—Mr. HALL wishes to recommend a thoroughly efficient Head Gardener, where five or more are kept.—Mr. BEEVERS, The Gardens, Farnham Chase, Slough, Bucks.

GARDENER (HEAD), where two or more are kept; age 36, married.—Mr. G. BUNYARD, Maidstone, will recommend S. Richardson as above; experienced in all kinds of Forcing, Kitchen and Flower Gardens. Six years' experience as Head.—Brook Cottage, Loose, Maidstone, Kent.

GARDENER (HEAD).—Middle-aged, married, no incumbrance; fifteen months' in present situation; twelve years' in previous, where economy was enforced, and all surplus produce sold. Land and Stock, or Gardener, if required. Excellent character through life.—S. O. The Lodge, Otlands, Horley, Surrey.

GARDENER (HEAD).—Age 44; married, one child; thirty years' practical experience in all branches of gardening. Six years' character from last situation.—COOMBS, 14, Bridge Street, Exeter.

GARDENER (HEAD), Age 30.—Mr. ELPHINSTONE can with confidence recommend his Foreman as above. Fourteen years' general experience in first-class establishments; highest references.—W. SHEPHERD, Shipley Hall Gardens, Derby.

GARDENER (HEAD), age 33, married.—Mr. WILLIAMS, Bloemhain Palace, Woodstock, wishes to recommend John Cokes to any Lady or Gentleman requiring an efficient and competent Gardener, who thoroughly understands the management of a large Establishment; for the last seven years Principal Foreman at Bloemhain.

GARDENER (HEAD).—Age 36, married; twelve years' character from last place; thoroughly understands the management of a first-class garden, having had great experience in Orchids, Stove, Vineries, Peaches, Cucumbers, Forcing, &c. Left through the place being sold.—J. C. 3, Lee Place, Sutton, Surrey.

GARDENER (HEAD), to any Lady or Gentleman requiring practical all-round man.—Age 42, married, no family; over twenty years' experience.—F. W., 37, Bridge Street, Witney, Oxon.

GARDENER (HEAD), where two or more are kept; age 26.—J. BOWEN, Gardener, Keaton Court, Sunbury, wishes to recommend G. Saunders, who has been with him for six years, to any Lady or Gentleman requiring a good all-round Gardener. Life abtainer.

GARDENER (HEAD), where one or two are kept, or SINGLE-HANDED.—Age 26; ten years inside and Out. Good character. Total abtainer.—M. Mr. Bridges, Carville Hall Gardens, Brentford.

GARDENER (HEAD), or where help is given.—Age 30, single; fifteen years' experience in all branches. Good references.—E. RUSSELL, 53, Boleyn Road, Kingsland, N.

GARDENER (HEAD, where several under are employed).—Age 39, married, one boy aged 12. Advertiser is open to engage with any Lady or Gentleman requiring the services of a good all-round, practical Gardener. Excellent testimonials.—W. S., 398, High Street, Acton, W.

GARDENER (HEAD WORKING), where two or more are kept.—Married, no family; twenty years' practical experience in the cultivation of Fruits and Plants under Glass, Flower and Kitchen Garden. Eight years' good character.—F. A., 71, Lewisham Road, S.E.

GARDENER (HEAD WORKING).—Age 39; Kitchen and Flower Gardens. Early and Late Forcing, Plants, Fruits, and Vegetables; excellent testimonials; well recommended.—STONE, 2, Lisburne Terrace, Torquay.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Jollyway near Chichester, wishes to recommend J. Foreman, James Pullen. Thoroughly practical in all branches, including Orchids, Stove and Greenhouse Plants, Fruit, Hardy Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING), where one or more are kept.—Age 28, single at present; thirteen years' experience in large Establishments. Good references.—G. W., East Orington Lodge, Pembroke.

GARDENER (HEAD WORKING), where two or three are kept.—Age 32, married, one child; thoroughly experienced in all branches. Eight years' excellent character and testimonials from last situation.—T. HUGHES, Plaucha, Nerguis, Mold, Flintshire.

GARDENER (HEAD WORKING).—Age 30; sixteen years' practical experience, including eleven for Exhibition. GEORGE PHILLIPS, for the last two years General Foreman at Dingley Gardens, Market Harboro', seeks a situation as above. Plant Foreman previously. Excellent references. The Viscount Downe kindly permits reference.

GARDENER (HEAD WORKING), where others are employed.—Age 40, married, no family. Life experience in all branches; highly recommended by present and past employers.—J. HIGGINS, Gardener, Butleigh, Glastonbury.

GARDENER (HEAD WORKING).—Single; thoroughly practical in all departments, including Decorating and Laying-out. Abtainer. High testimonials. Home counties preferred.—J. H., 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING).—Age 37, married. Twenty years' experience in the growing of Grapes, Peaches, Melons, Tomatoes, Cucumbers, Orchids, Stove and Greenhouse Plants, and Flower and Kitchen Gardens; ten years' good character. Abtainer.—WHITE, 5, Topheld Cottages, New Road, Horney, London, N.

GARDENER (HEAD WORKING); middle-age, married.—W. PEPPER, twelve years Gardener to the late G. Burnard, Esq., of Tewn Water, Welwyn, Herts, seeks re-engagement as above; Land and Stock, if required. Reference, L. Burnard, Esq.—Address as above.

GARDENER (HEAD WORKING).—Age 31, married, one child. Thoroughly experienced; excellent references.—C. PARKER, Gayton, Blisworth, R.S.O.

GARDENER (HEAD WORKING), where two are kept, or good SINGLE-HANDED; married, two children, 11 and 13.—COMMANDER DIGBY, R.N., recommends his Gardener as above. Six years' character from no fault. Good character. Abtainer.—LEWIS, for no fault, and sober.—T. SMITH, Gardener, North Runciton, King's Lynn.

GARDENER (HEAD WORKING), SINGLE-HANDED, or where help is given).—Or, Kitchen and Fruit Gardener under the Head in a large garden; good references; age 47, married.—W. T., 17, Pembury Street, Sittingbourne, Kent.

GARDENER (HEAD WORKING).—Age 30; three years' Foreman in last situation. Thoroughly practical in all branches. Especially well up in Fruit and Chrysanthemum Growing. Exceptional references.—A. CAMPIN, 6, Hill Cottages, Perry Hill, Catford, S.E.

GARDENER (HEAD WORKING), where one or two are kept.—Age 27; thoroughly experienced in Vines, Peaches, Melons, Stove and Greenhouse Plants, Flower and Kitchen Garden. Excellent character and testimonials.—W. D., 40, East Street, Reading, Berks.

GARDENER (HEAD WORKING), where two or three are kept.—Age 25, single; experienced in Vines, Peaches, Melons, Cucumbers, Flower and Kitchen Garden. Five years' good character.—W. JOINER, Holmwood Park, Dorking.

GARDENER (HEAD WORKING); age 30, married, no family.—Mr. GLINGING, Sanderted Court Gardens, Croydon, can with confidence recommend his late Foreman to any Lady or Gentleman requiring a thoroughly practical and reliable man. Sixteen years' experience.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 30, married, one child; thoroughly experienced. Good character.—X. Y. Z., 71, Danbrough Road, South Streatham, London.

GARDENER (SINGLE-HANDED).—Age 32, married. Good experience in Glass and Flower and Kitchen Garden; six and a half years' highest references.—RICHARDS, 2, Tuskar Street, Greenwich.

GARDENER (SINGLE-HANDED, or otherwise).—Age 40, married, no family; good all-round man. Abtainer, and both can be well recommended.—GARDENER, Hopewell Cottage, Bell's Hill, High Barnet.

GARDENER (SINGLE-HANDED, or UNDER).—Age 23, single. Good experience both inside and Out. Good references from previous employers.—G. P., 6, Brufferton Road, Croydon, Surrey.

GARDENER (good SINGLE-HANDED), or otherwise.—Age 23; seven years' experience in all branches. Three years' good character.—W. KEYWORTH, The Gardens, Delamere House, Northwich, Cheshire.

GARDENER (good SINGLE-HANDED, or with help).—Age 26, married when suited; used to Vines, Flower and Kitchen Gardens; willing to be useful. Two years' good reference.—C. WILLIAMS, 35, Belmont Hill, Lewisham, S.E.

GARDENER (good SINGLE-HANDED, or UNDER, in a large establishment).—Age 28; understands Glass and Outside Work. Good references.—T. J., 3, Western Road, Ealing, W.

GARDENER (good SINGLE-HANDED, or SECOND).—Age 26, single. Eleven years' experience in all branches; can be well recommended.—A. HAMMOND, The Gardens, Fan-haws, Hertford.

GARDENER.—The advertiser (age 26) begs to offer his services to any Lady or Gentleman requiring a person as above, has a practical knowledge of the cultivation of Orchids, Fruits, Plants, &c., gained in good establishments, and can be thoroughly recommended. H. FEATHERSTONE, The Ironworks, Bracknell, Berks.

GARDENER (WORKING).—Age 44, married; twenty-eight years' experience. Well up in the Cultivation of Orchids, Plants, Fruits, Flowers, Vegetables, Early Forcing, and the general requirements of a Gentleman's establishment. Good character.—W. P., Church Cottage, Staple Inn, Bristol.

GARDENER, where another is kept preferred.—Age 39, single; understands Vines, Cucumbers, Flowers and Kitchen Gardens; six years in last place.—S. WRENCH, Maccoway, Wrexham.

GARDENER (SECOND, or SINGLE-HANDED).—Age 25. Inside and Out preferred. Abstainer; good character. Cause of leaving, selling up the Estate.—E. H., PA, Charlwood Road, Patey.

GARDENER (SECOND).—Inside and Out. Seven years' experience in the Cultivation of Plants, Fruits, Flower and Kitchen Gardens. Good character.—W. BENNELICK, The Gardens, Hudson House, Stockbridge, Hants.

GARDENER (SECOND).—Age 24. Thorough experience in Stove and Greenhouse Plants; also Fruit culture; first-class references.—W. SIMMONDS, 4, Princes Road, Ealing Dean.

GARDENER (SECOND).—Age 23; six years in last situation; good all-round; good character and recommendation.—T. K., The Gardens, Grey Towers, Hornchurch, Essex.

To Gardeners.

GARDENER (SECOND).—Age 25.—T. LOCKIE, Oakley Court, Windsor, begs to highly recommend his For-man, who has been with him four years; he is thoroughly industrious and trustworthy; total abstainer; no bobby.

GARDENER (Age 27, single) seeks a place as Outdoors Man; twelve years' experience; lawns and kitchen garden.—J. E., 39, North End, East Grinstead, Sussex.

GARDENER (UNDER), or JOURNEYMAN in a private establishment in the Houses or Inside and Out.—Age 22; tall. Disengaged.—G. REID, Little Eaton, near Derby.

GARDENER (UNDER).—Age 20. Willing to make himself useful; good experience in pleasure ground; abstainer; good references.—A. H., 7, Queen's Road, Winchester, Hants.

GARDENER (UNDER), Inside and Out.—Age 22; six and a half years' experience; good character.—W. METCALFE, The Gardens, Marton Hall, Marton, R.S.O., Yorks.

GARDENER (UNDER), Inside and Out.—Age 22; two years in last place. Can have good references. Abstainer.—A. B., Ardeley, Stevenage, Herts.

GARDENER (UNDER), Inside or Inside and Out.—Age 23; nine years' experience in all branches. Good character from last and previous situation.—W. BAIGENT, 33, Richmond Grove, Surbiton Hill.

GARDENER (UNDER), Inside and Out, or good SINGLE-HANDED.—Age 23; eight years' present situation. Good character.—J. WOOD, Brook Cottage, Balcombe, Sussex.

GARDENER (UNDER).—Age 21; three years' experience. Inside and Out. Good character.—T. COOK, Escot, Ottery St. Mary, Devon.

To Seedsmen.

MANAGER, in a Seed and Trial Ground (Working).—Age 41; thorough experienced Grower. Seven years with Messrs. Nash & Co.; six years with Waite, Nash & Co.—ELLIS, 4, Leamington Terrace, Spring Grove, New Bridge.

FOREMAN and MANAGER (WORKING).—Age 31, married; practical experience in Growing Grapes, Melons, Strawberries, Cucumbers, Tomatoes, Chrysanthemums, &c., for market. Seven years' first-class character as Foreman.—A. B., 26, Castibar News, Ealing, W.

FOREMAN (INSIDE).—Age 27.—Mr. HUNTER will be pleased to recommend William Dryden as above.—Lambton Castle Gardens, Fence House, Durham.

FOREMAN, in a first-class place.—Excellent references; tenor singer.—H. W. HARPER, Netherdown, Rugeley.

FOREMAN.—Age 26; eleven years' experience in Fruits, Plants, Chrysanthemums, &c. Good references.—W. DOOWELL, Waddesdon, Aylesbury.

FOREMAN, in the Houses.—Age 26; experienced in Early and Late Forcing. Fruit, Plants, and Flowers. Been in the service of Messrs. F. JOHNSON, 25, Stamford Road, Fulham, S.W.

FOREMAN, in a good Establishment.—Age 29, single. General experience in all branches; highest references as above from good Establishments.—F. H., Mrs. Parsons, Pampisford, Cambs.

FOREMAN, in the Houses, in a good establishment.—Age 26; nine years' experience; total abstainer.—R. N., The Gardens, Bridgen Place, Bexley, Kent.

£1 will be given to anyone getting Advertiser (age 24) a situation as FOREMAN, or JOURNEYMAN (First), under Glass. Ten years' experience. Good references.—G. G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN or JOURNEYMAN (First), in a large establishment.—Age 28; eleven years' experience; can be highly recommended.—T. ATTWOOD, Packington, Ashby de la Zouch, Leicestershire.

FOREMAN in the Houses, in a good establishment.—Age 25; eight years' experience in fruit and plant-houses; can be well recommended.—T. NOTLEY, Stoke Holy Cross, Norwich.

PROPAGATOR (ASSISTANT), or FOREMAN (UNDER). Inside.—Seven years in the trade; last three years with Messrs. Paul & Son, of Chesham, who will be happy to answer any enquiries.—W. GROVE, Chesham Street, Chesham, N.

JOURNEYMAN on a Gentleman's Establishment, inside preferred; age 24. Has a fair knowledge of the work; good character.—A. BURNINGHAM, St. Catherine's House, Guildford, Surrey.

JOURNEYMAN (First, or good SECOND).—Age 23; can be well recommended by present and previous employers. Two years in present situation.—T. FRANCIS, Brookland Hall, Welshpool.

JOURNEYMAN (First).—Age 23; seven years' experience; well recommended by present and previous employers; total abstainer.—J. CARTER, The Gardens, Bridgen Place, Bexley, Kent.

JOURNEYMAN (First), in a large establishment.—Age 23; good references from past and present employers.—W. SMITH, The Gardens, Staunton Harold, Ashby-de-la-Zouch, Leicestershire.

JOURNEYMAN (First).—Age 22; nine years' experience in all branches, including Table Decoration. Two and a half years in last situation.—Good character.—W. BOALCH, 3, Kenilford Road, Balham, S.W.

JOURNEYMAN (First), in the Houses.—Age 24; eleven years' experience. Good character.—G. SPECKLEY, Swinton Park Gardens, Masham, Yorks.

JOURNEYMAN (First) in a good establishment.—Age 21; has good experience in Vines, Pines, Plants, &c.; can be highly recommended; two years in last situation; good testimonials.—T. HALLETT, Newtown, Milborne Port, Somerset.

JOURNEYMAN (SECOND), in the Houses, preferred.—Age 20; has had good knowledge of both Inside and Out. Good character.—C. H., Post Office, Crawley Down, Sussex.

JOURNEYMAN, Inside, and Out.—Age 21; two years in present situation. Good references, and can be well recommended. Strong and willing. Today preferred.—GEORGE STURMAN, The Bury House, Cottesingham, L'ptingham.

JOURNEYMAN, in the Houses.—Age 23; excellent references.—RING, 13, Salisbury Road, High Barnet.

JOURNEYMAN, Inside, in a Private Establishment.—Age 22.—W. WELCH, Hatham Park Gardens, Corsham, Wilts, wishes to recommend a young man as above. Good character, and several years' experience Inside and Out.

JOURNEYMAN, in the Houses.—Age 20; six years' experience, Inside and Out. Bothy preferred.—R. COLLINGS, Farnham Royal, Slough.

JOURNEYMAN, Inside, or Inside and Out.—Age 22; good references.—F. PITMAN, Inwood Gardens, Henstead, Blandford.

JOURNEYMAN, in the Houses, under good Foreman.—Age 21; good character from present situation; bothy preferred.—F. PIKE, The Cottage, Iping, Midhurst, Sussex.

JOURNEYMAN, in the Houses, under a Foreman, in a good establishment.—Age 22. Bothy preferred.—H. WILKINS, Clau Street, George's Hill, Blythe, Surrey.

JOURNEYMAN, in the Houses.—Age 19; three years' experience.—W. WATSON, Letton Hall Gardens, Rutford, Norfolk.

JOURNEYMAN, in the Houses, in a good establishment.—Age 21.—H. ROGERS, Gardener to Lord Rendish, and Head Gardener, Woodbridge, Suffolk, would be pleased to recommend a young man as above, to any Gardener requiring a strong, active, and willing man. Seven years' experience in the various branches of the profession, including Orchids, &c.

JOURNEYMAN, in the Houses, in good Establishment.—Age 31; five years' experience. Excellent character.—No objection to small premium.—T. BRADLEY, 25, Newland's Street, Barry Dock, Cardiff.

JOURNEYMAN, Inside, under a Foreman.—Age 22; used to Table Decoration; five years' experience Inside and Out. Bothy preferred.—F. E., The Gardens, West Stoke, Chichester.

JOURNEYMAN, Inside, or Inside and Out.—Age 23; seven years' experience. Good character. Total abstainer.—HARRY DONNELLY, Everingham, York.

JOURNEYMAN, Inside and Out.—Age 20. Good experience; four years' excellent character from present situation. Height, 6 feet.—E. HEWER, Colehill, Highworth, Wilts.

JOURNEYMAN, Inside.—Age 21.—J. SELDEN, The Gardens, Combe Cottage, Kingston-on-Thames, wishes to recommend K. Pinnuck as above; two years character, three and a half previous.

JOURNEYMAN, under Foreman in the Houses, in a good establishment.—Age 21; bothy preferred.—W. JONES, Mrs. Rollison, Gipton Wood, Roundway Road, Leeds.

JOURNEYMAN; age 20; total abstainer.—G. MERRITT, Park View Nursery, Harpenden, can highly recommend a young man as above, for Indoor, Kitchen Garden, &c.

JOURNEYMAN, under a foreman, in a good establishment.—Age 26; good experience Inside and Out; strong and willing; bothy preferred.—W. JONES, Porter's Park Gardens, Shenley, Herts.

JOURNEYMAN, for the Houses.—Mr. THOMSON can highly recommend G. Gibson, to any Gardener in want of a steady, active, trustworthy young man, Abstainer.—G. GIBSON, Sutton Bonington, Loughborough, Leicestershire.

ROSE GROWER.—Well up; a first-class and very successful exhibitor. First-class references.—C. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

IMPROVER, in a good Private Establishment.—Age 19; willing to pay a moderate Premium.—H. COUPLAND, Hull Road, Hesse, Hull.

IMPROVER in a private place, inside and out.—Age 19; three and a half years' good character from a Nurseryman; bothy preferred.—S. HAYWARD, 18, Vicarage Road, Tottenham.

IMPROVER, Inside, in a good establishment.—Age 20. Five years' good character from Head Gardener; bothy preferred.—W. GATFORD, Holtie Common, Edeburgh, Kent.

HORTICULTURAL EXHIBITION, EARL'S COURT.—Advertiser (age 31), good SALESMAN and address, thorough knowledge of Nurery and Seed Trades, is open to Represent a good Firm or take Charge of Stand. References and security given.—AZALEA, 41, Wellington Street, Strand, W.C.

TO GARDENERS.—A young Man, age 20, eighteen months' experience, strong, willing to learn, requires SITUATION in the garden, inside or out; steady, respectable, well-recommended.—A. LAWRENCE, Ringwood, Dorset.

TO GARDENERS.—Wanted, by active young man (age 23), situation in the Kitchen Garden and Pleasure Grounds. Good experience. Good references. Total abstainer.—J. L., 26, Averill Street, Fulham Palace Road, Hammersmith, W.

TO GARDENERS.—Situation wanted by a young (age 19) under a good Gardener, inside or out. Nine months in last situation, under Glass. Premium if required.—J. J. JOHNSON, Shipton, Brough.

TO GARDENERS.—A young man (age 20) seeks a situation in the House, or Inside and Out. Eighteen months' character from last place, and four years previous.—T. HOWARD, Loseby Lodge, Guildford, Surrey.

COWMAN, and to help in Garden.—A Gentleman can highly recommend a most excellent man as above. Left Advertiser's service to be married.—W. FROUD, 27, Newby Road, Bruce Grove, Tottenham, N.; or T. J. EDWARDS, Esq., Dulwich Common, S.E.

COWMAN.—Age 26, married; understands all kinds of Stock and Foultry.—W. FORD, 45, Northway Road, Cambrá Road, Loughborough Junction, S.E.

ESTATE CARPENTER.—Permanency required by highly respectable steady man, well up in all branches of his trade. Willing to turn his hand to Painting, Glazing, Distemping, Furniture Repairs, Carpets, Blinds, &c.—CARPENTER, 1, Ivor Cottages, Barret Gate, Barret.

FLORISTS and FRUITERS.—A young LADY, age 25, seeks re-engagement; first-class at Posies, Wreaths, Crosses, Bonquets, Sprays, &c. Five years own situation; highest references.—GROVES, Hyde Street, Wundstret.

TO FLORISTS.—Re-engagement desired by a young LADY, thorough good all-round hand; also had good experience in Fruit & highest references.—THWAITES, 49, Chesterton Road, Ladbrook Grove, W.

HOLLOWAY'S PILLS.—Weary of Life.—Derangement of the liver is one of the most efficient causes of dangerous diseases, and the most prolific of those melancholy forebodings which are worse than death itself. A few doses of these noted Pills act magically in dispelling low spirits and repelling the covert attacks made on the nerves by excessive heat, impure atmospheres, over-indulgence, or exhausting excitement. The most shattered constitution may derive benefit from Holloway's Pills, which will regulate disordered action, brace the system, increase the energy of the intellectual faculties, and revive the failing memory. By attentively studying the instructions for taking these Pills, and obediently putting them in practice, the most despondent will soon feel confident of a perfect recovery.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by—
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS,
THE EMPEROR OF RUSSIA,
The Late EMPEROR OF THE FRENCH, The EMPEROR OF AUSTRIA,
And most of the Nobility, Clergy, and Gentry of the United Kingdom.



Royal Horticultural Society's Show, South Kensington, London, June 3 to 7, 1881. The "Journal of Horticulture," of June 9, says:—"MOWING MACHINES.—After a critical examination, the Silver Medal was granted to the old firm of world-wide fame, Messrs. T. GREEN & SON, of Leeds and London. As the Machines are known in all lands where good lawns are cherished, it is quite unnecessary to give any description of them."

Upwards of 170,000 of these Machines have been sold since they were first introduced in the year 1856.

And thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.

They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER, With Improved Steel Chains and Handles.

To cut 6 in., can be worked by a Lady	£1 15 0
To cut 8 in., do.	2 10 0
To cut 10 in., do. by a strong youth	3 10 0
To cut 12 in., do. by a man	4 10 0
To cut 14 in., do.	5 10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

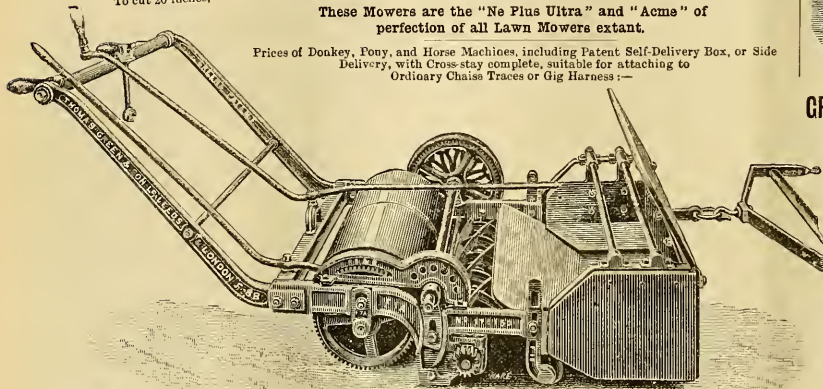


DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man	£5 10 0	To cut 22 inches, can be worked by two men	£8 10 0
To cut 18 inches, do. man and boy	7 10 0	To cut 24 inches, do.	8 0 0
To cut 20 inches, do.	8 0 0		

These Mowers are the "No Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches	£14 0 0
To cut 28 inches	15 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

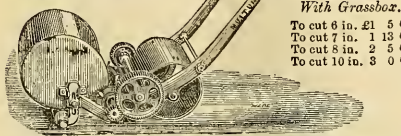
The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of its running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

HORSE MACHINES.

To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
To cut 48 inches	34 0 0
Leather Boots for Horse	1 9 0

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES, With Grassbox.

To cut 6 in.	£1 5 0
To cut 7 in.	1 13 0
To cut 8 in.	2 5 0
To cut 10 in.	3 0 0

GREEN'S Patent LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.

Size with 1 wheel for Ordinary Courts, price 14s.

Do., with 3 wheels, 17s.

Size for Clubs and Large Grounds, price 21s.



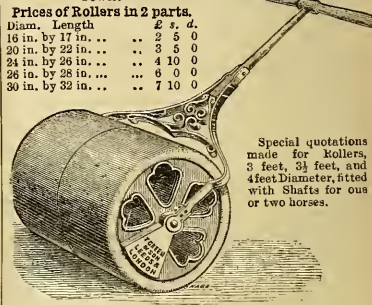
Small Bag of Marking Composition, 9d.

GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.	
Diam. Length	£ s. d.
16 in. by 17 in.	2 5 0
20 in. by 22 in.	3 5 0
24 in. by 26 in.	4 10 0
26 in. by 28 in.	5 0 0
30 in. by 32 in.	7 10 0



Special quotations made for Rollers, 3 feet, 3 1/2 feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 1/2 in. diam., £1 16s. Packing Case, 3s.

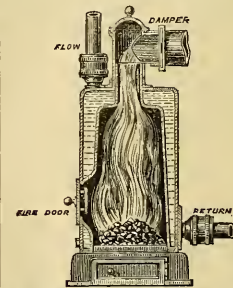
Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

A very useful and serviceable Machine.



MAKERS OF PATENT STEEL OR IRON ANGULAR CHAMBERED AND TUBULAR

HOT-WATER BOILERS



AND OTHERS WITH SHELVES, AND HOLLOW OR ORDINARY CAST-IRON GRATE BARS.

VERTICAL SADDLE BOILERS, &c.

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders completed the same day as they are received.

The above Machines are warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND

DESCRIPTIVE ILLUSTRATED PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON; or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & CO. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, April 9, 1892. Agent for Manchester—JOHN HAYWOOD.

The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2677.

No. 277.—VOL. XI. {THIRD
SERIES.}

SATURDAY, APRIL 16, 1892.

[Regt. as a Newspaper. {PRICE 3d.
POST-FREE, 3½d.}

CONTENTS.

Agricultural statistics ...	498	Nursery notes ...	500
Almond, the ...	498	Cliveias and Hippeastrums at B. S. Williams & Son's ...	500
Bartram gardens at Philadelphia ...	499	Obituary ...	
Book notice— The Fruit-grower's Guide ...	499	Jas. Smith ...	504
Botanical Magazine, the ...	496	Ochid notes and gleanings ...	493
Hippocratus, the ...	499	Coleogyne lentiginosa ...	490
Diffidoli "pallidus praecox" ...	499	Dendrobium atro-violescens ...	490
Cannas, a garden at ...	487	Dendrobium crystallinum ...	490
Carrot grub ...	500	Primula Forbesii ...	498
Chinese economic products ...	492	Roses for walls ...	489
Colonial and foreign fruits ...	496	Roses, hard pruning of ...	500
Cypripedium Chamberlainianum ...	496	Scotland ...	503
Diseases of the reproductive organs of plants ...	490	Falkirk Spring Flower Show ...	503
Erythraea ...	498	Forestry lectures in Cardiff Horticultural University ...	504
Foliage plants for rooms ...	497	Seed trade, the ...	492
Forestry ...		Societies ...	502
Covert shrubs ...	493	Birmingham Horticultural ...	503
Fruit culture in Lancashire and Cheshire ...	498	International Horticultural ...	502
Fruits, Colonial and foreign ...	496	Linnean Society ...	499
Apple Norfolk Beaufin ...	491	Royal Horticultural ...	502
"Northern Spy" ...	491	Trees and Shrubs— Burgine Bungalow ...	493
"Newtown Pippin" ...	491	Trees, spring growth of ...	491
Fruit prospects ...	496	Vanda Denisiana ...	496
Garden Polyanthuses ...	500	Week's work, the ...	493
Himalayan Rhododendrons at Penlenger ...	488	Apiary ...	495
Manitoba ...	499	Flower garden ...	494
Melons as cordons ...	490	Fruits under glass ...	495
New or noteworthy plants ...	488	Hardy fruit garden ...	494
Calanthe vestitie Fourieri ...	488	Kitchen garden ...	495
Clematis brevicaudata ...	488	Orchid-house ...	491
		Plants under glass ...	494

ILLUSTRATIONS.

Daphne Blagayana ...	491
Modios irrorata ...	491
Rhododendron camptocarpum ...	501
View in the gardens at Rosebank, Malvern ...	497

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHERS, 41, Wellington Street, Strand, W.C.

Prize Cob Filbert Trees.

MR. COOPER, F.R.H.S., of Western Elms, Reading (late of Calcot Gardens), is the Largest Grower of PRIZE COB FILBERT TREES for SALE, in the Kingdom. 20,000 good Trees now ready for distribution.

Descriptive Price Lists, &c., on application.

POLYANTHUS (REX THEODORE), Dark Double Crimson, and Double Light (DEBECLOUGHIE), for Cash, 6s. per dozen. Stumped Correspondence Invited. Send with Order. Note Address—
J. T. GREIG, Sunnyside, Fyvie, Aberdeenshire.

STANDARD ROSES, 14s. per doz.; Bush Roses, 6s. per doz.; best named Clematis, 14s. per doz.; Ampelopsis Veitchii, 4s. per doz.; Variegated Ivies, 4s. per doz.; Mrs. Sinkins Finks, 12s. per 100; Ferns, in pots, 16s., 21s., and 45s. per 100. Catalogue, gratis and post-free. H. ENGLISH, Clevedon Nurseries, Clevedon.

SPECIAL Offer to clear—Dolphinsins, Scarlet Lychnis, Cardinal Lobs-ls., White Pinks (strong colour), Polyanthus, Harrison's Musk, all at 1s. per dozen; Lobelia Emperor William, 2s. per doz.; Daphne Cneorum, 4s. per dozen; Eucyrtus radicans, 2s. per dozen.
W. CALLINGHAM, Bracknell, Berks.

SUTTON'S FLOWER SEEDS FOR PRESENT SOWING.

SUTTON'S ASTERS.—Sutton's Collection, including a packet (mixed colours) of each of the following varieties:—Sutton's Dwarf Bouquet, Sutton's Reading Beauty, Dwarf Chrysanthemum-flowered, Dwarf Pinnatifid Perfection, Dwarf Victoria, Sutton's Giant French, Sutton's Tall Victoria, Sutton's Crown-flowered, Sutton's Quilled Victoria, German Globe, post-free for 10s. 6d.

SUTTON'S ASTERS, separate varieties, from 6d. per packet, post-free.

SUTTON'S STOCKS.—Sutton's Collection, including a packet (mixed colours) of each of the following varieties:—Sutton's Perfection, Sutton's Miniature, Sutton's Giant Branching, Wallflower-leaved, and Sutton's Improved Dwarf German, post-free for 4s. 6d.

SUTTON'S STOCKS, separate varieties, from 6d. per packet, post-free.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

ANEMONE JAPONICA ALBA.—Flowering roots, 10s. per 100.
A. YOUNG, Nurseryman, West End, Esher.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Fruit Stocks to Offer. Descriptive CATALOGUES, post-free, on application. FLETCHER BROS., Ottershaw Nurseries, Chertsey, Surrey.

CHARLES TURNER'S general and descriptive CATALOGUE of FLOWIST FLOWERS and other PLANTS is now ready and will be sent free on application. The Royal Nurseries, Slough.

BARR'S BEAUTIFUL HARDY DAFFODILS.—Cut SPECIMEN FLOWERS, correctly named, now ready, at the following prices, post-free:—One flower each of 12 kinds, 2s. 6d.; of 18 kinds, 3s. 6d.; of 30 kinds, 6s. 6d.; of 50 kinds, 12s. 6d. Three flowers each of above, 6s., 8s., 12s., 6d., and 20s. respectively.—BARR AND SON, 12 and 13, King Street, Covent Garden, London, W.C.

W. ICETON has a large quantity of the above to offer, very reasonable, at from 27s. 10s. per 1000. Thumbs, well-established, 210 per 1000; in 60's, well established, at 230 per 1000.
W. ICETON, Putney, S.W.

ORCHIDS A SPECIALITY.—Please write for New Illustrated Price LIST of well-established, healthy, and easily grown plants.
W. L. LEWIS AND CO., 2, R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

KELWAY'S SEED MANUAL for 1892.
"Of the many manuals, &c., we certainly have seen none to surpass Messrs. Kelway's in plain, practical usefulness."—*Agriculturist*.
1s., post-free (deducted from first order) to those unknown to us. KELWAY AND SON, Loughport.

CABBAGE PLANTS (Autumn Sown), of Enfield, Defiance, East Ham, Drumhead, and Thousand Head, 6s. per 1000, on rail. LETTUCE, Cos and Cabbage, and TRIFOLI ONIONS, 6s. per 1000, on rail; 1s. 6d. per 100, free. WALLFLOWER PLANTS, mixed, large-flowering, 3s. per 100, 20s. per 1000. FANSY, Yellow, White, Black, Stained, Gold-Edged, or Mixed, 5s. per 100, 40s. per 1000. SAGE PLANTS, 4s. per 100, 30s. per 1000, on rail.
EDWARD LEIGH, Cranleigh, Surrey.

W. D. BUNDAY, of Covent Garden Market, &c., and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOES, GRAPES, &c. Good references.
The Best Present for a Gardener.
VINES and VINE CULTURE. The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Price 6s., post-free, 6s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

CARTERS'—THE BEST SEEDS.

CARTERS' HOLBORN PRIZE PRIMULA
CARTERS' VICTORIA PRIZE CALCEOLARIA.
CARTERS' BRILLIANT PRIZE CINEBARIA.
The finest strains in cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN,
237 and 238, HIGH HOLBORN, LONDON, W.C.
ASPARAGUS.—Fine, strong, healthy roots, as good as money can buy; 1-year at 2s. per 100 2-year, 3s. per 100.
T. B. DOLBY, Hope Nursery, Boston, Lincolnshire.

To the Trade.
MANGEL WURZEL and TURNIP SEEDS.
H. AND F. SHARPE have very fine Stocks of the above-named Seeds of 1891 growth, and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advantageous prices.
The quality is very fine and the growth strong.
Samples and prices on application.

SEED GROWING ESTABLISHMENT, WISBECH.

VIOLAS.—Our Collection of these is unique, and quite unrivalled. Sample dozen, including many of the finest sorts, in their respective colours, post free, for Half-a-crown.
DAHLIAS.—We grow 50,000. Only the very best varieties kept in stock. A trial dozen will convince everyone of this. Plants of all sections ready now, 4s. 6d. per doz., carriage free.
DOBBIE AND CO., Florists, Rothsay, Scotland.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 6d. per 100.
RICHARD SMITH AND CO., Worcester.

PRIZE PANSY PLANTS, and other PERENNIALS, in boxes containing one and a half dozen each. Prize Fancy, or Trimmed PANSHES, 2s. per box; POLYANTHUS, Show, 2s. per box; SWEET WILLIAMS, and DOUBLE DAISIES, 1s. 6d. per box. The above are Extra Strong Plants, and are sent Carriage Paid. Enclose Postal order with order.
R. H. BATH, Osborn Farm, Wisbech.

Boulton & Paul's Outdoor Requisites.
B O U L T O N A N D P A U L,
MANUFACTURERS, NORWICH.
Every Requisite for the Kennel and Poultry Yard, Aviaries, Pigeon Cotes, Pheasantry.

Requisites for the Garden, Park, Pleasure Grounds, Wire Netting for Game and Sheep, Iron and Wire Fencing. Send for Illustrated CATALOGUES, post-free, on application.

THE CHADBORN AND COLDWELL MFG. CO.,
Makers of the Patent "EXCELSIOR" LAWN MOWER,
223, UPPER THAMES STREET, LONDON, E.C.
Registered Telegraphic Address: "LAWN MOVERS, LONDON."

FWLWERS' LAWN SAND.—For destroying Daisies and other Weeds on Lawns, &c., at the same time acting as a Fertiliser and improving the growth and colour of the grass. Price, in tins, 1s., 2s., 4d., and 5s.; kegs, 8s., 6d., 16s., and 30s.
CORRY AND CO., LIND., 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

J. WEEKS AND CO., HORTICULTURAL ENGINEERS to Her Majesty, R.H.S. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.
King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE AND PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us, 1 cwt. and over carriage paid. London Agent: Mr. ROBERT L. 10, Victoria Road, Putney, W.M. THOMSON AND SONS, Cleveford, Galashiels, N.B.

SALES BY AUCTION.

Wednesday Next.

MESSRS. PROTHEROE AND MORRIS will **SELL BY AUCTION**, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **WEDNESDAY NEXT**, April 20, at half-past 11 o'clock, **LILIES** in variety, 2000 Single and 1000 Double **BEGONIAS**, a splendid strain, from a well-known Nursery; **PALMS**, Greenhouse **FERNS**, Standard and Dwarf **ROSAS**, **GLADIOLI**, **ANEMONES**, **DARLINGS**, **CARNATIONS**, **HERBACEOUS PLANTS**, &c.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. F. SANDER, St. Albans, to **SELL BY AUCTION**, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY NEXT**, April 22, at half-past 12 o'clock, a splendid importation of an entire **NEW ONCIDIUM**—a free-growing and free-flowering species; the plants are in grand order, and in fine principal show.

Also a fine lot of the beautiful **ONCIDIUM BARBATUM**, never before offered in quantity.

A new and striking-looking **BRASSAPHYLLOM**.

A new and striking-looking **LEUCOTHALIS**.

A new and freely-flowering **BRASSAVOLA**.

A grand lot of the lovely pure white **BURLEIGHIA PULCHERRIMA**.

A new **MILTONIA**, provisionally named **ILLUSTRIS**, but amongst which the grand variety **MORELLIANA** may be found.

VANDA TERES, Waddesdon Manor variety.

DENDROBIUM NOBILIS, from the Shan Hills.

SACCOLABUM CURVIFOLIUM.

DENDROBIUM DALHOUSIANUM, &c.

Also.

THE TRUE L. LABIATA.
Eighty-three plants selected, marked and described while in bloom by our own Collector, with the dried flowers of same. Every plant will be offered as received. The plants are in the finest possible condition, some of them being magnificent specimens. The plants now offered are specially recommended by us, being the pick of many thousands of plants from the habitat of the true old, bright, large, and incomparable autumn-flowering **L. Labiata**. We draw buyers' special attention to this grand lot of plants.

On view morning of Sale, and Catalogues had.

Tuesday, April 26.

By order of Messrs. F. Horsman & Co.
MESSRS. PROTHEROE AND MORRIS will **SELL BY AUCTION** at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **TUESDAY**, April 26, at half-past 12 o'clock, two to three thousand **ODONTOGLOSSUM CRISPUM** and its varieties, collected by Mr. John Carder (late partner in the firm of Messrs. Carder & Co.), &c.

On view morning of Sale, and Catalogues had.

Milford Hill, Salisbury.

UNRESERVED SALE of the well-known **COLLECTION** of **EXHIBITION STOVE** and **GREENHOUSE PLANTS**, formed by Lieutenant-Colonel FEPPER, and which have been so successfully exhibited at the principal shows.

MESSRS. PROTHEROE AND MORRIS are instructed by Lieutenant-Colonel FEPPER (who is giving up exhibiting), to **SELL BY AUCTION**, on the Premises, Milford Hill, Salisbury, on **WEDNESDAY**, April 27, at 12 o'clock precisely, a valuable and complete **COLLECTION** of **EXHIBITION STOVE** and **GREENHOUSE PLANTS**, including fine examples of **Kentias**, **Latanias**, **Arecas**, and other **Palmæ**, **Cycas** circinalis, with 30 leaves; **C. revoluta**, one with 40, and another with 44 leaves; **Uncinula**, 25 leaves; 300 Established **Orchids**, consisting of **Dendrobiums**, **Cattleyas**, **Cymbidiums**, and others; specimen **Alamandas**, fine exhibition Plants of **Eriose** of sorts, **Lappageria** rosea and alba, 100 **Crotone**s of sorts of the best varieties; fine plants of **Anthurium Schzerianum**, **Devallias**, **Disconias**, **Micropleis**, **Blechnum**, and other Specimen **Ferns**; good examples of **Fuchsia** and **Azaleas**, **Rhododendrons**, **Begonias**, **Celatanas**, and other **House Plants**. Also a **Gold Metal Boiler**, **Large Plant Pots**, &c.

Plants may be viewed one week prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Peasemarsh, Sussex.

TO MARKET GARDENERS, FRUIT GROWERS, and OTHERS.
MESSRS. PROTHEROE AND MORRIS in conjunction with Mr. J. J. FRUIN, will **SELL BY AUCTION**, at the Castle Hotel, Hastings, on **THURSDAY**, June 9, 1892, at 5 o'clock precisely (unless an exception be made previously), the exceptionally choice and productive **FREEDHOLD MARKET GARDEN** and **FRUIT GROUNDS**, known as Little Lea, Peasemarsh, Sussex, comprising an area of 14 acres 1 rood 7 poles, abundantly stocked with the best marketable kind of top and bottom Orchard Fruit Trees. Convenient detached **RESIDENCE**, **STABLES**, and **OUTBUILDINGS**.

The Auctioneers will be pleased to send full particulars and price on application.

Auctioneers' Offices, 67 and 68, Cheapside, London, E.C.

Elmdon Hall, Near Birmingham.

MESSRS. POPE AND SONS have received instructions from the Executors of the late Mrs. Alston, to **SELL BY AUCTION**, on **TUESDAY**, April 26, at 12 o'clock to the minute, the whole of the **STOVE** and **GREENHOUSE PLANTS**, which include a number of well-established **Orchids**; 8 or 10 fine specimen **Lappageria** alba and rosea; 2 immense **Gleichenias**, grand exhibition plants. A fine lot of **Adiantum Farleyense**, including one specimen 4 feet through; 1 grand specimen **8 to 12 feet**, including **Kentia Belmoreana**, **Latania borbonica**, &c.; large **ecimen Crotone**s; **Filmy Ferns**, including 1 **Trichomanes radicans**, **Adiantum**, &c., with 1000 fronds; a lot of old-fashioned **Cazellias**, including **Dunkelarii**; a large quantity of fine **Hybrid Azaleas** in flower; 1 grand specimen **Imantophyllum** princeps; and the usual collection of stove and greenhouse plants. Please note that the whole will be sold without reserve.

Elmdon is about 2 miles from Solihull Station, G. W. Ry., where vehicles can be obtained; 2 miles from Marston Green Station, L. & N. W. Ry., and 7 miles from Birmingham. Catalogues from the Auctioneer, 6, Phillips St., or Herald Office, Birmingham.

Wednesday Next.

A very extensive collection of **BORDER PLANTS**, **CONIFERS**, **LAURELS**, **EVERGREEN** and **FLOWERING SHRUBS**, imported **LILUM AURACUM**, **L. ELZEANS**, **L. TIGRUM** **SPLENDENS**, &c.; a fine lot of Home-grown **LILUMS**, **AMARYLLIS** and **TUBEROSES**, **BEGONIAS**, &c.

M. R. J. C. STEVENS will **SELL** the above by **AUCTION**, at his Great Rooms, 28, King Street, Covent Garden, W.C., on **WEDNESDAY NEXT**, April 20, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Unprecedented Nursery Sale.

Owing to the Ground being required for Building purposes, **MESSRS. R. B. SAIRD AND SONS** have instructed Mr. DAVID MITCHELL, Horticultural Engineer, to **DISEPOSE**, by **PUBLIC AUCTION**, on **WEDNESDAY** and **THURSDAY**, May 4 and 5, each day at half-past 11 o'clock, the whole of their immense stock of **STOVE** and **GREENHOUSE PLANTS** growing in their numerous Glass-houses at West Coates Nurseries, Haymarket, Edinburgh (previous to the Houses being removed and re-erected at the Nurseries, Murrayfield). The Stock consists of magnificent Specimen Greenhouse **Rhododendrons**, such as **Fragnanensis**, **Princess Alice**, "Dennisianii," **Countess of Haddington**, &c. Also fine examples of **Indian Azaleas**, in all the leading sorts, in splendid health, and many of them coming into bloom. Choice lot of **Palmæ**, **Crotone**s, **Eucharis**, magnificent **Fitcher Plants** (rare kinds), also large **Tree Ferns** with fine stems, and without exception the grandest lot of **Camellias** ever offered for Sale by Public Auction. For size and descriptions see Catalogues, which are in preparation.

West Coates Nurseries, Edinburgh, April 4, 1892.

WANTED, TO RENT, a good **DWELLING-HOUSE**, with **Large GARDEN** and **GLASS**, or **Small NURSERY**, within 30 miles of London.

ALPHA, Mr. Bennett, Harefield Gardens, Uxbridge.

MIDDLESEX (7629).—TO BE LET, a **NURSERY**, of about 7½ acres in extent, doing a good Local and Market Trade. Twenty-two Greenhouses, Pits, &c., all well heated and stocked. **Workshops**, **Booths**, **Stables**, **raff** and **Van Shed**. Two Cottages. Hold on a long lease, rent £70. Price for Stock, Greenhouses, **Horas**, **Vans**, &c., £1200, £500 can remain at 5 per cent., or partnership would be entertained.

Apply, PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

To Nurserymen, Florists, &c.

CAPITAL NURSERY PREMISES in Turner Road, Lee, to be LET on Lease at a small nominal Premium. The Premises consist of 33 Greenhouses, Dwelling-house, Stabling, &c., occupying about 1 Acre of Land, and are situated 6 miles from Covent Garden, London. May be viewed upon application to—

Mr. A. RUSSELL, 33A, Turner Road, Lee, S.E.

Hampton-on-Thames, on the Marling Park Estate, LAND FOR NURSERIES!!!

MR. F. G. HUGHES begs to call the attention of Nurserymen and Horticulturists about to commence in business, to the exceptional advantages offered by this Estate. For full particulars apply—

The Estate Office, as above.

TO BE LET (by Private Treaty), one of the **OLDEST** **BUSINESSES** in the West Riding of Yorkshire; situated a few miles of six principal towns in Yorkshire. Three Greenhouses belonging, and nine on lease, twelve years to run. One of the finest positions to anyone that wants a thorough going concern.—J. M. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Fruit Growers, Nurserymen, and Others.
GOOD ARABLE AND MEADOW LAND to be LET or SOLD. Close to the main road at Ponder's End (9 miles from London). Long leases granted. Rent, £12 per acre per annum, with option to purchase the Freehold any time during the first nine years. Several large Fruit Nurseries are established on the Estate. Full particulars of A. and G. GUIVER, Land Agents, Ponder's End.

FOR SALE, a profitable **NURSERY, SEED, FLORIST, and FRUIT BUSINESS**. Proprietor retiring. Capital required, about £1200.

Apply GEORGE DOUGLASS, Esq., Solicitor, Arcade, Newcastle-on-Tyne.

FOR SALE (by Private Treaty), by order of the Executors of the late C. M. Major, Esq., of Cromwell House, Croydon, Surrey, a large assortment of **HARDY and HOTHOUSE PLANTS**, including **Orchids**, **Ferns**, &c.; several varieties of magnificent **Himalaya Rhododendrons**, and the almost unique collection of **Cacti**; also several **GREENHOUSES**.—Apply, to view, to Mr. FROST (Gardener), Vale Cottage, Old Town, Croydon, any week-day (Bank Holiday excepted), through whom offers can be made.

MIDLAND COUNTIES.—TO BE SOLD, at a great sacrifice, to effect an immediate Sale. Close to important Station on the L. & N. R. Ry. Old-established General **NURSERY BUSINESS**. Very Low Rent. Any reasonable offer will be entertained.

Apply, PROTHEROE AND MORRIS, Estate Offices, 67 and 68, Cheapside, London, E.C.

MICHIGAN ORCHIDS, FERNS, SHRUBS and TREES, BOG PLANTS, and AQUATICS, for Parks, Flower Gardens, Rockeries, Bogs, Ornamental Ponds, and Carp Ponds. The World's Columbian Exposition buys them.

Retail, Wholesale, and Carp Pond CATALOGUES, each free.

WILFRED A. BROTHERTON, ROCHESTER, MICH.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this Journal of November 21, executed by **PULHAM and SON**, 50, Finsbury Square, London, E.C., and Broxbourne, Herts. Photo Illustrated Book sent for inspection on receipt of two stamps.

THE TOWER FURNISHING COMPANY (Limited), **SUPPLY GOODS ON HIRE**, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

A. G. WATSON.

FRUIT & FLOWER SALESMAN, ABERDEEN.

Salé Days, Tuesday and Friday, at 9 A.M.

Consignments solicited of Pot Plants & Cut Flower

CHEAP ORCHIDS, DIOSERAS, PITCHERS, and other **PLANTS**, lately belonging to Professor Williamson, of Owens College. SANDERS, Nurseryman, Clifton Avenue, Fallowfield.

10,000 GERANIUM CUTTINGS, F. V.

Raspail, 3s. per 100; 25s. per 1000.

J. GREEN, Reliance Nurseries, March.

POOLEY'S WORM DESTROYER.—For

eradicating every kind of Worm from the roots of large Specimen Plants, Pots, Lawns, &c. It is easily and cheaply applied, and will not harm the most delicate Plant. In Bottles, 1s., 2s., 6d., 1s., and 12s., each. See *GARDENERS' CHRONICLE*, Vol. 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

Trade Offer of Large Palms.

W. ICETON has a large Stock of the leading kinds of Decorative **PALMS**, from 6 to 25 feet high, fit for Conservatory and House Decorations; **Dracenas**, **Bambos**, & **Foliage Plants**. Lowest Prices quoted on application. W. ICETON, Putney, S.W.

FUCHSIAS.—FUCHSIAS.

Madame Milly Roberts, Mrs. Randle, Masterpiece, Frau Emma Topper, Moleworth, George Fry, Beauty of Cleveland, Mrs. Short, Premature, Snowcloud, Phenomenal, Madame Thelout, Ellen Ivy, Joseph Kozan, Warrior, and Gustave Doré. Will send 12, chosen from above, strong plants, for 2s. 6d.; 24 varieties, 4s. 6d.; 36 varieties, 6s.; free.

G. WIGLEY, Saltergate, Chesterfield.

FERNS! FERNS!—Trade.—Greenhouse and

Store, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large **Adiantum cuneatum**, **Aralias**, **Cyperus**, and **Primulas**, all in 4s. 6d. per doz. **Genistas**, **Palmæ**, and **Ficus**, 1s. each. Large **Ferns**, 10 best sorts, 5s. 6d. per doz., in 4s. **Cinerarias**, **Spiræas**, and **Cyclamen**, full bloom, 9s. per dozen in 4s. **Adiantum cuneatum** and **P. tremula**, extra size, in 2½-inch pots, 15s. and 20s. per 100. Packed free, Cash with Order. J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have just received **LARGE AND SPLENDID IMPORTATIONS** of the following and other

ORCHIDS.

ODONTOCLOSSUM CRISPUM

(FINEST PACHO TYPE).

DENDROBIUMS,

In grand masses, and in great variety.

MEXICAN ORCHIDS,

In great variety.

ORCHIDS FROM GUATEMALA

And other Countries.

Prices and Full Particulars sent post-free on application.

THE VINEYARD AND NURSERIES,

CARSTON, NEAR LIVERPOOL.

NEW SINGLE PYRETHRUM, "JUBILEE."

First-class Certificate, Royal Botanic Society, London, June 18, 1888.

One of the most beautiful of Single Varieties in cultivation; dwarf in habit, bearing in abundance very deep Carmine flowers.

See Editor's remarks in *The Garden*, June 20, 1891—
"Flowers, deep carmine: the richest-coloured variety we have seen, and very handsome."

Well-established plants, ready for delivery in April, 2s. each (usual D. scout to the Trade).

W. BALCHIN & SONS,
HASSOCKS NURSERY, SUSSEX.

FERNS A SPECIALITY
The finest & most interesting collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy Exotic & British
EVERY ONE interested in FERNS SHOULD
SEND FOR OUR partially descriptive
CATALOGUE FREE ON APPLICATION.
also our ILLUSTRATED CATALOGUE No. 21.
Price 1/6 post free.
W. & J. BIRKENHEAD
FERN NURSERY, SALE, MANCHESTER.

DANIELS BROS.,

TOWN CLOSE NURSERIES, NORWICH,

BEG to offer the following from their splendid collection of choice named Florists' Flowers, &c., all in sturdy young stuff, mostly from single pots, guaranteed true to name, and sent Foot or Carriage Free on receipt of Cheque or Post-office Order.

Abutilons. Very choice sorts ...	Per doz., s. d.
.. "W. A. Manda," the new Golden Yellow Ostrich	6 for 2s. 6d. 4
Chrysanthemums. Japanese and Jacobus. Choice	6 for 2s. 3
.. sorts from our splendid collection—	
.. per 100, 15s.; 6 for 1s. 6d.	2 6
.. New and very select ...	6 for 2s. 6d. 4
.. "W. A. Manda," the new Golden Yellow Ostrich	6 for 2s. 6d. 4
.. Plume, splendid ...	each, 5s.
.. Six superb new varieties, including "Gloire du	
.. Rocher," "Florence Davis," and "Vivian	
.. Morel" ...	7s. 6d.
Carnations and Pinks. A very choice collection,	
.. including all the newest and finest sorts, 6s., 9s., & 12	0
.. Six very choice sorts, including "Germania" ...	5s.
Dahlias. Show and Fancy, a magnificent collection,	
.. including all the finest varieties ...	6 for 2s. 6d. 4
.. Show and Fancy, new and very choice sorts, 6s.	9 0
.. Cactus flowered. A superb collection, including	
.. the best of recent introduction ...	6 for 2s. 6d. 4
.. Cactus flowered. New and very choice sorts ...	6 for 5s. 0
.. Cactus flowered. Six grand new varieties, in-	
.. cluding "Beauty of Arundel" ...	8 6
.. Single flowered. A charming collection, including	
.. the newest ...	6 for 2s. 6d. 4
.. Single flowered. Six new and very select sorts, 5s.	
.. Pompon or Bouquet. A very choice assortment,	
..	6 for 2s. 6d. 4
.. New Marguerite. Single, pure white, very pretty,	
.. each, 2s. 6d.; 3 for 6s.	6 0
.. New "Tom Thumb." Single, very pretty, only	
.. 1 foot high, 3 for 2s. 6d., 6 for 4s.	6 0
Fuchsias. Single and double flowered. All the most	
.. beautiful varieties ...	6 for 2s. 6d. 4
.. New and extra choice ...	6 for 3s. 6d. 6
.. Six superb new varieties, including "Mrs. Charles	
.. Daniels" ...	4s. 6d.
Heliotropes. "White Lady." Fine for pot culture,	
.. deliciously scented ...	6 for 2s. 6d. 4
Mnk. New double-flowered ...	each, 1s. 6d. 2
.. Harrison's Giant. Single and double ...	6 for 1s. 6d. 2
Marguerites or Parisian Daisies. Yellow or	
.. white ...	6 for 1s. 6d. 2
Pelargoniums. New Zonal. All Autumn struck—	
.. single-flowered. From our grand collection;	
.. splendid for pot culture ...	6 for 2s. 6d. 4
.. Six new varieties of 1891 (Pearson's) ...	7s. 6d.
.. Double-flowered. Zonal. Grand varieties; fine	
.. for pots ...	6 for 2s. 6d. 4
.. New double-flowered Ivy leaved. Magnificent	
.. varieties for pots or hanging baskets, vases, &c.,	
.. very choice sorts ...	3 for 2s. 6d. 6
.. Gold and silver variegated. The most beautiful	
.. sorts ...	6 for 2s. 6d. 4
Streptosolen Jamesoni. Beautiful plant for the	
.. greenhouse ...	each 9d., 3 for 2s.
Tropaeolum. "Gumet." Brilliant scarlet, splendid	
.. for pots ...	each 6d., 3 for 1s. 6d.
Begonias. Tuberosus-rooted hybrids. Magnificent	
.. single-flowered varieties. Immense blooms of	
.. the most beautiful colours. Strong flowering	
.. tubers, very choice mix ...	per 100, 30s.; 6 for 2s. 6d. 4
.. Extra choice sorts, for pot culture ...	6 for 5s. 0
.. Double-flowered, very fine mixed ...	9s. 12 0

DANIELS BROS.,
TOWN CLOSE NURSERIES, NORWICH.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MOARHUF, The London Nursery, 4, Malda Vale, London, W.

RUDBECKIA NEWMANII.—Nice compact roots, 12s. per 100. A. YOUNG, Nurseryman, West End, Essex.

CLEMATIS FOR BEDDING.—Now is the time for planting, 100 in 20 best kinds, my selection, for 50s.—CHARLES NOBLE, Bagshot.

300,000 PREESIA R. alba, sweetly perfumed; easily grown in or out-of-doors. 30s. per 1000; carriage paid. J. JAMES, New Malden, Surrey.

Seed Potatoes.
H. AND F. SHARPE having a Surplus Stock of the following varieties of SEED POTATOES, are prepared to offer them at VERY REDUCED prices, to clear out, viz.:—

Veitch's Improved Ashleaf Kidney,
Myatt's Prolific Ashleaf Kidney,
Rivers' Royal Ashleaf Kidney,
Gloucestershire Early Kidney,
Sutton's Abundance,
Clark's Main Crop Kidney,
White Elephant.

Also several other varieties.
The above have been grown expressly for Seed purposes.
SEED GROWING ESTABLISHMENT, WISBECH.

A. WATERMAN having purchased the Goodwill and Stock of these Nurseries, is prepared to offer the following fine grower plants:—
CUPRESSUS LAWSONIANA, 3 to 4 feet, 15s. per dozen; 4 to 5 feet, 30s. per dozen.
PINUS AUSTRIACA, 3 to 4 feet, 8s. per dozen; 4 to 5 feet, 12s. per dozen.

YEW, English, 2 to 3 feet, 8s. per dozen; 3 to 4 feet, 12s. per dozen, fine stuff.
THUJA ELLERIANA, 4 to 5 feet, fine growth, 24s. per doz.
PERNERIS ACQUIFOLIUM, 1 to 2 ft., very bushy, 9s. per doz.
IVIES, Irish, 4, 5, and 6 growths, 3 feet, 12s. to 18s. per dozen.
Also a fine assortment of other NURSERY STOCK suitable for immediate effect.

A. WATERMAN, Hickmans Nurseries, Knockholt, Kent.

MEXICAN PLANTS.

AGAVES, CACTI, FERNS, YUCCAS, ZAMIA.

Carriage Paid—doz. 100.	Carriage Paid—doz. 100.
Resurrection Plants 3s. 15s.	Echinocactus Sheeri 7s. 40s.
Tillandsia (air plants) 6s. 30s.	.. texensis ... 7s. 40s.
Mammillaria pusilla 2s. 1fs.	.. lophotheca ... 7s. 40s.
.. echinata ... 2s. 15s.	Mammillaria Lascia-
.. pectinata ... 2s. 15s.	.. cutha ... 5s. 30s.
.. monilata ... 2s. 15s.	.. wisecantha ... 5s. 30s.
.. applinata ... 4s. 20s.	.. micromeris ... 5s. 30s.
Echinocereus enne-	.. pusilla texana 5s. 30s.
.. canthus ... 5s. 25s.	Cereus grandiflorus
.. Berlandieri ... 5s. 25s.	(cattings) ... 8s. 50s.
.. pectinatus ... 5s. 25s.	

Special Prices to the Trade for larger quantities.
Extra fine plants collected for Public and Private Gardens.
Correspondence solicited. Remittances should be made in drafts on London, New York, or Mexico.

McDOWELL, GUAYARDO HNOS,
MONTEREY, MEXICO.
Vid New York and Laredo.

SPHINCTER-GRIP Steel Wire Garden Hose

Bore— $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{2}$, 2, and 3 inch.
Price—7½d., 8½d., 10½d., 1s., and 1s. 2d. per foot.

Carriage Paid, from—

HEATHMAN'S HOSE FACTORY,
2, ENDELL STREET, LONDON, W.C.

THE DOUBLE-POINTED NAIL.

The best Fence Nail invented. This Nail renders any wooden fence perfectly unclimbable. It is a complete protection against trespassers and cats. In use at Hurst Park and Hull Racecourse, Lord's Cricket-ground, and hundreds of other places.

A—HAYMAKER HEAD, B—CRUISE END.
Price of Fence Nails in Malleable Iron—1½, 2, 2½, 3, 4, 5, and 6-in., 7-lb. Bags, 3s. 6d.; per cwt. 55s. 1½-in. Steel Nails, for this use, 1s. per lb. gross. MACHINE-MADE NAILS, for dwelling joinery, wood block flooring, &c., $\frac{1}{2}$, 1, and 1½-in., 8d. per gross. Sample boxes, assorted sizes, 6d.; by post, 8d. CAPING for BRICK WALLS, complete, from 3½d. per foot, in 6 feet lengths.

DURRAN'S PATENT NAIL SYNDICATE, Limited,
43 & 44, UPPER BAKER STREET, LONDON, N.W.

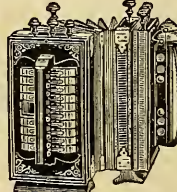
GARDEN REQUISITES, as supplied to the Royal GARDEN COCOA-NUT FIBRE REFUSE, 1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton truck, 30s., free on rail near works. FINE ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS DO, 5s. per sack, 5 for 25s. 6d. BLACK DO, 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. COARSE SILVER-SAND, 1s. 6d. per bushel, 14s. 4 ton, 25s. per ton. CHARCOAL, 8s. per sack. SPHAGNUM, 8s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 10s. 6d. to 19s. per dozen. RAFFIA, VIRGIN CORK, STAKES, &c. BONES, 4-inch, 11s. per cwt. Pure BONE-DUST, 11s. 6d. TOBACCO-PAPER, Sp. 11d., 10d. per lb., 2s. 10d. for 21s. CLOTH, 1s. per lb., 2s. 10d. for 21s. Price List, free.
Hop Exchange Warehouses, Southwark Street, London, S.E.

CHEERFUL WINTER EVENINGS.

CAMPBELL'S BROAD REED MELODEONS

(Patent). GRAND NEW MODELS.

MELODEONS MELODEONS
MELODEONS MELODEONS
MELODEONS MELODEONS
MELODEONS MELODEONS
MELODEONS MELODEONS
MELODEONS MELODEONS
MELODEONS MELODEONS
MELODEONS MELODEONS



NO HOME SHOULD BE WITHOUT ONE.
CAMPBELL'S world-famed MELODEONS have Organ and Celestial Tone and Charming Bell Accompaniments. The Solema Psalm, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming Instruments. No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.
To readers of the *Gardeners' Chronicle*.
OUR GRAND PRIZE MEDAL "GEM" MELODEON.
6s. 6d. 6s. 6d.
With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O. for 6s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER.
To readers of the *Gardeners' Chronicle*.
OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON.
10s. 10s.
With Two Sets of Broad Reeds, Organ and Celestial Tone, and the Charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS.
Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales—
Campbell's Patent Melodeons are the finest instruments that ever come under my touch, and only require a trial to advertise themselves. Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready, 100,000 of these valuable lists sent by ordinary mail.

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS,
116, TONGATE, GLASGOW.
ESTABLISHED 50 YEARS.



And for all Glass Structures that require Shading.
Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen.
The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—
CORRY and CO. (LTD.), Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.

THOS. W. ROBINSON
IMPROVED "EXPANSION" JOINT
THE BEST OF ALL
FREE
HEATING APPARATUS
FIXED COMPLETE
IRON WORKS
STOURBRIDGE

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE,

“HERCULES” BRAND (Regtd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



“Are you not afraid those children will injure the Hose or stop the water?”
“Oh, no! This SPHINCTER GRIP ARMOURD HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of.”

CONTRACTORS to all DEPARTMENTS of HER MAJESTY'S GOVERNMENT and the
HORTICULTURAL and AGRICULTURAL SOCIETIES.

HUNDREDS OF UNSOLICITED TESTIMONIALS.

BEWARE OF WORTHLESS IMITATIONS, and send for ILLUSTRATED and
DESCRIPTIVE CATALOGUE (post free on application) of HOSE and GARDEN WATERING APPLIANCES
and FITTINGS of every kind.

HIGHEST AND ONLY AWARDS:

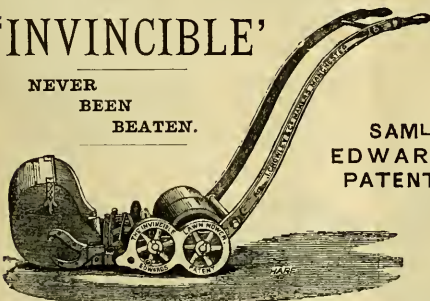
London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891.
No Exhibition Medal or Award has ever been secured by any other firm for Armourd Hose.

OFFICES and SHOW ROOMS—9, MOORFIELDS, LONDON, E.C. Works—LONDON and NORTHAMPTON.

GOLD MEDAL LAWN MOWERS

‘INVINCIBLE’

NEVER
BEEN
BEATEN.



‘VICTOR’

EASY
TO
WORK.

SAML.
EDWARDS' PATENTS.

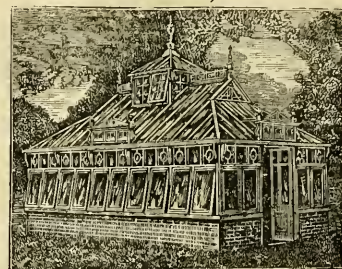


TWO HANDLES, same price.
Light in Construction.
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

BECKETT BROS., CHELMSFORD.



Thoroughly Practical and Experienced Horticultural Engineers
in all branches connected therewith.
Price LIST and Estimates free on application.

GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—
SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).
These Boilers, after long experience, have
proved themselves the Most Efficient, Economical,
and Lasting Boilers extant.
Every other kind of Boilers, Sockets, Flanges,
and Expansion-Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft.,
iron bar across and very strong, 4s. each; free on rail in
London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door,
&c. Put on rail in London. Low price. Send for detailed
specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C



NEW PATTERN TREE GUARD, “The Porcupine.”

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

“The Whittier, Herefordshire.
“Dec. 28, 1887.
“DEAR SIR,—I have now had
an opportunity of trying
your PORCUPINE TREE
Guards, and they seem
quite to answer my
purpose, so you may send me
50 more as before. I en-
close cheque for your
account.”

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.

BARB WIRE.

CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



BARR'S SEEDS, BULBS AND PLANTS.
VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 5000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.
BULBS.—Gladoli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.
PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.
BARR AND SON, 12, King Street, Covent Garden, London.

CLEARANCE SALE OF PALMS, DRACENAS, &c.
 Strong Small Palms, averaging 10 to 12 inches high, of SAPOORTHIA ELEGANS, LATANIA BORBONICA, ARECA SAFIDA, CORYPIA AUSTRALIS, KENTIA BELMORIANA, K. FOSTERIANA, and DRACENA INDIVISA, sample 2 of each, 14 plants in all, 5s.; 1 of each, 7 in all, 3s. Package Free, and Carriage Paid for Cash with Order.
 Price per 100 or 1000 on application.

* LATANIA BORBONICA, 4 feet high, with pot averaging 10 fine leaves, 15s. each.
 * CHAMEROPS EXCELSA, 5 feet high, with pot averaging 12 fine leaves, 30s. each.
 Ditto 4 feet high, with pot averaging 12 fine leaves, 21s. each.
 * DRACENA CANTIFOLIA, 5 to 6 feet high, 21s. each.
 Ditto 2 feet high, 15s. each.
 * PHOENIX TENUIF, 3 feet high, 5s. each.
 Ditto ditto 2 feet high, 18s. per dozen.
 * DRACENA INDIVISA, 3 feet 6 inches high, 5s. each.
 Ditto RUBRA, 2 feet high, 18s. per dozen.
 Ditto CONGESTA, 2 feet high, 18s. per dozen.
 * SAPOORTHIA ELEGANS, in 60's, 8 for 45's, strong, 6s. doz.
 Price per 100 on application.

Those marked * are packed Free, but not Carriage Paid.
 W. OWEN, 106, Stamford Hill, N.



B.S. WILLIAMS & SON'S
 Improved
MUSHROOM SPAWN,
 For OUT and INDOOR CULTURE.
 Per bushel of 14 cakes, 6s.
 Per Cake, 6d.
 Per cake, free by Parcel Post, 1s.
 Victoria and Paradise
 Nurseries,
 Upper Holloway, London, N.



POTTER'S EXCELSIOR WIRE ARMOUR HOSE.
AWARDED TEN GOLD AND SILVER MEDALS.
PLAIN.—Uninkable Smooth Surface. Hose, will not crack. Is made of pure rubber and canvas. Quality guaranteed.
PRICES OF 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
 1-in. dia., specially cheap 19/3 1-in. dia., best quality ... 28/0
 1 1/2-in. dia., best quality ... 21/5 1 1/2-in. dia., best quality ... 33/0
 2-in. dia., best quality ... 32/0 2-in. dia., best quality ... 33/0
 2 1/2-in. dia., best quality ... 40/0 2 1/2-in. dia., best quality ... 40/0
ARMOUR.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices:—
 1-in. dia., best quality ... 36/3 1-in. dia., ex. stout qual. 52/0
 1 1/2-in. dia., best quality ... 52/0 1 1/2-in. dia., ex. stout qual. 60/7
 2-in. dia., best quality ... 45/0 2-in. dia., ex. stout qual. 60/7
Use Potter's Excelsior Wire-Armoured Hose.
When Jupiter Pluvius seeks his repose.
Prices of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
 1-in. dia., specially cheap 19/3 1-in. dia., best quality ... 28/0
 1 1/2-in. dia., best quality ... 21/5 1 1/2-in. dia., best quality ... 33/0
 2-in. dia., best quality ... 32/0 2-in. dia., best quality ... 33/0
 2 1/2-in. dia., best quality ... 40/0 2 1/2-in. dia., best quality ... 40/0
Also Maker of Hose for Delivery, Steam, Fire, Suction, and Liquid Manures, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of alone and all kinds of HOSE, BELTING, ROOFING FELTS, SACKING, &c., Post Free. MAKER TO HER MAJESTY THE QUEEN.
ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

THE COTTAGER'S CALENDAR OF GARDEN OPERATIONS

Post-free 3d.; 25 Copies, 5s.; 50, 10s.; and 100, 20s.
 Parcels of not less than twenty-five delivered, Carriage Free, in London only.
 Not less than one hundred Carriage Paid to any part of Great Britain.

GARDENERS' CHRONICLE OFFICE, 41, WELLINGTON STREET, STRAND, W.C.

INTERNATIONAL HORTICULTURAL EXHIBITION,

EARL'S COURT, S.W. OPENING DAY, MAY 7, 1892.

£1500 GIVEN AWAY IN PRIZES TO BOTH NURSERYMEN AND AMATEURS.

Chairman of the Executive Committee, H. E. MILNER, Esq., F.L.S., Assoc. M.Inst.C.E.

General Committee:—

* Mr. H. E. MILNER, F.L.S., C.E., 7, Victoria Street, S.W. Chairman.
 .. R. BALLANTINE, Chairman Chrysanthemum Society, 7, Distaff Lane, Cannon Street, E.C. (Trent).
 .. W. BENNETT, F.R.H.S., Rangmore Gardens, Burton-on-Avon, F.R.H.S., 12, King Street, Covent Garden.
 .. P. BLAIR, Trentham Gardens, Stoke-on-Trent.
 .. W. BULL, F.L.S., F.R.H.S., King's Road, Chelsea, S.W.
 .. W. BURNED, Bagshot Park, Bagshot.
 .. H. CANVELL, F.R.H.S., Swanley.
 .. H. T. CUTBUSH, F.R.H.S., The Nurseries, Highgate.
 .. R. DEAN, F.R.H.S., Ranelagh Road, Ealing. (Hford).
 .. J. DOUGLAS, Mem. Council F.R.H.S., Great Gearys, E.O. GREENING, 186, Creek Road, Deptford.
 .. G. GORDON, F.R.H.S., Editor *Gardeners' Magazine*, 1, Priory Park, Kew.

Mr. H. HERIST, F.R.H.S., Kew Road, Richmond.
 .. J. HUDSON, F.R.H.S., Gunnersbury House, Acton.
 .. E. HILL, F.R.H.S., Tring Park, Tring.
 .. W. IGGULDEN, F.R.H.S., Marston House, Frome.
 .. J. JENNINGS, F.R.H.S., Ascott, Leighton Buzzard.
 .. JOHN LEE, F.R.H.S., 75, Warwick Gardens, Kensington.
 .. WM. LEE, F.R.H.S., Royal Vineyard Nursery, Hammersmith, W.
 .. F. Q. LANE, F.R.H.S., Great Berkhamstead.
 .. D. P. LAIRD, 17, South Frederick Street, Edinburgh.
 .. J. MCINDOE, Hutton Hall, Gulsborough, Yorks.
 .. W. MARSHALL, F.E.S., Chairman Floral Committee, R.H.S., Auchenraith, Hextley.
 .. A. MCKILLAR, Sandingham, King's Lynn.
 .. G. T. MILES, F.R.H.S., Wycombe Abbey, High Wycombe.
 .. G. MUNRO, F.R.H.S., Covent Garden, W.C. (Combe).

Mr. W. PAUL, F.L.S., F.R.H.S., Waltham Cross, N.
 .. H. M. POLLETT, F.R.H.S., Fernside, Bickley.
 .. G. PHIPPE, F.R.H.S., Victoria Nursery, Beading.
 .. T. W. SANDERS, Editor *Amateur Gardening*.
 .. J. SMITH, F.R.H.S., Mentmore, Leighton Buzzard.
 .. A. TURNER, F.R.H.S., Royal Nursery, Slough.
 .. H. TURNER, F.R.H.S., Royal Nursery, Slough.
 .. H. W. WARD, F.R.H.S., Gardens, Longford Castle.
 .. H. WILLIAMS, F.L.S., F.R.H.S., Upper Holloway, N.
 .. W. H. WILLIAMS, F.R.H.S., The Nurseries, Salisbury.
 .. J. WRIGHT, F.R.H.S., Sub-Editor, *Journal of Horticulture*, 171, Fleet Street, E.C.
 .. B. WYNN, F.R.H.S., Editor *Gardening World*, 1, Clement's Inn, Strand, W.C.
 .. G. WYTHES, F.R.H.S., Syon House, Brentford, W.
 * Members of the Executive Committee.

INTENDING EXHIBITORS should make immediate Application for Space, which is rapidly being taken up. It is hoped that Noblemen and Gentlemen who are not intending to exhibit, will allow their Gardeners to compete in the various classes.

DISPLAYS in every branch of Industry of Interest to Practical and Scientific Horticulturists. For Schedules of the General Exhibits, Flower Shows, and all information, address the Secretary, G. A. LOVEDAY, Esq., B.A., International Horticultural Exhibition, Earl's Court, London, S.W.

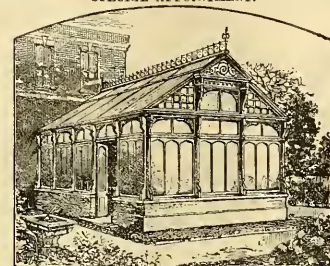
BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.
 GARDEN FRAMES in great VARIETY.

No. 80.
PORTABLE PLANT PRESERVER.
 CASH PRICES. CARRIAGE PAID.
 6 ft. by 3 ft. ... £2 0 0 | 6 ft. by 4 ft. ... £2 5 0
 12 ft. by 3 ft. ... 3 2 0 | 12 ft. by 4 ft. ... 3 15 0

No. 73.
NEW SPAN-ROOF GARDEN FRAME.
 CASH PRICES. CARRIAGE PAID.
 4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 14 0
 8 ft. by 6 ft. ... 4 4 0 | 16 ft. by 6 ft. ... 7 4 0
 All Frames made of Selected Red Deal, painted three times, and Lights glazed with 21-oz. sheet glass.
 Carriage paid on Orders of 40s. value.

Surveys made in any part of the Country.
 LADIES AND GENTLEMEN WAITED UPON BY SPECIAL APPOINTMENT.



BOILERS of ALL MAKES and SIZES.

GARDEN FRAMES in great VARIETY.

No. 74.
THREE-QUARTER SPAN GARDEN FRAME.
 CASH PRICES. CARRIAGE PAID.
 4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 17 0
 8 ft. by 6 ft. ... 4 5 6 | 16 ft. by 6 ft. ... 7 8 6

No. 75.
MELON AND CUCUMBER FRAME.
 CASH PRICES. CARRIAGE PAID.
 4 ft. by 6 ft. ... £2 0 0 | 12 ft. by 6 ft. ... £4 3 0
 8 ft. by 6 ft. ... 4 0 0 | 16 ft. by 6 ft. ... 5 6 0
CUCUMBER FRAME LIGHTS.
 6 feet by 4 feet, painted and glazed ... 11s. 6d. each.
 6 feet by 4 feet, unpainted and unglazed ... 5s. 6d. each.
 Catalogues of all our Manufactures, post-free on application.

WE ARE THE ONLY
LAWN MOWERS
BY ROYAL WARRANT.
MAKERS TO HER MAJESTY THE QUEEN AND HIS
ROYAL HIGHNESS THE PRINCE OF WALES.

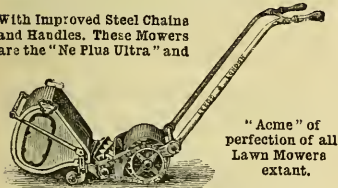
GREEN'S PATENT "SILENS MESSOR" LAWN MOWING MACHINES

ARE THE
FIRST, FOREMOST,
AND
BEST IN THE WORLD.

ALSO
TENNIS COURT MARKERS
AND
GRASS EDGE CLIPPERS.

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains
and Handles. These Mowers
are the "Ne Plus Ultra" and



"Acme" of
perfection of all
Lawn Mowers
extant.

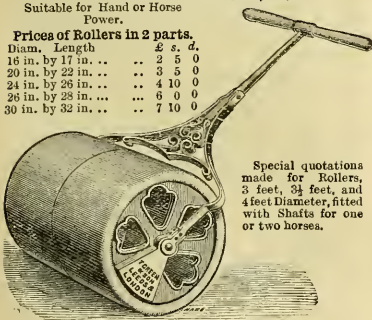
They have stood the test for upwards of thirty years, and
have carried off EVERY HIGHEST PRIZE which has been
given in all cases of competition.

GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket
Fields, and Gravel Paths, &c.
Suitable for Hand or Horse
Power.

Prices of Rollers in 2 parts.

Diam.	Length	£ s. d.
16 in. by 17 in.	2 5 0
20 in. by 22 in.	3 5 0
24 in. by 26 in.	4 10 0
26 in. by 28 in.	6 0 0
30 in. by 32 in.	7 10 0



Special quotations
made for Rollers,
3 feet, 3½ feet, and
4 feet Diameter, fitted
with Shafts for one
or two horses.

Price Lists on Application.

They can also be had of any Ironmonger, Merchant, or Factor,
in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments
for the Trade, as well as Others.

THOMAS GREEN & SON,
LIMITED
LEEDS and LONDON.

LAWNS AND TENNIS GROUNDS. WEBB'S PRIZE MIXTURES

Either with or without Clovers, rapidly
produce the most beautiful and enduring
Turf for—

GARDEN LAWNS, BOWLING GREENS,
TENNIS AND CRICKET GROUNDS, &c.

*Awarded the Gold Medal at
Liverpool Exhibition, 1886, and
Prize Medal at Paris Exhibition,
1878.*

Per Pound. Per Bushel.

First Quality... 1/3 ... 24/-
Second „ ... 1/- ... 20/-

WEBB'S, WORDSLEY, STOURBRIDGE.

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

CARTERS' INVICTA LAWN SEEDS

Forms beautiful
VELVET LAWNS
In 8 to 12 Weeks.

For making a New Lawn, order 4 lbs. of
Carters' Invicta Lawn Seed, costing 5s. 6d.,
and 14 lbs. of Carters' Lawn Manure, costing
4s. 6d., for every 1,000 square feet.

For Small Lawns order a 1s., 1s. 6d., or
2s. 6d. packet. A 1s. 6d. packet will sow
150 square feet of New Lawn.

To Renovate or Improve a Lawn, order
4 lbs. of Carters' Invicta Lawn Seed, costing
5s. 6d., and 28 lbs. of Carters' Lawn Manure,
costing 7s., for every 2,000 square feet.

ABOVE PARCELS CARRIAGE FREE.

CARTERS' PAMPHLET UPON THE MANAGEMENT
OF LAWNS, free for two stamps.

ROYAL SEEDSMEN BY SEALED WARRANTS.
237
238, HIGH HOLBORN, LONDON.



THE

Gardeners' Chronicle.

SATURDAY, APRIL 16, 1892.

A NATURALIST'S GARDEN AT CANNES.

THERE are many well-appointed gardens in
the Riviera, much celebrated for their
beauty and the variety of the plants they
contain. Some such have often been de-
scribed, and I propose adding one more to
the number. Though not a very large one, it
probably contains a greater variety of foreign
shrubs and trees for its size than many others.
It is that surrounding the villa of M. A.
Constant, a well-known naturalist, who pos-
sesses a beautiful collection of European
Lepidoptera. He is also a good botanist, a paper
on "the Specialties of the Flora of the Esterels"
having lately appeared from his pen in the *Revue
Horticole*; and in the number for April 1, he
figures and describes *Rhododendron florida* as having
flowered in his garden. Like so many others,
the grounds are carved out of the natural forest
on the slope of the hills, which continues up to
the summit some 320 feet above the sea. The
garden abuts against the main road from Cannes
to the village of Golfe-Juan, and overlooks the bay
of that name. Starting from the Lodge by the gates,
a broad road winds in a zig-zag manner up to the
villa, the walls of which are covered with many
sorts of flowering creepers and trailing plants
such as *Hoya carnosus*, *Thunbergia coccinea*,
Bignonia, the purple *Bougainvillea*, a plant
which here, as in Cairo, covers whole sides of
villas with a purple sheet, and a large single-
flowering white Rose, *Rosa sinica*.

After reaching the villa, a terraced walk runs
along the front, from which a fine view of the
"Golfe" is obtained, the little promontory of the
Cap-Antibes being on the left, with the snow-
capped maritime Alps further off. Other paths
conduct one to various groups of varieties at
the back of the villa, and little steps up to higher
regions, till the boundary wall is reached, on
which Citrons are trained, and which are now
thickly covered with scores of beautiful green and
yellow fruits, while Oranges and Lemons are
in their neighborhood.

As in all the gardens of the Riviera, Palms
form the most striking feature to a visitor from
England. There are seven or eight species,
with several examples, and some of them are very
handsome. There is an avenue of *Pritchardia*
(*Washingtonia*) filifera, from California, with
its curiously swelling base to the trunk, alternat-
ing with Tree Ferns, *Asplenium australis* and
A. Moorei; its congener, A. robusta, is, per-
haps, even more elegant, with its shiny
leaves. *Areca sapida*, the southernmost of
all Palms, from New Zealand, and *Kentia
Belmoreana*, with magnificent pinnate leaves;

Cocos flexuosa and *C. campestris*, *Seafortia elegans*, *Brabea Roezli*, a fan-leaved Palm from Peru; *Sabal umbraculifera*, and *Jubaea spectabilis*, the most southern Palm of South America, from Chili. Mixed with these Palms, are various Australian trees, species of phyllodineous *Acacias*, such as *A. melanoxylon*, curiously unlike the trees in the temperate house of Kew, in having no blades at all; the so-called "Mimosas," or *A. dealbata*, scenting the air. Of *Proteaceae*, there are *Hakea eucalyptoides*, with its curious fruit like wooden legumes, *Rhopala*, and *Grevilleas*, as well as gum trees. A fine *Aralia*, several *Magnolias*, but not in flower; *Araucaria excelsa* from Norfolk Island, *Persea gratissima*, the Avocado Pear, which ripens its fruits here. Fine clumps of Bamboos (*Bambusa arundinacea*), with their graceful foliage, growing at the rate of a foot a day; *Bananas*, or *Musa paradisiaca*, so called because it was fancied to be the forbidden fruit, with large clusters of green fruit; a *Vigandia*, with clusters of blue flowers; *Camphora officinarum*, the Camphor tree of Formosa; *Psidium Cattleianum*, the purple Guava, probably a native of Brazil; as also *P. guava*, the true Guava, which ripens its fruit here well. Of more herbaceous kinds, there are large clumps of *Strelitzia regina* and *S. augusta*, as well as fine plants of the New Zealand Flax, *Phormium tenax*.

Aloes, *Agaves*, *Dracenas*, *Dasylirions*, *Bromelias* and their kith and kin are abundant in the Riviera, and are, of course, well represented in M. Constant's garden. Numerous flowering shrubs lend their quota to adorn it with colour, such as the scarlet-flowered *Habrothamnus*, shrubby *Veronicas*, *Brachychiton acerifolia*, the "Flame tree" of Australia; *Coprosma*, the white-flowered *Retama monosperma*, from Spain; *Buddleia madagascariensis*, with orange-flowered panicles; large bushes of a purple *Polygala*, *Spartanum africanum*, *Poinsettias*, *Erythras*, *Abutilons*, *Camellias*, *Erythrina coralodendron*, *Ingas*, *Clianthus puniceus*, 4 feet high, with numerous racemes in bud; *Nandina domestica*, with a profusion of scarlet berries. The small-leaved *Blumenbachia*, with white flowers, forms an excellent covering for rock-work, giving a very pretty effect. A plant of *Erica mediterranea*, 6 feet high, was one mass of flowers. Lastly, giant *Euphorbias* with their fleshy trunks stood erect in various angles of the walls.

Of herbs, there is the usual display; of *Violets*, *Stocks*, *Pelargoniums*, *Oxalis*, as an edging plant, *Jonquils*, *Roses*, &c. These fill up the interstices.

M. Constant has devoted one portion of his ground to a "native" garden, some of the plants and shrubs of which provide board and lodging for his caterpillars, several muslin-bags betraying their whereabouts. Of these there are fine specimens of *Euphorbia cyparissias*, spinosa, and dendroides, *Laurus nobilis*, *Daphne Cneorum*, *Coronilla emerus*, *Opeponax Chironium*, the only species; *Ferula communis*, a noble-leaved plant, very common on the rocky ground in Malta; *Globularia alysium*, and the following plants, which are found close around in the forest itself; *Cytisus triflorus*, *Arbutus unedo*; the "Bryère" of the French, *Erica arborea*, from the roots of which the "Briar" pipes are made, being collected in the Esterel district.

The above enumeration does not by any means complete the list, but it will suffice to show to the reader how varied and interesting is the collection, nearly all parts of the world appearing to have been put under contribution. Although many of the Palms and *Aoacias* are now quite large trees, the garden was only made and planted twelve years ago. The *Washingtonias*, for

instance, having been planted in good soil, grow from 16 to 20 inches per annum. It has been called the "Eucalyptus" of Palms. Its swollen base has attained to more than 4 feet in circumference. *George Henslow*.

NEW OR NOTEWORTHY PLANTS.

CALANTHE VESTITA FOURNIERI, n. var.

THE discovery of a variety of the Burmese *Calanthe vestita* in Borneo was a very interesting matter, not only from the point of view of geographical botany, but also because of two or three well-marked characteristics, which, while proving it to be a distinct geographical variety, also gave it an enhanced value to cultivators. A second very interesting form has now been discovered in the same country, and flowered with M. Fournier, of Marseilles, which has also several very distinct features, though its affinity to *C. vestita* is such, that I think it must be considered as a geographical variety rather than a distinct species. It is a smaller form than the others, as the flowers range from $\frac{1}{4}$ to $\frac{1}{2}$ inch across their broadest diameter. They also vary in colour from pure white, through blush and pink, to a deep rose-pink, with the column and lip of a deeper shade, the latter forms recalling *C. x Veitchii*, rather than *C. vestita*, with its white sepals and petals. The pseudobulbs approach those of the varieties *Turneri* and *Ragneri*, being elongated and strongly constricted above the middle. That it is no mere accidental variation, but a distinct race is clear, from the evidence derived from five racemes, from different plants, and two pseudobulbs, sent to Kew by Messrs. F. Sander & Co., of St. Albans, who have acquired a stock of it.

C. vestita and its varieties, together with two or three allied species, and the hybrids between them, form a very useful and interesting group, which flower from November to April. The original form, *C. vestita*, though discovered as long ago as 1826, did not appear in cultivation until 1848. In November of that year it was exhibited by Messrs. Veitch for the first time, when it was awarded a large Silver Medal. This was the form with the red eye, since known as var. *rubro-oculata*, and was sent from Moulmein by Dr. Kuno, together with the yellow-eyed form, sometimes considered as the type. The variety *Turneri* was also sent from Moulmein, by Lobb, at a somewhat later date, together with the two forms just named. It differs in its longer constricted pseudobulbs and somewhat smaller flowers, which appear later in the season; it is not clear to what these differences are due. The variety *Ragneri* resembles the last, except in the colour of its flowers; the sepals and petals are white, and the lip rose, with a crimson-purple blotch. Coming from Cochin China, we can more easily understand these differences, and recognise in it a distinct geographical variety. The Bornean variety now described is clearly allied to the two latter, but on the other hand, it possesses some affinity with *C. rubens*, Ridley, from the Langkawi Islands, off the west coast of the Malay Peninsula, according to the description of that plant. The remaining Bornean variety is wonderfully distinct. It is larger in all its parts, the pseudobulbs persist for two or three years, instead of perishing when the new one is developed. The leaves are also persistent till the time of flowering, and the very large flowers have a flame-coloured throat to the lip. This is the variety *igneo-oculata*, of Reichenbach, and has also the later names of var. *oculato-gigantea* and var. *grandiflora*. Wild specimens collected by Beccari at Sarawak show the same peculiarities as do the cultivated plants. This, too, is a very distinct geographical variety. The two other species of the group, namely, *C. labrosa* and *C. rosea*, are natives of Burmah, and though now rare in gardens, are specially interesting as having participated in the parentage of the distinct race of hybrids, which now so greatly surpass them in beauty. The distribution

of *Calanthe vestita* is rather interesting, because each geographical area has its own peculiar forms, and in geographical varieties we may readily recognise incipient species. Reichenbach speaks of typical *C. vestita* occurring in Java, but I have seen no specimens; and as he spoke of the variety *Turneri* as also coming from that region, there seems some slight suspicion of a mistake. *R. A. Rolfe*.

CLEMATIS BREVICAUDATA.

THIS pretty Asiatic species, figured in *Garden and Forest* for March 23, is a decided acquisition to the climbing autumn-flowering plants which can be cultivated in northern gardens. Botanically, it is closely related to the familiar *Virgin's Bower*, and, like that species, belongs to the section *Flammula* of the genus, distinguished by cymosely panicle, dioecious, apetalous flowers, with white, spreading, petaloid sepals, and stout, blunt anthers. It is a graceful plant, with slender stems, climbing 10 or 12 feet high, puberulous, dark green, ternately divided leaves, their divisions long-stalked, and divided into three ovate-acute leaflets, sharply and deeply cut above the middle, entire, and gradually rounded at the base, or three-lobed, and sometimes almost entire. The flowers are produced in ample pubescent panicles, rather shorter than the leaves, and open during the first half of September; those of the pistillate plants are followed by abundant showy fruit, with bright brown akenes, covered with pale hairs and slender plumose tails.

Clematis brevicaudata was sent to the Arnold Arboretum from the Museum d'Histoire Naturelle, in Paris, in 1836; in the same year seeds were sent to the arboretum by Professor Brooks, of the Agricultural College at Sapporo, in Japan, which have produced the same plant, although this species does not appear to have been found before in Japan. It has also come to the arboretum from the Späth Nursery, at Berlin, under the name of *Clematis paniculata*.

It flowers regularly every year in the Arboretum, and usually ripens an abundant crop of fruit early in October. *C. S. Sargent* in "Garden and Forest."

HIMALAYAN RHODODENDRONS AT PENLLERGARE.

THE Rhododendrons of the Himalayas are well represented in Sir J. T. D. Llewellyn's gardens at Penllergare, and when I beheld the various fine specimens, and observed the vigorous growths they have made for years past, and the grand foliage of the different species, I thought it remarkable that the only preparation found necessary, or that was made for the plants, was to trench the ground, the soil being very suitable for the growth of this genus.

My attention was at the first drawn to a fine specimen of *R. Thompsoni*, growing in a spot with a full south aspect in the kitchen garden, partially sheltered by a range of forcing-house, and this bush is about 14 feet in height and as much in diameter; it was covered with flower-buds, which, when fully expanded, will be worth going many miles to see. Planted round about this fine plant are some twenty of its seedlings, from 18 to 24 inches in height, and all as robust as the parent plant.

The main part of the collection is situated at one end of the pleasure-grounds, and in front of a belt of Scots Firs, some of the younger ones being planted between the Firs, thus obtaining the necessary shelter. Noticeable was a fine young plant of *R. Campbelli*, some 6 feet in height and diameter, which was about to open its flowers. *Rhododendron Aucklandi* was represented by a fine healthy bush of some 6 feet high, and as much in diameter. *R. Simonianum* was noted as being in vigorous health, and well set with flower-buds. Of this variety there were several specimens which will average from 7 to 8 feet in height, and the same may be said of the specimens of *R. ochraceum*. There are also several more fine young *R. Thompsoni* growing in the general collection, each of which is from 6 to 7 feet in height, and, like the specimens named first, smothered with

flower-buds. There are three varieties which call for mention, namely, the crosses between Thompson and Fortune, which Mr. Warrington, Sir John's able gardener, speaks very highly of.

Next to these are four other crosses between John Waterer and Aucklandi, which stand quite as high in Mr. Warrington's estimation as the others. That fine variety, *R. barbatum*, is represented by fine specimens, which range from 15 to 16 feet in height, and these are healthy and thickly studded with flower buds. Besides the above, scores of named varieties have been planted in various parts in the grounds, looking the picture of health. Some hundreds of seedlings are raised every year; many of these turn out to be of very good quality, and these are planted on the banks and slopes at the sides of the chief carriage roads, where they will in a few years make a magnificent show. *R. Milner*.

THE ROSERY.

ROSES FOR WALLS.

A WELL-CLOTHED wall of Roses is one of the prettiest sights imaginable, and with a little care in selecting the varieties most suitable for special soils and situations, this pleasing feature is not very difficult to attain. In the first place, it is almost impossible to succeed with a wall having an eastern aspect, unless this is sheltered from direct north-east winds by a building or stiff hedge. There are two periods during the year when any keen winds from this direction are particularly injurious to Roses, viz., during the hard frosts of winter, and again when the plants are commencing growth. Frost, accompanied by wind from this quarter, is doubly injurious; and later on in the spring, easterly winds will induce mildew, and many more of the ill effects are subject to. Providing the easterly wind cannot play directly upon the wall, it does not so much matter.

The best aspect for Roses on a wall or fence is due south. There is not sufficient attention given to the class of soil strong-growing Roses are grown in, this having a great influence upon their permanent usefulness. Such vigorous growers as Madame Bérard, Rêve d'Or, Madame Chauvy, and Maréchal Niel, must perforce have their growths properly ripened before winter sets in; but if these kinds are grown in damp and cool soil, they continue to make young wood up to the time they are checked by frost, consequently the long rods of growth are not matured, and the frosts of winter have a disastrous effect upon them. More than this, such wood as survives does not carry nearly so good a crop of flowers as would be the case in well-ripened growth.

In cool soils, Roses do not commence growth nearly so soon as upon warmer and more sandy composts; they also continue in growth much later in the season, with the injurious results I have already mentioned. Most of the climbing varieties do not commence to throw out their very valuable and sucker-like growth until the summer has well advanced, and the bulk of their flowering season is over. As these vigorous shoots are the most valuable part of climbing Roses, it is very essential that they be well matured, and I find a warmer or more porous soil induces them to break into growth earlier, and at the same time is not so conducive to late autumn growth as is the case with those having a moist and cool subsoil.

Whether one is cultivating the strongest-growing Tea-scented and Noisette, or the Banksians, I believe it to be much better to avoid too sappy and late a growth. Provided the wood is well ripened, flowers may be expected from almost every eye; to say nothing of the more satisfactory manner in which the growth will come through the winter.

We often hear our strongest growers described as being shy-flowering, but I am convinced this is more often than not owing to their wood not having been properly matured; when such is the case, I know of no shy flowerers among the climbing Roses.

Roses on a wall are exposed to sudden changes in the way of frost and thaw, and this is very injurious to any wood, more especially if not thoroughly ripened. Then, more care should be given to the pruning of these varieties than is generally the case. Far too often there is not enough of the old spur-

quite healthy wood. When treated in this way nothing can surpass the beauties of our strongest climbing Roses. I have more than once known the vigorous autumn growths to be cut away entirely, under the mistaken idea that they were useless, and, in short, were robbing the plants. Such is not the case, however, and even when one cuts them away, the main energy of the plant goes towards producing more of the same description of growth; so that no gain is secured by that style of pruning, and large quantities of good flowers are lost. *A. P.*

MOOREA IRRODATA.

Our illustration gives a representation half natural size, and a single flower of the actual size, of this fine and distinct new plant, for the full description of which we refer our readers to *Gardeners' Chronicle*, July 5, 1890. So far as is at present known, there is but one specimen of it, which was acquired out of an importation of Messrs. F. Sander & Co., by F. W. Moore, Esq., for the Royal Botanic Gardens, Glasnevin, Dublin, and in whose honour the generic name was given. The plant, which bears the nearest resemblance to a *Houlletia*, sends up stout spikes 2 feet in height, and this year it bore two of them; and on being exhibited at the Royal Horticultural Society on March 22, a first-class certificate was unanimously awarded it. The sepals and petals are bright reddish-brown, white at the base. Lip straw coloured, with blackish-purple markings, and the whole flower is waxlike in texture and very attractive.

THE BULB GARDEN.

THE HIPPEASTRUM (AMARYLLIS).

SOME remarks were made at p. 404 about the flowering of these plants being late this year. The early spring weather was unfavourable for the rapid development of any class of garden plants, and near London we have had as usual to contend with lack of sunshine. The flowering period of the garden varieties of *Hippeastrum* may be determined to a certain extent by the will of the cultivator. The flowering plants for instance pass into their resting period early in the autumn, and they are kept in a greenhouse temperature and dry; they are repotted some time in January, and a good deal depends upon their treatment after being repotted. We try to have our blooms about the third week in March, and I find the best flowers are obtained at that time; but in reference to this time of flowering and one or two other points of interest, I find some interesting remarks in the first volume of *The Florist*, published in 1843. It is well known that Dean Herbert was an enthusiastic cultivator of the *Amaryllidaceæ*, and produced very many beautiful garden varieties, most of them being unfortunately lost to cultivation. The article in *The Florist* was written by Mr. Carton, who was gardener to the Dean of Manchester at the time of his death. Mr. Carton states that the time of flowering of the *Hippeastrums* was between Easter and Whitsuntide. Now, we have the bloom nearly over by the middle of April, the plants in full growth, and plumping up their bulbs. Mr. Carton also states that many varieties were very fragrant; this is a point about which our plants cannot claim to equal the *Spofforth* and *Highclere* seedlings, and as Dean Herbert had collected many species now lost to cultivation, we almost despair of obtaining anything like them now; but we may be quite sure that the modern varieties far surpass them in regularity of form, and brightness and variety of colours.

Mr. Carton's system of culture half a century ago was much the same as I have recommended in these pages; but we may learn something from his method of treating seedlings, as with all our aids to cultivation, we do not gain, but are rather behind in the time required to flower seedling bulbs. Mr. Carton's directions are as follows:—"As soon as the seeds are ripe, sow in pots or pans, and place in a good heat;

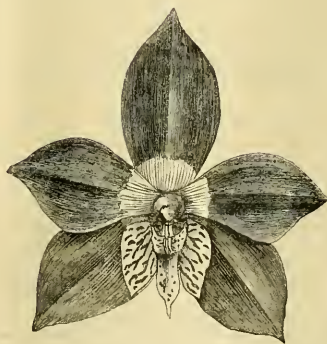


FIG. 73.—MOOREA IRRODATA: SPIKE, HALF-SIZE; FLOWER, NATURAL SIZE; COLOUR, PALE BROWNISH-RED; LIP, WHITE-SPOTTED. (FROM A DRAWING BY MR. WEATHERS.)

like wood removed, and the younger and more vigorous shoots laid in their places. In fact, these strong growers should be pruned upon the same lines as a Morello Cherry, and care taken to retain as much as possible of the well-ripened wood of the previous summer, even to cutting away older but

cover the seeds with a little sand; when the leaves are 3 inches long, pot off, three in a pot, still keeping them plunged in heat, and shifting as required. Indeed, the treatment afforded to the Pine-apple, when properly grown, will nearly suit the Hippastrum. The leaves should never be allowed to die down before the bulbs have attained a flowering size, which will be in two years, if properly treated, after they are potted from their seed pots. A few will throw up their flower-stems the previous autumn, when the bulbs are in great luxuriance." No allusion is made to the system now generally followed of plunging the pots in which both the full-grown bulbs and small seedlings alike are growing, over the rims in a bed of tanner's bark, with hot-water pipes beneath; but this is a cultural method which is pursued by the best growers, and which gives the most satisfactory results. We plunged all our finest bulbs in this way on March 31, and the roots will soon begin to run over the edge of the pots, and to such an extent that the entire tan-bed will become full of them. I am now fertilising the best flowers, and expect to obtain ripe pods in July, the seed from these being sown towards the end of that month or in August. The sooner the seeds are sown the better, the earlier plants making the finest growth before the winter sets in; these young bulbs always retain their foliage during the first two winters, but they lose them when the bulb becomes fully grown.

The production of flowers seems to exhaust the bulb a good deal, which visibly shrinks as the flower-stalk grows and flowers are produced, until the outer coatings hang quite loosely about it, and this shrinking continues till the flowers are developed, and when these are removed, the bulbs rapidly get plump again; and in order that this accretion of materials in the bulb may continue steadily, the bulb should be grown under healthy conditions. If the plants get infested with thrips, red-spider, or bug, which are not at once cleared off, the check received is sufficient to prevent their flowering to a large extent the following season; whereas if they are grown in a stove temperature, and kept clean, at least 95 per cent. of them will flower. It is easy to know when to apply water to the plants if they stand on the plant stage, but when plunged over the rims, it is an uncertain proceeding; in any case, if water be afforded once a week, it will generally be sufficient. The tan-bed should receive a good watering once a week. It is better that the soil should be rather dry than wet, as in that case the roots have a greater tendency to run over the edge of the pots into the bark bed. If the tan should become, as it will generally, full of worms, if some quicklime be mixed with it, they will be destroyed.

J. Douglas.

DAFFODIL "PALLIDUS PRÆCOX" PREFERS SHADE.

During recent researches at Bayonne, where I have been for the first time in the flowering-time of Daffodils, I found pallidus præcox entirely confined to woods, generally to coppice so dense, that it must be entirely shaded early in April, and almost always on a northern or north-western slope. This led me, on my return to England, to examine the position of those in my garden, where they do well in some places, but not in others. Some planted on the north side of a tall shrubbery, where they rarely or never see the sun, have been named for at least twelve years (I had many pallidus præcox in my garden before the variety was in commerce in England), are still healthy and full of flowers. Many amateurs and nurserymen complain that they cannot manage this variety, and to those I would suggest that they try planting in the shade. C. Wolley Dod, Edge Hall.

MELONS AS CORDONS.

To obtain a quick and satisfactory crop, Melons in houses may be grown as cordons, especially when a number of varieties are to be grown in the same structure. It is not always an easy matter to get the full crop of fine fruit set and evenly swelling simul-

taneously, when the plants are trained with numerous side branches.

The plan in growing Melons as cordons is to plant thickly, say, about 15 inches apart. Train the leader up to the top of the wires, without pinching it at all if it shows signs of throwing out side shoots early; if not, pot, to it, to induce these side growths, and thus give an opportunity to obtain an early crop of fruit. Of course, it should be understood that I do not recommend this plan where the finest fruit is required, but only where a very early and quick crop is desirable. Instead of waiting for the setting of the full crop, I am content with two fruits, or, at the most, three to each plant, and which can easily be secured from the early formed side-growth. This individual thinness of crop is fully made up by the extra number of plants, from which a full crop of fruit can be obtained.

Directly the fruit is set, and safely swelling, the shoot growth is checked by pinching, thus preventing them extending beyond their limited space. By timely attention in this way, the foliage and growth does not become crowded, as might be imagined. By the concentration thus early of the growth of the plant into the swelling of the fruit, a crop is early brought to maturity. I am aware that some varieties are not adapted to this mode of treatment, owing to the vigorous growth they make during their early stage. For instance, William Tillery will seldom show fruit on the first bracts, and also being of great length between the joints in its growth, this variety is not adapted to this mode of culture, neither is it for the earliest crops in any form. For cordon culture, such sorts as Hero of Lockinge, Conqueror of Europe, Blenheim Orange, or the old Scarlet Gem, are most suitable for growing as cordons. S.

ORCHID NOTES AND GLEANINGS.

DENDROBIUM CRYSTALLINUM.

This is a deciduous plant, its young growth coming up at the time of flowering, so that the plant is not entirely devoid of leaves when this event takes place. During the growing season the plant should be kept in the East Indian-house, but when growth is completed, less life is necessary than during the period of active life, and at the same time the plant should be removed to a cooler temperature, with an abundance of air, sun, and light; here it may remain until all the leaves have fallen, and should then be kept cool and dry through the winter months. When spring returns, a little more heat and moisture may be given with advantage, which will start the young growths and the flower-buds into activity. The plant is best grown upon a block of wood or in a hanging basket, in good brown peat fibre and chopped sphagnum moss, but it does not require a great quantity of soil about its roots. *Orchid Album*, vol. x., part iii.

CHELONE LENTIGINOSA

may be grown either in a hanging basket or in a pot or pan; but in whichever it is planted, the drainage should be kept in thoroughly open order, using for soil good brown peat fibre, from which all the finer particles have been shaken, and with this a fair proportion of chopped sphagnum moss, the whole to be well mixed and pressed down firmly, leaving the plant a little elevated above the pot's rim. It should be grown in the East Indian-house, having a fair share of sun and light, and a plentiful supply of water to its roots, as well as in the atmosphere, but in the winter season much less will be necessary. *Orchid Album*, vol. x., part iii.

DENDROBIUM ATRO-VIOACEUM

is a robust and noble-growing plant, with persistent leaves, but it has not been in this country long enough to establish itself, and display its beauty in the fullest degree. The pseudobulbs are clavate, tapering downwards, where they become terete; they are furrowed, and have near the top two or three somewhat stout leathery leaves. The flower-

spike or scape is sub-terminal, erect, and the flowers large and nodding, the pedicels white, and the sepals and petals thick and fleshy in texture, ivory-white, or a creamy-white ground-colour, the petals especially being spotted with deep purple, the inside fainter in colour; the lip is of an intense deep violet-purple, the front lobe having a narrow marginal border of green.

This plant grows naturally in a hot, moist atmosphere, and one would imagine from the size of its pseudobulbs, that it was endowed with the means of withstanding a severe dry season; but this does not appear to be the case, for the moisture which arises, even in the dry season, enables this plant to bring its leaves and bulbs through without much injury. It should be potted or planted in baskets, and hung up near to the roof-glass, in order to allow all the sun and light possible to get at it; but yet a thin shading should be available during the very hottest part of the day in summer. It should be well drained, potted in good peat-fibre and sphagnum-moss, and the plant grown in the stove with *Crotons* and such-like plants, which require great exposure to sun and light, or in the hottest part of the East Indian-house, the atmosphere in either position being kept well charged with moisture. In the winter, although much less water will be necessary, it must not be allowed to suffer from drought. *Orchid Album*, vol. x., part iii.

DISEASES OF THE REPRODUCTIVE ORGANS OF PLANTS, CAUSED BY FUNGI.

(Continued from p. 473.)

MAIZE SMUT (USTILAGO MAIDIS).

MAIZE is not a crop grown in this country. It presents certain points of interest which render it worthy of our attention. In the first place, Maize is a very important food-stuff for animals with us, even if its annual consumption by the human subject in our own country is but small. Then, again, the smut itself has been recommended for use in medicine as a substitute for Ergot, although on insufficient grounds. It is, however, chiefly owing to facts elucidated by the study of its life-history, and the manner in which it gains entrance to its host, that renders this species of interest to us. It attacks the upper part of the stems, the upper leaves, bracts, but especially the ovaries, which it hypertrophies and destroys in a striking manner. The spore masses are dusty, olive-brown in colour, the spores subglobose, pale brown, as seen by transmitted light, and have the epispore closely covered by minute spiny projections. Brefeld found that they germinated much more freely in nutrient solutions than they do in water. The process consists of a protrusion of a germ-tube, some eight or ten times the length of the spore, which soon becomes septate, and produces numerous, narrowly elliptical, or fusiform gonidia. These very rapidly and very profusely bud off bodies similar to themselves—so rapidly that they form a whitish precipitate to the culture drop. Brefeld applied the gonidia to young plants just after they had emerged from the seed; he found the germ-tube of the gonidia entered freely into the embryonic tissues of the growing axis, and in the course of from two to three weeks produced spore-beds, which, in many cases, killed the plant. This process of rapid development of spore-beds in the growing tissues of the young plant, and not in the mature ovaries, is quite contrary to what happens with hant and smut, &c., where infection of the embryo causes disease of the adult plant. He therefore tried the effect of applying the gonidia to older plants, and found that, although they were powerless to infect mature tissues, yet they could and did the growing parts, the buds, and the heart of the plants. Plants of Maize a foot high were made use of for experiment; the opening leaves were unfolded, and the solution containing the gonidia sprayed into them, so that it came in contact with the growing point. In fourteen days the plant began to show signs that the experiment had been successful—spore-beds were

found wherever the gonidia had come in contact with the young tissues, but they had no effect on those leaves which were already developed. Many of the plants died outright; those which survived were greatly distorted by the fungus, so that they were bent down by the weight of the hypertrophies. In another series of experiments, it was found that by applying the gonidia by opening the sheath of the female flower, the whole ear became converted into a mass of smut as large as a child's head. That it was a purely local affection was shown by the fact, that if the infection was made into the ears at the lower part of the stem, they alone became diseased, while the ears on the other part of the same plant remained perfectly healthy.

THE ANTHR SMUT (USTILAGO VIOLACEA).

Reference has already been made to this species, which occurs in the anthers of *Lychnis diurna* and *vespertina*, with regard to the effect it has upon modifying the sex of its host; it will be remembered that under its influence the long recurved styles of the normal female blossom become replaced by short erect styles on the top of the ovary. The spores of

the very structure which insects have so many appliances for conveying from flower to flower. I had growing in my garden, not only diseased plants, but also a female plant which had been recently transplanted, and was free from disease. During the summer of 1888 this plant produced none but healthy flowers, with the long stigmata. To these stigmata I applied the spores of the *U. violacea*, with the object of seeing whether the seed produced would yield smutted plants. The plant died down in the winter, came up again, and opened its first flower on May 22, 1890, which, to my astonishment, had become stamiferous with all the anthers smutted. In the following year I repeated the experiment, and found that healthy adult plants can be thus infected.

Here, then, we have evidence of yet another manner in which the *Ustilaginæ* can, and do, infect their hosts, namely, through the flowers. Moreover, when the infection is once accomplished, the plant remains, as far as I have observed, permanently diseased. The only other point worthy of notice is this, that the affected plants appear to me to have the joints of the internodes of their stems larger and more swollen than those of healthy ones.



FIG. 74.—*DAPHNE BLAGAYANA*. (SEE P. 493)

the fungus are subglobose in form, from 6 to 9 m μ . in diameter, and of a violet colour. The colour is, of course, due to the epispore, which is further characterised by being covered by its network of elevated ridges. When placed in water, they germinate very readily, and emit a promycelium, which soon becomes divided by two or three septa from its walls laterally, as well as from the apex, gonidia are produced. These gonidia may emit germ tubes, capable of penetrating the host; or they may, according to Brefeld's observations, multiply themselves by budding in his nutrient solution.

The idea naturally presents itself that the fungus enters its host in an early stage of the plant's life, like the common smut and bunt. I, therefore, tried a number of experiments by infecting the young seedlings, but without success. Having the opportunity of watching the growth of the affected host-plants, I was struck by the number of bees which visited the diseased blooms, and it occurred to my mind that as the fungus located itself invariably in the reproductive organs of its host, that these insects might be the means of conveying it from one plant to another, especially as the fungus replaces the pollen,

THE FIG SMUT (USTILAGO FIGUM).

Another economic species of the *Ustilaginæ* which presents itself to us as a reproductive parasite is one affecting the common Fig of commerce. It occurs in the interior of the fruit, and makes its presence evident by converting the contents into a sooty mass. The affected Figs have a very unattractive appearance, so that when they are badly affected they are quite unsaleable. When the disease is less pronounced the external appearance of the fruit is unaltered, but on cutting the Fig across, the disease becomes very evident. It is found most frequently in those cheaper kinds, which are known in the trade as "natural Figs," but sometimes one comes across an example in the best varieties. The spores appear black in colour, but they are really a very dark violet. They are smooth externally, globose in form, and measure from 6 to 8 m μ . in diameter. I found they would germinate in pure water at a temperature between 10° and 13° C., but below this no efforts at germination were made. The process consisted in the emission of a promycelium, which was subcylindrical in form, from 20 to 150 by 4 to 5 m μ .; but, as far as my observation went, no gonidial development took place.

THE DATE SMUT (USTILAGO PHŒNICEA).

Dates, too, are also subject to the depredations of an *Ustilago*, the *U. phœnicea* of Corda. It, too, is met with in this country on the cheaper kinds of Dates. It closely resembles the Fig species in its spores, being dark violet, and of a similar form, but of rather smaller diameter—4 to 5 m μ . C. B. P.

FRUIT NOTES.

THE TRUE NORFOLK BEAUFIN, RED AND STRIPED.—Is it true that these valuable long-keeping English Apples are now hardly saleable in some of our markets? and can the Editor of the *Gardeners' Chronicle*, or some of his many experienced readers, say how it comes about that the Normandy Pippin, full of core and pips, has almost driven the Beaufin as a dry and pressed Apple, out of our markets. I have recently tried to purchase Beaufins at various large grocers overflowing with Normandy Pippins, and not one kept nor knew anything about them?

A gentleman also told me the other day that he could not sell his Beaufins, because the dealers said they had no flavour. Well, of course, that might be true if eaten raw, in contrast with such fine Apples as we get from the States, Canada, Tasmania, Africa, But well stored Beaufins—dried or pressed, or even in pies late in the season, are not to be despised, and I should personally prefer them to the much-lauded Normandy Pippin which I should characterise as small, spotty, seedy, I had almost said mealy.

THE NORTHERN SEY APPLE.

Having lately seen some fine samples of this excellent Apple from Canada, I should be glad to hear the experience of the readers of the *Gardeners' Chronicle* in the culture and marketing of this fine Apple in England.

THE NEWTOWN PIPPIN APPLE.

Similar experiences concerning this Apple would greatly oblige. From the large proportion of inferior samples of this in the English market this year, it does not seem to prosper so well in America as it used to do, and it surely seems possible to succeed with it in favourable sites as a profitable market Apple in England. D. T. F.

VEGETABLES.

CELERY—IVERY'S NONSUCH.

I BELIEVE it was fifty years ago when Seymour raised the first solid Celery, and ever since then we are yearly having new kinds brought under our notice, until now there is no difficulty in having Celery at the table during seven months of the year. I usually grow Sandringham for my first crop, which is followed by other white kinds, lasting until the new year, when we have a large breadth of the pink or red kinds, which are, I think, harder than the white, and stand the winter better. But my latest variety is Ivery's Nonsuch. This is really a delightful variety, hardy and late, large, solid, and sweet and tender, although it is now the middle of April. I think I must mention one more kind, a great favourite here, viz., Early Rose; it is delightfully tender, and has a fine nutty flavour. It is well to encourage the garden labourers to grow Celery where there is a market for it; some of my men pay half their rent with it, but it is needless to say that it is greedy of moisture and all sorts of good things, so that in sandy soils, or where there is a scarcity of water, it would not pay cottagers to grow it for market. J. Rust, Eridge Castle.

SPRING GROWTH OF TREES.

READING the whole of your article, p. 336, carefully, I arrived at what appeared to me very definite conclusions. Taking the first case advanced by Mr. Mer, viz., young trees of twenty-five years and under, growing in plantations, he says the first signs of growth appear in the youngest shoots at the top branches, thence spreading into the older portions of the branches, and lastly into the centre and base of the stem, or trunk.

Growth, here shown to take a downward course, appears in the roots from ten to fifteen days later. The conclusions I arrived at regarding this can, I think, be accounted for in no other way than this,

viz., that the top branches and their extremities being the only portions exposed to direct sunlight and heat—the all-powerful agents in animal as well as vegetable growth—are by their influence forced into active growth first; indeed, to me it would be very singular if a tree in such a position should first show signs of growth in any other portions.

Taking the second case—young trees in isolated positions—the facts given are somewhat different, and may not be quite so readily understood, but may, I think, be still accounted for, and by the same agency. Trees, young or old, when isolated, are entirely different in their manner of growth; instead of the attenuated, upright branches, as exhibited by nearly all trees in thick plantations, they will here show a truer form. The lower branches will extend in keeping with the head; this will be broad and round; the whole of the branches will, more or less, have that graceful, pendulous habit, so characteristic in a well-grown Lime or Beech, as an isolated tree on many an English lawn.

This pendulous habit of the branches would thus favour a more equal distribution of sunlight and heat along their entire length; and besides, as is well known, branches of this character, or those whose tips are depressed by artificial means, at once exhibit a more uniform growth, by checking, as gardeners say, a too free flow of the sap towards their extremities. This can be clearly seen in the case of trees trained on the horizontal principle. By attention to this we can, even at the extreme top of young healthy trees, where gardeners say the sap flows freest, and where, at any rate, we invariably find the strongest shoots are made (although this, in the case of trained trees, can be easily accounted for) by depressing a strong shoot give additional strength to a weaker, so much so by a lengthened continuation of such treatment as to reverse their original positions; and not only this, but we can so regulate the growth in such a shoot in its earlier stages as to cause the buds to break from its base upwards instead of downwards. In fruit trees against walls, and those trained to trellis work under glass, or in such a position that the branches are evenly distributed to secure an even growth, and also secure an equal amount of sunlight and heat, we do not find growth begin in the manner as set forth by Mr. Mer. As an instance of the above, take Apricots on walls and Peaches inside. We find the flower-buds on the bottom branches quite as forward as those nearer the top, and even the basilar buds on these branches as forward as those at their extremities.

I had an excellent object lesson on this fact the other day while walking along the public highway in Sussex. The road was bounded on the north side by a belt of high trees; on the sloping bank were Briars, Blackberries, Gorse, Heath, &c., in wild profusion. These, under the influence of a mid-day sun, were freely breaking into bud and leaf. I examined these carefully, and found that the branches, where exposed their whole length, and sloping hither and thither athwart the bank, were breaking equally all over, but much more forward where the rich, warm, red soil here and there formed the background; where this was formed by grass, the buds were considerably more backward, but were still uniform where equally exposed. I looked in behind and amongst the shoots, but there the buds were scarcely broken, and in many cases not at all.

Presently, the boundary wood came to an abrupt termination, but the sloping bank continued, and this was surmounted by an old splashed hedge of Hazel, Oak, &c. It was just here that I obtained pointed proof of what I wish to advance with regard to this question of the progress of growth. At the lower edge of this bank, and right up to past the middle, growth was here as well developed as in the sheltered portion opposite the wood, but beyond this and at the top of hedge it was very far behind. Briar shoots, and especially Blackberries, had their buds well developed in the lower portions, the latter almost an inch in length, while the top portions where these shot up into and amongst the thin twigs of the Hazel had scarcely moved a bud, the Hazel also showing

this in a most marked manner, as I pulled several branches down to satisfy myself.

When Mr. Mer examined trees growing singly, and those in plantations sparsely enough that their woody layers were thicker at the base, he found that growth commenced at the swollen portion of the trunk almost simultaneously with the extremities of the upper branches; where, however, this basilar swelling was not sufficiently marked he did not find this to be the case. When it is observed that isolated trees, and trees in thin plantations, are the only ones invariably accompanied by large basilar swellings, the earlier growth here may, I think, be safely attributed to the same agency and forces. An isolated tree with large basilar development, forming an angle in some cases as much as 45°, upon which the sunlight and heat can play for the greater part of the day, presents a striking difference to one embedded in the heart of a forest. That the other parts of such a tree, *eg.*, middle, top, and centre, and base of branches springing therefrom, should show a more retarded growth, is what we should expect, as those essentials and necessities of plant life, heat and light, are here so much more obscured. *Pomum.*

(To be continued.)

THE SEED TRADE.

NEW PEDIGREE PEAS AT READING.—An old seed grower of large experience remarked a few days ago that there were a great many so-called new Peas being introduced, but he considered they were no better, if as good, as those grown thirty years ago. One could not but accept his opinion with great respect, but it had to be taken with large deductions. It is, no doubt, true that the natural sportiveness in the Pea has enabled selections to be made, and the large majority of our new varieties have been obtained in this way. But some of them—those obtained by Mr. H. Eckford and others from systematic cross-fertilisation, and several of the carefully-made selections, have certainly added some fine sorts to our Peas, though they leave much yet to be accomplished. This fact has for several years past impressed upon Messrs. Sutton & Sons, the well-known seed merchants of Reading, and in 1886 they carried out a series of important crosses with two definite objects in view among others: one was to improve the early varieties by obtaining Peas as early as Ringleader, with large well-filled pods of the finest quality, and free cropping; and also to add to the main crop varieties, Peas as fine in quality as the best of the tallest of them, but of dwarf, branching growth; sturdy, heavy croppers, large pods, and of the most approved table quality. Several crosses of the well-known varieties were made, some account of which appeared in the *Gardeners' Chronicle* last year, and one that has proved pregnant with the best results, was that made between American Wonder and Royal Jubilee. The former is well known as an early and very dwarf Wrinkled Marrow; Royal Jubilee is one of Messrs. Sutton & Son's main crop varieties, remarkable for the size and fullness of its pods. The seedlings from this and other crosses, of which mention was made at the time, were carefully tested and selected in 1887, 1888, and 1889, and last year a number of them were full of rare promise.

A further trial this year, in a season somewhat hostile to presenting to view the seedlings in the best character, has tended to confirm the favourable impressions of last year; the most promising of the selections made in 1890, have improved, rather than retrograded, and it must be admitted that Messrs. Sutton & Sons have in their hands selections of very early, dwarf, round, and wrinkled seeded Peas of a very high order of merit. Two of these early types have been named, owing to the stock carefully selected year after year, having increased in bulk sufficient to warrant their being sent out the next season. One will be known as Sutton's Bountiful, it is as early as the Earliest Blue or Improved Ringleader, decidedly larger in the seed, and considerably larger in the pod; the latter is deep

green, and comes near to those of Telephone in size, long pointed, and it is a particularly prolific cropper—height about 2½ feet. A large extent of this Pea, not supported by sticks as in the case of the trial samples, was being grown for stock; and here it was as good in every respect as in the trial rows, and remarkably uniform in character. This variety promises to make a revolution as far as the Pea-pods seen at early exhibitions are concerned.

Fine and promising as this variety is, there are yet remitted for further trial selections as good in every respect as Bountiful, but remarkably dwarf and singularly prolific; 18 and 21 inches in height in a season when the plants went much to haulm in the pod of Telegraph, and other varieties. In breeding for these dwarf early Peas, Ringleader for earliness, and Chelsea Gem for dwarfness, earliness, and quality combined, were employed, and with the best results. The great task which Messrs. Sutton & Sons have to master is to decide what to reject; the average goodness makes the matter of selection one of difficulty. That a pod of Peas saved from a fertilised flower should present such extraordinary variations is one of those incidents which in the gardeners' practice comes very near to the miraculous.

Another very fine early variety is named Empress of India, which will be distributed next spring. It is from Sutton's Improved Early Champion and Telegraph. Here, again, a highly interesting and most promising batch of seedlings resulted, varying in a remarkable degree in height, colour, and shape of the seed, colour, shape, and size of the pod, &c. Empress of India grows from 2½ to 3 feet, bears large, long, white pods, remarkably well filled, as large as those of Telegraph, but so much earlier, and the seed wrinkled. A number of very fine types from this cross will undergo another test this season; and it is only by growing them together for several years, and carefully noting their varying characters, that the best selections can be made.

The new seedling main crop varieties are not less remarkable. President Garfield, Sutton's Perfection, and others of the finest types of mid-season Peas, were used as seed and pollen parents, and from a number of seedlings, one which has received the name of Sutton's Main Crop has been selected for distribution next season. In height it is about 2½ feet, with very large and handsome pale green pods, filled with ten large Peas of excellent flavour; it is very productive. As an exhibition variety this must take a high place, and as a garden Pea it seems to be perfect in every respect. But it is only one of a number of others equally worthy of being named, some with pale, others with deep green pods; some blunt at the tip, others pointed, but all of superb quality.

Messrs. Sutton & Sons are to be congratulated on these important results. The labour of planting and selecting the seedlings year after year has been great, and they are to be commended for having sedulously grown and selected their seedlings for several years, subjecting them to a severe test, in order that a thorough fixity of character should characterise those selected for naming and sending out. *Pism.*

CHINESE ECONOMIC PRODUCTS.

A GREAT deal of attention to economic products seems to have been given of late by the British Consuls in China, from some of whose reports to the Foreign Office the following notes are obtained.

TABLET TEA.

Referring to tablet tea, a subject recently taken up in the *Kew Bulletin*, the Consul at Hankow writes:—Tablet tea is manufactured at Hankow in factories belonging to Russian firms here. It is made of the finest tea-dust procurable. The selection of the dust is the work of skilled experts, the cost of the dust varies from 10d. a pound upwards. This dust is manufactured into tablets by steam machinery. About 2½ ounces of dust are poured into a steel mould on a steel cylinder. The dust is poured in dry without steaming

and the pressure brought to bear is 2 tons per tablet. Great care is required in the manufacture and packing of tablet tea, and the cost is comparatively high. The tablets are wrapped first in tinfoil, then in expensive and attractive paper wrappers, and finally packed in tin-lined cases for export to Russia. The tea, it is stated, loses none of its flavour by being pressed into tablets, and as tablet tea is only one-sixth of the bulk of leaf tea, it is most convenient for travellers, and also for importing into the remotest parts of Russia.

It is suggested that it may be worth the while of our commissariat to test this tablet-tea, with a view of supplying our army with tea in a portable form.

The export of tea-dust from Hankow rose from 140,933 lb. in 1889, to 736,729 lb. in 1890, which is said to be due to the fact that, while Indian and Ceylon teas are ousting Chinese tea from the British market, many consumers being accustomed to the flavour of Chinese tea wish for it. To meet this demand, the grocers use Chinese tea-dust to flavour Indian tea. All the tea-dust exported finds its way to Great Britain.

Under the heading Brick-tea, the Chinese customs class what are really two commodities, which resemble each other in being shaped like bricks, and in being made of tea. The first is made of tea-dust, and is consumed in Russian Siberia; the second is made of tea leaves, stalks, and refuse of the tea-dust bricks, and is consumed in Mongolia. Both are manufactured at Hankow in factories belonging to Russian firms. Tea-dust brick-tea is made from common tea-dust, and adheres by pressure, after being steamed in a cotton-cloth bag for a moment. The pressure is hand-pressure, i.e., the quantity of tea-dust required is placed in a bag, and after being steamed is poured into a wooden mould, and is pressed to the required consistency by blows from a heavy mallet wielded by one of the labourers. The cost of the common tea-dust is between 1½d. and 1¾d. per lb. The cost of manufacture, export duty, packing, &c., about doubles the price; so that the cost on board ship for export from Hankow amounts to about 2½d. per lb. About 300 lb. to 400 lb. of brick-tea go to a basket made of light bamboo. Two baskets form a camel-load. Brick-tea is in bulk about one-sixth of ordinary tea. Formerly much of the brick-tea reached Urga by going up the Han River, and thence through the Ning-usia gate in the great wall of China. In 1890 all the brick-tea exported from Hankow through the Imperial Maritime Customs went by steamer to Tientsin, whence it found its way—the tea-dust brick-tea to Russian Siberia, and the other brick-tea to Mongolia, through the Chang-chia gate in the great wall. In Mongolia, where the nomad population of herdsmen have little use for money, their tents, clothing, food, and temples, being supplied by their flocks, brick-tea forms a standard of value, and convenient medium of exchange, as it is in universal demand for food. A brick or half a brick of tea is placed in a copper coffee-pot-looking vessel, and boiled up with mutton-fat and butter, and the food is eaten hot in a liquid condition.

Quite recently, a new commodity has appeared on the Hankow market, to which the customs give the name of log tea. It is an inferior tea, with stalks, packed in the shape of logs, which weigh from 8 lb. to 80 lb. each log. The tea is wrapped in the leaves of the *Bambusa latifolia*, and then reduced in bulk by binding round the log with lengths of split bamboo. This log tea is sent to the Chinese ports for consumption, and is packed thus from motives of economy both of packing and of freight.

JAPANESE VARNISH.

On the subject of Japanese varnish, or lacquer, obtained by tapping the trunks of *Rhus vernicifera*, the following remarks are made:—"On this tree, before daylight, incisions are made; the gum that runs out is collected in the dark, and strained through a cotton-cloth bag, leaving behind a large amount of dirt and refuse. This operation can only be performed in the dark, as light spoils the gum, and causes it to cake with all the dirt in it. It cannot

be strained in wet weather, as moisture causes it to solidify. When the Chinese use this varnish, they rub it on with a sort of mop or swab, made of soft waste silk. It should only be used in wet weather, for if the atmosphere is dry when it is rubbed on, it will always be sticky. As used by the Chinese, the varnish takes about a month to dry. It is possible that the celebrated Cremona varnish may have had in it some of this gum as one of its ingredients. It might be worth the while of our musical instrument makers to make experiments with this gum, with a view to producing a varnish that would give a mellow instead of a glassy sound."

The writer of the above paragraph seems to be unacquainted with what has recently been done in experimenting with violin varnishes, and also with the fact that the Rhus varnish requires special treatment, the secret of which seems to be known only to the Japanese. Moreover, the varnish itself is more of the character of a lacquer than a true varnish, as we understand the term.

WHITE WAX.

White wax, the produce of *Coccus Pala* on twigs of *Fraxinus* and *Ligustrum*, is described as "particularly hard, and used in China for casing tallow candles." The export of this wax decreased in 1890 nearly 40 per cent., the causes of which are said to be, first, the increased use by Chinese of kerosene-oil, causing a decreased demand for tallow-candles; and, secondly, in England the extended use of paraffin candles and of electricity, reduced the selling price of white wax in Shanghai to below its cost of production. It would seem, therefore, that unless a cheaper mode of production can be discovered, or other uses for the commodity be found, the interesting industry of producing white wax is a doomed one.

CAMPHOR.

Writing from Tamsin under date of April 10 last, Consul Holland thus speaks of the camphor industry: "Next to tea, camphor is the most interesting, and might be the most important export from this district. The supply seems, for the present at all events, to be inexhaustible, though with their usual improvidence the natives make no attempt to plant young trees in the place of those they cut down, and the natural consequence is, that camphor has to be looked for further and further inland, that is in the savage territory. The Chinese camphor burners are protected by soldiers supplied by the governor, who repays himself for the expense by levying a tax of 80 dollar-cents (about 2s. 6d.), a month from each furnace. The camphor, which is in the form of a dirty white powder, is taken to certain depôts, where it passes into the hands of the camphor headmen, through whom it reaches the foreign purchaser. Last year, camphor was supposed to be in great demand for the manufacture of smokeless powder, but as a matter of fact it was simply a speculation on the part of some firms in England, and its market value at Hong Kong went up enormously, reaching as high as 50 dollars (about £8 10s.) per picul of 133½ lb. avoirdupois. At that time, when camphor was a Government monopoly, there can be no doubt that the Governor must have made a lot of money, seeing that he was paying about 8 dollars (say, £1 8s.), a picul to the producers. That monopoly has now been broken up, and foreigners are free to purchase camphor under a transit-pass. The price in Hong Kong has gone down considerably, but it still pays a handsome profit of over 30 per cent., and a very large increase on any previous year's shipments is confidently anticipated for the present year. The loss of weight between Tamsin and Hong Kong is sometimes as much as 20 to 25 per cent., owing to the crude way in which the camphor is prepared. If foreigners could only get permission to introduce machinery, and show the natives how to express the oil—which is valuable—and compress the residue into rock-camphor, a business might be started which, for a time at least, might well replace the decaying tea trade. The improvident waste of material is most deplorable, seeing that it takes nearly fifty years for a camphor

tree to grow to a size that will pay for the extraction of its camphor, and meanwhile, not a tree is ever planted in the place of those cut down."

The remarks here made throw a new light on the camphor industry in China; indeed, they are contradictory to what is generally believed in England to be the state of the case, where it is authoritatively stated that the great demand for camphor in the manufacture of smokeless gunpowder is the chief cause of its scarcity and high price.

FORESTRY.

BERRY-BEARING COVERT SHRUBS.

(Continued from p. 461.)

The common Bearberry (*Arctostaphylos uva ursi*) was at one time known by some botanists as an *Arbutus*. The genus comprises several species which are natives of different parts of America and the North of Europe, where they inhabit dry, rocky ground at high elevations; and when planting Heather ground in the deer forests of Scotland, I have found the above species in similar situations. It is an evergreen, the stems, branches, and twigs of which creep along the surface of the ground among the rocks, and as they are well clothed with small glossy leaves of an obovate shape, they present a furnished appearance to such places. It is a remarkable hardy plant, in every sense of the word; it neither fears the cold of winter, nor the heat of summer. It is quite at home on the elevated and wind-swept spurs of the hills where the soil is thin and scant, and consists principally of the abraded particles of rocks almost of a pure inorganic texture; it is proof against the attacks of hares and rabbits, while in winter it is generally loaded with pretty red berries, which are eaten by all kinds of winged game with avidity. In early summer it produces its pretty pink or reddish-coloured flowers in racemes on the twigs and branches, which imparts an ornamental appearance for some time. Such being a brief outline of the merits of this shrub, it is to be regretted that it is not used to a larger extent than it seems to be as a covert plant for the embellishment of dry banks, and clothing bare rocky places, and improving woodland scenery. Amateurs should use this plant along with others to furnish their small rockeries and other places where space is limited.

The Alpine Bearberry (*A. alpina*) is a deciduous species indigenous to many parts of Northern Europe, Canada, and some of the mountain ranges in the Highlands of Scotland. Like the former species, its natural home is on poor Heather-ground at high elevations above sea-level, where it forms a creeping or trailing shrub, clothed in summer with dark green leaves of an obovate shape, and serrated around the edges. In autumn, when these begin to lose their vitality, they assume a reddish colour, which makes a fine contrast with other plants in their vicinity of a different tint of colour. It produces its pretty little flowers of a light pink colour in early summer; the berries, which are of a black colour, are generally ripe in autumn, and much relished by winged game of all kinds during winter. Being deciduous, it cannot be recommended as an ornamental plant all the year round; its principal merits are, that it grows on poor, thin soil, on cold, inhospitable situations on the hills, and affords food for game where few other plants could exist. *J. B. Webster.*

TREES AND SHRUBS.

DAPHNE BLAGAYANUM. (See Fig. 74.)

THE above is a perfect gem, and to-day (March 22) I have counted upwards of one hundred expanded trusses on one plant of deliciously scented and creamy-white flowers. Those in want of an evergreen shrub of procumbent habit about 10 inches high, quite hardy and suitable for planting on a rockery or the front lines of a shrubbery, will not

err by adding this one to their collection. Here in the west of Ireland we have it planted on the rocky in a mixture of peat, loam, and sand. It is afforded a south aspect, as by so doing the young growths get well ripened. To heighten the effect of the plant when in bloom, a number of bulbs of *Scilla sibirica* were 'planted last season, and the contrast of deep blue and creamy-white add greatly to the beauty of the whole. The *Scillas* are planted round about the shrub, and where the branches are a few inches apart. *H. May*, Markree Garden, Collooney, Ireland.

THE WEEK'S WORK.

THE ORCHID HOUSES.

By H. A. BURBERRY, *Orchid Grower, Highbury, Birmingham.*

COOL ORCHID HOUSE.—Success in this department, as in others, depends to a great extent upon the condition of the atmosphere maintained therein, for Orchids may be well potted, and the potting material may be of the best, but unless due regard be paid to ventilation, damping-down, and shading the houses, and the maintenance of a suitable atmosphere about the plants, they will fail to grow satisfactorily. The proper admission of air from without is an important factor in Orchid culture, but it must at all times be admitted carefully. The weather we are now having is rather trying to the Orchid cultivator, the cool, drying winds and the bright sunshine calling for constant attention on his part. It is then better to shade well, and admit but little, if any, air, by means of the ventilators at the top of the house, and to keep the paths, stages, and other surfaces moist, and as the nights are still cold, a little artificial heat should be afforded. *Vanda Amesiana* and *V. Kimballiana* grow best in this house; and the necessary renewal of the sphagnum moss in which they are planted should be carried out now, the roots, which love to ramble at will in the damp atmosphere, having begun to grow anew. *Vanda cœrulea*, a beautiful Orchid, and considered by many to be the best of the genus, is not one of the easiest to cultivate, it being found to grow freely under certain conditions in one garden, while in another it will fail partially under identical conditions. As with other difficult Orchids, it is generally a question of experiment before the right place can be found among any of the existing structures for growing it. My own experience with this species of Orchid is, that it requires a good rest while inactive; but during the growing period, it should have all the encouragement possible in the matter of extra heat, light, and moisture. I therefore rest the plants from about the end of October to March, in a cool or intermediate temperature near to the light, and where they get a good deal of fresh air, and afford them enough water to preserve the leaves from shrivelling. In March the plants are removed to a warmer house and placed in a sunny position, and abundant moisture supplied. When the lower leaves of the plant drop off it has a somewhat bare look, but it is better to let it be so than to cut the stem at the bottom in order to lessen the height of the plant, a practice that greatly weakens it, and entirely does away with the possibility of new side growths coming from the stem which would re-clothe it in due time.

CELOGYNES.—These for the most part grow best in an intermediate house; *C. speciosa* and *C. Dayana*, however, do better with more warmth than that house affords. *C. cristata*, though easily grown, should not be parted or disturbed, as it resents it, but this is sometimes necessary, as a large mass of pseudobulbs becomes at length debilitated, and the new pseudobulbs grow less and less. When this time has arrived, the mass should be re-potted in peat and sphagnum, and not more broken up than is really requisite. *C. cristata* can be cultivated in a cool house, but it grows best in the intermediate house, and after re-potting it should be kept somewhat shaded and moist, so as to favour quick re-establishment. This species delights in supplies of weak liquid manure while growing.

DISAS.—These having been kept in a cool greenhouse during the past winter, may now be removed to a cool frame facing north, be well shaded from the sun, kept generally moist and cool, and syringed or sprayed with a fine rose water-can night and morning. *Disas* are also strengthened by the use of weak liquid manure at intervals.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, *Gardener, Mereworth Castle, Maidstone.*

FIGS.—These being usually supplied from the nurseries in pots, may be turned out on their arrival and planted, taking care that the soil about the roots is thoroughly moist throughout, and water should be afforded again after the soil is returned to the hole. In planting them, the roots should be disentangled, and evenly spread out on the soil at the bottom of the hole, and not buried deeply. A border for Figs should be made of the best enduring materials, and for the purpose there is nothing better than fibry loam, burnt earth, old mortar, a good sprinkling of bones, or some decayed manure, all of which should be well mixed together, and firmly trodden when in a moderately dry state. Figs do well in some parts of the country if not much restricted in growth. Brown Turkey and Brunswick are varieties very suitable for south walls, and there they usually fruit well.

Pruning may now be done, taking care not to tip the leading shoots, as it is on these that many of the fruits are produced; the branches should not be allowed to get crowded, but all sappy and useless shoots should be cut away, remembering that the shorter the growth the better it will ripen and fruit. Trees whose roots are restricted require assistance almost annually, and the best way of affording it is by top-dressing them with a compost like that given above, first removing a part of the top soil, and tramping the new soil after it has been put on and levelled. During the growing season a few applications of tepid manure water should be afforded in good quantity.

GRAFTING.—This work should be finished with despatch, now that the bark will "run" well. Keep the scions with their butt ends in water till required, and then carefully put them on the stocks, and bind moderately tight with wet, broad strips of raffia bast, or ordinary matting, and clay them over carefully. Of varieties of Apples of which it is desirable to graft, the following are excellent:—Prince Albert, Lord Grosvenor, Lord Derby, Stirling Castle, Tower of Glamis, Caroline, Biemark, Warner's King, Ecklinville Seedling, Filbasket, Northern Greening, Brmsley's Seedling, Gooseberry Apple, and Wellington, where it does well. Amongst dessert varieties are Margil, Summer Goldings, Cox's Orange Pippin, Ribstone, King of the Pippins, Blenheim Orange, Golden Knob; red Quarringtons are useful Apples of good quality. Pears, if espaliers, may be worked on the upper sides of the branches, which should be shortened back, but it is useless to graft old Pear trees, for, although they may fruit well for a time, they soon give out. Early grafted trees should be examined to see if the clay has cracked, filling up the cracks, if any, with fresh puddle.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Gardens, Swansea.*

SEEDLINGS.—The seedlings of the following kinds of plants should be transplanted, and potted on as soon as they are large enough to be conveniently handled, viz., *Gloxinias*, *Petunias*, tuberous *Begonias*, *Coleus*, *Celosias*, *Cockscombs*, *Torenia*, &c. Those of *Cockscombs* should be potted in thumbs or small 60's in a light rich soil, never allowing them before they show bloom to become the least pot-bound, that is until they are in their flowering pots. *Gloxinias* and tuberous *Begonias* should be pricked off into boxes or pans, and when large enough to be potted off they should at first go into small 60's. It generally happens that some of the seedlings are stronger than others, and these should be lifted carefully, without disturbing the others, which should be left till they are also large enough to pot. The *Torenia*s, so well adapted for pot and basket culture, when the seedlings are large enough, should be pricked out singly into small pots, repotting them into larger-sized pots as soon as their growth requires it, and support the young plants by tying them to neat sticks. A hotbed-frame is the most suitable place in which to grow all of the above plants whilst small, keeping them well up to the glass, and shading them during the bright weather.

POINSETTIA PULCHERRIMA.—Plants which have been at rest may now be started by placing them at the warmer part of the stove, and syringing them twice a day, to ensure the shoots breaking freely; and if the soil in the pots has become very dry, thoroughly soak it with tepid water. When the plants are fairly started into growth, occasionally apply manure water.

MISCELLANEOUS.—Young plants of *Stephanotis floribunda*, and *Allamanda* of species, which were struck from cuttings towards the end of last summer, and wintered in small pots, may now be repotted into 9-inch pots, for the potting making use of a rich compost, and potting firmly. Also, young *Croton*, which have been propagated this season, may be shifted into 5-inch pots as soon as sufficiently well rooted, employing a rich fibrous loam, with plenty of sharp sand added to it. Rich colouring is indispensable in *Crotons*, and to obtain it, the plants should be grown in a brisk humid temperature, and in as light a position as possible. *Draenas*, *Dicentra*, *Alcaeos*, *Pandanus*, *Maranta*, *Ficus* *Parcellii*, *Sanchezia nobilis* variegata, *Crotons*, &c., will require to be freely syringed to keep the foliage clean, and should any of the specimens become infested with red spider or thrips, the foliage should be thoroughly cleaned with soapy water and a sponge. Close the ventilators of the stove and its supply pits about 2.30 p.m., so as to husband as much sun-heat as possible, and freely syringe the plants and bare surfaces, as walls, paths, &c.

GREENHOUSE RHODODENDRONS.—Any which have finished blooming, and need more root-space, should be repotted, but over-potting must be avoided, and the most vigorous varieties will not require pots more than two sizes larger than those they were previously growing in. One important point in the cultivation of these plants is good drainage; and the best compost is fibrous peat of good quality, to which should be added sufficient sharp sand to ensure porosity. When potting the plants, make the soil firm round the old ball, by means of a potting-stick, and ensure enough space being left to hold sufficient water to thoroughly moisten it. It will be advisable to keep repotted plants somewhat close until the roots have commenced to grow, and if they are syringed lightly overhead in the afternoon on bright days, it will be very beneficial. Any shoots which may be taking an undue lead may be slightly bent downwards, and made secure in that position. The newer varieties are a great improvement on the older sorts in colouring, size of truss, and of bloom, and, with a judicious selection, these plants may be had in bloom during the greater portion of the year.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

VASES.—Well-filled vases are conspicuous objects in most flower gardens in summer, and the earlier that these are filled with plants the better will be their decorative value. Where the vases are not yet filled with spring-flowering subjects, they should have a layer of crocks placed at the bottom, with a few rough pieces of the compost put over these. The compost may consist of three-parts best loam, and one of leaf-mould and horse-droppings, the latter being sifted in a 3-inch sieve; to these some coarse sand or road-sweepings may be added. Tastes differ in the manner of planting vases. In geometrical gardens, with beds in pairs of separate colours, the vases, if standing near the beds, may also be planted in pairs; that is, each pair of vases are filled with one colour only, say scarlet, pink, and white *Pelargoniums*, &c., these sometimes being edged with blue *Lobelia*. Some people fill their vases with mixed colours, using as plants for the centre *Fuchsias*, *Pelargoniums*, *Marguerites*, *Heliotropes*, and the fern-like *Grevillea robusta*, planting round the edges *Mignonette*, *Petunias*, *Lobelia*, and such gracefully-growing trailers as *Marrubium*, *Barclayana*, *Thunbergias*, *Tropaeolum*, *Lobelia*, *Mesembryanthemum cordifolium* variegatum, and *Madame Crousse*, and other *Pelargoniums* of the Ivy-leaved section. Vases thus planted are certainly more picturesque and preferable to those filled with one colour only. But whichever style be adopted, the vases might with advantage be filled at once, watered, and stood in some of the houses for a week or two, when they could be stood in a sunny sheltered situation out-of-doors, where a little protection can be afforded them at night until towards the middle of May, when they may be placed in position. Or where sufficient accommodation does not exist in the vineries, &c., the vases may be stood in sheltered positions as soon as they are planted, treating them at night as advised above.

SOWING SEEDS OF HARDY ANNUALS.—A good display may be made during the summer and early autumn by annuals alone, as well as by making judicious use of them in conjunction with other plants. The seed may be sown in rows, patches, or

separate beds, as the sower pleases. In any case the ground, assuming it to have been manured and dug, should be trodden, and the surface raked over prior to sowing the seed thinly. This should be covered to the thickness of a quarter of an inch, with light, sifted soil, made firm with a board or the back of the spade to compress seed and soil, afterwards watering it through with a fine rose. The plants should be thinned out when large enough to handle, so as to give them space to properly develop. To want of attention in this matter is to be attributed many of the failures experienced with annuals. Dull, showery weather should be chosen for thinning the plants, and, in the absence of rain at the time the work requires to be done, water should be afforded before and after the thinning as occasion may require. In addition to the list of annuals recommended to be raised under glass in the *Gardeners' Chronicle* for March 12, p. 335, the following species and varieties are well deserving of a place: *Chrysanthemum* Cloth of Gold, a showy golden-leaved variety, height 2 feet; *C. coronaria*, double white flowers, height 3 feet; *C. Dunneii*, double golden, 2 feet; *C. modorum* plenissimum, pure white flowers, 18 inches; *C. purpureum*, purple flowers, varying slightly in shade, 2 feet; *C. segetum grandiflorum* (Corn Marigold), bright yellow, 2½ feet; *Clarkia pulchella marginata pleno*, bright magenta, margined white, 1 foot; *Collinsia bicolor*, lilac and white flowers, very attractive; *C. candidissima*, pure white, excellent for clumps in borders, ribbon lines, or as an edging to beds, 9 inches; *C. grandiflora*, showy dark purple, 1 foot; *Cereopsis tinctoria*, flowers yellow and brown, 3 feet; *C. atrosanguinea*, dark red flowers, 3 feet; *C. Drummondii*, large yellow flowers, produced in abundance, 18 inches; *Erysimum arkanasanum*, bright yellow, 18 inches; *Linum campanulatum*, beautiful large yellow flowers, 18 inches; *L. grandiflorum album*, white, 18 inches; *L. perenne*, blue, 18 inches; *Love-lies-Bleeding* (*Amaranthus caudatus*), the dark crimson drooping plants (2 feet high), being very effective; *Lupinus nanus*, blue, 1 foot; *L. subcarneus*, deep blue, 1 foot; *L. Hartwegii albus*, pure white flowers, 2 feet; *Malope grandiflora*, dark crimson, 2 feet; *M. grandiflora alba*, white, 2 feet; *Godefia Lady Alberman*, crimson-rose, 1 foot; *G. White Pearl*, is quite an acquisition to the older varieties of this plant, 1 foot; *Mignonette Golden Queen*, and *Garaway's Double White* are everything that can be desired in the "fragrant weed"; *Nasturtium* Tom Thumb, gold-orange colour, 1 foot; *N. Crystal Palace Gem*, sulphur-yellow, 1 foot; *Nigella damascena* (Love-in-a-Mist), lavender-blue, a very beautiful Larkspur-like flower, 1 foot; *Poppy* (Papaver) pavonium (Peacock Poppy), scarlet with black ring, flowers in clusters, 1 foot; *The Shirley*, is a beautiful selection of the *Ranunculus-flowered Poppy*, the range of colours extending from pure white through the most delicate shades of pale pink, rose, and carmine, to the deepest crimson. To the above list should be added *Nemophila insignis* and its varieties, including *N. atomaria atro-cerulea*; and being only 6 inches high these hardy annuals are most suitable and useful and effective subjects for small beds, edgings, vases, &c.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Castle Howard, York.*

TOMATOS.—The earliest batch of Tomatos will require almost daily attention in the way of keeping down lateral growths, so as to confine the plants to single stems, and tying the growing points to the wires or stakes. I prefer to have the stems on the top side of the trellis, as they are then secure against a possible break-down when heavily loaded with fruit, should the ties give way. Top-dress the beds whenever the roots are in full possession of the soil, and supply the plants abundantly with water on the first signs of dryness. Plants in pots may be assisted with bone-meal to which about one-third of superphosphate of lime has been added. For succession crops, the bare spaces in Peach or orchard-houses may be utilised, and planted with seedlings raised this spring. The best results cannot be expected in such places; nevertheless moderate fruit are obtainable. Pots or tubs can, however, be used, and the plants grown in these instead of in the border at the cost of a little extra labour.

CUCUMBERS now in bearing will be benefited by a more extended root range, and the frequent applications of liquid manure. In top-dressing the beds,

a richer compost may also now be employed than that in which they are growing. In order to augment the supply of fruits, stop all shoots at the second leaf, and repeat the practice with the growths which spring from these. The lower laterals may be allowed to spread themselves over the border, and a crop may be taken off them also. Another plantation may be made, to come in later on; also another sowing for planting in frames. The varieties which I grow are Rollison's Telegraph, Lockie's Perfection, and Tender and True, all of which do well in houses or frames. This spring I had a variety sent me for trial which apparently has no name, although it is a variety held in esteem by some gardeners because of its hardy constitution, and freedom to bear; it is represented to be a cross between *Ne Plus Ultra* and *Syon House*, and so far it seems to be worthy of the good opinion expressed of it by the gardener who gave me the seed.

MELONS.—These plants are now growing apace, requiring frequent stopping, tying, and fertilising. Fruit swelling should be early provided with supports, and the plants themselves liberally treated. At this stage a good surfacing should be afforded of the same kind of ingredients as those of which the hills are formed, together with a fair proportion of horse-droppings. This will induce strong growth, and enable the plants to swell large fruits. Repress all subterminal shoots. Plants fruiting in pots may be supplied with a mixture of farmyard liquid manure and superphosphate, the whole being well diluted with water. At first every alternate watering may be of this kind, but its strength may be increased, and the frequency of its application accelerated with the age of the plants until a period when the fruits are near ripening. Another planting of Melons may be made, and seeds sown for succession. It is still early to commence frame culture, so if there is accommodation in a house for them, even although only for a few plants, it will be better to leave the frames for another month. Otherwise, hotbeds, 3 feet high at the back, and 2 feet at the front, should be got ready, and in preparing them a margin of 2½ feet beyond the frames all round ought to be allowed for linings. After placing the frames on these hotbeds, put a good barrow-load of compost in the centre of each ash, and allow it to become warm before the plants are transferred to it. Allow two plants for each heap, and plant them so that the soil reaches their cotyledons; well water the soil, and damp the whole interior of the frame when the work is finished. A little shade may be necessary for a few days if the weather be bright, and the plants must be stopped at their fourth leaf, which will secure six or eight breaks under each light, and will enable the grower to obtain the same number of fruits on the same space; shut up the frames in the afternoon, and cover them with mats at night.

THE KITCHEN GARDEN.

By G. WYTHES, *Gardener, Syon House, Brentford.*

THE MAINCROP CARROTS.—This crop should be sown in drills, 12 inches apart, and for the longer-rooted sorts, 15 inches apart is not too much. For winter use and good keeping generally, the Intermediate type of Carrot is the best, and the best of these is Veitch's Matchless Scarlet, which is an improvement on the old Intermediate variety. For summer use a few rows of the Early Scarlet Horn may be sown. If the ground is in good condition for sowing, and the "maggot" is troublesome, the drills should be drawn, and a dressing of wood ashes and soot spread over the land before the seed is sown. As a top dressing, guano has advantages, if care be taken to use it in wet weather, as the grub is then less troublesome and growth is rapid. Fresh unmanured ground should always be selected for Carrots.

TURNIPS.—A larger sowing should now be made of Early Snowball, and to succeed it, the Red Globe. Sow in drills, 15 inches apart, and let the plants of the first stand at the same distance apart, the Red Globe at 18 inches. Rich land, fully open to the sun, is necessary to promote quick growth, sowing the seeds thinly, after first covering them with linned oil, and then with red lead. Earlier sown Turnips should be thinned, and the Dutch hoe passed through the lines frequently, but these roots being intended for using when quite young, will need much less thinning than maincrop roots.

CAULIFLOWERS which were wintered in frames

and are now planted on borders, will be making progress and should have the soil drawn up to the bottom leaves. Another lot may now be planted in the open quarters to follow the earlier planted ones. If the plants are of small size, draw drills before planting them; this will protect them from wind, which is the more necessary if the plants were raised in heat. A sowing should be made of the Walcheren for late use. The Autumn Giant, if it was sown in heat, should be pricked off in a good compost in a sheltered place, and covered for a short space of time with lights or hand-glasses, an open quarter being reserved for the plants.

CABBAGES.—Those raised in heat will require similar attention to Cauliflowers, and should be planted before they get "drawn." The autumn-sown plants should be kept clear of weeds, and the gaps in the lines made good. As soon as the first lot of Cabbage is used, no time should be lost in clearing the ground, in readiness for some other crop, digging it deeply, and well manuring it for some shallow-rooting crop, or reserving it for Celery.

BORCOLE AND SAVOYS.—Seeds of these plants should now be sown in beds thinly, to prevent weak growth. Sow broadcast, and thin them out when large enough for pricking out, an operation of great assistance in light soils, although it causes a little more work. The Borcoles or Kales being very valuable winter vegetables, good breadths of them are desirable. A small sowing of early Broccoli should also now be made, viz., Veitch's Self-protecting Autumn Broccoli, Snow's Winter White, and some of the sprouting varieties, for early and late use. I do not advise sowing the main crop of Broccoli till the first week in next month.

THE APIARY.

By EXPERT.

TWO QUEENS IN ONE HIVE.—At the last conversation (March 16) of the British Bee-keepers' Association, a Kentish Bee-keeper (Mr. Wells) gave an interesting account of his system of working his stocks by having two laying queens to each hive, and by which means he achieved some extraordinary results last season. He stated that in the spring he had twelve stocks, one of which, however, was found to be queenless, and gave no surplus, so that it need not be taken into account. From the remaining eleven his yield of honey was 312 one pound sections, and 1069 lb. of extracted honey, making in all 1381 lb., or an average of 125½ lb. per hive. In addition, he had ten swarms, each too large to go into any skep he possessed, and no doubt if swarming could have been prevented, his take would have been much larger, as the one hive that did not swarm yielded between 180 and 200 lb. The honey and wax sold realised £35 16s. 9d., and after deducting the year's expenditure, £8 9s. 8d., a balance of £47 7s. 1d. remained to the good. His mode of procedure in arranging to have two queens to each stock was to form several nuclei the year previous, and in the autumn these were put into the other hives, but divided from the bees therein by a perforated wooden divider, the holes not being large enough for either workers or queens to pass through. They wintered in this way successfully, and were very strong in the spring, except the one stock previously mentioned. When the time for supering came, a queen excluder was placed over the frames, and all the worker bees had access to the upper chambers. The hives necessary for working on this system must be very large, and capable of being storified to an almost unlimited extent, as the population is enormous, and, of course, two entrances would be necessary. The results obtained are all the more remarkable as last season was not a really good one, and other bee-keepers in the immediate vicinity were stated not to have obtained any surplus from their hives worked in the ordinary way.

FEEDING.—The bees have been revelling in the glorious weather we have lately experienced, and have made great inroads on their stores. It is most important to see that none runs short; and if a regular supply of food is kept up, no check will occur in the egg laying of the queens, and the hives will be in a fair way to be crowded with bees when the time comes, not far distant, to put supers on. Syrup, in the proportion of 10 lb. of lump sugar to seven pints of water, is the best food to use now, and should be given at the rate of about half-a-pint a day, and, preferably, warm.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, APRIL 19.—Royal Horticultural Committee, at the Drill Hall, James Street, Westminster.

THURSDAY, APRIL 21.—Linnean Society.

SATURDAY, APRIL 23.—Royal Botanic Society.

SHOWS.

TUESDAY, APRIL 19.—Auricularia and Primula Society's Show, at the Volunteer Drill Hall, James Street, Westminster.

SALES.

WEDNESDAY, APRIL 20.—Begonias, Ferns, Roses, &c., at Protheroe & Morris' Rooms. Collection of Border Plants, Coif-fers, Laurels, &c., at Stevens' Rooms.

FRIDAY, APRIL 22.—New and other Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—48°·9.

Colonial
and Foreign
Fruits, &c.

It says much for the enterprise of the growers, and of our merchants and shipowners, that on one day recently there were on sale in London Oranges from Florida, Palermo, Jaffa; Pears, &c., from the Cape; Tomatoes and Potatoes from Teneriffe, and varied contributions from Spain, Portugal, and "elsewhere." It goes without saying, that all were in good condition; the prices are known to the consumer. One unaccustomed to the thing—say, "from the country"—would be apt to get confused in his ideas as to the time of year; the weather, however, seldom leaves us long in doubt as to that. Respecting the approaching arrivals from the Antipodes, Sir EDWARD MADDER, the Agent-General for the Tasmanian Government, tell us that the P. & O. steamer "Victoria" will be the first vessel to arrive from Hobart with Apples. She was due in London on the 13th inst. She will be followed at weekly intervals by the following vessels of the Orient Steam Navigation Company and Peninsular and Oriental Company:—"Oroya," "Oceana," "Orizaba," "Valletta," "Orient," "Aroadia," "Ormuz," "Ballarat," "Orotava," "Parramatta." (The names of the Orient Company's steamers all commence with an "O.") In addition to the foregoing steamers, the steamships "Elderslie" and "Port Pirie" were to load in March,

and the "Port Victor" in April, sailing from Hobart direct for London.

A London newspaper last year gravely informed its readers that arrangements were being perfected by which luscious fruits from Italy would "shortly be hawked about the streets of the metropolis at prices which would bring them within the reach of the very poorest;" and it was added, that the poor Italians of such localities as "Saffron Hill" and "Back Hill" would be endowed by some unknown benefactor with oster-mongers' barrows from which they could dispense the aforesaid luxuries. But, alas! the seasons have come and gone, the barrows have not been put in evidence, and the poor of London are still without cheap Italian fruits. But Rome was not built in a day, and Robert Bruce is not lacking imitators in all walks of life; and it may come to pass, that even if our own ordinary "oster" has to take the matter in hand, we may find the Italian grower competing with his English fellows by the edge of metropolitan kerbs. A gallant effort has been made by an Italian-British company to bring fruits and vegetables from Italy to this country in ships provided with refrigerators of ample size, but owing to some miscalculation—one cannot get at the exact facts—there ensued a lack of success—to put it mildly. But the Company deserves to succeed, and if they have made careful note of all the circumstances surrounding their failure, they may soon have to score a win. But will the Italian grower back those who are trying to stir him up? That is a moot point, the answer to which is somewhat dubious. Growers in the north of Italy have been offered help to enable them to extend their operations, but they appear to be satisfied with the existing condition of things. They can sell all they grow at home. They object taking any risks in competition with foreigners—they are satisfied with their own sunshine. Is it not enough? Again, it had been suggested that Italian wares should be better or differently packed. Men were sent out from London to teach the packers for shipment how to do it. They remained for a season, and when they returned to Monument Yard, things are stated to have fallen back into the old rut! And so the matter rests—or is supposed to rest, for it is possible that a surprise is in store for us; and, so far as we are permitted to see, it will be one.

Fruit
Prospects.

THESE are, on the whole, most promising, the promise consisting of two special features—the lateness and the abundance of the bloom. We have lately had special facilities for noting both features over considerable areas, and this enables us to confirm all that Mr. KIPLING, of The Gardens, Knebworth, says as to the exceptional lateness of Apricots and other blooms this season. It is a most unusual thing not to find a single Apricot, Peach, or Pear in bloom until April, even in counties and districts so widely apart as Suffolk and Sussex. As closed buds of these and other species are safe against 10° or 15° of frost, we may hope for good in the forthcoming season, unless, indeed, the brilliant sunshine that distinguished the last two days in March has caused the tree to come into blossom so swiftly as to endanger the crops. But here the stinging East wind blowing abreast of the summer-like warmth of the sun, comes in as a possible saviour of the bloom. The touch of ice in the night air succeeding the summer heat of unclouded April sunshine also moderates the speed, and may thus do the fruit-grower a good turn. Anyhow, a late-

blooming time mostly means a plentiful harvest of fruit. Plums, too, notwithstanding the break-down crops of last year, show well. Apples, also, are full of flower, and exceptionally backward. And as favouring the theory of the mutual help afforded by Apple trees and Mistletoe to each other, it may be mentioned, that the most promising and earliest Apple tree seen by the writer this year in the county of Sussex was one thus aided and fostered with the parasite. Has anyone tested by direct experiment the correlative action of lichens and moss on fruit trees? To see the extent to which these latter are tolerated in many orchards, one might imagine that the novel doctrine of symbiosis had been firmly rooted in the faith and practice of British horticulturists for years. Certain it is, the life of lichens, mosses, &c., has freely mingled with that of Apples, Pears, Plums, Cherries, Currants, etc. for years, whatever may be proved in the future with regard to Apples and the Mistletoe living in romantic fellowship—for their mutual good. We should be disposed to clear off the lower or lesser forms of life from the stems, branches and twigs of fruit trees, and so reduce the harbour and egg-laying ground of hosts of moths and caterpillars, and thus rendering the smearing, washing, dusting, and spraying of such pests out or off much more easy and efficient.

ROSE BANK, MALVERN.—In our issue for December 5 of last year we gave an illustration from a photograph of a view in the garden of Mrs. Wilmot. The special feature as described at p. 677 of our last volume by a correspondent, consists in the summer bedding, and, in particular, in the extensive use of tuberous Begonias. That the garden is not dependent on such attractions alone is shown by the companion illustration which we now give (fig. 75), and which shows a wealth of foliage and a diversity of surface which must be very pleasing.

LINNEAN SOCIETY.—At the evening meeting to be held on Thursday, April 21, 1892, at 8 p.m., the following papers will be read:—"On some New Plants from China," by W. B. HEMSLEY, F.R.S.; 2, "On the Relation of the Acaridae to the Arachnida," by H. M. BERNARD.

CYPRIPEDIUM CHAMBERLAINIANUM.—Amid the multitude of objects shown at the fortnightly meeting of the Royal Horticultural Society on Tuesday, the one that excited most interest was a plant of *Cypripedium Chamberlainianum*, exhibited in flower by Messrs. SANDER. It justified all that has been said of it, and showed that our figure, p. 241, did no more than justice.

VANDA DENISONIANA.—Another specimen, remarkable for its good cultivation, was the white-flowered Vanda known as V. Denisoniana, and which was grown by Mr. G. HANSFORD, gr. to J. ELVES, Esq. A better testimonial to Mr. HANSFORD's skill could not be desired.

MOSELEY ROSE SHOW, BIRMINGHAM.—This is an entirely new addition to the Rose exhibitions held in the month of July, and will take place on the 19th and 20th. It will take place in the grounds of Moseley Botanical and College Gardens, and in addition to valuable prizes for cut Roses, there are classes for groups of plants and bouquets. The show arrangements will be carried out by Mr. WILLIAM DEAN, Sparkhill, Birmingham.

THE "BOTANICAL MAGAZINE" for April contains coloured figures and descriptions of the following plants:—

Lilium primulinum, t. 7227, is a very pretty new species of Lily from the Shan States in Upper Burma, and which had been confused with *L. neilgherrense*. It differs from that species, says Mr. BAKER, in its shorter and more open tube, brown anthers, and style as long as the perianth segments.

The flowers are 5 to 6 inches long, pale yellow, with a broad funnel-shaped tube, and strongly recurved segments. It was introduced by Messrs. Low & Co.

Habenaria longicalcarata, t. 7228.—A native of the western mountains of the Indian Peninsula, and remarkable for the large three-lobed white lip, and especially for the greenish spur at its base, which is prolonged to a length of 5 to 6 inches. Introduced by Sir Mountstuart Grant Duff, who flowered it at York House, Twickenham, formerly the residence of H.R.H. the Comte de Paris, once famous for the

Journal of Horticulture, November 5, p. 388, fig. 76. It differs from any previously described in the very short, broad, curved corolla-tube. The interior of the tube is white, the limb spreading, with five broadly ovate lilac lobes. The solitary leaf is none other than one of the two seed-leaves developed into an ovate, oblong, subcordate, downy leaf. It was discovered in the Transvaal by Mr. GALPIN, who describes it as growing in crevices of cliffs and under rocks, only on the tops of the mountains. Kew.

Beaufortia sparsa, t. 7231.—A West Australian

savine plant is *Lychnis floecuculi plenissima* semperflorens of Ad. Muss. Should it come before the Floral Committee, we trust that body will refuse to recognise so objectionable a name. A more excellent way would be to call it *L. floecuculi* Muss' variety.

INTERNATIONAL FRUIT SHOW.—Honey is intended to take a prominent place at the International Fruit Show to be held on the Thames Embankment next October. A schedule of prizes has been pre-



FIG. 75.—VIEW IN GARDENS AT ROSEBANK GARDENS, MALVERN. (SEE P. 496)

collection of terrestrial Orchids, so well grown there by the gardener, Mr. NEEDLES.

Cirrhopetalum ornatisimum, t. 7229.—An extraordinary species, with four-sided pseudobulbs, from the top of which a solitary leaf is produced, while the tall, slender flower-stalk springs from the base, and bears at its apex a tuft or umbel of reddish-orange flowers, each of about 3 inches long, $\frac{3}{4}$ inch wide. The upper shorter sepal, and the two side-petals, bear fringes or tuft of bright red scaly hairs. The two side-sepals are deflected downwards, are twice the length of the upper sepal, and are pink-spotted. The lip is minute, fleshy, and crimson. Kew.

Streptocarpus Galpinii, t. 7230.—This is a new species, described by Sir JOSEPH HOOKER in the

Myrtaceous shrub, with ovate-lanceolate leaves, each about half an inch long. The flowers are borne in the axils of the leaves near the top of the stem, and are densely crowded, so as to form cylindrical masses, surmounted by the upper extremity of the branches, the leaves of which have no flowers in their axils, so that the axis appears to grow through the flower-spike. The flowers are crimson, and each bears five stamens, each of the five dividing into numerous subdivisions. Kew.

A HINT TO THE NOMENCLATURE COMMITTEE.—We note in the *Gartenflora* a figure and description of a double-flowered "Ragged Robin, *Lychnis floecuculi*." The name given to this unoffending but

pared, more than £50 being offered, and it is expected that most of our colonies and other honey-producing countries will be represented as well as all parts of the United Kingdom. There are several classes for cottagers, and the other classes include prizes offered for collections of comb and extracted honey of not less than 50 lb., or more than 150 lb.; twenty-four 1 lb. sections; twelve 1 lb. sections, best design in comb honey, &c.

FOLIAGED PLANTS FOR ROOMS.—While there are several handsome-leaved foliated plants which are well adapted for culture in rooms and halls, the one best suited to the purpose is *Aspidistra lurida* and its variegated variety. Well suited as some of

the Palms are, and the India-rubber plant, still the *Aspidistra*, with its thick and somewhat leathery leaves and shining surface, from which a dust deposit can be cleansed so readily, seems to claim to take the top of the list. A plant known to exist in good condition for two years in a room, seems to illustrate all the characteristics of a first-rate subject. The variegated variety appears to last as well as the green type, and they both will stand a good amount of shade and imperfect light. Too often the *Aspidistra* is allowed to suffer for want of water, and it should not be in too great a dry warmth of atmosphere. It is more of a moisture-loving plant than is generally supposed, and we have found plants do well when standing in an earthenware pan, with about an inch of water in it; it is a plant that well repays attention and cultivation. Next to the *Aspidistra* comes *Ficus elastica*. It is an excellent subject for culture in living-rooms, as gas, a dry atmosphere, and dust, do not seem to affect it; it grows quickly, and when well looked after, is always ornamental. We have seen examples grown in this way, in comparatively small pots, that have kept their leaves in good health right down to the base, and of a good green colour. It is a matter of attention. What is required is, that a damp sponge be passed over the leaves daily to remove the dust; it is an attention that has an important bearing upon the well-being of the plant. It is a subject requiring plenty of pot-room for the first three or four years, shifting to larger sizes as fast as the pots become filled with roots. It is a large absorbent of water, and a very slight dressing of some fertiliser, such as Standen's Manure, once a week or ten days, will be found of great value. The best Palms for rooms are *Geonoma gracilis*, *Scaevola elegans*, *Phoenix rupicola* and *reclinata*, the *Kentias*, and *Latania borbonica*. *Phoenix reclinata* is of a stiff habit, but there is a toughness about the foliage which adapts it for house culture. The broad dark shining green leaves of the *Latania* are well known. All three are plants of slow growth; the soil should be fairly stiff and well drained, and a deep rather than a wide pot appears to suit them best, as they go down and afterwards spread laterally. *Yucca recurva* should be placed among the best indoor evergreen plants. Its long lance-shaped recurved leaves are of a thick texture and easily cleansed. It is a subject of graceful habit, and looks remarkably well on a side-board. It does best in a rather strong loam, well drained, and the pots standing in an earthenware saucer containing some water. It is the dry atmosphere of rooms that tells against plants, and so the daily sponging is a matter of supreme importance. And they always seem grateful for a summer shower. They can be stood out in it for a short time, and then returned to the house greatly refreshed and invigorated for further service.

THE BARTRAM HOUSE AND GARDEN.—In the old stone house the great fireplace has been filled up, but few other changes have been made. The building is full of curious turns and cubby-holes. Back of the sitting-room, in the wing of the building, is an apartment with large windows looking toward the south, which was the botanist's conservatory. Here were reared such plants as could not stand a Pennsylvania winter—gathered in Florida or the Carolinas, or sent from Europe. In 1853 a *Handbook of Ornamental Trees*, by Mr. THOMAS MEERHAN, was published, the main purpose of which, as stated in its preface, was to describe the trees then in the Bartram garden. After Mr. EASTWICK's death, the fate of the garden was for some time dubious. In 1882, Mr. THOMAS MEERHAN became a member of the Common Council of Philadelphia, and at once introduced a scheme for the establishment of small parks for the city, in which the Bartram place was included. Repeated re-elections enabled him to follow the matter up, and finally, in the spring of 1891, the city took possession of the property, and put a superintendent in charge of it. The great gale of September, 1875, and some fifteen years of neglect have had their effect among the trees, but

many planted by the botanist's own hands yet remain. It should, says *The Popular Science Monthly* for April, be a source of gratification to all cultivators of science that this relic of the beginnings of botany in America is now assured of preservation.

AGRICULTURAL STATISTICS.—The Board of Agriculture has issued, in pamphlet form, a statistical record, showing the estimated total produce, and the average yield per acre, of the principal agricultural crops of the United Kingdom in the year 1891. The general results are shown in the annexed table:—

Crops.	Estimated Total Produce.		Yield per Acre.	
	1891.	1890.	1891.	1890.
Wheat	Bushels. 74,127,700	Bushels. 75,995,883	Bushels. 31.30	Bushels. 30.66
Barley	79,555,089	80,793,525	34.72	35.23
Oats	166,472,428	171,296,404	40.46	41.54
Beans	10,694,376	11,559,633	29.83	32.77
Peas	5,777,445	6,312,910	28.23	28.71
Potatoes	Tons. 6,090,047	Tons. 4,829,214	Tons. 4.74	Tons. 3.83
Turnips	29,741,587	32,002,201	13.40	14.27
Mangels	7,558,216	6,708,889	18.60	17.76
Hay from Clover, Sainfoin, &c. ...	Cwts. 85,566,162	Cwts. 97,045,740	Cwts. 31.39	Cwts. 33.19
Hay from permanent pasture ...	187,832,776	192,375,600	28.13	30.81
Hops	436,716	285,629	7.78	5.26

The estimated results, when thus contrasted, show that less Wheat, Barley, Oats, Beans, Peas, and Turnips, and very considerably less hay, are reported to be available this year (1891) than last (1890). Against these reductions an increased production of Hops, Mangels, and Potatoes has to be set. The Potato increase occurred almost wholly in Ireland, where this crop has yielded 4 tons to the acre in place of 2½ tons in 1890. The reduced produces in most other items is largely due to the smaller acreage under certain crops. Thus, while the estimated yield per acre of the Wheat crop is reported somewhat to exceed that of 1890, there were over 90,000 fewer acres carrying Wheat in the United Kingdom. In the case of hay, a series of lower yields, and, it may be added, a generally poor condition, are rendered still more important by the large reduction of well-nigh half a million acres in the surface mown in 1891. It must be further borne in mind that the unit of measure, viz., the imperial bushel, employed by the collectors of these statistics, is believed to have generally represented in 1891 a considerably lighter weight of grain than would in average seasons be its customary equivalent. The tables show that in the past year's harvest only one corn crop in Great Britain presented an excess over the acreage yield of 1890. Subject to the not unimportant qualification above referred to, Wheat is reported as exceeding by half a bushel per acre the yield of the preceding season. Barley shows nearly a bushel less than in 1890, and Oats are upwards of 2½ bushels below that crop. Beans are materially, and Peas slightly, below the yields of 1890, and both these crops are also below the standard. In root crops the reports place Mangels above and Turnips below the estimate for 1890, while Potatoes, with an average yield of 5.73 tons to the acre, are somewhat above the 1890 figure, but below the high level of 6.19 tons reported in 1889, and below the 6.11 tons taken six years ago as the normal standard of production in Great Britain.

THE ALMOND.—Everywhere round London the Almond may now be observed to be very full of blossom. Can we accept the fact as prophetic of a good bloom on fruit trees all round? Perhaps as far as the stone fruits are concerned, we may. Everywhere Plums appear to be covered with blooming buds, judging from what one can see in the fruit gardens of Middlesex. A correspondent states that he has a standard Green Gage Plum that last year gave the best crop he ever had, and yet it promises

to be as full of blossom as then. From what may be seen and heard, on walls and in the open alike, Plums show a rich promise, but whether the harvest of fruit will be equal to the promise remains to be seen. The Almond is one of the very best of our spring flowering hardy deciduous trees, and is well adapted for forecourt gardens. It succeeds well on the gravel and on the clay, but it is more fruitful on the former than on the latter. Objection may be taken to the Almond on the ground that it is too large for small forecourt gardens; but judicious pruning, thinning and shortening, can keep the head within bounds, and prevent to some extent, what is frequently seen in the case of trees utterly neglected in the matter of pruning, where the blossom is towards the circumference of the tree, and but little in the centre of the head. But by careful thinning and shortening, a compact head can be maintained with blossoms all over the bare branches. It is a good suburban tree, doing well in gardens in thickly-populated districts, even where a good deal of smoke abounds.

FRUIT CULTURE IN LANCASHIRE AND CHESHIRE.—The extension of the culture of small fruits in Lancashire is said to be largely on the increase; the Apple crop is not large in either county, but Gooseberries, Currants, and other small fruits are produced in large quantities for the Manchester and Liverpool markets. From 1890 to 1891 the small fruits acreage in Lancashire has increased from 1794 acres to 2162 acres, there being included in the latter return 1288 acres of small fruits grown in orchards, which indicates that Lancashire fruit-growers are making the most of land at their disposal, by cultivating Apples, Pears, Plums, and Damsons with small fruits on the same ground. Land other than that used for orchards or market gardens has also been utilised for the growth of small fruit to the extent of 400 acres. In Cheshire the acreage of small fruit lands is much less than in Lancashire, though it is said the lectures on fruit growing recently delivered in that county by direction of the county council, have awakened interest in the subject, and it is said will lead to an increased output. In Lancashire the greatest increase in the fruit area may be said to have taken place in the Fylde and on the Cheshire boundary, where the climate is more suitable for successful fruit culture than in the more exposed parts of the country. In his book on fruits and fruit-trees, Mr. LEO H. GRINDON points out an interesting fact. In dealing with the Gooseberry, he points out that the value of the nrispe Gooseberry can hardly be over-estimated. "To those classes in particular, of the working community whose occupations keep them much indoors in shops and manufactories, Nature, in early summer, supplies few things more healthful. Indoor workers require a larger amount of the description of acid such fruits contain than is needed by people who get plenty of fresh air, and for them the green Gooseberry comes in abundantly and cheaply."

PRIMULA FORBESII, as shown from Kew on Tuesday last, is a new Chinese species, with oblong, long-stalked leaves, and with wiry-flower stalks, with whorls of flowers as in *P. japonica*. The flowers are small lilac with a yellow eye. Probably after a short time the plant will improve under cultivation.

A MONSTER TREE FOR THE CHICAGO EXHIBITION.—A Californian big tree has been selected in Tulare county to be shown at the Exposition. A committee of the Board of Trade, after an extended tour of inspection, picked out a tree measuring 87 feet 9 inches in circumference at the base, 85 feet at 5 feet above the ground, and 65 feet at a height of 16 feet.

ERICA HYEMALIS.—In the columns of *Garden and Forest*, Mr. WATSON gives an account of this popular plant. The most singular circumstance about it is, that no one seems to know how, when, or where it originated. The Latin name given to it would lead the unwary to suppose that reference to

a botanical text book, or local Flora, would supply all necessary information. But this is not so. Some careless horticulturist gave the plant a Latin name instead of a garden name, and, consequently, has entailed unnecessary trouble and vexation of spirit upon his successors. Mr. WATSON concludes that it is a winter-flowering form of *E. perspicua*.

MANITOBA.—Those desirous of information respecting this wonderful Canadian province should consult the official *Handbook*, issued by the Manitoban Government. That its statements are not exaggerated, will be admitted by those who remember the wonderful display made in the Indo-colonial exhibition a few years ago. The Government agent is Mr. A. J. McMILLAN, 33, James Street, Liverpool, from whom this pamphlet may be obtained.

CARDIFF HORTICULTURAL SOCIETY.—The fourth show of the above, which is to be held on August 17 and 18, says Mr. H. GILLET, the secretary, promises well, the committee having carefully revised the schedule and added to the amateur and fruit classes. Energy, however, is greatly lacking on the part of many would-be exhibitors, which if it could be created and applied in the right direction, would make the show one of the best in the provinces.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The quarterly meeting of this Society was held at the Caledonian Hotel, on Monday evening last, and the chair was taken by Mr. G. W. CHAMBERS. The election of new members was first proceeded with, ten more being added to the list. Two cheques were granted to the nominees of members who have died, viz., Mr. BENJAMIN COOMBE, who died at Victoria, Texas; and Mr. WILLIAM ROSIE, late of Putney. The sick-list was very heavy during the first two months, but at the present time there is not one on the funds, which shows that the general health of the Society is extremely good. The usual business being concluded, a hearty vote of thanks to the Chairman ended the meeting.

TEETH OR TASTE.—An American gentleman, giving his experience of things in England for the benefit of his countrymen, speaks of our Apples as inferior to those grown in the States, and we can and do grow world-renowned Apples in this country! But he lets us gently down by adding that our Plums and Strawberries are the finest he ever tasted—of course. To our thinking the soundness of his judgment is dominated by that of his mastication. He so readily admits the superiority of our soft fruits that we are inclined to think that in the matter of Apples it may be a question not of taste but of teeth.

LINNEAN SOCIETY.—At the meeting held on April 7, Professor STEWART, President, in the chair, Professor D'ARCY THOMPSON and Mr. W. SOMERVILLE were admitted Fellows. Mr. SPENCER MOONE exhibited and made remarks upon some samples of Maté, or Paraguayan Tea, recently brought by him from South America. Mr. W. S. D'URBAN exhibited specimens of the shell-slug (*Testacella maugei*) from Devonshire. A paper was then read by Mr. D. MORRIS, "On the Phenomena concerned in the production of forked and branched Palms," the conclusion arrived at being the following:—1. Branching is habitual in certain species of *Hypophyllum*; occasional in others, and occasional also in the genera *Areca*, *Rhopalostylis*, *Dictyosperma*, *Oreodoxa*, *Leopoldinia*, *Phoenix*, &c. 2. Branching in many cases results from injury to or destruction of the terminal bud, causing the development of axillary or adventitious buds below the apex; these buds, when lengthened out, produce branches. 3. In some cases, as in *Nannorhops Ritchiana* and *Phoenix sylvestris*, branching is caused by the replacement of flowering-buds by branch-buds. In such cases the branches are usually short, and are arranged alternately along the stem. The terminal bud is

apparently neither injured nor destroyed. A paper by Mr. A. W. WATERS, "On the Gland-like bodies in the *Bryssa*," was, in the absence of the author, read by Mr. W. PRECY SLADEN.

BOOK NOTICE.

THE FRUIT-GROWER'S GUIDE. By John Wright. (Published by J. S. Virtue & Co., Limited, 294, City Road.)

We have before us several numbers of what promises to be an exhaustive treatise on the cultivation of such hardy fruits as will grow to perfection in these islands. We may pass over in view of the amount of contemporary discussion on the subject, the somewhat lengthy introductory chapter, noticing merely the *raison d'être* for the publication of the work—the desire on the author's part to put fruit culture in its proper light before the country, and to refute many of the impossible theories which some enthusiasts have sown widely in the country. We are of course convinced that the fullest measure of fruit-growing by our farmers will not of itself save their occupation from ruin, and we do not believe there is any true farmer who is foolish enough to suppose it would so do. Their salvation as a class must come from a more intimate acquaintance with the methods by which science can aid practice, by the economical management of crops and animals, and constant supervision of their workpeople, and perhaps by some method of real co-operation or co-partnership with these. To small holders and occupiers, the matter appeals much more strongly.

The author admits to the full, despite some disadvantages of climate, (the general adaptability of this country, meaning, we assume, England and Wales, and parts of Ireland and Scotland, for fruit culture. In support of this contention, he remarks on the prodigious crops borne at times by Plum, Damson, and Cherry trees. But these fruit trees are in other countries much more prolific than here. Still, we will not quibble, and we have reason to know that his statement with regard to the good quality, generally, of the fruits of such kinds as we mainly cultivate, is not exceeded by those of any other land, with the exception, perhaps, of Pears, and some of the finer varieties of Plums. If we have failures, apart from frost, hail, &c., he ascribes them to man's agency, and rightly so.

The details given as to the conformation, anatomy and physiology of plants are mostly those current a century ago. Errors of fact are, of course, less numerous than faulty interpretations, but should a re-issue be called for, as from the general excellence of the work may be expected to be the case, this portion should be entirely re-written.

In regard to the storing of fruit, and sending it to market in attractive guise, much useful information is afforded, and although there is nothing new to be said, it being a well threshed-out subject, we can pardon the reiteration for the sake of its great value, to the market grower.

The chapter on pruning contains much that will be found of use by the young fruit-grower and the inexperienced enthusiast, who, having more money or enterprise than knowledge, engages in this kind of supposed money-making with a light heart, only to find, too late, that he was ill-equipped for the business. Many admirable, if roughly-executed, woodcuts illustrate these chapters, and will be found of great use to the learner. Both root and branch pruning are illustrated, and the good results pointed out which follow the various practices. Those who have to deal with gravelly or other dry soils will find their particular cases dealt with in a succeeding chapter.

In the chapter on soils, the rather doubtful hypothesis that "meteoric" agencies have assisted in the formation of alluvial drift-soils from rocks is maintained, but perhaps the author uses the term "meteoric" in a somewhat different sense from what

is usual. This chapter appears to be needlessly long for a work of this kind, and might be much reduced, it being of small use to the run of cultivators. The statement that soils are stirred by the plough to a depth of 6 inches only, requires qualifying, the Champion or turn-wrest plough turning it over to twice that depth.

Drainage of land is well dealt with, but is it necessary to exclude moles from entering drains at their outlet? What could these animals find that would entice them into a wet drain-pipe?

In the part dealing with the preparation of soils, our author is quite at home, and much useful information afforded; as also in the chapter on manures. In this the several mineral manures, as potash, kainit, saltpetre, are brought under notice, and trustworthy data are given as to quantities to be used. The dung of fowls and pigeons, commercial guano, humus, farmyard manure, and the methods of applying them as a top-dressing, come in for a share of notice, and in popular terms.

Contrary to recent teaching, the author pins his faith on walls as aids to fruit-growing rather than on glass structures, and we think with some reason; but he does less than justice to his preference for the former, by omitting to mention the initial greater costliness, and the cost of labour in management, besides omitting to state that much of the hardy fruit grown under glass is handsome but flavourless. As a fact, we do not make half use enough of our walls. How much, for instance, is wasted of the large pieces of walling in the old-fashioned farmhouses and the gardens attached to them. If these now almost-unused areas of soft heat-imbibing brick and stone were covered with Apricots and Pears, fine varieties of Plums and Peaches, an additional source of income would accrue to the oppressed farmer.

We are afforded a plan of a model fruit garden which we are almost inclined to call too complete, in which all kinds of fruit, tree and bush, and almost every known form of training is calculated to find a place. As a product of the imagination, an ideal creation, it is all very well; but we greatly doubt if such a garden will ever be formed. It measures, if drawn true to scale, 768 by 576 feet.

A much needed subject, the renovation of old and neglected orchards, has a chapter to itself, in which there is found a good deal of useful information. Orchard planting is a pet subject with Mr. Wright, and he handles his subject as one who is thoroughly conversant with the various operations of land preparation, planting, choice of kinds and varieties, and whether these are intended for market or private use.

The raising of new varieties of fruits comes in for treatment, and much praise is bestowed on the two Messrs. Rivers, the present proprietor of the celebrated nursery at Sawbridgeworth, and of his father Thomas Rivers; and mention is duly made of the various fruits raised from seed by them. Some of these are even at this comparatively early period coming to the fore, possessing as they do either great earliness or lateness of ripening, combined with other desirable good qualities. We may mention in this connection, *Advance Nectarine*, which ripens in July, a fortnight before Lord Napier; the improved *Downton Nectarine*, with the flavour of the Stanwick, ripening in August; Newton, a splendid September Nectarine, also with Stanwick flavour, if but slight; and Victoria, a large richly-flavoured variety, ripening at the end of September. Here we have Nectarines which give us fruit during a period of ten weeks. Of Peaches raised at Sawbridgeworth we will give the earliest, which is *Early Beatrice*, middle of July; *Golden Eagle*, the latest, a very large, piquantly-flavoured fruit, ripe early in October.

In Plum *Early Favourite* we have a fruit that is ripe at the end of July; *Monarch*, ripening late in September; and *Grand Duke*, in the third week of October, making a very long season of Plums, with many good varieties to fill the interval. What has been done for Nectarines, Peaches, and Plums, Mr. Wright wishes to see carried out with other kinds

especially Apples. We stand in great need, he says of well-flavoured Apples, that have good constitutions, and are free and early croppers; and, we will add, that have tender flesh and attractive appearance.

The various operations of budding, grafting, and other methods of increase, are well treated of and copiously illustrated. Stocks on which to bud and graft fruits have a chapter to themselves. Here we note a slip that requires correction. After telling his readers that stocks of Continental origin are too tender in constitution for our climate, a statement which, by the way, is open to doubt, as the winters of the Apple-growing regions of Europe are much colder than ours, he remarks that the so-called free stocks are taken from, amongst other sources, the most of Normandy cider-presses.

The illustrations by Miss May Rivers are excellent, effective, trustworthy, and accurate as to detail. Of course we want more. What reviewer does not? and we should like to see additional sketches, showing the habit of the individual tree, the form of the buds, and the colour of the young wood.

The method of publication is peculiar, the issue being "confined to subscribers, and supplied by the publishers' agents only." This arrangement, which is presumably adopted to secure the publishers against loss, is very suitable in the case of a recondite work, appealing to the few, but is hardly so well adapted to a book which to do good must be widely circulated, and one which appeals to a large constituency. The work will be completed in three volumes each, with fifteen coloured illustrations.

If we rightly infer the author's intentions, from the numbers before us, to take seriatis all the more valuable varieties of hardy fruits, describing and illustrating them by woodcuts or coloured sketches, the whole work, when completed, will furnish an admirable book of reference, especially if it be provided with a good index.

NURSERY NOTES.

CLIVEIAS AND HIPPEASTRUMS at B. S. WILLIAMS & SONS' NURSERY at UPPER HOLLOWAY.

It was mainly to see Messrs. Williams' very fine collection of these plants, that we went to Upper Holloway recently, and the show they presented was such that we were amply repaid for our journey.

The Cliveias occupied a span-roofed house of good size, and were furnished with healthy dark green foliage, and most of them were carrying large strong scapes, with from ten to upwards of twenty flowers upon each. Besides these, we observed another batch of these plants, which were being retarded in a cool house, so as to furnish a succession, and it surprised us to find that they were kept perfectly dry at the roots, although they had scapes about 2 inches high, and yet the plants showed no sign of injury. It may be that such a practice would be fraught with danger to plants in a less healthy condition. The varieties most noticeable were among the newer ones. Ambrose Verschaffel, which is large-flowered, and has a very fine umbel, containing, at least, twenty flowers. Meteor, whose flowers are darker, especially at the tips of the petals; and General Gordon, which is by far the most distinct of this group of Cliveias. The flowers of this last-named variety are small, but the fact of the throat being white, and the rest of the flower of a deep orange, make it a most desirable variety.

The Hippeastrums were standing in a house adjoining, and here, again, the results of successful culture and skilful hybridising were observable. The following are all new:—Crimson Banner is a fine dark crimson flower, with clearly-defined white lines running from the throat upwards; Dazzle is somewhat similar to this one, but the tips of the petals are of a deeper colour; Model is of a very dark crimson colour throughout; Princess Victoria is a charming variety, the three bottom segments being all but white, whilst the upper one is veined

a little with light red; Geo. Wainwright, Distinction, Indian Chief, and Red Prince, are all very pretty flowers, of good quality.

In the Orchid-houses were good spikes of *Vanda suavis*, *V. tricolor*, and *V. insignis*; a very good form of *Cypripedium Morganæ*, and two good broad-petalled *Odontoglossum Alexandræ*.

HOME CORRESPONDENCE.

THE CARROT GRUB.—Can anyone suggest a means of destroying the Carrot grub? I have been much among cottagers and others of late, speaking to them about the culture of vegetables, and on every hand I hear complaints of the harm done to Carrots by the grub. This grub is the larva of the Carrot fly (*Pila cauda*), and it proves very destructive by boring into the roots, causing what is called the rust, and sometimes the death of the plant. At a gathering of cottagers, allotment-holders, and farmers that I recently attended in the neighbourhood of Reading, I was informed that in the district of Sunfield the Carrot crop was severely injured by this grub, so much so that it is difficult to get roots of much value. One farmer told me he had dressed the land with lime, soot, and other materials, but the ravages of the grub were unchecked. Gas lime, he had found, destroyed the crop as well. What is experienced at Reading is the experience of others in many parts of the country. It is true of some of the allotment gardens in Ealing, and whether the soil be heavy or light, and however treated, the Carrot crop appears to be the most difficult to rear with any chance of success. Mr. R. Thompson, in the *Gardeners' Assistant*, recommends "a dressing of sand, saturated with spirits of tar, scattered over the ground, previous to digging, at the rate of a gallon of the spirits of tar to 60 or 70 square yards, as preventing the attack of the maggots. Quicklime dug into the ground, after lying two or three days on the surface, is also a good preventive." And he further recommends trenching the ground in the previous autumn, immediately after the former crop has been removed. But much of this the farmers at Sunfield had attempted without materially abating the injury done by the grub. In some parts of the country the wireworm is very troublesome, but Messrs. Sutton & Sons in their book on *The Culture of Vegetables* say they have little faith in nostrums and specifics, and recommend judgment in choice of ground, deep digging, and the preparation of the beds in good time, as the best preventives. They add, "It has been observed that main crops sown early in April suffer more than those sown late, and the lesson is plain; and it has also been observed that where the crops have suffered more severely the land was made ready in haste, and the wild birds have had no time to purge it of the insects which they hunt for so persistently as their daily food." Any information which can be afforded as to the best means of destroying the grub without doing injury to the crop will, I am sure, be greatly acceptable to many. R. D.

GARDEN POLYANTHUSES.—I find it very difficult to follow Mr. Douglas when, in the same paragraph he writes, "Laced Polyanthus are amongst the most beautiful of hardy plants, but for border plants in the South of England they are absolutely worthless." I am free to admit that there is beauty of its particular kind in perfect gold-laced flowers, but then these are really good only under glass anywhere, whilst the great bulk of any ordinary strain are under glass or outdoors absolutely worthless. Why then affirm that these gold-laced varieties are of the most beautiful of hardy flowers? In the matter of either beauty or decorative effect, there is really no comparison between the gold-laced strains and good border strains. I venture to place good forms of these border Polyanthus in the very front rank of hardy plants—indeed for spring-blooming plants they are not excelled. The public have found that out, and for one who grows the gold-laced forms, either in pots or out in the garden, fifty grow the various and larger-flowered border varieties. Those who have seen the comparatively insignificant poor unpretentious-looking things shown as gold-laced at the James Street Drill Hall, have regarded them as very ineffective indeed when they have seen the beautiful heads of bloom the fancy varieties have produced. What folly is it, therefore, to label the gold-laced forms only as Polyanthus, just because a

few fanatics will regard them as being only florally elect. The chief value of these gold-laced forms, so far as I have seen, is found in their capacity to win some prizes, but from a true floral point of view, money was never more entirely wasted than when so applied. If the plants had in themselves enough inherent beauty to render them popular, they would not want prizes to keep them in existence, as it is competitions for these small rewards almost alone that keep gold-laced Polyanthus in cultivation. When we see a good pip of Exile, Cheshire Favourite, or Lancer, we see the very best the gold-laced forms can produce, and really high class pips or flowers even on these are none too common. But worst of all is the fact, that all the efforts of raisers of almost hundreds of thousands of seedlings have never yet enabled them to get beyond what these old varieties produce. The gold-laced section is a played-out strain. It has reached the end of its tether, and has run its course. Now, the hardy-border section (of which plants should never be grown in pots, but which may be lifted into them just when they show new growth early in the spring, for house flowering), are so susceptible of development, that it is practically impossible to check the tendency, unless only the most worthless forms be employed as seed-producers. Now, when seed is saved from the very finest of gold-laced forms, the product almost invariably is, as compared with the seed-parents, rubbish; but save seed from the finest of the border varieties, and the product will assuredly be some improved forms, and few, if any, inferior to the parents. Even the very poorest, however, will make a robust plant, carry fine heads of bloom, and give a finer effect than will a dozen of the gold-laced seedlings. If anyone doubts what I have said, let them get packets of seed of the best strains of both sections, sow it in shallow boxes or pans under glass early in March. It will germinate freely early in April, and give a lot of plants to dibble out thinly into specially-prepared beds about the end of May. The seedlings can remain in these beds until October, and then be transplanted to wheresoever found most desirable for blooming the following spring. Very much is gained by sowing seed thus early under glass, as germination is quicker and more even. It is a still better plan to sow the seed well fresh on a shady border early in the autumn, and let the seedlings so remain until the spring. A. D.

REMOVAL OF THE LEAVES.—The remarks in the *Gardeners' Chronicle* of last week, p. 467, on the removal of the leaves in France during the later stages of the growth of Vines, with a view to hastening and heightening the maturity of the Grapes, have an additional interest to me at this moment, as I find the market growers of Strawberries in Sussex almost invariably cut off the leaves so soon as they gather the fruit. It must be forty years or more since Dr. Lindley, the Editor of the *Gardeners' Chronicle*, in his usual sledge-hammer style, utterly destroyed, and figuratively danced upon this cruel, wasteful, and unnatural practice; and yet, here it is, in full swing in a county within fifty miles of your office, and by those who live by fruit growing. All horticulturists know when and how we are to learn the techniques or nice points of practice in horticulture. But I was not prepared for this whole removal of Strawberry leaves, though I will partially try to maintain an open mind until I hear a modern defence of the practice. One of the most powerful defences against the onslaught of Dr. Lindley on the practical men who aided and abetted him in the establishment of the more rational and natural method of leaving the leaves alone to finish their dual work of maturing the crowns and keeping them warm during the winter, was that the young leaves would be more efficient and more potent in both directions than the old ones. The wholesale destruction and absence of old Strawberry leaves in Sussex in the first week of April this year totally disproves this contention. I have never seen a more wholesale destruction of Strawberry foliage, nor, on the whole, less promising crowns; but the effects of locality on appearances is very marked, and as the local growers seem hopeful of their crops, it is to be hoped that the yield may favour present promises. But if this is the best that the removal of Strawberry leaves can promise for the protection and fuller development of the crowns, then it does not strike strangers as worth the candle—that is, the cost—to say the least of it. D. T. F.

THE HARD PRUNING OF ROSES.—Since writing the notes that appeared last week on p. 460, I have

seen an exhibitor's Roses, or rather the rich ground a yard deep, naturally a capital Rose soil, and further enriched with bone-meal for colour, and nitrate of soda for verdure and size of foliage. It is quite true I did not see the Roses, for the all-sufficient reason they were stripped quite back to the

looked at a few yards distance like a piece of fallow ground waiting to be cropped with Potatoes, few of which are yet planted in some districts. Now, as nothing succeeds like success, and these Roses have won many special and other prizes at the National and other shows, it will be wiser not to condemn

restrictive culture also limits the duration of the life of Roses and other plants to the shortened limits. But the grower for show, pure and simple, cares for none of these things. His nursery for rooting Briars (he will have none of the seedlings), is near to lines of stamps, and he has also his con-

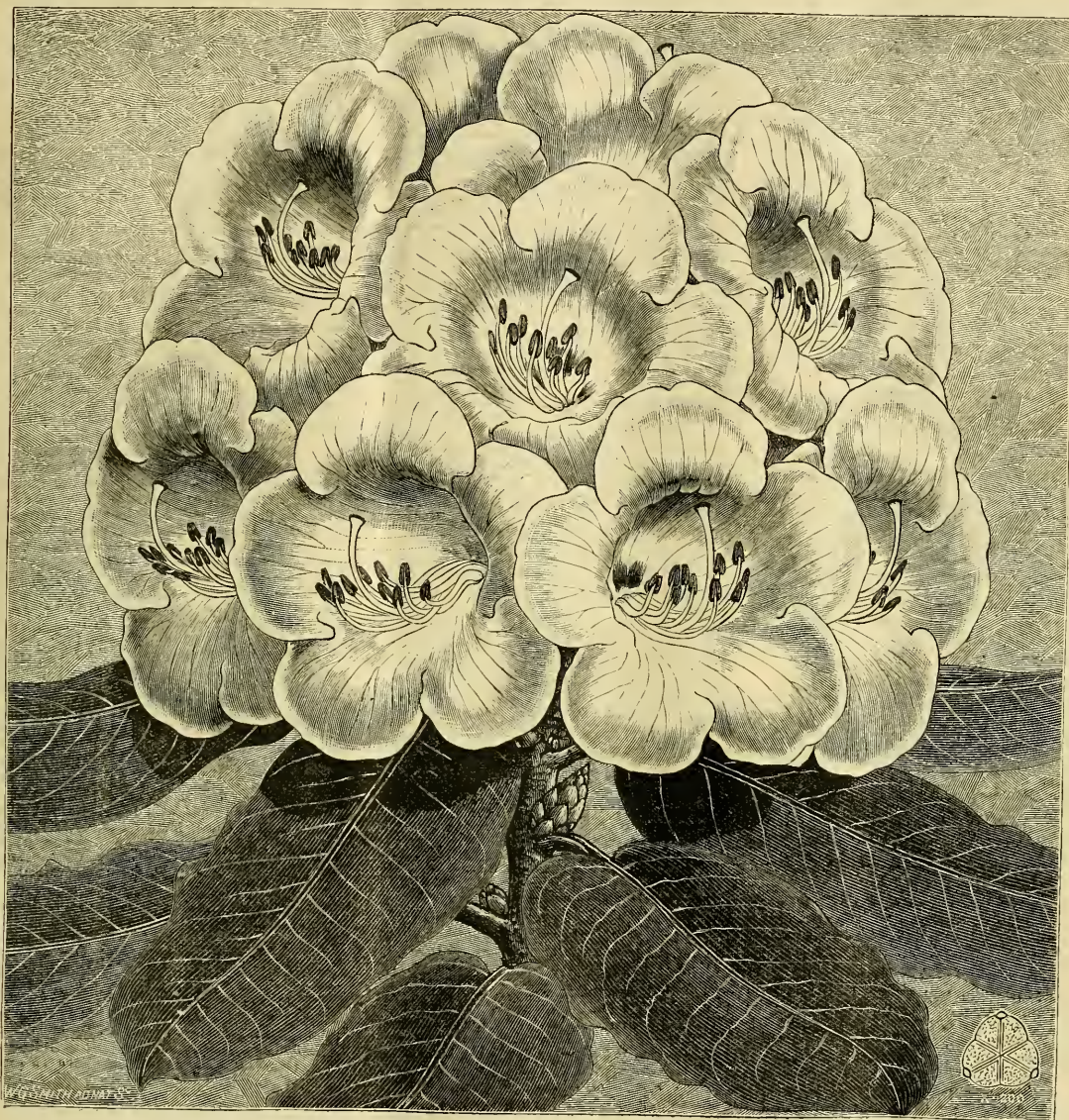


FIG. 76.—RHODODENDRON CAMPYLOCARPUM: POLLEN-GRAIN MAGN. 200 DIAMETERS. (SEE P. 502.)

ground line, and some of them, notably the Tea and Briar cuttings, beyond the ground line, so that here, whilst there was any amount of Rose force underground, there were no Rose shoots above the ground line. I beg pardon, there were a few, such as the Duke of Edinburgh, which needed long pruning, and after careful examination these were found with two or three eyes to a shoot. But the others, of which there was a large number,

the practice of such extremely hard pruning. But in the face of it, it does seem such a sad waste and suppression of beauty. Here are Rose plants by the thousand, overflowing with suppressed energy and decapitated force, crowded together about 2 feet by 1, or less, and capable of clothing with beauty, and filling with fragrance, an area of six times the extent. It really seems like carrying the theory of the concentration of forces to cruel extremes. Such

inconveniences for grafting, and budding, and keeping up his stock of exhibition Roses, as well as cash to spare to purchase novelties or additions as wanted or desired. And so long as he continues to carry off the chief prizes, all is well so far as he is concerned. And yet it is somehow impossible to look upon his Rose garden of stumps without a feeling of pain, and to exclaim in a whisper how are the mighty fallen, and what a wealth of frustrated fragrance

perished in the faggots formed of these vigorous tops. But then, on the other hand, by the concentration of the vital force of those twenty or thirty short power roots into three or five, by tying each shoot to a stake, by disabusing even the few left to one bloom or so to a shoot, by feeding with liquid or solid manure during the development of these few buds, the results are prodigious in size, and may prove almost perfect in colour, texture, and finish. But it still more widens the breach between growing Roses for show as distinct from the pleasure of growing them for the sweetening and enrichment of our gardens and landscapes. *Rosa*.

FERN STEALING.—This neighbourhood swarms with a gang of Fern-tramps carrying large sacks. In districts like ours, where there are large woods (Wentwood, Forest of Dean, &c.) great damage can be done before the tramps are seen. Near Chepstow, *Cystopteris fragilis* var. *Wynensis* has been all carried away; fortunately another habitat exists that has not yet been discovered by the thieves. These men evidently know but little of the Ferns they gather, as the common male Fern shares the fate of all other species. The neighbourhood of Bristol, Glastonbury, &c., is equally overrun, and thousands of the *Osmunda regalis* have been carried away. As long as there is a market for the plants, these marauders will endeavour to procure them. *E. J. Lowe, Shirenewton Hall, Chepstow*. [We saw a few days since many bushels of "Devenshire" Ferns, exposed for sale on cormormongers' barrows, in Farringdon Street, at 5d. and 1s. the dozen. At this rate, there will soon not be a Fern left. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL.

APRIL 12.—The display of plants and cut blooms of various plants, of Roses, Orchids, Amaryllis, Narcissus, and New Holland and Cape, was one of a most creditable kind, and occupied much of the usually available space. Albeit the weather had changed from warm to chilly, with a northerly wind in exchange for the balmy gales of a few days previously, the attendance of visitors was satisfactory. Novelties were noted in Orchids, Roses, Narcissus, and Magnolias; and, altogether, the meeting was replete with interest.

Floral Committee.

Present, W. Marshall, Esq., in the chair; and Messrs. B. Wynne, R. Dean, R. Owen, J. Laing, Owen Thomas, W. Ruzze, G. Nicholson, R. B. Lowe, N. Davis, T. W. Girdlestone, E. M. Breeley, C. E. Pearson, G. Philipson, F. Ross, G. F. Breeley, C. E. Suter, W. Bain, T. Baines, C. Noble, H. H. D'Ombraim, J. Fraser, H. Turner, G. Paul, and G. Gordon.

The exhibits with which this committee had to deal were attractive and good. Messrs. Hugh Low & Co., Clapton, were awarded a Silver Flora Medal for a group of New Holland plants, which was composed of very useful hard-wooded stuff, and shown in first-rate condition. *Erica ventricosa coccinea* minor was there in abundance, *Boronia heterophylla* and *B. megastigma* also were remarkably well-grown little examples; *Pimelea spectabilis*, with its lovely bluish-white flowers, had a very charming effect; as also had *Aotus gracillima* and *Erica Cavendishii*.

A Silver Banksian Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for a group of miscellaneous plants, including a very choice collection of Amaryllis and Cliveas. The *Hippeastrum* (Amaryllis) created quite a blaze, and showed ample evidence of good culture and selection. The best of these were perhaps *Princess Victoria*, a variety with good-sized blooms, the greater part of which is white, but with which is mingled a little pink; Dr. Masters, a dark crimson flower, rather small, and of a dwarf habit; and B. S. Williams, a wholly-white flower, which has been out some time. Among the Cliveas, the most noticeable were *General Gordon*, with a white throat, but the rest of the flower a very dark red; and *Surprise*, which was a beautiful soft flesh colour throughout.

Awards of Merit were granted to Messrs. J. Veitch & Sons, Chelsea, for their Amaryllis *Crimson King*, which had very fine colour; and to Messrs. G. Paul & Son, Cheshunt, for their fine Amaryllis *Firebrand*, a variety with dark-coloured blooms, mingled with white.

Messrs. Paul & Son, Cheshunt, staged a group of

hardy herbaceous plants, amongst which were *Magnolia stellata plena*, a very pretty plant, with ten to twelve blooms, and about 18 inches high; *Primula denticulata* and *P. rosea*, a very nice *Canna* (Miss Sarah Hill), and *Saxifraga oppositifolia*.

A very excellent group of Anthuriums was staged by Sir Trevor Lawrence, Bart. (gr., Mr. Bain), containing a few fine seedlings; one of these has a clear white spathe and a pink spadix, and another had a very large deep-red spathe and a white spadix. For this group the committee awarded a Silver Banksian Medal. A double-flowering *Cyclamen*, with upwards of fifty blooms, was shown by Mrs. Everfield, Denne Park, Horsham; and *Hyoscyamus orientalis* by F. M. Barton, Esq., Highfield, Gainsborough.

Primula Forbesii, a small lilac flower, about 18 inches high, came from the Royal Gardens, Kew; whilst Mr. Jas. Hudson, gr. to Messrs. Rothschild, Gunnersbury House, Acton, exhibited cut flowers, and a photograph of "The Yulan" (*Magnolia conspicua*). Messrs. J. Veitch & Sons had also *Magnolia stellata* (syn. *Halliana*) and *M. s. rosea*.

Messrs. Robert Veitch & Son, Exeter, were awarded a First-class Certificate for *Rhododendron campylocarpum* (see fig. 76, p. 501), a very pretty variety of a delicate yellow colour. By the same firm were exhibited *Lonicera pelorhynchus*, the blooms of which were not fully expanded, *Azalea Daviesii* and *Richardia athiopica* compacta, with bloom about 21 inches high.

A well-grown lot of Roses as bushes and standards, fairly well bloomed, and several boxes of cut Rose blooms, came from Mr. W. Ruzze, Joyning's Nursery, Waltham Cross. The cut blooms, mostly Tea and hybrid Teas, were remarkable for freshness and purity of colour. We may mention *My Rivers*, a creamy-white full flower and nice form; *Grace Darling*, *Princess Beatrice*, fawn, with a pink centre.

The new Tea Rose, *Waban*, was shown by Messrs. W. Paul & Son, Waltham Cross. It is a small Rose of cerise-pink, looking like a useful bouquet or button-hole variety; the H.P. Spenser, a full globular bloom of good substance; and *Medea*, a whitish Tea of medium size as seen, and their less novel variety of Tea Rose *White Lady*.

From the nursery of Messrs. W. Cutbush & Son, Highgate Hill, came a group consisting of *Erica persoluta*, *E. Cavendishiana*, *E. hymalis*, several white Indian *Azaleas*, which were intermingled with tall-growing *Narcissus*, the whole being supported at the back with small *Palms* and *Dracenas*. As a study in colours it could hardly be called effective. The firm contributed *Epiphyllum Mackoyanum*, a variety with deep red pendent flowers, having a marked resemblance to the other novelty in *Epiphyllums* *Gertneri*.

Mr. W. C. Leach, gr., Albury Park, Guildford, showed some excellent *Mignonette* *Princess of Wales* and *Her Majesty*, both equally meritorious, and nine pairs of well-bloomed *Lily of the Valley*. Some flowering shoots of *Rubus spectabilis* came from the same gardens, with Mr. Leach's opinion appended, that it was excellent for planting under trees, and was one of the earliest plants to flower in the open air. The colour of the flowers is rosy-purple.

A fine basketful of a pure white *Cineraria*, named *Snowflake Improved*, was shown by Messrs. J. Carter & Co., High Holborn, London. It is not like the older *Snowflake* furnished with a purple disc but is wholly white.

Messrs. J. Laing & Sons, Stanstead Park Nursery, Forest Hill, S.E., sent a pan planted with a variety of *Primulas*, as *P. acutis* *Crousi*, *P. a. lilacina*, *P. a. platypetala flore-plena*, &c., surrounding a plant of *P. denticulata*, which as a whole was pleasing. From the same nursery were remarked a plant of *Tecophylea cyncrococcus*, a mite of a thing, with a Gentian-like blossom. This got a First-class Certificate; another good plant shown by them was *Dracena Barteti*, which is a plant furnished with bronzy-green leaves, broad and semi-erect, and edged with bright crimson, of which hue are also the leaf-stalks and midrib. A good table and general decorative variety. A basket of great *Niphetos* Rose flowers came from Mr. H. Turner, for which he received a vote of thanks.

Orchid Committee.

Present: H. J. Veitch, Esq., in the chair; and Messrs. J. O'Brien, C. De B. Crawshaw, H. M. Pollett, T. W. Bond, H. Ballantine, W. H. White, C. J. Lucas, J. W. Schroder, J. Douglas, E. Hill, M. T. Masters, S. Courtland, H. Williams, and T. B. Hayward.

Notwithstanding the coldness of the day, an extensive and interesting show of Orchids was staged by nurserymen and amateurs, Messrs. F. Sander & Co. showing a very fine lot, among which the new *Cypripedium Chamberlainianum*, which was unanimously awarded a First-class Certificate, was the gem of the whole show. There is a quaint beauty about the markings of this plant, and a richness of colouring in the bright rosy-crimson spotting of the lip which is unmatchable; and among its other merits is its distinctness from those of any other known species. Messrs. Sander & Co. had a grand specimen of *Oncidium ampliatum majus* with six spikes; many of the beautiful *Dendrobium Phalaenopsis Schroderianum* of all tints; *Masdevallia Courtlandiana* X, *M. Gelengiana* X, *Ondotoglossum Cervantesii roseum*, many fine *O. crispum* and *O. Pescatorei*, some good forms of *Masdevallia Harryana*, *Cypripedium cordatum*, *Dendrobium Venus* X, and other species.

A like award fell to Messrs. B. S. Williams & Sons, Upper Holloway, for a fine group of Orchids, in which were eight specimens of *Vanda navis* and *V. tricolor*, some very fine *Dendrobium Wardianum*, many good *Ondotoglossums*, *Cypripedium Morgana* X, *C. Schroderi*, *Oncidium superbien*, *O. sarcodes*, *Ada aurantiaca*, *Dendrobium Phalaenopsis Schroderianum*, a fine *Cochlidium vulcanica grandiflora*, &c.

Messrs. Hugh Low & Co., the Nurseries, Clapton, E., had a group of Orchids, comprising various forms of *Cattleya Mendelii* and *C. Trianae*, the *C. Mendelii* *albena*, a pure white-petalled form being very pretty. In Messrs. Low's group also there were some fine *Ondotoglossums*, *Angracum sesquipedale*, *A. fastuosum*, *Cattleya Lawrenceana*, *C. intermedia amethystina*, *Cypripedium volutatum*, *C. levigatum*, *Lycaste plena*, *Measuriesiana*, *Vandas*, *Saccolabium bellinum*, *S. bigibbum*, &c.

Among the amateurs, Sir Trevor Lawrence, Bart., M.P., took the lead with a small group of rare things, among which the best was his hybrid *Cypripedium Lawrellianum* X (*Lawrenceanum* X *bellatulum*), a most beautiful thing with flowers shaped more like those of *C. Lawrenceanum* than the other parent. The whole flower was of a rich rosy-crimson with a tinge of green at the base of the sepals and petals, and a pure white white margin to the upper sepal. The petals were spotted with chocolate colour, and there were numerous purplish-brown lines radiating from the base of the upper sepal. Fully like some forms of *C. Lawrenceanum*, but with the markings closer or smaller in pattern. Sir Trevor Lawrence also staged the richly-spotted *Ondotoglossum crispum pardalinum*, two *C. Elliottianum* (one with eight flowers), *C. Fraseri* X, *C. Patersoniana* X *C. Clivenfordi* X, much like a *C. selligum majus*; and the pretty bright yellow *Bolbophyllum* (*Sarcopodium*) *Sillemanum*.

C. J. Lucas, Esq., Warham Court, Horsham (gr., Mr. Duncan), had a group of well-grown Orchids, comprising two fine *Angracum Sanderianum*, *A. articulatum*, *A. Leonis*, with eighteen flowers; *Pescatorea Klaborchorum*, *Masdevallia chimera*, *Ondotoglossum Cervantesii decorum*, with over twenty flowers; *Saccolabium ampullaceum*, *Cirrhopetalum puncturatum*, *Ondotoglossum*, *Miltonia Moreliana*, &c.

G. R. Le Doux, Esq., Langton House, East Moulsey (gr., Mr. B. Bowyer) had a select group, in which prominent were a very fine form of *Ondotoglossum Wilckeanum*, a rich yellow-spotted *O. excellens*, a fine *O. triumphans* and various other *Ondotoglossums*, *Cattleya citrina*, and *C. c. virens*, a curious green-flowered form; a large and well-bloomed *Dendrobium primum*, and a magnificent variety of *Miltonia Rozelliana* (Silver Banksian Medal).

H. J. Elwes, Esq., Colesborne Park, Gloucestershire (gr., Mr. G. Hansford) exhibited an extraordinary specimen of *Vanda Denissoniana*, with several growths with fresh green leaves down to the base of the plant, and eight spikes of clear ivory white flowers. A Silver Banksian Medal was awarded for its fine culture.

Messrs. Linden (l'Orticoltura Internazionale), Parc Leopold, Brussels, sent *Ondotoglossum Pescatorei* *Lindeniana*, a noble purple-spotted form; *O. maculatum*, also spotted with purple; *O. triumphans chrysanthum*, *C. Cervantesii decorum*, *Cypripedium insignis* *slamense*, and the fine new hybrid, *C. van Molianum* X (*Spiracium* X *hiracanthum*).

Messrs. J. Veitch & Sons, Royal Exotic Nurseries, King's Road, Chelsea, staged the beautiful *Dendrobium atro-violaceum*, *D. crassinode-Wardianum* X, which was raised by them, and serve to verify the previously imported natural hybrid of the

same parentage; their new hybrid, *D. Euryclea* × (*lituiflorum* ♀, *Wardianum* ♂), the reverse cross to their *D. micans*; and *D. Adrasta* × (*Pierardii* ♀, *superbum* ♂), a pretty variety, with pale pink sepals and petals, and primrose lip.

Messrs. Heath & Son, Cheltenham, again sent their new *Cypripedium Swinburnei* ×, which has improved much since first exhibited; also *O. Roezlii* magnificent.

Mr. H. A. Tracy, Twickenham, staged a finely flowered *Cattleya Lawrenceana*. Messrs. F. Ross & Co., Bletchingley, a large form of *Dendrobium Falconeri*; Malcolm S. Cooke, Esq., Kingston Hill, a good variety of *D. Wardianum*; R. I. Measures, Esq., Cambridge Lodge, Camberwell, the new *Cypripedium insigne* siamense; Sir Wm. Marriott, Down House, Blandford, an interesting hybrid named *Laelio-Cattleya Marriotiana*, (*L. flava* × *Cattleya Skinneri*), with upright spikes of yellowish-pink flowers, the younger ones having a brownish tint; and Baron H. Schroder, The Dell, Egham, staged grand cut examples of fine spotted and hybrid *Odontoglossums*, including *O. Lecanum*, of which no second plant has as yet, we believe, been imported; and Chas. Ingram, Esq., Elstead House, Godalming (gr. Mr. T. W. Bond), showed *Dendrobium Euryclea* ×, similar to that exhibited by Messrs. Veitch, but with smaller flowers.

The Daffodil Committee.

This meeting took in part the form of a competition, and a 1st prize was awarded to H. B. James, Esq., The Oaks, Carshalton, for a small lot, consisting of *Narcissus Empress*, *Emperor*, *maximus*, *albicans*, *Nelsoni*, and *Barri conspicua*, all well-opened blooms.

Mr. H. J. Adams, of Roseneath, Enfield, was 1st for six *Narcissus*, showing *Ajax cernuus*, *A. torulosa*, *A. Emperor*, and *Henry Irving*.

In a group consisting of thirty-six varieties, the Rev. J. E. Bourne, Dunston, Lincoln, took 1st prize. In this lot were many of the less common varieties, as *Bishop Mann*, *Princess Colleen*, *Bawn Capax plenus*, *Queen Bess*, *Golden Plover*. The flowers all over the group were remarkable for a general evenness of size, and all were fresh-looking. Mr. A. Kingsmill, of Harrow Weald, Middlesex, was placed 2nd and had a nice lot of good varieties; as had the winner of the 3rd prize, Miss Reeves; as the Rev. G. P. Haydon came 4th.

A number of cross-bred seedlings came from Rev. G. H. Englebart, Appleshaw, Andover, of which the more remarkable were a seedling from *Narcissus Empress* and *N. triandrus*, where the perianth is of a pale shade of yellow, and the corona a lemon-yellow. In size it is intermediate between its parents. Another cross was from *N. poeticus* and *triandrus*, one from *cernuus* and *triandrus*, one from *cernuus*, *pulcher*, and *triandrus*, and several others.

Messrs. Barr & Sons, as is their wont, came out strongly in Daffodils, showing in good masses of well-grown flowers.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. John Lee, R. D. Blackmore, Harrison Weir, G. T. Miles, J. Cheal, G. Bunyard, G. Taber, T. J. Saltmarsh, T. F. Rivers, R. Hogg, P. C. M. Veitch, W. Warren, A. Dean, J. Wright, W. Bates, J. A. Laing, G. Wythes, H. Balderson, F. Q. Lane, J. Smith, G. Norman, J. Hudson.

Mr. Wythes, gr. to the Duke of Northumberland, Syon House, Brentford, showed several nice-looking Cucumbers, that the committee do not regard as being better than any existing varieties. He also showed a seedling Strawberry that has been grown at Syon for several years past as a forcer. It is stated to be derived from Keen's Seedling, but it has a more tapering shape and firmer flesh. The habit of the plant is very dwarf, it crops well, and has but few leaves. Vicomtesse Hélicart du Thury Strawberry was likewise shown for comparison, probably, and obtained a Cultural Commendation.

A Tomato, Gilbert's Satisfaction, was shown by Mr. R. Gilbert, High Park Gardens, Stamford. It is a small fruit, ribbed, and well-coloured, the plant being apparently a heavy cropper, if one might judge by the clusters of fruit sent.

Lecture by the Rev. G. P. Haydon on "Narcissi."

Mr. Haydon, at the afternoon meeting, advised small growers not to buy the bulbs unless they could plant them and leave them undisturbed for at least three years. He recommended the

early ones to be planted in front of the spring-flowering shrubs, and that the late ones should be placed by themselves. To large growers he would say, that generally only the more robust kinds would succeed on the flat, the smaller and the white varieties should be planted on rockeries. On the West Coast they could be done more easily than on the East. They should learn which varieties resent interference and those which do not. The period during which the roots rest is very short in a damp, wet season. Where *Narcissi* are forced, he would throw them all away each year, except the most valuable varieties. In choosing varieties, the grower should choose the one most suitable to it, and if possible get them from a nurseryman whose soil is like his own. The speaker deprecated the tendency to increase the number of so-called varieties. Climate and soil will alter the colour and habits of *Narcissus* a great deal, but in two years they will revert to their original form and colour. The lecturer did not believe in sports, and during nine years' experience had never met with one. He gave a detailed account of the best method of hybridisation, and useful hints to those who would wish to engage in the work. Beginners should commence with natural species, and effect the crosses in both directions. The seed should be sown at once, and covered with a quarter of an inch of soil. The points to be obtained were size, colour, shape, and constitution. He objected to the craze for extra large flowers, and said that the colour should be such as could be referred to some class, the shape to some ideal, and the constitution should be such as could be called a general hardiness, or easily adaptable to climatic conditions.

Mr. Haydon condemned the manner in which they are often staged at exhibitions, and would have them less artificial. *Narcissus* mite, he regarded as the sequel and not the cause of disease.

Rust is the worst disease they are liable to. The real cause is not certain, but the lecturer thought it might be attributed to a superfluous amount of moisture in the bulbs. All infested bulbs should be thrown away except the most valuable, which should be scraped and washed, and then put into lime for a time. The lecturer in strong terms denounced the manner in which these and other plants were becoming extinct through the ruthless way in which they were being carried away by the day-tripper (whom he described as a destructive beast), and other people who have no love for the flowers they carry away. Plant collectors should have a licence similar to a game licence.

The Chairman (Mr. Morris) said the matter of plant-collecting, mentioned by the lecturer, was a very important one. He did not know if the licence suggestion was a practical one or not, but the question should be ventilated.

A gentleman asked if the lecturer had had any experience in growing the white varieties in peaty soil, but Mr. Haydon regretted that he had not.

The Rev. Mr. Wilks said that *N. cernuus* increases as well as any of them with him. He thought the White Trumpet Daffodils did not like to be in the ground all the damp autumn, and he attributed his success to the fact that he lifted the whole of his during the first week of July, and planted them again in the first or second week in September. He discontinued the rush for size, and said that for artistic beauty the large ones could not compare with the smaller ones. The most beautiful of the whole lot is *N. triandrus*, and it is one of the very smallest. He had never experienced such a bad season as the present, and he thought it was due to the extremely cold weather, being suddenly followed by the warm weather, we have lately been experiencing. The roots have been unable to keep pace with the tops, and it has affected the colour.

List of Awards.

ORCHID COMMITTEE.

Silver Bankian Medals.

To Messrs. F. Sander & Co., for group of Orchids.
To Messrs. E. S. Williams & Son, for group of Orchids.
To Sir Trevor Lawrence, for group of Orchids.
To G. J. Lucas, Esq., for group of Orchids.
To G. R. Le Doux, Esq., for group of Orchids.
To H. J. Elwes, Esq., for *Vanda Denisoniana* (cultural).

First-class Certificates.

To *Cypripedium Chamberlainianum*, F. Sander & Co.
To *Cypripedium Lawrelianum* ×, Sir Trevor Lawrence.

Awards of Merit.

To *Dendrobium Euryclea* ×, Messrs. Jas. Veitch & Son, and Chas. Ingram, Esq.
To *Odontoglossum Pescatorei* Lindenii, Messrs. Linden.
To *Cypripedium Swinburnei* ×, Messrs. Heath & Son.
To *Laelio-Cattleya Marriotiana* ×, Sir Wm. Marriott.

Botanical Certificates.

To *Bolbophyllum Sillemianum*, Sir Trevor Lawrence.
To *Masdevallia Wendlandiana*, Sir Trevor Lawrence.

Cultural Commendation.

To C. J. Lucas, Esq. (gr., Mr. G. Duncanson), for *Odontoglossum Cervantesii* decorum, with over twenty flowers.

BIRMINGHAM SPRING FLOWER SHOW.

APRIL 6, 7.—the twelfth annual exhibition was held in the Town Hall, and the universal opinion expressed was that it was the best the society has yet held. Orchids, both in groups with Ferns and as specimens in the classes, were a very attractive feature. Two superb groups were set up; the 1st prize being easily won by the Right Hon. Joseph Chamberlain, M.P. (H. A. Burberry, Orchid grower); the 2nd prize was won with an excellent group from the gardens of G. H. Kenrick, Esq. (W. A. Powell, gardener).

The specimens in the classes for six and three Orchids were a grand lot. For six, W. Bown, Esq., was 1st with *Dendrobium thysiflorum* and *Wardianum*, *Oncidium scarodes*, *Odontoglossum Alexandrarum*, *Cypripedium villosum*, and a richly-coloured mass of *Cattleya Lawrenceana*; the Right Hon. Joseph Chamberlain, M.P., was 2nd with a fine lot. In the class for three Orchids the same two exhibitors won, in the same order. For a single specimen, Mr. Finch, gr. to Mr. Alderman Marriott, Coventry, was well 1st with a magnificent *Dendrobium thysiflorum*.

Mr. Finch also took 1st honours for bouquets in the gentleman gardener's classes; and Messrs. Pope & Son in the open classes for bouquets.

A very fine lot of *Azaleas* were exhibited, Mr. Brown being 1st for six, and Right Hon. J. Chamberlain, M.P., 2nd. The stove and greenhouse plants were also fine and well done; Sir Thomas Martineau (gr., Mr. O. Brasier), taking the 1st prize. A very fine specimen *Eucharis amazonica* was staged by Mr. J. Black, and a remarkably fine example of *Hydrangea Thomas Hogg*, quite 4 feet through, and grandly flowered, was staged by Mr. Cryor, gr. to J. A. Kenrick, Esq.

There was a great display of *Cinerarias*, *Deutzias*, and other spring-flowering plants, especially mollis *Azaleas*.

There was a very large display of *Hyacinths* and *Tulips*, and Mr. Robert Sydenham staged a fine collection, not for competition, some of them very fine indeed.

Messrs. R. Ker & Son, Liverpool, sent 100 pots of *Amaryllis*, a very fair lot in which greatly improved form and substance of the flower was perceptible, and many other honorary exhibits of considerable merit was staged by the local nurserymen and others. Messrs. Thomsons' had a very artistic group of plants; Messrs. Hewitt & Co., Messrs. Pope & Son, and Mr. R. H. Vertegans also contributing, the latter some interesting alpine and hardy plants; Messrs. Cutbush & Sons sent down an interesting group, as also did Messrs. R. Smith & Co., of Worcester. It was a remarkable exhibition in point of merit and held in glorious weather.

SCOTLAND.

SPRING FLOWER SHOW AT FALKIRK.

THE annual spring show of the Horticultural Society of Falkirk was held on March 25, and it is admitted on all hands that it was the most successful exhibition which the Society has promoted. The entries numbered over 300, and some of the classes were remarkably well represented by creditable exhibits. These spring shows are on the increase among the more advanced citizens, who think that flowers on plants in pots, or cut and arranged artistically, should be fully appreciated by the community at large.

The chief feature of the show was the class in which a table of plants was to be arranged for effect, and four gardeners tried their strength, making a creditable display. Mr. Airdrie, gardener at Larbut House, was awarded 1st prize; his plants were all of choice character, and were most tastefully arranged. Orchids were judiciously interspersed with Palms, *Dracenas* (the old terminalis still distinct and showy), *Caladiums*, Ferns, and *Crotons*, Cooperi

and Thomsoni appearing to much advantage. The centre plant was *Cocos Weddelliana*, hanging gracefully over *Dendrobium Wardianum*, one spike about 4 feet long, and *D. nobile*. *Phaius grandiflora* appeared well among the foliage. Well-flowered dwarf *Azaleas*, *Spiræas*, *Tulips*, &c., completed a chaste arrangement.

In the 2nd prize collection, exhibited by Mr. Mitchell, gardener, Bantaskin, were some choice Orchids—*Cattleya Trianae*, in fine form; *Odontoglossum crispum*, *Vanda tricolor*, *V. suavis*, *Dendrobium Wardianum*, and *D. nobile*, were conspicuous among *Crotons*, *Palms*, *Dracænas*, *Ferns*, *Lily of the Valley*, *Tulips*, and many bright spring flowers. The other tables were made up chiefly with flowering and choice foliaged plants.

Other tables, with plants for exhibition only, made a great display; a lot, hiding up a dingy part of the hall, was made up with hundreds of flowering and foliaged plants of sizes suitable as sale plants; numerous dwarf *Heaths*, double-flowered *Azalea indica*, *Daffodils*, *Lilies*, *Spiræas*, *Hyacinths*, and most of the popular spring-flowering plants, with a due proportion of *Ferns* and other species with striking foliage, made a great display, and one most creditable to Mr. Dow, nurseryman, Falkirk. A 1st prize for the best plant in the hall was justly awarded to Mr. Mitchell for a tall healthy plant of *Vanda suavis*, on which were four fine spikes. A specimen plant of *Caladium Veitchii* of great size and in perfect health secured a 2nd prize for Mr. Mitchell also.

Palms and *Ferns* were well represented with fine specimens, which toned down the glare of the great breadth of flowering plants, especially *Tulips*, *Daffodils*, *Crocuses*, *Primulas*, *Spiræas*, *Dentizas*, double *Azaleas*, as dwarfs, with some well-flowered old favourites, *Mrs. Turner* being very telling.

Roses were not numerous, but a specimen, densely clothed with foliage, and loaded with flowers, out full, and in bud, was much admired. This was the useful *Niphetos*, a plant about 4 feet high, and covering the pot with foliage and flowers, which was shown by Mr. John McMartin, Lanrison, an enthusiastic amateur. *Hyacinths* covered long breadths of tabling, but there was nothing among them of great merit, and they had a sombre appearance, so many dark varieties being amongst them, especially *Blue King*, which in verity gave this class of exhibits the blues! A very handsome *epergé* of choice flowers was exhibited by Mr. Walker, gardener. Bouquets, generally done remarkably well about Falkirk, were represented by over three dozen of various shapes and sizes. The bridal, table, and hand bouquets were composed largely of Orchids (*Dendrobiums*, *Odontoglossums*, and *Coleogynes* predominating), *Rosebuds*, and *Lily of the Valley*. Buttonholes and sprays, in threes and sixes, were in great numbers, Orchids, *Rosebuds*, and *Spiræas* were largely used. Mr. Edwards (an amateur, and the treasurer of the society) was a leading prize-taker, and always is so in these classes. Great numbers of everlasting bouquets were exhibited. *M. T.*

FORESTRY LECTURES IN EDINBURGH UNIVERSITY: SESSION 1891—92.

The course of lectures on Forestry, in the University of Edinburgh, which have been conducted during the past two months by Colonel Fred. Bailey, R.E., ex-Director-General of the Forest Department of India, were brought to a close on the 30th ult., when the students who had passed their examinations were presented with the certificates they had gained. That the lectures attracted a number of earnest and diligent students was well exhibited by the marked success of those who came up for examination. This gratifying result indicates the progress that forestry, as a science, is making. The expounding of the natural laws and scientific principles which underlie and guide practical forestry in its most successful issues has many attractions for students; but the need of a knowledge of forestry in all its details, particularly those applicable to Britain, is impressing itself on the minds of owners of land and those engaged in its management. In

addressing his class at the conclusion of the last lecture, Colonel Bailey explained the circumstances in which, at short notice, he had undertaken to deliver the course just ended. He had confined his attention to the utility of forests, and the fundamental principles of forestry. These were the same for all kinds of trees, growing in all countries, although the application of them should be varied in accordance with the peculiar characteristics of each species, and the climatic and other conditions under which each grows. It was therefore of great importance that a thoroughly sound knowledge of these principles should be acquired. The special treatment to be adopted for each species in Scotland should be regulated in accordance with the most careful local observations of agricultural facts; but the existing record of such facts was, generally speaking, very meagre indeed, and did not extend continuously over any lengthened period of time. A commencement to supply such deficiencies should be made, and the lecturer urged that members of his class, and others who were in a position to do so, should make careful notes of physiological facts relating to Scottish forest trees in all their various stages of life. Such notes he observed, would be of the greatest value to the Professor of Forestry, who would thereby be enabled to direct his teaching in full accordance with the ascertained requirements of the various species of forest trees in this country. An accurate account of all work done, of produce removed, and receipt and expenditure of money in connection with every wood, should be kept on all estates. Colonel Bailey then explained the arrangements he proposed to make for the session of 1892-93, commencing on October 26 next. The class list of the past session shows the names of forty students, and the average attendance during the whole course has been twenty-nine. Of the twelve students who presented themselves for examination, one gained a First-class Certificate, while seven have gained Second-class Certificates—an excellent record considering the shortness of the session.

HIEING WESTWARD AND SOUTHWARD TO MEET THE SPRING.

WITH a continuance of summer sunshine such as ushered in the first week of April, spring plants and spring prospects will soon be common as Blackberries. But such was far from being the case in East Anglia on April 4. Winter flowers were then still trembling on the verge of winter rather than spring ones, lightening up gardens and landscapes with their brightness and beauty. And seldom or never were field and forest, meadow or lawn, more lifeless, brown, and bare. A run, however, of less than 50 miles from East Anglia into Hertfordshire showed a marked progress in the season. The brown meads gave place to green grain, short, it is true, but still green, with the rollers at work upon its surface. But, on the other hand, I have not yet seen a lawn-mower at work on the greenest lawns, though with the present sunshine all will be needed on the back of the first shower.

Passing through London, and running south, through Surrey and Sussex, I met for the first time this season unmistakable evidences of spring-tide in the welcome presence of the common Furze in bloom, and golden banks of varnished Celandine. A meadow was also seen—only one, however—clothed over with a thick covering of the flowered *Narcissus*. And observing in the open, Peaches and Pears on walls were seen in full blossom. Apples, too, whether hastened with the help of the Mistletoe or not, seemed a week or ten days in advance of their fellows in East Anglia. Gages and other Plums are on the point of bursting into blossom, and common or other *Primroses* are not in full bloom, but fresh and perfect leafages; but the Blackthorn, impatient to start, yet holds back its spring-tide spread of spotless whiteness, though the tips of the Horse Chestnuts, varnished with transparent resins, sparkle in the sunlight like rounded pearls. It is worth travelling a hundred miles or

more to anticipate the pleasures of spring by a fortnight or more. True, all such pleasures come in due course to those who wait. But it is a new sensation to plunge out of winter into spring by train. Less than a week since, the world was shut in, and the spring shut out through a silvery covering of snow. To-day, almost within sound, smell and sight of the sea, spring, summer heat has come, and one can also hear the rush of the opening buds of fruit trees and *Roses* as they rush forth to face the hand of spring-tide and summer. *D. T. F., April 4, 1892.*

Obituary.

MR. JAMES SMITH.—We regret to record the death of Mr. James Smith, which took place at his residence, Darley Dale Nurseries, Derbyshire, on the 29th ult., at the age of eighty-two. Mr. Smith commenced business as early as 1827, with some three or four acres under his control; but his patrons rapidly increased until, at the time of his decease, his nursery contained 200 acres, which is devoted to the growth of general nursery stock, although *Rhododendrons* and *Heaths* have been his specialities. Mr. James Smith is succeeded by Mr. Arrow Smith, who has been the practical head of the firm during the past ten years.

FOREIGN CORRESPONDENCE.

STEAM HEATING.

I HAVE noticed several inquiries among your readers about steam heating, as applied to horticultural purposes, and having had some experience that way, perhaps a few remarks thereon may not be out of place. I know that in England there is a prejudice against it for such purposes, but I think the reason is, because the right conditions required are little understood. I adopted it in the first place, not from choice, but owing to houses I have put it into being partly below ground, and at different levels, where it would have been awkward to use hot-water. There are various systems of using steam for heating purposes, the principal being high-pressure, and low-pressure, or the gravitating system. It is the latter only that should be employed for heating horticultural structures. The boiler is of American make, and the highest pressure that is ever likely to be required is 3 lb., but in practice I find that I get all I require with a pressure not exceeding $\frac{1}{2}$ lb. per square inch, and even below that when the boiler is not hard pressed. The radiating pipes are $1\frac{1}{2}$ inch wrought iron gas pipes, galvanised, branching off in the different houses from the mains, which are laid under the paths in a covered-up trough, properly lagged, to prevent radiation. The flow main is $2\frac{1}{2}$ inches in diameter where it leaves the boiler, and is gradually reduced in size the further it is from the same, and the furthest end of one of the houses is at least 300 feet from the boiler, but the circulation, even at the above low pressure is perfect. I forgot to mention that the boiler is fitted with an automatic-acting damper, that regulates the pressure required to a nicety, and can be set to act to any pressure required. This does away with one objection that is often raised against the use of steam-heating, viz., owing to careless attention the heat may be suddenly raised or always varying. A more important point still, however, and the one in fact between which rest success and total failure, in my opinion, is the construction of the house itself, or I should say rather the stages therein, and also attention to the ventilation. The main thing is to prevent the heat as it is radiated from the pipes reaching the plants direct, and with the ordinary greenhouse stages this would not be the case. I have, therefore, adopted double stages, the bottom consisting of galvanised corrugated iron sheets with sheet iron sides, about 7 inches high, the whole being made water-tight, and on the top rest ordinary Teak wood gratings. The space between I at first filled with coke kept moist

with water, but this proved a very bad failure, as the sulphur in the coke was evidently converted into free acid and ate right through the galvanised iron. Now I fill in the space with partially decomposed leaves, and find that these hold off sufficient moisture, and the decomposing gases given off by the decaying vegetation proves most beneficial to the plants in the house, and the Orchids in particular. These leaves are renewed every year, the old ones coming in very well for ordinary potting purposes. By the adoption of this system, the heated air is charged with a sufficient amount of moisture before reaching the plants, and the whole atmosphere of the house is of a most genial and moisture laden nature, and the temperature is as steady and constant as in the houses in which hot water is used. With respect to the comparative cost of fuel with the two systems, I have not yet had an opportunity of going into that, but when I have, I shall be glad to report results. As I have before stated, however, it was not with a view to economy in fuel that I adopted steam, although, so far as I can judge, steam is the cheaper of the two, *S. Cocking, Yokohama.*

HYACINTHS AT HAARLEM.—Hyacinths are now in fine flower at Haarlem, Holland, and will be at their best during the Easter holidays. The public sales of Hyacinths will begin on April 19, and will go on every day till the beginning of May. The show beds of Hyacinths and Tulips at Meesters. KRELAG's nursery will be opened to the public on Easter Sunday, and admittance is permitted daily from 10 to 12 A.M., and from 2 to 4 P.M. The show will probably last till the middle of May, but it will be at its best during the remaining part of April. A pamphlet containing historical notes on the Dutch show beds, and the names of the varieties exhibited, has been issued.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.	BRIGHT SUN.				
	ACCUMULATED.									
	Above 42° for the Week.		Below 42° for the Week.							
	Day-deg.	Day-deg.	Day-deg.	Day-deg.						
0	5 +	49	10	+ 22	155	5	65	11	49	27
1	4 +	47	13	+ 4	178	5	47	5	36	28
2	4 +	44	9	+ 5	149	4	48	4	35	19
3	5 +	72	14	+ 17	166	4	49	3	37	31
4	7 +	81	12	+ 15	181	4	44	3	61	30
5	6 +	69	3	+ 17	107	4	38	3	78	34
6	6 +	53	4	+ 11	114	4	39	8	33	29
7	6 +	59	2	+ 6	137	4	48	5	52	32
8	6 +	73	0	+ 15	88	6	47	6	63	38
9	6 +	63	0	+ 11	88	5	50	6	47	36
10	6 +	69	0	+ 33	108	4	47	7	47	31
*	5 +	73	0	+ 2	40	4	54	7	30	37

The districts indicated by number in the first column are the following:

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending April 9, is furnished from the Meteorological Office:—

"The weather continued extremely fine and bright throughout the period over all the southern and south-eastern parts of the kingdom. Over the western and northern districts, however, it was cloudy or dull, with slight falls of rain, for a few days soon after the commencement of the week, but later on very fine weather was again experienced in those regions.

"The temperature was much above the mean in all districts, the excess ranging from 4° in 'Scotland E.' and 'England N.E.' to 6° in 'England S.' and many of the western districts, 7° in the 'Midland Counties,' and to 8° in 'England S.W.' This excess was due to the unusually high reading during the daytime, the absolute maxima during the week varying between 66° and 69° in Ireland and Scotland, and between 70° and 75° over England. The lowest of the maxima (which were generally registered on the 3rd), ranged from 27° in 'Scotland, E.' to 36° in 'England, S.W.' and to 39° in the 'Channel Islands.'

"The rainfall has again been much below the mean. In nearly all the English districts the weather was quite rainless.

"The bright sunshine shows a considerable decrease in the west and north from the very high values recorded there during the previous week, but in the 'E.' and 'S.' it was even more prevalent. The possible amount of duration ranged from 35 to 40 in most of the northern and north-western districts to 71 in the 'Midland Counties,' 62 in 'England, S.W.' 78 in 'England, S.' 79 in 'England, E.' and to 80 in the 'Channel Islands.' The highest percentages at any individual station was 82 at Cambridge, Hastings and Jersey, 83 at Eastbourne, 85 at Geddstone, and 87 at Westbourne (Sussex). In London the percentage was 70."

MARKETS.

COVENT GARDEN, April 13.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day, Ed.]

BUSINESS very dull. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Acacia or Mimosa,	per dozen	Marguerites, per doz.	bunches
French, per bunch	1 6-20	Narcissus, white,	per doz.
Anemone, 12 bunches	1 6-20	P. m. ...	2 0-40
Arum, per doz. lb.	2 4-10	Narcissus (various),	per doz.
Azalea, p. doz. sprays	0 6-10	Scilly, dozen bunches	2 0-40
Camellias, white, doz.	2 0-30	Orchids, 12 blms.	6 0-90
red, per doz.	2 0-30	Cattleya, 12 blms.	6 0-90
Cardinals, 12 bunches	2 0-30	Odontoglossum	per doz.
Cinerarias, 12 bunches	0 6-10	crispum, 12 blms.	3 0-60
Daffodils, double per	1 6-30	Pelargonium, near-	let, per 12 bunch.
double bunch.	2 0-40	— 12 sprays	0 9-10
— single	2 0-40	Primroses, doz. bunch.	0 6-10
— various	6 0-80	Primula, sing. 12 bunch.	4 0-60
Eucharis, per dozen	4 0-60	Roses, Tea, per dozen	10 0-30
Freesia, dozen bunch.	3 0-60	— coloured, dozen	2 0-40
Gardenias, per dozen	3 0-60	— yellow (Marg-	aret), per doz.
Heliotropia, 12 sprays	0 6-10	— red, per dozen	2 0-60
Hyacinths, 12 sprays	2 0-40	Spiraea, 12 bunches	6 0-80
— Dutch, p. doz.	1 6-20	Tuberose, 12 blms.	10 0-20
— French, bunch 0 9-16		Tulips, p. doz. blms.	0 6-10
Jonquilla, dozen bunch.	10 0-30	Violets, Parme, per	bunch...
Lilac white (French)	per doz.	— English, 12 bunch.	1 6-20
— per doz.	4 6-50	Wallflowers, French,	per dozen bunches
Lilium Harlowe, doz.	4 0-60	— per dozen bunches	2 0-40
Lily of the Valley, per	doz. sprays	— in variety.	
— Mail du Hair Fern,	12 bunches		
— 12 bunches	6 0-100		
Mignonette, 12 bunch.	4 0-60		

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Apples, Canadian and	new	Grapes, new, per lb.	3 6-40
— Nova Scotia, per	barrel	Lemons, per case	8 0-140
— barrel	10 0-250	Pine-apples, St. Mi-	chael, each
Apples, s. s. s. s.	1 0-40	— each	2 0-60
Apples, Tasmanian,	per case	Strawberries, per lb.	2 6-60
— per case	7 0-140		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.		s. d. s. d.	
Adiantum, per doz.	4 0-120	Genistas, per dozen.	8 0-100
Arum, per dozen	9 0-120	Hyacinths, Dutch doz.	6 0-90
Aspidistra, per doz.	18 0-60	Lily of the Valley, per	doz.
Azalea, per doz.	24 0-30	Marguerites, doz.	6 0-120
Begonias, per doz.	6 0-120	Mignonettes, doz. pots	8 0-150
Cinerarias, per doz.	6 0-120	Primula sinensis, doz.	4 0-60
Cyclamens, per doz.	9 0-150	Falms, various, each	2 0-100
Cyperus, per dozen	4 0-100	— specimen, each	10 8-40
Dracenas, each	1 0-50	Pelargoniums, Scar-	let, per doz.
Erics, various, doz.	12 0-160	— let, per doz.	6 0-90
Ferns, various, doz.	4 0-60	Solanums, per dozen	9 0-120
— per 100	8 0-150	Tulips, per doz. pots	6 0-80
Ficus elastica, each	1 6-76		

Bedding plants, various, in boxes, 1s. to 3s.

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.		s. d. s. d.	
Artichokes	Globe,	Lettuces, per doz.	1 6-20
— each	0 4-6	Mushrooms, punnet	2 0-40
Beans, French, lb.	2 8-30	Mustard and Cress,	per punnet
Beet, red, per dozen	20 0-30	— per punnet	0 4-10
Carrots, per bunch.	4 0-60	Parley, per bunch	0 8-10
Cauliflowers, each	0 3-0	Seakale, p. basket	2 0-30
Celery, per bundle	1 0-30	Shallots, per lb.	0 6-10
Cucumbers, each	0 8-10	Spinach, per bushel	3 6-40
Endive, per bunch	2 0-30	Tomatos, per lb.	0 4-10
— per bunch	3 6-40	Turnips, per bunch	0 4-60
Herbs, per bunch	0 8-10		

POTATOS.

NEW POTATOS.—At public sales this week prices advanced. Canary Island produce, 8s. to 16s. 6d.; Malta (first arrival), Kidneys, 17s. to 20s.; Rounds, 13s. For Old Potatoes the market is dull. *J. B. Thomas.*

SEEDS.

LONDON. April 11.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., write that a steady sowing demand now prevails for farm seeds. Clovers and Grasses find buyers on former terms. Sainfoin being scarce and much wanted, has advanced 2s. per qr. For Tares there is a good inquiry at the moderate rates current. In Canary seed a substantial rise is noted: existing London stocks are less than one-fourth of what they were this time last year, and moreover, prices in Liverpool are higher than those in London, which is most unusual. Hemp seed keeps firm. Full figures are obtained for Mustard and Rape seed. Haricot Beans are rather more inquired for, but Blue Peas are neglected. The imports into the United Kingdom of Clover and Grass seed: last month, were 57,228 cwt., value £130,312, as against 11,547 cwt., value £28,551 for March, 1891.

FRUITS AND VEGETABLES.

SPITALFIELDS, April 12.—Good supplies of all kinds, but the demand only moderate. Potato trade very languid, prices falling. Quotations:—English Apples, 2s. to 4s. 6d. per bushel; American do., 12s. 6d. to 15s. 6d. per barrel; foreign Tomatos, 1s. to 2s. per box; forced Rhubarb, 1s. 6d. to 2s. natural do., 2s. to 2s. 6d. per dozen bunches; Seakale, 9d. to 1s. 6d. per punnet; Curly Kale, 1s. to 1s. 6d.; Spinach, 1s. 6d. to 2s. per bushel; Greens, 2s. to 2s. 6d.; Carrots, 2s. to 2s. 6d.; Spring Onions, 3s. 6d. to 4s.; Parsley, 5s. to 6s. per dozen bunches; Turnip-tops, 1s. to 3s.; Swede-tops, 1s. 6d. to 2s. 6d.; Sprouting Broccoli, 2s. to 3s. 6d. per sack; Cauliflowers, 6s. 6d. to 10s. per tally; Endive, 9d. to 1s. 6d.; Cabbages, 1s. to 1s. 6d.; Beetroot, 6d. to 8d.; French Cos Lettuce, 2s. to 3s. per dozen; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; English Onions, 5s. to 8s. 6d. per cwt.; Belgian do., 6s. to 7s.; Dutch do., 6s. to 7s. 6d. per bag of 110 lb.; Spanish do., 8s. 6d. to 12s. per cwt.; Celery, 6d. to 1s.; Horse Radish, 1s. to 1s. 6d. per bundle.

BOROUGH, April 12.—Rather a steady trade in green stuffs, and the Potato market still very slow. Quotations:—Savoy, 4s. 6d. to 6s.; Broccoli, 1s. 6d. to 12s. 6d. per tally; Sprouting do., 2s. 6d. to 3s. 6d.; per bushel; Brussels Sprouts, 1s. 6d. per bag; per half sieve; Greens, 3s. to 4s.; Turnips, 1s. 6d. to 2s.; Carrots, 1s. 3d. to 1s. 6d. per dozen bunches; English Onions, 3s. to 5s. 6d. per cwt.; Apples, 2s. 6d. to 6s. per bushel; Canadian do., 11s. to 20s.; Newtown Pippins, 15s. to 28s. per barrel.

NOTICES TO CORRESPONDENTS.

A METHOD OF FASTENING WALL TREES: A. B. We cannot judge of the adaptability of your system unless you afford us some idea of its main features. If you do not feel disposed to disclose these, you should get it patented at the Chief Patent Office.

BOOKS: A. W. O. Floral Decorations for Duelling Houses, by Annie Hassard (Macmillan & Co.). *W. C. Villa Gardening,* by E. Hobday (Macmillan & Co.).

COPPER SOLUTION: P. Probably the best form of using this is the following:—Dissolve in a wooden tub 2 kilogrammes (say 4½ lb.) of sulphate of copper, in 15 litres of water (say 3½ gallons); then add 3 kilos. (say 3½ lb.) of carbonate of soda; the addition of this causes the

oxide of copper to be precipitated. Then add $\frac{1}{2}$ lb. of treacle. Stir occasionally, and after 12 hours dilute with 100 litres (say 22 gallons of water, and use with a spray pump. The addition of the treacle causes the copper-oxide to adhere longer to the leaves, and the causticity of the solution is less than that of the ordinary Bordeaux Mixture, so that the young foliage is less liable to be injured by its use. The spraying should be done two or three times in the course of the season, once when the Tomato plants are about to flower and before any mildew is visible, and then once or twice afterwards, taking care not to use it on the ripe fruit. When the fruits begin to colour, no more spraying should be done.

DAHLIA CUTTINGS: *Dahlia*. The failure to root the cuttings is probably due to your having cut them off the root stock instead of pulling them off. Select shoots of 3 inches long; do not trim the end, and put them into pots of sandy leaf-mould, plunged in a bottom heat of 80°. If in a house, cover them with a hand-glass, but in a frame no covering is needed. They must be watered, shaded, and aired like other cuttings under glass.

DIGMIA UNIFLORA: *C. B.* We will explain the method to be followed in striking this plant next week.

GARDENERS' ADDRESSES: *Calanus*. Two such are published—*The Garden Annual, Almanack, and Address Book*, at 37, Southampton Street, Strand, W.C.; and the *Horticultural Directory*, at 171, Fleet Street, E.C.

MAZES: *W. C.* We greatly doubt if there is any work, at least a modern one, on the art of making mazes; nor do we know if the maze we illustrated on March 5 still exists. The same kind of plants as are employed for hedges against stock would do for a maze—Quick, Holly, Hornbeam, Beech, Privet, Yew, &c., and the preparation of the land would be the same.

NAMES OF PLANTS: *Agave*, 1, *Agave mexicana* var.; 2, *A. xylonacantha*; 3, *Mamillaria pusilla* var.—*Amateur*. *Odontoglossum crispum*, var. *guttatum*.—*G. H. I.* *Retinospora pisifera*; 2, *Cupressus* next week; 3, *Cupressus Lawsoniana*; 4, *Acer platanoides*, the Norway Maple.—*L. G. P.* An *Epidemium*, we cannot name the species from a leaf only.—*Poppo*, 1, *Nerium Oleander*; 2, *Cupressus Coreana*; 3, *Abies pectinata* (Silver Fir); 4, *Juniperus* (next week); 5, Young plants of Garlic; 6, *Chives*, *Allium Schoenoprasum*.—*A. B.* *Ruscus hypoglossum*; *Neottopterus australis*.—*Correspondent*. *Spiraea media*.—*Alpha*, 1, *Dendrobium Cambridgeanum*; 2, *Oncidium flexuosum*; 3, *Vanda tricolor*; 4, *Acalypha Macfarleana*; 5, *Celastrum celtica*.—*F. R. H.* *Pilumna fragrans*.—*Wm. W.* 1, *Cymbidium aloefolium*; 2, *Kennedia monophylla*; 3, *Anemidictyon Phyllitidis*; 4, *Lactaria Sieboldi*; 5, *Pteris adiantoides*; 6, *Nephrolepis Duffii*.—*H. H.* 2, *Croton variegatus*; 6, *Croton undulatus*, the rest we cannot name, especially as you send two specimens under one number; 11 is *Phormium tenax variegata*; 10, *Bambusa gracilis*; 4, *Ananassa sativa variegata*; 12, *Clerodendron Thompsoniana*, *Allamanda grandiflora*, *Cycas revoluta*, *Microlepia hirta cristata* are also in your collection. All your specimens were withered, badly packed, doubtfully numbered or not at all. Please remember that our time is valuable.

TENNIS COURT: *A. W.* The information you require would be afforded you at the *Bazaar Office*, 170, Strand, London, W.C.

TREATMENT OF IMPORTED ORCHIDS: *A. S.* Keep the Orchids out of reach of direct sunshine, and the house moist. Do not syringe them till they grow.

VINES: *C. E. S.* Kindly send leaves and shoots for our inspection.

WOOD FOR ORCHID BASKETS: *A. S.* Well-seasoned Teak, and the next best is English Oak and Sweet Chestnut.

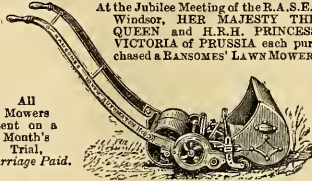
COMMUNICATIONS RECEIVED.—*H. J. V.*—*C. W. K.*—*J. G. L.*, California.—*H. T. A.*, Q. New York.—*H. W. W.*—*Mrs. Royle*, New Jersey.—*S. J. R.*—*U. H. G.*—*R. P. H.*—*Baron von Mueller*.—*Baron Schroder*.—*M. D. Kerr*.—*Wigman, Buitenzorg*.—*W. G. S.*—*J. R. Paris*.—*M. Mottet*, Paris.—*The Secretary of the New Gallery*.—*J. R. J.*—*W. A.*—*Tyendenda*.—*D. T. F.*—*E. H. K.*—*Haarlem*.—*R. B. S.*—*J. H. K.*—*W. D. J.*—*Clayton*.—*E. J. L.*—*P. W. J.*—*J. Milson*.—*W. B. H.* (as soon as possible).—*W. A. C.*—*J. B. W.*—*H. H. A.*—*E. O. W.*—*Watson* (too late).—*K. G. S.*—*A. D. H.*—*W. W.*—*A. H.*

PHOTOGRAPHS RECEIVED.—*H. W. W.*

RANSOMES'

At the Jubilee Meeting of the R.A.S.E., Windsor, HER MAJESTY THE QUEEN and H.R.H. PRINCESS VICTORIA OF PRUSSIA each purchased a RANSOMES' LAWN MOWER.

All Mowers sent on a Month's Trial, Carriage Paid.



LAWN MOWERS,

The Best in the World.

In all sizes to meet every requirement.

"NEW AUTOMATON," the Best Gear Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"ANGLO-FAIRIE," the Best Small Machine.
"EDGE CUTTER," the only one of real service.
"BANK CUTTER," the Best for Cutting Slopes.
THE BEST PONY and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.

RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

BOULTON & PAUL,

MANUFACTURERS, NORWICH.

Improved Pea Trainera.

Diamond Wire Trellis.

To be used instead of Pea-sticks.

For Training Plants.



Hurdles 4 ft. long.

Cash Prices.

Stock Sizes, 5-in. mesh, light quality. s. d.
3 ft. high, 4 ft. high, 6 ft. high. 6 ft. by 3 ft., each ... 5 6
13 each, 1/9 each, 3/6 each. 6 ft. by 4 ft., each ... 2 6

Galvanized Pea and Seed Guards.

3 ft. long, 6 in. wide.

Two and pieces to the dozen lengths.

CASH PRICE, 4/6 per dozen.



ILLUSTRATED CATALOGUE of all our Manufactures, free on application.

BOULTON & PAUL, NORWICH.



21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

TANNED NETTING.—For Preserving Fruit Trees, Flower Beds, &c., from Frost and Blight. 35 square yards for 1s.; any width sent. Carriage paid on all orders over 5s.

HENRY JOHN GASSON, Fish Merchant, Ry, Sussex.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt. and Oil Mixture, Free to all Stations.

Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GRUVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.;
and BACHELOR'S WALK, DUBLIN.—Discount for Cash.



THE PERFECT WEED KILLER

COMPLETELY DESTROYS VEGETATION on Garden Walks, Carriage Drives, Stonework, etc.

WE GUARANTEE

all Weed Killer bearing our Trade Mark to be thoroughly efficient. Refuse Imitations. THE GARDENER'S MAGAZINE says:

"The Perfect Weed Killer is at once simple, cheap, and effective. At the Royal Gardens, Kew, the Royal Horticultural Society's Gardens, Chiswick, and other public places the Perfect Weed Killer is trusted for making a clean sweep of the road weeds."

PRICES.—1 Gallon, 2d; 5 galls., 1s. 6d.; per gall., 10 galls., 1s. 4d. per gall. Carriage paid on 10 galls.

Special Quotations for Larger Quantities.



THE PERFECT SUMMER SHADING

Supersedes all Others FOR SHADING GLASS ROOFS OF ALL KINDS.

Is applied COLD, yet does not wash off with Rain.

1 lb. makes $\frac{1}{2}$ gallon.

Price.—1 lb. Tin, 1s.; post free 4jd. extra.

H. and A. CHEMICAL COMPANY,
97, Milton Street, Glasgow.

May be had through Chemists or Seedsmen.

HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

The "STOTT" Patent INSECTICIDE DISTRIBUTOR.

THE DISTRIBUTOR



CHEAP, SIMPLE, and EFFECTUAL. 28s. Complete.

INSECTICIDE "KILLMRIGHT."

CERTAIN PREVENTIVE OF MILDEW.

DEATH TO CATERPILLARS, and all INSECT PESTS on Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and other Plants. NON-POISONOUS.
2 lb. Tins, 1s. 9d.; 14 lb. Tins, 9s.; 56 lb. Kegs, 31s.

FERTILIZER "FEEDMRIGHT."

Most Invaluable for

Roses, Chrysanthemums, Greenhouse, & Stove Plants.
2 lb. Tins, 1s.; 14 lb. Bags, 4s. 6d.; 56 lb. Bags, 15s.

PRICE LISTS and TESTIMONIALS on Application.
2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE and RETAIL FROM THE

"STOTT" FERTILIZER & INSECTICIDE
Distributor Co., Ltd., MANCHESTER.

Retail from all Ironmongers, Seedsmen, &c.

Prices.—In Tins, 4 Pints 1/3; Pints 1/9; Quarts 3/4; Gall. 5/4; 1 Gall. 6/8; 5 Gall. 3/8 to Gall. Drums, 5/- per Gall. Carriage Paid.

THE MYTHE CASTLE GARDENS,
Tewkesbury, Aug. 13th, 1891.

Gentlemen,—I have given your "Climax" Insecticide a good trial on tender foliage, Orchids and Ferns for Bug and Scale. In every instance I found the Bug and Scale dead and the foliage bright and clean. I found it most effectual for Black Fly on Peach trees. The "Climax" Insecticide ought to be better known, it is the only one I have found to kill Bug on tender plants without injury to the foliage.—I am, yours faithfully,

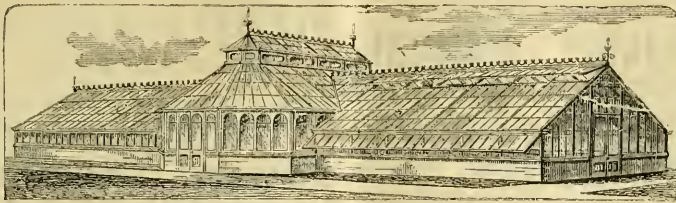
W. MACKIE.

Prepared Solely by
The Boundary Chemical Co., Ltd.,
LIVERPOOL.

FOWLER'S GARDENERS' INSECTICIDE.

For Destroying Blights and Mildews infesting Plants and Trees. It is easily applied by dipping, spraying, sponging, or as a winter-dressing. Will not stain or injure any more than plain water. In Jars, 1s. 6d.; 3s.; 5s. 6d.; and 10s. each; and in Kegs, 25 lb., 21s.; 56 lb., 42s.; 112 lb., 84s. each. CORRY and CO., LIND., 12, 15, and 18, Finsbury Street, E.C. Sold by all Seedsmen.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,**HOthouse BUILDERS and HOT-WATER ENGINEERS,****ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.**

Vinerias, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that the VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Sashes, Hotbed Boxes, &c., always in stock.

Plans, Estimates and Catalogues free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

SANKEYS' famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vinerias, Greenhouse, Plant and Forcing-houses, Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment.

HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Foultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps.

PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

Paris International Exhibition, 1889.

HIGHEST AWARD, SILVER MEDAL.

NO AWARD WAS GIVEN

to any English or Continental-made Lawn Mowers!

THE PERFECTED

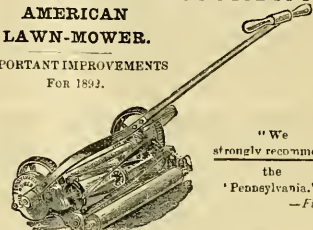
"PENNSYLVANIA"

AMERICAN

LAWN-MOWER.

IMPORTANT IMPROVEMENTS

For 1892.



"We strongly recommend the 'Pennsylvania.'" —Field.

PERFECTION OF EASY WORKING AND EFFICIENCY.

The only American Lawn Mower fitted with Six Cutting Blades. It will mow grass closely and smoothly, and with half the labour of the best English Machines. All sizes, up to largest (21 in.), can be worked easily by one man.

ONE MONTH'S FREE TRIAL ALLOWED.

Carriage Paid to all Stations.

Gardeners, professional or amateur, with value time and wish to avoid laborious work, while obtaining the best possible results in the way of keeping their lawns in perfectly trim order, should write for Price Lists and Testimonials from—

LLOYD, LAWRENCE & CO.,

34, WORSHP STREET, LONDON, E.C., and all Ironmongers and Seedsmen.

RHEUMATIC AFFECTIONS

Positively yield like magic to the marvellous healing properties of mild, continuous currents of electricity, imperceptibly applied to the system by wearing

HARNESSE' ELECTROPATHIC BELT

This genuine appliance is comfortable in wear, and may be relied upon to speedily invigorate the debilitated constitution, assist digestion, give strength to every nerve and muscle of the body, and effectually prevent rheumatic pains. It seems, and is, a simple remedy; but it is, nevertheless, a most reliable one; and the number of convincing testimonials we have received from all classes of society amply prove that we do not exaggerate when we say that HARNESSE' ELECTROPATHIC BELTS have completely cured thousands of men and women in all parts of the world.

AN INESTIMABLE BLESSING TO ALL WHO SUFFER FROM IMPAIRED VITALITY.

It Cures all
NERVOUS
Disorders.

HARNESSE' ELECTROPATHIC BELT

It Cures all
RHEUMATIC
and Organic Ailments.

MR. C. B. HARNESSE,
the President of the Institute, together with other officers of the Company, may be consulted, **FREE OF CHARGE**, either personally or by letter, on all matters relating to Health, and the Application of Curative Electricity.

PAMPHLET
AND
CONSULTATION
FREE.

Personally or by Letter.

THE
LARGEST ELECTRO-MEDICAL INSTITUTE
IN THE WORLD.

IMPARTS NEW LIFE AND VIGOR

PERCENTAGE CONSULTATION FREE

A BOON TO SUFFERERS

PAMPHLETS FREE

SOLE PROPRIETORS, THE MEDICAL BATTERY CO. LD.

A BOON TO SUFFERERS.

HARNESSE' ELECTROPATHIC BELTS are an improvement on the galvanic cure of the celebrated German, Professor Hummel. They are excessively simple in their construction, very comfortable to wear, and from their constant action, most efficacious as a self-generating reservoir of electricity. They are entirely unique as a therapeutical adaptation of electricity, as they consist of a series of constant-current electric generators, which are in continuous action while the belt is worn. They contain also all the essential elements of the dry compress, so well known and appreciated in hydropathic treatment. Acting, as they do, upon all the most important organs of the body, they rarely fail to alleviate most of the disorders resulting from local or general debility, impaired digestion, weak circulation, or defective organic action.

CHEQUES and POSTAL ORDERS should be "Crossed" "London & County Bank."

52, OXFORD ST., LONDON, W.



FOR DESTROYING WEEDS, MOSS, &c.

ON CARRIAGE DRIVES,
GARDEN WALKS, ROADS, STABLE-YARDS,
WALLS, STONEWORK, &c.

Saves more than twice its cost in Labour. No Smell.
One application will keep the Walks and Drives
clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied
with your composition and its price that we have used it abso-
lutely. I have every confidence in recommending it."

Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cam-
bridge, says:—"There can be no question with regard to its
efficacy."

Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included);
in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20
gallons, 1s. 4d. per gallon. Special quotation for larger
quantities. Carriage paid on 10 gals. and upwards.

Used in the proportion of one gallon to twenty-five gallons
of water.

THE ACME SUMMER SHADING, White and Green.

FOR SHADING GREENHOUSES, CONSERVATORIES, &c.
Does not wash off with the rain. Can be used WARM or COLD.
1 lb. makes 1/2 gall. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 6d.

For particulars of ANTI-FUNGI POWDER for Tomato
Disease, Mould and Mildew on Roses, Vines, &c.; KENTISH
PLANT MANURE, SOLUBLE MANURE, ZINC LABELS,
NEW METALLIC INK, &c., apply to the
Sole Proprietors and Manufacturers,

THE "ACME" CHEMICAL CO., Ltd.,
Tunbridge, Kent;
and Carlton Street, Bolton, Lancashire.

GISHURST COMPOUND used since 1859
for Red Spider, Mildew, Thrips, Greenfly and other
blight, 2 ounces to the gallon of soft water, 4 to 15 ounces as a
winter dressing for Vines and Orchard-house trees, in latter
from cake for American blight, and as an emulsion when
paraffin is used. Has outlived many preparations intended to
supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on
wet ground. Boxes, 6d. and 1s. from the Trade.
Wholesale from PRICE'S PATENT CANDLE COMPANY
(Limited), London.

SLUGICIDE (REGISTERED).—Certain death
to Slugs, fertilises the soil, perfectly harmless to plants
and domestic animals. The greatest boon to Gardeners ever
invented. 1s. 6d. per box, of all Seedsmen. Trade terms.
THE SLUGICIDE CO., 6, Maryleport Street, Bristol.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,
Hardwood do., Ferns, and Rhododendrons, by each, yard, too,
or truckload. SPECIAL ORCHID PEAT, in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal
and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE,
fresh SPHAGNUM PEAT-MANURES, FERTILISERS, INSEC-
TICIDES, and all other Garden Requisites. Peat Moss Litter.
The Original Peat Depot, KINGWOOD, HANTS.

RICHARDS' NOTED ORCHID

And Other SELECTED PEATS,
Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco-
Paper, Insecticides, Weed Killers, and Garden Sundries, at
the Shortest Notice. Special Railway Rates to all parts.
The Horticultural Stores, 1, Belvedere Crescent,
Lambeth, London, S.E. Chief Peat Depot and Grounds—
Ringwood, Hants. Samples and Price List post-free.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for
37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d.
BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and
Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM,
each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING
COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.

BROWN and BLACK FIBROUS PEAT, 25s.
per Ton, or £5 per Truck of 4 Tons; Bags, 5s. each;
10 Bags, 45s.
PEAT for forming Rhododendron, Bog, and American Plant
Beds, 21s. per Ton, or £4 1s. per Truck of 4 tons; Bags, 5s.
each; 10 Bags, 45s.

THOMAS WALKER, Tekels Park, Camberley, Surrey.

ORCHID PEAT; best Quality; BROWN
FIBROUS PEAT for Stove and Greenhouse use. RHO-
DODENDRON and AZALEA PEAT. Samples and Prices of
WALKER and CO., Farnborough, Hants.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all
other Manures, and has been proved to supply
the place of sunshine, and has the power of
hastening the colouring and ripening of Grapes,
Tomatoes, Peaches, &c., beyond any other
Manure.

If you Try it Now
You will Order later on.

The Gardens, Chatsworth, January 14, 1891.

"I have tried your Manure on soft-wooded plants, and am
much pleased with it. It may be used with perfect safety by
the most inexperienced. (Signed) O. THOMAS."

Gardener to the Duke of Devonshire.

Mr. O. Thomas has, since expressing this opinion, been ap-
pointed Head Gardener at Windsor to Her Majesty the Queen.
Prices in Sacks, at Works, 10s. per cwt.; £2 per
1/2 ton; £3 15s. per 3/4 ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

NATIVE GUANO.—BEST and CHEAPEST
MANURE FOR GARDEN USE. Price £2 10s. per ton, in bags.
Lots under 10 cwt., 4s. per cwt.; 1 cwt., sample bag, sent
Carriage Paid to any Station in England, on receipt of P.O. for 5s.

Extracts from 18th Annual Collection of Reports:

NATIVE GUANO, FOR POTATOS, VEGETABLES, &c.
H. BRINKWORTH, Potato Grower, Reading, used for Potatoes,
Onions, and Carrots, results:—"Very good; never had better
crops."—J. ETTEN, Sittingbourne:—"Used for Potato,
Celery, and other Market Garden Crops, with very good results;
Potatoes large, clean, and free from disease. Best and Cheapest
Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c.
J. ETTEN & SONS, Streatham, used for Fruit Trees and Roses,
results:—"Very satisfactory; we use no other Guano now;
consider yours preferable to Peruvian."—J. FISCH, Orrell
Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers,
and Flowers, with satisfactory results. Most excellent for
Potatoes, and many other things. The Cheapest Manure in the
Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge
Street, Blackfriars, London, where Pamphlet of Testimonials,
&c., may be obtained. AGENTS WANTED.

INNES' FERTILISERS.—THE VINE and
PLANT FOOD.—Of all Nursery and Seedsmen, or direct,
15s. per cwt., carriage paid to all Stations. References and
testimonials of the Sole Managers—
W. INNES AND CO., Sunny Hill Vinery, Littleover, Derby.

BENTLEY'S—BENTLEY'S

WEED DESTROYER

Has paved the way for many imitators, but maintains its
position of superiority, and acknowledges no equal. Has the
largest sale, and the confidence of the leading gardeners.
3 gallons, 5s. 6d.; 6 gallons, 10s.; 12 gallons, 18s.; 15 gallons,
27s. 6d.; 40 gallons, 50s. Carriage paid.

SOLE INVENTOR—

JOSEPH BENTLEY,

CHEMICAL WORKS,

BARROW-ON-HUMBER, HULL.

For all INSECT PESTS
in Greenhouses and
Frames, nothing has
proved equal to the

LETHORION (VAPOUR CONE),
(PATENT).



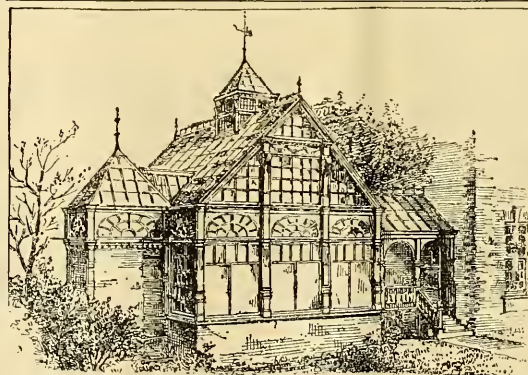
They are now uni-
versally admitted to be
thoroughly uniform in
strength, and safe for
any Plant or Flower,
even if four times the
quantity are used.

Scale and Mealy Bug
may be completely
eradicated by using the
Cones double strength.

PRICES.—For Frames, &c., of 50 cubic feet, 6d.; 100 ft., 9d.;
500 feet, 1s.; 1000 feet, 1s. 6d.; 4000 feet, 5s. each.

THE HOUSES SHOULD BE WELL SECURED.

CORRY & CO., Ltd., 16, Finsbury Street,
LONDON, E.C.



CROMPTON & FAWKES,

HORTICULTURAL BUILDERS,
CHELMSFORD.

BOOK of Photo-Lithographed
Sketches of Winter Gardens, Ranges
of Hothouses, Vineries, Architectural
Conservatories, &c., of various
Designs and Sizes, recently con-
structed, erected, fitted, and heated
completely by us in different parts of
the country; with particulars of the
most successful Hotwater Heating
Apparatus of the century.
Post-free on application.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM _____ To _____
THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.O.

Please send me "THE GARDENERS' CHRONICLE" for _____ 1892.
Months,
commencing _____, for which I enclose P.O.O. _____

Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM.—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.
April 16, 1892.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 "	0 3 6	16 "	0 9 0
6 "	0 4 0	17 "	0 9 6
7 "	0 4 6	18 "	0 10 0
8 "	0 5 0	19 "	0 10 6
9 "	0 5 6	20 "	0 11 0
10 "	0 6 0	21 "	0 11 6
11 "	0 6 6	22 "	0 12 0
12 "	0 7 0	23 "	0 12 6
13 "	0 7 6	24 "	0 13 0
14 "	0 8 0	25 "	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.
If set across three Columns the lowest charge will be 30s.
Page, 28; Half Page, 24 10s.; Column, 23s.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months; Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

"One of the most winning and delightful, as well as the most accurate and scientific of teachers."—N. Y. Tribune.

Garden & Forest

1892—Fifth Year.

Is acknowledged throughout the world to be the leading American authority in the field of Horticulture, Landscape Art, and Forestry. Its contents are original throughout, of the highest literary character, and its writers are the foremost European and American authorities. It is invaluable to the Owners of Country and Suburban Homes, Landscape Gardeners, Botanists, Horticulturists, Lovers of Nature, and to all who would cultivate a correct taste in matters pertaining to the disposition and management of gardens and grounds, whether public or private. The illustrations are original and artistic.

Permeated with a spirit of knowledge and refinement.—Gardeners' Chronicle, London.

The foremost journal of its class, keeping in touch with every advance in the scientific, artistic, and practical phases of horticulture and arboriculture.—Boston Herald.

Holds one of the very first places in periodical horticultural literature.—Revue Horticole, Paris, France.

Its arrival is the coming of a wise and intelligent and entertaining friend, who enables us to live more happily because more harmoniously with Nature.—Harper's Weekly.

Its character is at once dignified and pleasing, and its contents are scholarly and scientific in the exact sense.—Chicago Evening Journal.

No new book on horticulture can for a moment be compared in value to the bound volume of *Garden and Forest*. It is a compendium of new information.—N. Y. Herald.

Published weekly. 21s. a year.

A specimen copy may be had free on application to Messrs. SAMPSON, LOW & CO., St. Dunstan's House, Fetter Lane, Fleet Street, London, England, to whom orders for subscriptions may be forwarded.

GARDEN AND FOREST,
TRIBUNE BUILDING,
NEW YORK, U.S.A.

REVUE de L'HORTICULTURE BELGE et ÉTRANGÈRE (Belgian and Foreign Horticultural Review)—14th year.—Among the principal Contributors are:—A. Allard, E. André, C. Baillet, F. Burvenich, F. Crépin, O. de Kerchove de Denterghem, F. S. de Puydt, A. M. C. Jongkindt Coninck, J. Kieck, T. Moore, C. Naudin, B. Oliveira, H. Ortgies, E. Pymert, E. Rodigas, O. Thomas, A. van Geert Son, H. J. van Huile, J. van Volxem, H. J. Veitch, A. Westmael, and P. Wolkenstein.

This illustrated Journal appears on the 1st of every month, in parts of 24 pages, 8vo, with two-coloured Plates and numerous Engravings.

Terms of Subscription for the United Kingdom:—One year, 14s. payable in advance.

Publishing Office: 134, Rue de Bruxelles, Ghent, Belgium.
Post-office Orders to be made payable to M. E. PYNACKT, Ghent.

FARMS, ESTATES, RESIDENCES.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "Midland Counties Herald Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

Agricultural • Economist.

AN ILLUSTRATED MONTHLY MAGAZINE, of 62 pages and cover. Exponent of scientific and high farming; advocate of co-operation in agriculture, in the supply of farm requisites, and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of pure oilcakes, complete manures, reliable seeds, and implements on wholesale terms. Specimen copy free. Subscription, per annum, 5s., inclusive of postage. Single copies 6d. each, through all Newsagents.

3, Agar Street, Strand, London, W.C.

ESTATE SALES.

The Best County Medium for Advertising Sales of Estates is

THE "WORCESTER HERALD,"

ESTABLISHED 1794.

The Leading County Paper. Extensive circulation among the upper and middle classes in Worcestershire and adjoining counties. Advertisers would do well to forward for reference and distribution plans and particulars of Estates, Catalogues of Machinery, Furniture, Books, and other Property advertised in the Columns of the "HERALD."

Sales of Stock and Agricultural Effects.

The "WORCESTER HERALD" is the most effective organ for giving publicity to announcements of this class. It is the leading Agricultural Paper in the County, and Circulates most extensively among Agriculturists in and around Worcestershire.

Farms to Let.

Land Agents, Estate Managers, and all having Farms to Let would do well to advertise in the "WORCESTER HERALD," the Leading County Paper. Specially adapted for bringing such notices before Tenant Farmers. Large circulation. Moderate charge.

Situations Vacant and Wanted.

For producing results the "WORCESTER HERALD" is recognised as a specially good medium. Cheap Rates.

Apply for terms.
SPECIMEN FREE. Price 2d.
Published Friday for Saturday.

OFFICES:—72, HIGH STREET, WORCESTER.

SIR JOSEPH PAXTON'S BOTANICAL DICTIONARY. Comprising the names, History, and Culture of all Plants known in Britain, together with a full Explanation of Technical Terms. Medium 8vo, cloth. Price 18s. London: BRADBURY, AONWE, AND CO., (Limited), 9, Bowdrie Street, E.C.

BOILING WATER OR MILK.

E P P S'S
GRATEFUL—COMFORTING.
C O C O A
BREAKFAST—SUPPER.

THE RAILWAY PASSENGERS' ASSURANCE CO.

Pay over £2,700 weekly
as COMPENSATION for
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, } Secs.
A. VIAN, }

SPHAGNUM MOSS, fresh-gathered green, large Crowns, 5s. per sack; quantities cheaper.
PERNS for Rockeries.—*Bigida*, *Montana*, *Spinulosa*, *Dilatata*, *Athyrium*, *Filix-mas*, *Polystichum*, *Osmandea*, *Scolopendrium*, 10s. per 100, carriage paid by rail.
HAINSWORTH, Rock View, Gillgate, Kendal.

EXTRA STOUT strong-tanned NET, 2 yards wide, 1½d. yard; 4 yards wide, 3d. yard; or 2 yards wide, 10s. per 100; 4 yards wide, 20s. per 100 yards. NEW TWINE NETTING, 1 yard wide, 1½d. yard; 2 yards wide, 3d. yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. COTTON NET, nine meshes to square inch, 1½d. wide, 7d. yard run. W. CULLINGFORD, 24, Eastern Road, Plaistow, E.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE, 4d. per bushel; 100 for 25s.; truck (loose, about 2 tons), 40s.; 4-bushel bags, 4d. each.
LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. per sack, 5 sacks, 22s.; sacks, 4d. each.
COARSE SILVER SAND, 1s. 8d. per bushel; 15s. per half ton; 25s. per ton, in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.
SPHAGNUM MOSS, 6s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.—E. G. SMYTHE, F.R.H.S., 21, Golden Square, Street, Drury Lane (lately called 17A, Coal Yard), W. C.

GREENHOUSES FOR THE MILLION—Cheapest. Despite for any kind of Glass Erections in the Country. Note the following:—100 feet by 20 feet, £100; 100 feet by 12 feet, £80; 60 feet by 12 feet, £50; 30 feet by 10 feet, £30. Several excellent Second-hand Houses marvelously cheap. Hawkins' "Perfection" System of Glazing is the best, and defies competition. Estimates free. Do not buy without first having price from HAWKINS, Horticultural Builder, Ashford, Middlesex. Established 1871.

GARDEN REQUISITES.—Sticks, Labels, Virgo Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

HORTICULTURAL SHADINGS and NETTINGS, TIFANY, COTTON WOOLS, and WADDINGS. Supplied Wholesale by JOSEPH COOKSON, 21, New Cannon Street, Manchester.

TO HORTICULTURISTS.—GREENHOUSE GAS COKE and SMITH'S COKE delivered in Trucks loaded to any Station in England and Wales.—Address, G. J. EYSON, 26, Corporation Street, Birmingham.

SIX CABINET PORTRAITS, 3s.; three for 1s. Twelve carte Portraits, 2s. 2s.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 6s. Stamp size, 2s. 4d. 1s. 4d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—FRANCIS AND CO., 29, Ludgate Hill, London.

GARDENING APPOINTMENTS.

MR. JAMES BAXTER, Head Gardener at Tollerose House, Glasgow, N. B., as Head Gardener and Estate Manager to LORD CARDROSS, Shortgrove, Essex.

MR. C. J. CARREREAD, until recently Foreman at Rayner's Park, Bucks, as Head Gardener to Mrs. GILBEY, Wooburn House, Wooburn, near Maidenhead, Berks.

PARTNERSHIP.—A young Man, with twelve years' experience, and a fair connection, wishes for Partnership, or Situation, in a good Seed Establishment, where £300 or £700, and a garden service, would meet with a fair return.—T. W. G., *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W. C.

WANTED, a SINGLE-HANDED GARDENER. Small Vineyard and Conservatory, Flower and Kitchen Gardens. Wages about 18s. with bothy. HEAF, Giltgath, Bala.

WANTED IMMEDIATELY, a SINGLE-HANDED GARDENER, for Northamptonshire; Cow and poultry, married, can employ wife as laundress, dairy-maid, or cook. Strong, age, family, experience, and wages—"M.", Roseneath, Birkdale, Lancs.

WANTED, a GARDENER.—Good all-round. Small Garden near Windsor. Two Greenhouses.—Apply, HENRY AND CO., 175, Victoria Street, S. W.

WANTED, a MAN, for Growing Narcissus and Miscellaneous Bulbs; if acquainted with Culture of Lilacs and Forsythia Shrubs, he would be advantageous. State wage.—CLIBRAN, Oldfield Nurseries, Aitricham.

WANTED a CHRYSANTH and ARUM GROWER; also SEVERAL good GRAPT TRINERHS, also FIVE or SIX PERMANENT HANDS.—H. DICKINSON, Shardlow, near Derby.

WANTED, for Clapton Nursery (3 miles from Clapton), a MAN to take the Management of Despatching Orders, where a Parcel Post Business is done. Wages about 18s., with small cottage (four rooms) and garden. Permanent situation to a trustworthy man.—H. ENGLISH, Clapton and Clapton Nurseries, Clapton.

WANTED AT ONCE for a Market Nursery a good all-round MAN Inside and Out; none need apply who have not held similar position and character will bear strict investigation. Apply, stating age, wages expected, &c. J. B. DOLBY, Victoria Nurseries, Slendish.

WANTED a reliable and experienced MAN for Kitchen Garden and Pleasure Grounds; married without family preferred; wife would be required to look after two rooms over stables and look after two young gardeners.—Apply, by letter only, to J. C. COWLEY, Ibbin House, Hanger Hill, Ealing.

WANTED, a young MAN, as SECOND, Inside and Out. Must have a knowledge of Orchids, Flowers, and Fruit. State age and references. No bothy. Wages 18s.—HENRY WILSON, Easthope Gardens, Riddington, Notts.

WANTED, an active young MAN, as SECOND GARDENER, where six are kept. Quick and obliging, and well up in his work. Age about 23. Wages 15s. per week, with bothy, milk, and vegetables.—W. GIBSON, Stevenston Manor, Whitechurch, Hants.

WANTED an UNDER GARDENER to assist in Glass House and Kitchen Garden, married.—Apply, stating experience and wages required, H. E. KEARLEY, Wolmarhurst, Aylesbury.

WANTED, a FOREMAN (INSIDE) must understand Grapes, Peaches, Melons. Stove and Greenhouse Plants, &c., well up in Fable and Tuloo Decorations, 18s. per week, bothy and vegetables. Must take an interest in his work. Good character for sobriety, civility and industry necessary. Copies only.—Apply to H. GOFF, Eastwick Park, Leatherhead, Surrey.

WANTED, a JOURNEYMAN or AN IMPROVER (under Foreman), for Houses.—Must be quick at Potting. State age, wages, and references. Wages, PRITCHARD AND SONS, Nurserymen, Shrewsbury.

WANTED AT ONCE, a single YOUNG MAN, to grow Tomatoes and Cucumbers for market; wages 12d. per week. Apply to JAMES POSON, Jan., Castle Donington, Derby.

WANTED, a smart young MAN, to assist in the Orchard Houses, one with Nursery experience preferred.—Apply to Messrs. CHARLES WORTH, SHUTTLEWORTH AND CO., Heaton, Bradford.

WANTED, a strong young MAN, to work Inside and out. Wages 18s. and bothy. Must be over twenty years (if age). F. OLDHAM, Bromfield, Derby.

WANTED, a young MAN used to General Market Nursery Work.—Send age, wage, and reference. J. GREEN, Reliance Nursery, March.

WANTED, an active young MAN, chiefly for the Houses. Must have had some experience. Age 18. W. 12s. per week. Bothy, milk and vegetables.—Apply, J. COWARD, The Gardens, Haverholme, Stamford.

WANTED, TWO Young MEN for Market Work, who have been used to Bouquet and gardeners' Ferns, &c. Wages 18s. per week.—Apply LEWIS & WILKINS, Embury Nursery, Thames.

WANTED a MAN for Market Nursery; must be experienced in Cucumbers, Tomatoes, Cut Bloom, &c. Apply, MANAGER, Gate House Nursery, Worthing.

WANTED, AT ONCE, an active young MAN for general nursery work, Grape thinning, &c. Constant employment if suitable; will live in the house. Apply, G. JACOBI, Exotic Nurseries, Witney, Oxon.

WANTED, a young MAN, for the Houses. Used to Potting, Tying, and Watering. Apply, giving age, wages, and particulars, to W. H. LAWSON, Nurseryman, Knaresborough, Yorks.

WANTED a strong and active LAD for the Houses, about 17 years of age. F. J. P., The Gardens, Forest Farm, Windsor Forest.

TO FLORISTS.—Young LADY REQUIRED; used to good Decorative Work.—Apply, by letter only, to MR. SEARCY, Floral Department, 41, Connaught Street, Hyde Park, W.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should Write for Prospectus of the Scientific Dress Cutting Association, 272, Regent Street, London, W. Situations found for all pupils at good salaries. Young lady's education is complete without a knowledge of Dressmaking.

WANT PLACES.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Gardeners, Farm-Bailiffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester (Limited), are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

Head Gardeners.
JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-hand situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S. E.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BAILIFFS, or GARDENERS.
JAMES CARTER AND CO. have at all times upon their Register reliable and competent MRN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W. C.

GARDENER (HEAD); age 33, married.—MR. WILLIAMS, Blechem Palace, Woodstock, wishes to recommend John Coles to any Lady or Gentleman requiring an efficient and competent Gardener, who thoroughly understands the management of a large Establishment; for the last seven years Principal Foreman at Blechem.

TO GENTLEMEN with large Gardens.—The Advertisement of a Gardener of great experience, and a well known skilful Horticulturist, will be open to an engagement either in May, or would rent a Large Garden or Superintend on Commission.—OMEGA, 99, Kennington Road, London, S. E.

GARDENER (HEAD).—Age 38, Scotch; has had twenty-four years' practical experience. Thoroughly experienced in all branches, including Orchids. Highest testimonials as to abilities and character.—A. B., Broadwood Cottage, Bonchurch, Isle of Wight.

GARDENER (HEAD); age 32, married, no family.—W. JAMES HARRIS, Esq., Whiton Tower, via Darlington, can with confidence recommend The Singletoe, his present Head Gardener, to any Lady or Gentleman requiring the services of a thorough practical man, highly conversant in all branches of his profession, and the requirements of a good garden; eighteen years experience.

GARDENER (HEAD), or good SINGLE-HANDED.—Age 29, married, thoroughly experienced in all branches. Excellent references from previous and present employers.—W. FLEET, 2, Sherwood Road, Harrow.

GARDENER (HEAD), or FOREMAN (GENERAL).—Age 26; four years in last place. Thoroughly experienced in all branches.—U. K., The Gardens, Undermoat, Bonchurch, Isle of Wight.

GARDENER (HEAD WORKING), or good SINGLE-HANDED.—Age 30, married; seventeen years' good experience. Total abstinence. Three years' good personal character. Leaving through Gentlemen giving up place.—H. CARPENTER, 10, Lathuran Place, Upper Tulse Hill, Brixton, S. W.

GARDENER (HEAD WORKING).—Middle-aged; life experience in all branches; excellent personal character for ability and sobriety. Will offer part service.—2, Rose Cottages, Hittoms, Kingston.

GARDENER (HEAD WORKING), where two or more are kept.—Age 31; married, no children; a GENTLEMAN is desirous of recommending his gardener, who has been with him for six years. Thoroughly understands all branches of the Gardeners' Plants and Fruit, &c. Christchurch, Flower and Kitchen Garden.—F. H. MILLFIELD, Berkhamsted.

GARDENER (HEAD WORKING), where two are kept, or good SINGLE-HANDED; married, two children, 11 and 13.—COMMANDER DIGBY, R.N., recommends his Gardener as above. Six years' character. Leaving for no fault. Understands all branches. Thoroughly trustworthy, honest, and sober.—T. SMITH, Gardener, North Runciton, K's Lyne.

GARDENER (HEAD WORKING).—Age 30; sixteen years' practical experience, including eleven for Exhibition. GEORGE PHILLIPS, for the last two years General Foreman at Digby Gardens, Market Harborough, seeks a situation as above. Head Foreman previously. Excellent references. The Viscount Downe kindly permits reference.

GARDENER (HEAD WORKING); age 30.—Mr. C. E. BARIO Young wishes to recommend a Foreman, with experience in Hothouses, &c., for the above position.—2, Harcourt Buildings, Temple, E.C.

GARDENER (HEAD WORKING), where two are kept.—Age 26, married; thoroughly practical. Twelve years' experience in all branches. Well recommended. A. B., Cigar-Box, Exeter Terrace, West Hamstead.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Jollywinds, near Dorking, wishes to recommend his Foreman, James Pallen. Thoroughly practical in all branches, including Orchids, Stone and Greenhouse Plants, Fruit, Hardy Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING).—Single; trustworthy, intelligent, and thoroughly practical in all branches, including Decorating and Laying-out. Abstainer. High testimonials.—J. H., 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING), where one or more are kept.—Age 28, single at present; thirteen years' experience in large Establishments. Good references.—G. W., East Oxford, Epsom.

GARDENER (HEAD WORKING), where others are employed.—Age 30, married, no family. Life experience in all branches, including Orchids, Stone and Greenhouse Plants, Fruit, Hardy Herbaceous Plants. Excellent character.—J. HIGGINS, Gardener, Butleigh, Glastonbury, Somerset.

GARDENER (HEAD OR SECOND), age 40, small family, 20 years' experience in all branches, 3 years' character.—MARGESON, West Lodge, Hadley Wood, Barnet.

GARDENER (good SINGLE-HANDED, OR SECOND).—Age 26, single. Eleven years' experience in all branches; can be well recommended.—A. HAMMOND, The Gardens, Fanshawe, Hertford.

GARDENER (SINGLE-HANDED OR OTHERWISE), age 27, married, no family. Life experience in all branches, 12 years in former situation.—W. MARTIN, Ulverston Cottage, Uckfield.

GARDENER (WORKING).—Age 41, married; twenty-eight years' experience. Well up in the Cultivation of Orchids, Plants, Fruits, Flowers, Vegetables, Early Forcing, and the general requirements of a Gentleman's establishment. Good character.—W. P., Church Cottage, Stapleton, Bristol.

GARDENER (SINGLE-HANDED, OR where help is given).—Age 30, married, no family; sixteen years' experience in Vines, Melons, Cucumbers, Stone and Greenhouse Plants, Flower and Kitchen Gardens; also Land and Stock. Good character from previous employers.—A. W. MEECH, Beddington Lane, Mitcham.

GARDENER (SINGLE-HANDED, OR OTHERWISE).—Age 37, married; excellent character from present situation. Leaving through no fault.—C. B., Capt Hall Cottages, Page Street, Mill Hill, Hendon.

GARDENER, where help is given or SINGLE-HANDED.—Age 29, married when suited, total abstainer; understands Greenhouse Plants, Cucumbers, Tomatoes, and general routine of gardening.—H. WAYLING, Cold Harbour, Waddon, Croydon, Surrey.

GARDENER (SECOND), OR JOURNEYMAN (FIRST), in a large establishment.—Age 28; eleven years' experience; can be highly recommended.—T. ATTWOOD, Packington, Ashby de la Zouch, Leicestershire.

GARDENER (UNDER).—Age 21; three years' experience, Inside and Out. Good character.—T. CORK, Escot, Ottery St. Mary, Devon.

GARDENER (UNDER).—Age 21; Houses preferred. Four years' experience, Inside and Out. Leaving through death. Abstainer. Excellent character.—A. H., 9, Dulka Road, Battersea Rise, London, S.W.

GARDENER (UNDER).—Age 22; seven years' experience. Good references.—F. FRANKLIN, 4, Grove Road, Faling, Middlesex.

GARDENER (UNDER), Inside or Out.—Age 20. Four years' experience; two years last place. Willing to Work.—A. MORAN, Walton Road, Wetherby, Yorks.

GARDENER (UNDER), in the Houses, or Inside and Out.—Age 21; good characters from present and previous employers.—A. SKILLICORN, Nursery Gardens, Douglas, Isle of Man.

GARDENER (UNDER).—Age 22; single. Been used to the Pleasure Grounds. Good character from last place. Understands cows.—T. R., 39, Sheldon St., Croydon.

GARDENER, JOURNEYMAN, OR SECOND in Houses. Age 25; six years' experience under glass, Kitchen Garden, and Pleasure Grounds. Good character from Head Gardener, or personal one from Clergyman if wanted. GARDENER, Chippenham, Soham, Cambs.

PROPAGATOR.—Age 22; with fruit in Budding and Grafting. Good at Fruit Trees, Roses, Clematis, and Conifers.—THOS. ANDERSON, The Briary, Shotley Bridge, Durham.

PROPAGATOR OR GROWER.—Age 26, married; good experience in Market Nurseries, Ferns, Palms, Bouvardias, Chrysanthemums, Tuberoses, Lilliums, Tomatoes, Cucumbers, &c.—MORRIS, 6, Capworth Street, High Street, Leyton.

NURSEYMAN AND FRUIT-GROWER, Age 34 years. Situation wanted by a practical Man as FOREMAN or GROWER, thoroughly up in Plants, Out Flowers, Cucumbers, Tomatoes, or Market Garden, can be highly recommended.—FOREMAN, 214, Wellington Road, Northampton.

FOREMAN, OR GROWER.—Age 30; abstainer. Energetic, thoroughly understands Growing and Selling, Contracting and Jobbing, Wreaths and Bouquets.—X. G., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

FOREMAN, in a good Establishment.—Age 28; eleven years' experience in good establishments.—F. STREET, 623, Sticker Lane, Bowling, Bradford, Yorks.

FOREMAN, Inside.—Age 24; thoroughly understands Stone and Greenhouse Plants, Fruit culture, and early and late forcing; good character from present and previous situations; abstainer.—W. DOWN, Middleton, Longgrass, Hants.

FOREMAN, in the Houses, in a private Estab- lishment.—Age 26; nine years' experience. Total abstainer.—R. N., The Gardens, Bridgion Place, Bexley, Kent.

FOREMAN, in the Houses.—Age 26; English. Experience at Birdsell House, Castle Howard, and Stoke Edith Park; two years present place.—H. BELL, The Gardens, Ballywalter Park, co. Down, Ireland.

FOREMAN, in a good Establishment.—Age 30. T. SILENCE, Nonsuch Park, Chess, Surrey, can highly recommend Wm. Higgins as above. Thoroughly well up in his business; first-class testimonials.

FOREMAN, in a good establishment.—Age 24; eleven years' experience in good places.—W. BAILLIE, Luton, Park Gardens, Luton, Beds, would be pleased to recommend J. Goddard as above.

£1 will be given to anyone getting Advertiser (First), under Glass as FOREMAN, or JOURNEYMAN (First), and Glass. Ten years' experience. Good references.—G. G., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

FOREMAN, OR MANAGER, of a Branch Establishment.—Advertiser (age 28) desires an engagement as above. Fourteen years' Trade experience. Practical and energetic.—E. B., 64, Church Road, West Croydon.

FOREMAN AND MANAGER (WORKING).—Age 31, married; practical experience in Growing Grapes, Melons, Strawberries, Cucumbers, Tomatoes, Chrysanthemums, &c., for market. Seven years' first-class character as FOREMAN.—A. B., 26, Castlebar Works, Baling, W.

FOREMAN, in a first-class place.—Excellent references; tenor singer.—H. W. HARPER, Netherdown, Rugeley.

FOREMAN, in a good Establishment.—Age 29, single. General experience in all branches; highest references as above from good Establishments.—F. H., Mrs. Parsons, Pampisford, Cambs.

FOREMAN (GENERAL), in a good Estab- lishment.—Has a thorough knowledge of Fruit and Plant Growing, and is highly recommended.—A. COLEMAN, Cedar Cottage, Chorley Wood, Herts.

FOREMAN, in the Houses; age 22; abstainer.—J. SHARPE can recommend W. Culshaw as above. Well up in Plants, Fruits, Early and Late Forcing, Chrysanthemums, &c., Three Previous places.—The Gardens, Neville Court, Taubridge Wells.

JOURNEYMAN on a Gentleman's Estab- lishment, inside preferred; age 24. Has a fair knowledge of the work; good character.—A. BURNINGHAM, St. Catherine's House, Guildford, Surrey.

JOURNEYMAN, in the Houses.—Age 20; six years' experience, Inside and Out. Bothy preferred.—R. COLLINGS, Farnham Royal, Slough.

JOURNEYMAN, Inside; age 21.—J. SELDEN, The Gardens, Coombs Cottage, Kingstou-on-Thames, wishes to recommend E. Pincock as above; two years character, three and a half previous.

JOURNEYMAN; age 20; total abstainer.—G. MERRITT, Park View Nursery, Harpenden, can highly recommend a young man as above, for Indoor, Kitchen Garden, &c.

JOURNEYMAN, in the Houses, in a good Establishment, under Glass.—Age 24. Bothy preferred.—W. JONES, Mrs. Rollison, Gipton Wood, Roundhay Road, Leeds.

JOURNEYMAN, in the Houses, under good Foreman.—Age 21; two years' good character from last situation; bothy preferred.—F. PIKE, Iping, Midhurst, Sussex.

JOURNEYMAN, Inside or Inside and Out, R. DONKIN, Gardener to E. H. Carbutt, Esq., Nanhurst, Cranleigh, Surrey, can highly recommend a very steady young man as above.

JOURNEYMAN (INSIDE). A place wanted for a strong, active, industrious young fellow, age 23. Two years in present place. Highly recommended. J. T. FLETCHER, Gardener, Lynhales, Kingston, Herefordshire.

JOURNEYMAN, in a good establishment.—R. GILBERT, Burghley Gardens, Stamford, can with confidence recommend a young man, age 22. Seven years' experience as above.

JOURNEYMAN, in the Houses.—Age 21; five years' experience.—J. B., The Cometary, Luton, Beds.

JOURNEYMAN, in the Houses, in private establishment.—Age 21; five years' experience. Good character.—J. P. CABLE, Buraham, King's Lynn, Norfolk.

JOURNEYMAN (FIRST OR SECOND).—Inside or inside and out. Age 22; seven years' experience. Four years in present place.—J. BROADHURST, This Barn, Woolton Hill, Newbury, Berks.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; eight years' experience; good references.—G. HOOKEY, The Gardens, Silverland, Chertsey, Surrey.

JOURNEYMAN (FIRST), in the Houses in a good establishment.—Age 31; six years' good character from present situation. Can be highly recommended; bothy preferred.—F. ELLIS, The Gardens, Southover Hall, Barwash, Sussex.

JOURNEYMAN (FIRST) in the Houses.—Age 23, seven years' experience, well recommended by present and previous employers; abstainer.—J. CARTER, Bridge Place, Bexley, Kent.

JOURNEYMAN for the Houses.—Mr. THOMSON can highly recommend G. Gibbo as above to any gardener in want of a steady, trustworthy young man; five years' experience; abstainer.—G. GIBSON, Kirby Mallory, Hincley, Leicestershire.

JOBING GARDENER.—Middle-age, mar- ried. Wanted, a constant place as above. Twenty years' experience in Nurseries and Gentlemen's Gardens. Good character from present and previous employers.—Full particulars to GARDENER, Highcroft Cottage, Swanley Junction, Kent.

IMPROVER, Inside, in a good private establishment.—Age 20. Five years' good character from Head Gardener; bothy preferred.—W. GATFORD, Holtye, Edenbridge, Kent.

IMPROVER, under a good Gardener, in Bothy.—Age 18; three years' character. No objection to small premium.—W. W., The Gardens, Letton Hall, Thetford.

IMPROVER.—Situation wanted in Gen- tleman's garden as above, by a strong, active, willing youth, not afraid of work.—MILSON, Head Gardener, Claydon House, Wislous, Bucks.

TO EMPLOYERS AND HEAD GARDENERS. A GENTLEMAN strongly recommends a young Devonshire man (age 22), of excellent character. An abstainer. Strong, willing, and intelligent, very desirous to learn. Seven years as Under Garder with Vicar of his Parish.—Address to F. S., The Grahams, 61, North Side, Clapham Common London, S.W.

TO HEAD GARDENERS.—Advertiser, age 29, single, having spent most of his time Inside, desires a situation Outside, in a large establishment.—G. GUTTBIDGE, Fairhill, Cobham, Surrey.

TO HEAD GARDENERS.—W. WARD, Little Aston Gardens, Sutton Coldfield, wishes to procure a place for his son, a respectable youth, age 17, as IMPROVER in a large Garden, under a good Gardener. Two years' experience. Fair premium offered. Bothy preferred. Clean, steady, and willing. Is very tall and strong.

TO GARDENERS.—Situation wanted for a lad, age 18, under good gardener; would give a small premium.—J. HOWARD, Down Ampney, Cricklade, Wilts.

TO GARDENERS.—Situation wanted by a youth, age 19, under a good gardener, Inside and Out; three and a-half years' good character.—R. SUMPTON, Heston, Middlesex.

TO GARDENERS.—Situation wanted by an active young man (age 22) in the Kitchen Garden, or Kitchen Garden and Pleasure Grounds; good experiences; good reference.—G. N., 16, Hambro Road, Streatham, Surrey.

TO NURSERYMEN.—A thorough London and Provincial experienced man, quick and successful Propagator, and grower of Stone, Greenhouse, and bedding stuff, is open for engagement.—HANSON, 2, Stoney Cottage, Nettleham Road, Lincoln.

TO NURSERYMEN.—Wanted by a young man (Belgian), age 23, situation in a nursery. Six years' experience in Belgian nurseries; strong, willing, and active.—DEERYKER, Nurseryman, Gendbrugge, Ghent.

COWMAN.—Age 26, married; understands all kinds of Stock and Poultry.—W. FORD, 45, Northway Road, Cambria Road, Loughboro' Junction, E.E.

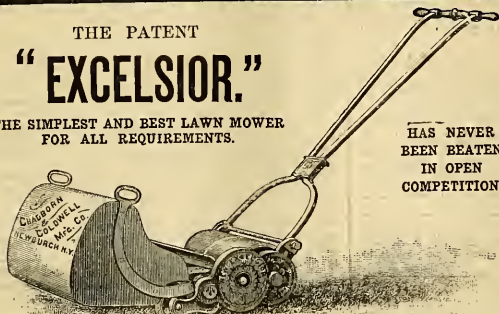
TO FLORISTS.—Advertiser (age 30, single) desires engagement; good experience in Growing, Decorating, Selling, &c. Excellent references.—M. W., G. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

HOLLOWAY'S OINTMENT AND PILLS. Diseases and casualties incidental to youth may be safely treated by the use of these excellent Medicaments according to the printed directions folded round each pot and box. Nor is this Ointment alone applicable to external ailments; conjointly with the Pills it exercises the most salutary influence in checking inflammations situated in the interior of the body; when rubbed upon the back and chest it gives the most sensible relief in asthma, bronchitis, pleurisy, and threatening consumption. Holloway's remedies are especially serviceable in liver and stomach complaints. For the cure of bad legs, all sorts of wounds, sores, and likewise scrofula and scrofulic affections, this Ointment produces a cooling and soothing effect most acceptable to the sufferer.

EXCELSIOR

THE PATENT "EXCELSIOR."

THE SIMPLEST AND BEST LAWN MOWER
FOR ALL REQUIREMENTS.



HAS NEVER
BEEN BEATEN
IN OPEN
COMPETITION.

The Best and Lightest-running Hand-power Mower in the Market.
The "EXCELSIOR" cuts the closest of any Mower, collects the grass, rolls the ground, and leaves the lawn level, with a surface like velvet.

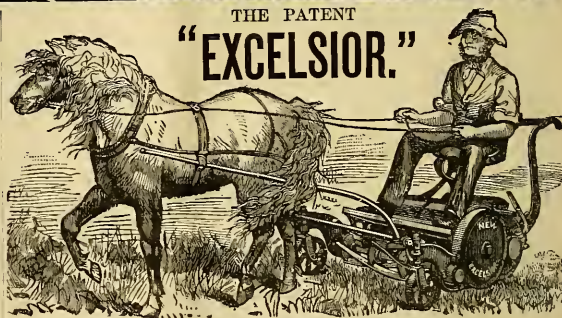
PRICES.

6-inch Machine	... ..	£1 10 0	14-inch Machine	... ..	£5 2 6
8-inch "	... ..	2 5 0	16-inch "	... ..	6 2 6
10-inch "	... ..	3 5 0	18-inch "	... ..	7 0 0
12-inch "	... ..	4 2 6	20-inch "	... ..	7 10 0

COLLECTING BOXES EXTRA.

For 6-inch, 8-inch, and 10-inch, price 5s. For 12-inch, 14-inch, and 16-inch, 7s. 6d.
For 18-inch and 20-inch, 10s.

THE PATENT "EXCELSIOR."



Can be Used With or Without Collecting Box.

The "EXCELSIOR" Horse-power Mower is well-known, and is highly successful in work. It is used on many important Estates, Cricket Grounds, and Public Parks. Its draft is lighter than that of any other Horse or Pony Mower, and is warranted to give satisfaction.

PRICES.

25-inch Machine, including Collecting Box	£14	35-inch Machine, including Collecting Box	£25
30-inch Machine, including Collecting Box	£18	40-inch Machine, including Collecting Box	£20

Shafts, Seat, and Castor Wheels, £1 extra, if required.

The Prices for both Hand and Horse-power Machines include Carriage to almost any Railway Station in Great Britain. No charge for Packing Cases.

EVERY MACHINE WARRANTED.

First Prize
Silver Medal.



The Highest Prize
at Paris.

NEW MODEL LAWN MOWER

After severe com-
petition.



The Highest Prize
in England.

CHIEF ADVANTAGES.

Good Quality of Work.

Lightness of Draft.

Simplicity of Construction.

Easy to Adjust.

FACILITY FOR SHARPENING.

Efficiency in Collecting Grass.

Variety of Work.

The Best Mower for Amateurs.

Nothing to get out of Order.



THE PATENT

'NEW MODEL'

THE LIGHTEST
RUNNING MOWER
IN THE WORLD.

CHIEF ADVANTAGES.

Patent Adjustable Bushing to Revolving Cutter.

Patent Noiseless Ratchet, without Spring.

Patent Adjustable Grass Collecting Box.

Patent Screw Cap to Adjustable Handle, which effectually prevents its working loose.

PRICES.

6-inch Machine	... ..	£1 5 0	14-inch Machine	... ..	£1 15 0
8-inch "	... ..	1 15 0	16-inch "	... ..	4 5 0
10-inch "	... ..	2 15 0	18-inch "	... ..	4 15 0
12-inch "	... ..	3 5 0	20-inch "	... ..	5 5 0

For Prices of COLLECTING BOXES, see above.

SIMPLE. STRONG. EASY TO WORK. EFFICIENT.

A LARGE STOCK OF FITTINGS. ALL KINDS OF LAWN MOWERS REPAIRED.

THE LARGEST MAKERS OF LAWN MOWERS IN THE WORLD.

CHADBORN & COLDWELL, M'FG. CO., 223, UPPER THAMES STREET, LONDON, E.C.

T. CLARKE, MANAGER.

REGISTERED TELEGRAPHIC ADDRESS: "LAWN MOWERS, LONDON."

Editorial communications should be addressed to the "Editor," Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, April 16, 1892. Agent for Manchester—JOHN HETWOOD.

The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2678.

No. 278.—Vol. XI. {THIRD SERIES.}

SATURDAY, APRIL 23, 1892.

[Regt. as a Newspaper. {PRICE 3d. POST-FREE, 3½d.}

CONTENTS.

Apple, Northern Spy ...	532	Nomenclature question...	531
Bath, Sydney Gardens at ...	530	Olea fragrans ...	534
Balkans in small pots ...	532	Orchids at Brussels ...	530
Chester, new park at ...	531	Prunus Davidiana ...	530
Chicago Exhibition ...	530	Pteris and Doryopteris ...	523
Coffee in East Central Africa ...	526	Scotland ...	523
Cordons, Diamond and other ...	534	Botanical study in Glasgow ...	532
Diseases of the reproductive organs of plants ...	524	Glasgow Botanic ...	532
Doryopteris and Pteris ...	523	Societies—	532
Erica byemalis ...	532	Amateur Gardeners' Association ...	530
Forget-me-nots ...	521	Auricularia, National ...	535
France, severe weather in ...	530	British Fruit Growers' Association ...	531
Fruit culture ...	528	Devon and Exeter Gardeners' Association ...	531
Fruits, dried and preserved ...	532	Edinburgh Botanic ...	531
Fruits from Tasmania ...	531	Fremantle Garden Protection ...	531
Glossy cherry caterpillar ...	521	Ghent, horticultural meeting at ...	531
Highbury, near Birmingham ...	525	Lynn Horticultural ...	530
Horticultural Club ...	530	Notts Horticultural and Botanical ...	530
Kew notes ...	525	Royal Horticultural ...	534
Melons, diseases of ...	530	Weather ...	537
Montpellier, Botanical Garden at ...	530	Week's work, the ...	526
New or noteworthy plants—		Flower-garden ...	526
Cattleya Alexandrina ...	522	Fruits under glass ...	526
Cypripedium exul ...	522	Hardy fruit garden ...	527
Dendrobium Rolfean ...	522	Kitchen garden ...	527
Dioscorea (C) Olbia ...	522	Orchid-houses ...	527
Tridacena (C) regina ...	522	Plants under glass ...	526
Vanda arbutinifolia ...	522	Xanthoceras sorbifolia ...	532

ILLUSTRATIONS.

Cypripedium exul ...	523
Prunus Davidiana ...	529
Spout, Earl's Hardy Curled ...	525
Xanthoceras sorbifolia ...	533

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

"Paxton's Calendar." New Edition, "The Cottagers' Calendar of Garden Operations," Price 3d., post-free, 3½d. 41, Wellington Street, Strand, London, W.C.

SPECIMEN CAMELLIAS.—Over 50 splendid plants are included in AUCTION SALE on May 4 and 5. Send for Descriptive LIST to R. B. LAIRD and SONS, or D. MITCHELL, Horticultural Auctioneer, 6, Comely Bank, Edinburgh.

CLEMATIS FOR BEDDING.—Now is the time for planting. 100 to 20 best kinds, my selection, for 50s.—CHARLES NOBLE, Bagshot.

PANSIES.—Finest Show and Fancy Pansies, in 50 Grand Named Sorts, my selection, 25s. per 100; in 100 Sorts, 30s. per 100. Catalogue free, on application. JOHN FORBES, Hawick, Scotland.

Trade Offer of Large Palms. WICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decoration; Dracenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application. W. ICKETON, Putney, S.W.

ANEMONE JAPONICA ALBA.—Flowering roots, 10s per 100. A. YOUNG, Nurseryman, West End, Esher.

CARTERS'—THE BEST SEEDS.

CARTERS' HOLBORN PRIZE PRIMULA.
CARTERS' VICTORIA PRIZE CALCEOLARIA.
CARTERS' BRILLIANT PRIZE CINERARIA.
The finest strains in cultivation. For in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN.
237 and 238, HIGH HOLBORN, LONDON, W.C.

BARR'S BEAUTIFUL HARDY DAFFODILS.—Out SPECIMEN FLOWERS, correctly named, now ready, at the following prices, post-free:—One flower each of 12 kinds, 2s. 6d.; of 18 kinds, 3s. 6d.; of 30 kinds, 6s. 6d.; of 50 kinds, 12s. 6d. Three flowers each of above, 6s. 6d., 12s. 6d., and 25s. respectively.—BARR AND SON, 12 and 13, King Street, Covent Garden, London, W.C.

FRUIT TREES.—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Fruit Stocks to Offer. Descriptive CATALOGUES, post free, on application. FLETCHER BROS., Oldershaw Nurseries, Chertsey, Surrey.

LAXTON'S SEEDS AND STRAWBERRIES.—Best novelties and best standard sorts. 100 Certificates. Send for Descriptive Price Lists.
T. LAXTON, Seed Grower, Bedford.

The best April Broccoli in the World
HARTLAND'S APRIL QUEEN,
per packet, 1s., post-free.
It may be tried for purity of stock, flavour, and quality against any sort in Europe.
WILLIAM HENRY HARTLAND, F.R.H.S., Seedman, &c., 24, Patrick Street, Cork.

SEAKALE SETS, now ready for planting; 200 bushels for Sale. For particulars, &c., apply—J. FANNING, Cranford Gardens, Bath Road, near Hounslow.

TARRAGON.—Best variety. Fine clumps, transplanted spring, 1891, cheap. GRAPE VINES, large stock of superior Canes. CLIMBING ROSES, 10 to 12 feet; for list apply, WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

W. D. BUNDAY, of Covent Garden Market, 37 and 37, Exeter Street, W.C. is open to SELL, on COMMISSION, TOMATOS, GRAPES, &c. Good references.

HENRY E. MUNTON, FRUIT AND VEGETABLE COMMISSION SALESMAN, Covent Garden Market, W.C. (twenty years' connection). Accounts and Cheques daily, or as desired. Empty supplied. Bankers and other references. A trial solicited.

The Best Present for a Gardener.
VINES and VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
New Edition.
Price 5s., post-free, 5s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

Many Acres of Lilies of the Valley!
T. JANNACH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.
T. JANNACH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

WANTED, Old Stools of ASPIDISTRAS, FIGUS ELASTICA, and CALLAS, in exchange for strong, healthy plants of CECYLOGNE CRISTATA, equal to the Chatsworth variety; or Cash.
TURNER BROS., Green Hill Nursery, Garston, Liverpool.

WANTED, 1000 Yellow CALCEOLARIA PLANTS.—Sample and price to THOMPSON and SON, Elmsmere, Salop.

WANTED, choice CUT FLOWERS for SALE in COVENT GARDEN MARKET; good prices made.
100 of Stands, 100 and 170. One week, 9s. DENSON and CO., The Nurseries, 22, Maida Vale, Edgware Road, W.

SUTTON'S FLOWER SEEDS FOR PRESENT SOWING.

SUTTON'S ASTERS.—Sutton's Collection, including a packet (mixed colours) of each of the following varieties:—Sutton's Dwarf Bouquet, Sutton's Reading Beauty, Dwarf Chrysanthemum-flowered, Dwarf Peony Perfection, Dwarf Victoria, Sutton's Giant French, Sutton's Tall Victoria, Sutton's Crown-flowered, Sutton's Quilled Victoria, German Globe, post-free for 10s. 6d. SUTTON'S ASTERS, separate varieties, from 6d. per packet, post-free.

SUTTON'S STOCKS.—Sutton's Collection, including a packet (mixed colours), of each of the following varieties:—Sutton's Perfection, Sutton's Miniature, Sutton's Giant Branching, Wallflower-leaved, and Sutton's Improved Dwarf German, post-free for 4s. 6d. SUTTON'S STOCKS, separate varieties, from 6d. per packet, post-free.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

Fern Spores! Fern Spores!!
B. S. WILLIAMS and SON beg to offer Collection:—
FERN SPORES saved from their large and unique Greenhouse Varieties, mixed, per packet, 1s. Store varieties, mixed, per packet, 1s. Greenhouse and Store Varieties, mixed, per packet, 1s. VICTORIA and PARADISE NURSERIES, UPPER HOLLOWAY, LONDON, N.

F. W. KRAUSE, Neusalz, Silesia, Germany, WHOLESALE GROWER OF LILIES OF THE VALLEY (true Berlin variety) on 10 acres of sandy soil. In autumn of each year selected 3-yr. old Crowns, large-flowered, for Early Forcing. Lowest Price and Terms on demand. Testimonials for unsurpassed quality. Established 1870. Telegrams: KRAUSE, Gardener, Neusalz, Germany.

CAULIFLOWER PLANTS, 2s. per 100; LOBELIA, Emperor William, 2s. per 200; LOBELIA, white, 2s. per 100; CALCEOLARIA, Queen, 4s. per 100. I. SOLOMON and SON, Winchester Hill, N.

Boulton & Paul's Outdoor Requisites.
B O U L T O N A N D P A U L MANUFACTURERS, NORWICH.
Every Requisite for the Kennel and Poultry Yard, Aviaries, Pigeon Cotes, Pheasants, Requisites for the Garden, Park, Pleasure Ground, Wire Netting for Game and Sheep. Iron and Wire Fencing. Garden and Farm Implements.
Send for Illustrated CATALOGUES, post-free, on application.

THE CHADBORN and COLDWELL MFG. CO.

Makers of the Patent "EXCELSIOR" LAWN MOWER, 223, UPPER THAMES STREET, LONDON; E.C.
Registered Telegraphic Address: "LAWN MOWERS, LONDON."

FOWLER'S MEALY BUG DESTROYER, For the eradication of this most troublesome pest. It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s. 2s. 6d., 5s., and 10s.; half gallon, 21s.; one gallon, 42s. each. CORRY and CO., Limited, 13, 15, 16, Finchbury Street, E.C. Sold by all Seedsmen.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Agriculture Department, War Department, Royal Horticultural Society, Royal Botanic Society Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.
King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nurserymen and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE H. VICTORIA Road, Putney, W.M. THOMSON and SONS, Cloudfords, Galashiels, N.B.

SALES BY AUCTION.

Wednesday Next.

A beautiful Collection of TREE CARNATIONS; a fine Collection of GLADIOLI from Holland; AZALEA INDICA, from Ghent; LILY POMPON, home-grown and imported; LAURELS, EVERGREENS, &c.; CARNATIONS, PINKS, PICOTEES, and other BORDER PLANTS, &c., &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at the Great Rooms, 53, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, April 27, at half-past 12 o'clock precisely.

On view morning of Sale, and Catalogues had.

Thursday, May 5.

SPECIAL SALE OF ORCHIDS IN FLOWER and BUD. MR. J. C. STEVENS begs to announce that he will hold his NEXT SPECIAL SALE OF ORCHIDS IN FLOWER and BUD at the Great Rooms, 53, King Street, Covent Garden, W.C., on THURSDAY, May 5, and will be glad if Gentlemen wishing to include Plants will please send Lists as soon as possible.

Tuesday Next.

By order of Messrs. F. Horsman & Co.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, April 26, at half-past 12 o'clock, two to three thousand ODONTOGLOSSUM CRISPUM and its varieties, collected by Mr. John Carder (late partner in the firm of Shuttleworth, Carter & Co.).

On view morning of Sale, and Catalogues had.

Milford Hill, Salisbury.

UNRESERVED SALE of the well-known COLLECTION of EXHIBITION STOVE and GREENHOUSE PLANTS, formed by Lieutenant-Colonel PEPPER, and which have been so successfully exhibited at the principal shows.

MESSRS. PROTHEROE and MORRIS are instructed by Lieutenant-Colonel PEPPER, who is going by AUCTION, on the Premises, Milford Hill, Salisbury, on WEDNESDAY NEXT, April 27, at 12 o'clock precisely, the whole of the valuable COLLECTION of EXHIBITION STOVE and GREENHOUSE PLANTS, including fine examples of Kew, London, Aachen, and other Palms, Cycas circinalis, with 30 leaves; C. revoluta, one with 40, and another with 44 leaves; C. undulata, 25 leaves; 300 Established Crotons, consisting of Dendrobium, Cattleya, Cyathodium, and others, specimen Almandas, fine Exhibition Plants of Erias of sorts, Lapageria rosea and alba, 100 Crotons of sorts of the best varieties, fine plants of Anthurium Scherzerianum, Dieffenbachia, Discolia, Microlepia, Eleocharis, and other Specimen Ferns, good examples of Fuchsia and Azalea, Rhododendron, Begonia, Caladium, and other Plants. Also a Gold Medal BOILER, Large PLANT POTS, &c. Plants may be viewed one week prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday, May 13, 1892.

MESSRS. PROTHEROE and MORRIS have received instructions from Mr. F. SANDER, St. Albans, to SELL by AUCTION, at their Rooms, on FRIDAY, May 13, the following VALUABLE ORCHIDS:

CYPRIPEDIUM EXUL, SPS. NOVA, Ridley.

Introduced by us through H. M. Ridley, Esq., M.A., F.L.S., Director of the Botanic Gardens and Forests Department, Singapore. It has been introduced by R. I. Measures, Esq., and R. H. Measures, Esq., the former gentleman, gaining an Award of Merit from the Orchid Committee of the Royal Horticultural Society at the Society's last meeting for a well-grown and beautifully-flowered specimen. We beg to offer a fine and highly-prized plant, and one which has been in the early part of last year. We also offer for the first time:

A NEW and MOST REMARKABLE DENDROBIUM from the Celebes, the bulbs measuring in some instances 8 feet in length; the numerous flower-seeds show that the blooms are large, and the plant exceedingly profuse.

A grand lot of a CYPRIPEDIUM resembling C. STONEI, from Sulu and North Borneo; some of the leaves are enormous, and vary greatly in size, &c.

A splendid importation of the new and beautiful ONCIDIUM GRAVEANUM SPS. NOVA, Sander, in grand masses and perfect health. This fine New SPECIES received an Award of Merit at the Royal Horticultural Society's last meeting, April 19, 1892, when it was much admired for its rich and various shades of brown and yellow combined; the e colours are deservedly the most popular.

Also many other RARE and VALUABLE ORCHIDS, particulars of which will appear in the *Gardeners' Chronicle* of April 30.

THE

STAND HALL COLLECTION OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

HIGHLY IMPORTANT SALE

of the whole of this Renowned Collection.

Including many plants matchless in point of rarity, the whole being unsurpassed for culture and condition.

MESSRS. PROTHEROE and MORRIS are favoured with instructions from the Executors of the late Thomas Statter, Esq., to SELL by AUCTION, on TUESDAY, May 3, and THREE FOLLOWING DAYS, at 12 o'clock each day, on the Premises, Stand Hall, Whitefield, near Manchester, the whole of the

CELEBRATED COLLECTION of ESTABLISHED ORCHIDS.

A List of the principal plants appeared in the *Gardeners' Chronicle*, April 2, 1892.

Catalogues (15 copies returnable to purchasers), may be had from Mr. JOHNSON, Head Gardener, on the Premises, and of the Auctioneers, Estate Agents, and Valuers, 67 and 68, Cheapside, London, E.C.

FRIDAY NEXT, APRIL 29.

A SENSATIONAL SALE.

By Order of MESSRS. LINDEN, Brussels.

ANOTHER OF LINDEN'S GRAND INTRODUCTIONS.

CATTLEYA ALEXANDRÆ, LINDEN and ROLFE.

(H.R.H. Princess of Wales' new Cattleya.)

A drawing made by the Collector will be in the room the day of Sale. MESSRS. LINDEN have dedicated it to H.R.H. the Princess of Wales, paying this homage to an illustrious patroness of the personification here the English nation to which MESSRS. LINDEN are indebted for the kind welcome given to their efforts in the cause of introducing in Europe new plants, and especially Orchids. CATTLEYA ALEXANDRÆ is a most splendid and distinct Cattleya, very remarkable on account of the elongated peduncles, 1 to 1½ foot long, which bear a bouquet of 10 to 12 flowers at the summit, not unlike in form to L. Leopoldi, but with the colour of Cattleya elegans Turcz.; and in some varieties to Lælia grandis tenax, with violet on the margins. Pseudobulbs, of quite distinct appearance, are cylindrical, stout, 1 to 1½ foot long, generally 3-leaved. Leaves very fleshy and rigid, narrowly elliptical-oblong, 3 to 5 inches long.

Never before have any importations of Cattleya been offered in better health or condition. The plants are at rest, and prove a most first-class offering for flowering. It does excellently other Cattleya, as the numerous strong old spikes and flower-seeds on the plants offered prove. The drawing and a photograph made by the Collector give an idea of its immense free-growing quality. Mr. Rolfe writes to MESSRS. LINDEN:—"I congratulate you on having obtained so splendid a plant."

Also, 64 Semi-established plants of the marvellous

CATTLEYA REX,

Cattleya "The King."

⚡ The grandest discovery of modern Orchids till now. MESSRS. LINDEN are offering the rest of the plants they were unable to offer a few months ago, as they unfortunately had some of the leaves frosted in transit from Bordeaux to Brussels. They are now semi-established, commencing to root freely, and producing very strong spikes, and altogether in splendid condition. Every plant offered is guaranteed true.

Also a fine importation of the gorgeous

CATTLEYA MOSSIE CHIRGUENSIS,

Many years ago Mr. LINDEN had the pleasure of offering an importation of this magnificent form of C. Mossie, the finest of all. Flow very freely and petals bluish; lip dark purple, beautifully veined with orange, margined with white.

And of

CATTLEYA SPECIOSISSIMA,

Collected in a new locality, where no Cattleya have yet been found.

Also some nice imported plants of the rare and lovely

ONCIDIUM POLIOCHRYSUM.

And some good plants of the new

RODRIGUEZIA LINDENI (A. Cogn).

Also a splendid importation of

CATTLEYA AMETHYSTOGLOSSA,

Cat. guttata Prinzl.

Also many plants of the soon popular and favourite ODONTOGLOSSUM (COCHLIODA) NETZLIANA, &c., which will be SOLD by AUCTION by

MESSRS. PROTHEROE and MORRIS, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, April 29, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Wednesday next.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, April 27, at half-past 12 o'clock, 100 lots of PALMS and other plants, variegated, GREENHOUSE FERNS, LILY BULBS, HERBACEOUS PLANTS, 10 cases of TANGUTUM ZEYLANICUM; 700 GLADIOLI LEMOINEI; 1000 double and 2000 single BEGONIAS, a splendid strain; CARNATIONS; thousands of ANEMONES, BEGONIAS, GLADIOLI, &c., the surplus stock of a wholesale London Seed Merchant; 400 BAMBOO CANES, about 7 feet; BAMBOO LADDERS, WOOD TRELLIS, RUSTIC WORK GARDEN SEATS, &c.

On view morning of Sale, and Catalogues had.

East Dulwich—Thursday Next, April 28.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION on the premises, The Orchid Nurseries, East Dulwich, London, S.E., by order of Messrs. SEGER & Thorpe, on THURSDAY NEXT, April 28, at half-past 12 o'clock.

A fine importation, just received in splendid condition, of ODONTOGLOSSUM ALEXANDRÆ.

Also another set of about 100 VANDAS (tricolor and variegated types) as yet unfowered, but with several in bud, and the whole of them are in a condition to flower shortly. Also a magnificent specimen of the finest and most distinct of VANDA CERULEA; a grand collection of CYPRIPEDIUM, embracing all the leading kinds; the rare CATTLEYA INTERMEDIA ALBA (First-class Certificate); LÆLIA PERUVIANA ALBA; SOBRALIA BOOTHIANA ALBA; CÆLOGYNE MASSAGIANA, enormous specimen, with many flower-spikes; MASDEVALLIA SCHROEDERÆ; CATTLEYA SCHROEDERÆ; MASDEVALLIA UCULLATA; and DAVIDSONIA, a beautiful and distinct Orchid, fine specimen; and many other ORCHIDS of value, the whole in best possible health and condition.

All will be sold without the least reserve, excepting those marked in the Catalogue with an asterisk.

Plants will be on view the morning of sale, and Catalogues obtained on the premises; also of the Auctioneers, at their Offices, 67 and 68, Cheapside, London, E.C. Messrs. SEGER and TROPPE'S ORCHID NURSERIES are within five minutes' walk of East Dulwich Railway Station, L. B. and S. C. Railway.

Bimdon Hall, Near Birmingham.

MESSRS. POPE and SONS have received instructions from the Executors of the late Mr. Al-tou, to SELL by AUCTION, on TUESDAY, April 26, at 12 o'clock to the whole of the above and GREENHOUSE PLANTS, which include a number of well-established Orchids; 8 or 10 fine specimen Lapageria alba and rosea; 2 immense Gleichenias, grand exhibition plants. A fine lot of Adiantum Farleyense, including one specimen 4 feet through; fine Palms 8 to 12 feet, including Kentia Belmoreana, Latania borbonica, &c.; large a cimen Crotons; Filmy Ferns, including 1 Trichomanes radicans (Killarney Fern) with 1000 fronds; a lot of old-fashioned Camellias, including Double-lane; a large quantity of fine Hybrid Azaleas in flower; 1 grand specimen var. Imantophyllum princeps; and the usual collection of stove and greenhouse plants. Please note that the whole will be sold without reserve.

Bimdon is about 2 miles from Solihull Station, G. W. Ry., where vehicles can be obtained; 2 miles from Marston Green Station, L. & N. W. Ry., and 7 miles from Birmingham, Catalogues from the Auctioneer, 8, Phillips St., or Herald Office, Birmingham.

Unprecedented Nursery Sale.

Owing to the Ground being required for Building purposes,

MESSRS. R. B. LAIRD and SONS have instructed Mr. DAVID MITCHELL, Horticultural Auctioneer, to DISPOSE of the above by AUCTION, on WEDNESDAY, THURSDAY, May 5, each day at half-past 11 o'clock, the whole of their immense stock of STOVE and GREENHOUSE PLANTS growing in their numerous Glass-houses at West Coast Nurseries, Haymarket, Edinburgh (previous to the Houses being removed and re-erected at the Nurseries, Murrayfield). The Stock consists of magnificent Specimen Greenhouse Rhododendrons, such as Fragrantissima, Princess Alice, Bencaissi, Countess of Haddington, &c. Also fine examples of Indian Azaleas, in all the leading sorts, in splendid health, and many of them coming into flower. Choice lot of Palms, Crotons, Eucharis, magnificent Pitcher Plants (rare kinds), also large Tree Ferns, and many others, and without exception the grandest lot of Camellias ever offered for Sale by Public Auction. For size and descriptions see Catalogues, which are now ready.

West Coast Nurseries, Edinburgh, April 4, 1892.

Dolphin Sale Rooms, Market Place, Doncaster. HIGHLY IMPORTANT SALE OF SPECIMEN AZALEAS in flower; ORCHIDS, PALMS, PITCHER PLANTS, CALADUMS, ANTHURUMS, STOVE PLANTS, FERNS, and many others (rare kinds), also large Tree Ferns, and many others, and without exception the grandest lot of Camellias ever offered for Sale by Public Auction. For size and descriptions see Catalogues, which are now ready.

MR. HERBERT ATHERTON will SELL by AUCTION, the above, at his new and commodious sale rooms, Dolphin Chambers, Market Place, Doncaster, on WEDNESDAY, May 5, at 2 o'clock.

The Plants will be on view same morning from 10 to 1 o'clock.

Catalogues may be had on application to the Auctioneer, Dolphin Chambers, Market Place, Doncaster.

LONDON, S.W. (7539).—First-class SEED and FLORIST BUSINESS, in main thoroughfare of good suburban town. Houses, Farm, Shop, with Conservatory at rear, and nice Dwelling-house. Rent, £120. Lease 20 years.

Price for Goodwill, Conservatory, Stock and Utensils in Trade, £200, or offer. Apply to PROTHEROE and MORRIS, 67 and 68, Cheapside, London, E.C.

MIDDLESEX (7629).—TO BE LET, A NURSERY, of about 7½ acres in extent, doing a good London and Market Trade. Twenty-two Greenhouses, Pits, &c., all well heated and stocked, Workshops, Bothies, Stables, Chaff and Van Sheds, Two Cottages. Held on a long lease, rent £200 per year for Stock, Tools, &c. Horses, &c. £2000. £2500 can remain at 5 per cent., or partnership will be entertained.

Apply, PROTHEROE and MORRIS, 67 and 68, Cheapside, London, E.C.

BATH.—TO LET, about 3 acres of excellent GARDEN-GROUND, Good Cottage, Rent, £45. Glass (7 Greenhouses) and Stock to be Disposed of at very low price. An excellent opportunity for starting business. Apply, POWELL and POWELL, 18, Old Bond Street, Bath.

MIDLAND COUNTIES.—TO BE SOLD, at a great sacrifice, to effect an immediate Sale. Close to important Station on the L. & N. W. Ry. Old-established NURSERY BUSINESS. Very Low Rent. Any reasonable offer will be entertained.

Apply, PROTHEROE and MORRIS, Estate Offices, 67 and 68, Cheapside, London, E.C.

To Fruit Growers, Nurserymen, and Others.

GOOD ARABLE and MEADOW LAND to be Let or Sold. Close to a good Road (9 miles from London). Long lease granted. Rent, £12 per acre per annum, with option to purchase the Freehold any time during the first nine years. Several large Market Nurseries are established on the land. Full particulars of A. and G. GUYER, Land Agents, Forder's End.

HOUSE, to be SOLD, standing in own grounds (about 10 miles from South and 10 miles from Preston) with Dining-room, Drawing-room, Kitchen, Back Kitchen, Pantry, Butler's Pantry, &c.; also good Cellars; six Bedrooms and Dressing-rooms; also Bathroom, front and back Stacks; also a Stable, and a Coach-house. Full particulars of A. and G. GUYER, Land Agents, Forder's End.

Apply, for particulars, to R. E. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

To Capitalists and Others.

FOR SALE, as a GOING CONCERN, the large well-established and thriving business of a **NURSEYMAN, SEEDSMAN, and FLORIST**, lately and prominently situated in the best suburb of London, and only 6 miles from Covent Garden, and doing a very large and increasing general business. There is a large Bulb, Seed, Plant, Sundry, and Landscaping, and General Business done, with an excellent high-class wide-spread and staple connection. The Home Nursery comprises large commodious Dwelling House, and well-stocked and fitted double-fronted Shop, 13 well-built modern Glass Houses, some nearly new, 7 of them being the property of the Tenant, all well heated with nearly new boilers, and crammed with a magnificent assortment of many thousands of valuable **PALMS and ASPIDISTRAS, STOVE and GREENHOUSE PLANTS,** and an immense stock of well-grown **BEDDING PLANTS** in all kinds to suit both the Retail and Wholesale Trades. About 3 acres of thoroughly well-stocked out-door Nursery, well-fertilized with Composts, Roses, Fruit and Forest Trees, Shrubs, and Climbers, and a fine collection of Herbaceous and Alpine Plants, and all worked by a good staff of competent assistants. Pits, Frames, Horses, Vans, Carts, Sheds, and all the necessary Stock in Trade.

Also a very desirable **SUBURBAN BRANCH BUSINESS**, excellently situated, in a busy main thoroughfare, and doing a most lucrative trade, and is well stocked, established, and fitted up.

Also a **WEST-END BRANCH BUSINESS**, situated and being one of the first positions in London, comprising magnificent large corner Double-fronted Shop and Offices, doing a very high-class profitable, yearly increasing trade, is well-established, and has an excellent connection. The whole concern doing at present an annual turnover of £5000, and which may be doubled. Separate sets of books are accurately kept, and may be inspected, and every other particular given on application. This is probably one of the finest opportunities ever offered of acquiring a thoroughly genuine business. For full particulars apply—

Apply, in first instance, to **HORTUS, 41, Wellington Street, Strand, W.C.**

Hampton-on-Thames, on the Marling Park Estate.
LAND FOR NURSERIES!!!

MR. F. G. HUGHES begs to call the attention of Nurserymen and Horticulturists about to commence in Business, to the exceptional advantages offered by this Estate. For full particulars apply—
The Estate Office, as above.

THE TOWER FURNISHING COMPANY
(Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Alaburn House, Epsom, Surrey, is fully illustrated in this journal of November 21, executed by **PULHAM and SON, 50, Finsbury Square, London, E.C.**, and Broxbourne, Herts. Photo Illustrated Book sent for inspection on receipt of two stamps.

A. G. WATSON.
FRUIT & FLOWER SALESMAN, ABERDEEN.
Sale Days, Tuesday and Friday, at 9 A.M.
Consignments solicited of Pot Plants & Cut Flowers.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.
(JOHN COWAN), Limited,

Have just received
LARGE and SPLENDID IMPORTATIONS
of the following and other

ORCHIDS.
ODONTOCLOSSUM CRISPUM
(FINEST PACHO TYPE).

DENDROBIUMS,
In grand masses, and in great variety.

MEXICAN ORCHIDS,
In great variety.

ORCHIDS from GUATEMALA
(And other Countries,

Prices and Full Particulars sent post-free on application.

THE VINEYARD and NURSERIES,
GARSTON, NEAR LIVERPOOL.

FOR ORCHIDS, and GARDENERS
to Grow Them, apply to **SANDER'S, St. Albans.** The finest stock of Orchids in the World.—30 minutes from St. Pancras.

RUBEBECKIA NEWMANII.
Nice compact roots, 12s. per 100.
A. YOUNG, Nurseryman, West End, Eaber.

PRIZE PANSY PLANTS, and other PERENNIALS, in boxes containing one and a half dozen each. Prize Pansy, or Tricolor Pansies, 2s. per box; POLYANTHUS, Show, 2s. per box; SWEET WILLIAMS, and DOUBLE DAISIES, 1s. 6d. per box. The above are Extra Strong Plants, and are sent Carriage Paid. Enclose Postal Order with order.
R. H. BATH, Osborne Farm, Wisbech.

CABBAGE PLANTS (Autumn Sown), of Enfield, Defiance, East Ham, Drumhead, and Thousand Head, 3s. per 1000, on rail. LETTICES, Cos and Cabbage, and TRIPOLI ONIONS, 6s. per 1000, on rail; 1s. 6d. per 100, free. WALLFLOWER PLANTS, mixed, large-flowering, 3s. per 100, 25s. per 1000. PANSY, Yellow, White, Black, Stained, Gold-Edged, or Mixed, 5s. per 100, 40s. per 1000. SAGE PLANTS, 4s. per 100, 30s. per 1000, on rail.
EDWARD LEIGH, Cranleigh, Surrey.

STRONG HERBACEOUS PLANTS, in 50 named varieties, 4s. 6d.; 100 varieties, 9s.; 200 varieties, 15s.; 1000 in 100 varieties, 40s.; 1000 in 200 varieties, 60s. Edging and Bedding sorts, 5 varieties, 2s. per 100; 15s. per 1000; in ten varieties, 3s. per 100; 25s. per 1000; in 20 varieties, 4s. per 100; 30s. per 1000. SEEDLING RHODODENDRONS, two years, 3s. per 100; £12 10s. per 1000; do., three years, 4s. per 1000; £17 10s. per 1000.
SAMUEL SMITH, Slough Nursery, near Matlock.

FERNS! FERNS!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum nemorosum, Aralia, Cyperus, and Primulas, all in 4s. 6d. per doz. Geraniums, Palms, and Ficus, 1s. each. Large Ferns, 10 best sorts, 5s. 6d. per doz., in 4s. Cineraria, Spirea, and Cyclamen, full bloom, 9s. per dozen, in 4s. Adiantum cuneatum and P. tremula, extra size, in 2½-inch pots, 16s. and 20s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

MESSRS. SQUELCH and WOOD, FRUIT LESLIE, North Row, Covent Garden, W.C. are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOES, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

VIOLAS.—Our Collection of these is unique, and quite unrivalled. Sample dozen, including many of the finest sorts, in their respective colours, post free, for Half-a-Crown.
DAHLIAS.—We grow 50,000. Only the very best varieties kept in stock. A Trial dozen will convince everyone of this. Plants of all sections ready now, 4s. 6d. per doz., carriage free.
DOBBIE and CO., Florists, Rothsay, Scotland.

FERNS!—FERNS!—FERNS!
A first-class lot of PTERIS TREMULA to offer.
Packed and put on rail, free in London, 12s. per box of two dozen. Cash.
H. TITE, Covent Garden, W.C.

SHOWY, CHOICE CARNATIONS
HARDY of good kinds.
FLOWERS, An immense Stock, Well-grown Plants, Free-flowering varieties.
BORDERS. Some of the best in cultivation. Prices most moderate throughout.
Our selection in good sorts, at from 7s. 6d. per dozen.

Also Auriculas, Pansies, Pentstemons, Phloxes, Primulas, Pinks, and Pyrethrums.

DICKSONS NURSERIES CHESTER
(LIMITED)
(400 Acres)

MEXICAN PLANTS.
AGAVES, CACTI, FERNS, YUCCAS, ZAMIA.
Carriage Paid—doz. 100. Resendino Plant 3s. 15s. Echinocactus Sheer 2s. 40s. Tillandsias (air plants) 5s. 30s. " texensis " 7s. 40s. Mamillaria pusilla 3s. 15s. " lophothete " 7s. 40s. " echinata " 3s. 15s. Mamillaria Lascia " pedunculata " 3s. 15s. " monclava " 3s. 15s. " meisenbachii " 3s. 30s. " applanata " 4s. 20s. " micromeris " 3s. 30s. Echinocereus enneacanthus " 5s. 25s. " grandiflorus " 5s. 25s. " Berlandieri " 5s. 25s. " peruvianus " 5s. 25s.
Special Prices to the Trade for large quantities.
Extra fine plants collected in Public and Private Gardens. Correspondence solicited. Remittances should be made in drafts on London, New York, or Mexico. Small amounts may be remitted to Messrs. WATSON & SCULL, 90, Lower Thames St., E.C.

MCDOWELL, GUARDADO HNOS,
M INTEREY, MEXICO,
Via New York and Laredo.

EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY.—The following EXHIBITIONS will take place at the ROYAL AQUARIUM, WESTMINSTER, during 1892.—Early Exhibition of Chrysanthemums, with Dahlias, Gladioli, &c., September 7 and 8; Early Autumn Exhibitions of Chrysanthemums, October 12, 13, and 14; Great Autumn Fete and Exhibition of Chrysanthemums, Fruit, Vegetables, &c., November 8, 9, and 10. Schedules of Prizes will be issued shortly. RICHARD DEAN, Secretary, Ealing, W.

ROYAL BOTANIC SOCIETY OF MANCHESTER.
THE SECOND SPRING SHOW will be held in the Town Hall, Manchester, on TUESDAY NEXT, APRIL 26. For particulars, apply to the undersigned—
Old Trafford, Manchester, BRUCE FINDLAY.

CARDIFF HORTICULTURAL SOCIETY.

THE FOURTH ANNUAL SHOW
will be HELD ON AUGUST 17 AND 18 NEXT.
Prizes, £300.
Schedules Now Ready. H. GILLET, Secretary,
86, Woodville Road, Cardiff.

10,000 GERANIUM CUTTINGS, F. V.
Raspail, 3s. per 100; 25s. per 1000.
J. GREEN, Reliance Nurseries, March.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Malda Vale, London, W.

HARDY BRITISH FERNS.—Numerous varieties: 15 distinct varieties, 1s. 6d.; 25 large Rockery Roots, 2s. 6d.; 50, 4s. 6d.; 100, 8s. Botanically named. All carriage paid.
G. CARRADICE, Monument Place, Kendal.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 9d. per 100.
RICHARD SMITH and CO., Worcester.

LOVEL'S YORKSHIRE STRAWBERRIES.
—We offer for Cash, good sorts in nice plants, carriage paid, at 10s. per 100; 12s. 6d. per 500; 20s. per 1000. Sample Book, Descriptive List, free.

W. LOVEL and SON, Strawberry Growers, Driffield.

KELWAY'S SEED MANUAL
for 1892.
"Of the many manuals, &c., we certainly have seen none to surpass Messrs. Kelway's in plain, practical usefulness."—Agriculture.
15s. post-free (deducted from first order) to those unknown to us.
KELWAY and SON, Llangorri.

FERNS, for ROCKERIES.—Rigida, Montana, Spinnula, Dilatata, Athyrium, Felixmas, Polystichum, Osmunda, Scolopendrium, 10s. per 100; carriage paid by rail. Fresh-gathered green SPHAGNUM MOSS, large crowns, 5s. per sack; quantities cheaper.
HAINSWORTH, Rock View, Gillingate, Kendal.

Geraniums—Verbenas—Fuchsias.
WILLIAM BADMAN offers, in well-rooted and stout fit for present potting, GERANIUMS, Vesuvius, Hy. Jacoby, Queen of Belgians, Master Christine, West Brighton Gem, F. V. Raspail, Madame Vaucher, all at 10s. per 100; SILVERS, Flower of Spring, May Queen, Bijou, all per 100; Crystal Palace Gem, Show and Decorative, 10s. per 100; BRONZE of sorts, 12s. per 100; TRICOLORS of sorts, 12s. per 100; LOBELIA, Brighton, Emperor William, 2s. 6d. per 100, 20s. per 1000; Snowball, 3s. 6d. per 100; VERBENAS, Purple, White, Scarlet, Crimson, Rose, 6s. per 100; HELIOTROPE, dark and light, 6s. per 100; AGERATUM, Dwarf Blue, 5s. per 100; FUCHSIAS, best sorts, 8s. per 100; CALCEOLARIA, Golden Gem, 5s. per 100; Camden Hero, fine Crimson, 8s. per 100; PELARGONIUMS, Show and Decorative, best sorts, 3s. per dozen; IVY LEAF, best Doubles, a fine collection, 2s. 6d. per dozen, packing included. Terms, Cash with Order.—CEMETERY NURSERY, GRAVESEND.

Carpet Bedding Plants.
WILLIAM BADMAN offers good rooted cuttings, COLEUS Verschaffelti, IRENESE Linderi, ALTERNANTHERA amara, spectabilis, magnifica, major, variegata, parviflora, amabilis, all at 6s. per 100; CEN-TAUREA candidissima Seedlings, 6s. per 100; strong plants, 15s. per 100, packing included. Terms, Cash with Order, CEMETERY NURSERY, GRAVESEND.

Competition.
THE LOCAL BOARD for the District of BROADSTAIRS and ST. PETERS, invite DESIGNS for a LIVING FOUNTAIN, as an ORNAMENT to the GARDENS, the ground between Chandos Gardens and the Louisa Gap, Broadstairs, at a cost not exceeding £450.

Instructions, together with a lithographed plan of the site, may be obtained from the Town Surveyor, on payment of half-a-guinea, which will be returned if a design be submitted. Designs (under motto) must be accompanied by an estimate of the probable cost of the works, and must be delivered at my Office before Monday, May 9, 1892.
The Board does not bind itself to accept any of the submitted designs; but should a design be accepted, the successful competitor will be employed to carry out the work on a commission of 5 per cent. on the cost of such commission to include the cost of all designs, plans, &c.
L. A. SKINNER (Clerk to the Board).
Local Board Offices, Broadstairs, April 6, 1892.

ORCHIDS A SPECIALTY.

Many new, choice, and rare species and varieties always in stock.

HARDY HERBACEOUS PLANTS.

One of the finest collections of these plants known.

CHRYSANTHEMUMS.

A grand collection, approved novelties, write for our new Descriptive

CATALOGUES, NOW READY,

and Post-free on application to

PITCHER & MANDA,

The United States Nurseries,

HEXTABLE, SWANLEY, KENT.

BAIR'S SEEDS, BULBS AND PLANTS.

VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladolus, Lilies, Aconites, Ranunculus, Hyacinthus caudatus, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Trises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.

BARR AND SON, 12, King Street, Covent Garden, London.

STRONG GRAPE VINES in variety.

SPECIAL

OFFER

OF

VINES.

Specially Large Stocks of the following kinds:—

BUCKLAND SWEETWATER,
DUKE OF BUCKLEUGH,
ALICANTE,
GROS COLMAR,
GROS MAROC.

Special Prices upon application.

DICKSONS NURSERIES CHESTER (LIMITED) (400 Acres)

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on FLORISTS' FLOWERS and HERBACEOUS PLANTS.

It contains full and accurate descriptions of all the best Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Peonies, Pansies, Violas, Pelargoniums, Pentstemons, Petunias, Phloxes, Pinks, Potentillas, Primulas, Pyrethrums, Verbenas, Herbaceous Plants, &c., also of my true and reliable strain of

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now justly celebrated all the world over. In 5 distinct sorts, crimson, purple, scarlet, white, and Wallflower-leaved white, each sort, 1s., 2s., 6d., and 8s. per packet.

It is an indispensable Reference-Book on all sections of Florists' Flowers, and should be carefully perused by all buyers of flowers.

Free on application.

JOHN FORBES, Nurseryman, Hawick, Scotland.

A. WATERMAN having purchased the Goodwill and Stock of these Nurseries, is prepared to offer the following fine grown plants:—

CUPRESSUS LAWSONIANA, 3 to 4 feet, 15s. per dozen; 4 to 5 feet, 30s. per dozen.

PINUS AUSTRIACA, 3 to 4 feet, 8s. per dozen; 4 to 5 feet, 12s. per dozen.

YEW, English, 2 to 3 feet, 8s. per dozen; 3 to 4 feet, 12s. per dozen, fine stuff.

THUJA ELWICKIANA, 4 to 5 feet, fine growth, 24s. per doz.

PERBERIS ACQUIFOLIUM, 1 to 2 ft., very bushy, 9s. per doz.

IVIES, Irish, 4, 5, and 6 growths, 3 feet, 12s. to 15s. per dozen.

Also a fine assortment of other NURSERY STOCK suitable for immediate effect.

A. WATERMAN, Hickmanias Nurseries, Knockholt, Kent.

To the Trade.

MANGEL WURZEL and TURNIP SEEDS.

H. AND F. SHARPE have very fine Stocks of the above-named Seeds of 1891 growth, and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advantageous prices.

The quality is very fine and the growth strong.

Samples and prices on application.

SEED GROWING ESTABLISHMENT, WISEBECH.

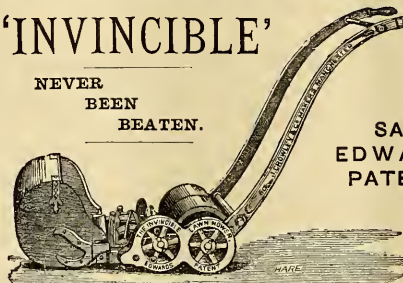


GOLD MEDAL LAWN MOWERS 'INVINCIBLE' 'VICTOR'

NEVER
BEEN
BEATEN.

EASY
TO
WORK.

SAML.
EDWARDS'
PATENTS.



TWO HANDLES, same price.
Light in Construction.
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE,

"HERCULES" BRAND (Regtd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



"Are you not afraid those children will injure the Hose or stop the water?"

"Oh, no! This SPHINCTER GRIP ARMoured HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of."

CONTRACTORS to all DEPARTMENTS of HER MAJESTY'S GOVERNMENT and the HORTICULTURAL and AGRICULTURAL SOCIETIES.

HUNDREDS of UNSOLICITED TESTIMONIALS.

BEWARE of WORTHLESS IMITATIONS, and send for ILLUSTRATED and DESCRIPTIVE CATALOGUE (post free on application) of HOSE and GARDEN WATERING APPLIANCES and FITTINGS of every kind.

HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891.

No Exhibition Medal or Award has ever been secured by any other firm for Armoured Hose.

OFFICES and SHOW ROOMS—9, MOORFIELDS, LONDON, E.C. Works—LONDON and NORTHAMPTON.

DANIELS BROS., TOWN CLOSE NURSERIES, NORWICH,

BEG to offer the following from their splendid collection of choice named Florists' Flowers, &c., all in sturdy young stuff, mostly from single pots, guaranteed true to name, and sent Post or Carriage Free on receipt of Cheque or Post-office Order.

Abutilons. Very choice sorts ... Per doz.—s. d.
Colours. All the most beautiful sorts, ... 6 for 2s. 6d. 4 6
Chrysanthemums. Japanese and Incurred. Choice
sorts from our splendid collection—

per 100, 15s.; 6 for 1s. 2 6
"New and very select ... 6 for 2s. 6d. 4 6
"W. A. Manda," the new Golden Yellow Ostrich
Flume, splendid ... each, 5s.
Six superb new varieties, including "Gloire du
Rocher," "Florence Davis," and "Vivand
Morel" ... 7s. 6d.

Carnations and Ploeteas. A very choice collection,
including all the finest and newest sorts, 6s., 9s., & 12 0
Six very choice sorts, including "Germania" ... 5s.

Dahlias. Show and Fancy, a magnificent collection,
including all the finest varieties ... 6 for 2s. 6d. 4 6
Show and Fancy, new and very choice sorts, 6s. 9 0
Cactus-flowered. A superb collection, including
the best of recent introduction ... 6 for 2s. 6d. 4 6
Cactus-flowered. New and very choice sorts ... 6 for 5s. 9 0

Cactus-flowered. Six grand new varieties, in-
cluding "Beauty of Arundel" ... 8 6
Single-flowered. A charming collection, including
the newest ... 6 for 2s. 6d. 4 6
Single-flowered. Six new and very select sorts, 5s.
Pompeoe or Bouquet. A very choice assortment,
including ... 6 for 2s. 6d. 4 6

New Marguerite. Single, pure white, very pretty,
each, 2s. 6d.; 3 for 6s. 9 0
New "Tom Thumb." Single, very pretty, only
1 foot high, 3 for 2s. 6d., 6 for 4s. 6d.

Fuchsias. Single and double flowered. All the most
beautiful varieties ... 6 for 2s. 6d. 4 6
New and extra choice ... 6 for 3s. 6d. 6 0
Six superb new varieties, including "Mrs. Charles
Danicke" ... 4s. 6d.

Heliotrope. "White Lady." Fine for pot culture,
deliciously scented ... 6 for 2s. 6d. 4 6
Musk. New double-flowered ... each 9d., 3 for 2s. 6d. 4 6
Harrison's Giant. Splendid variety, 6 for 1s. 6d. 2 6
Marguerites or Parisian Daisies. Yellow or
white ... 6 for 1s. 6d. 2 6

Pelargoniums. New Zonal. All Autumn struck—
Single-flowered. From our grand collection,
splendid for pot culture ... 6 for 2s. 6d. 4 6
Six new varieties of 1891 (Pearson's) 7s. 6d.
Double-flowered. Zonal. Grand varieties; fine
for pots ... 6 for 1s. 6d. 2 6

New double-flowered. Try leaved. Magnificent
varieties for pots or hanging baskets, vases, &c.,
very choice sorts ... 3 for 2s. 6d. 4 6
Gold and silver tricolors. The most beautiful
sorts ... 6 for 2s. 9d. 5 0

Streptosolen Jamesoni. Beautiful plant for the
greenhouse ... each 9d., 3 for 2s. 6d. 4 6
Tropaeolum "Comet." Brilliant scarlet, splendid
for pots ... 6 for 1s. 6d. 2 6

Begonias. Tuberos-rooted hybrids. Magnificent
single-flowered varieties. Immense blooms of
the most beautiful colours. Strong flowering
tubers, very choice mixed ... per 100, 30s.; 6 for 2s. 6d. 4 6
Extra choice sorts, for pot culture ... 6 for 5s. 9 0
Double-flowered, very fine mixed ... 9s. and 12 0

DANIELS BROS.,
TOWN CLOSE NURSERIES, NORWICH.

CHRYSAANTHEMUMS,
AND HOW TO GROW THEM.

The large and increasing demand for this popular work has made it necessary to print a new and revised edition (11th thousand). This contains a practical and scientific treatise on Culture, and also a critical analysis of the new varieties of the present season, by C. E. Shen, Esq.; a short history of the Chrysanthemum, by C. Harman Payne, Esq.; and a Chrysanthemum Calendar, by Mr. H. Shoemith. In addition to above, illustrations of two of the best new varieties of the year are included in this new Chrysanthemum Catalogue, which also contains the most complete list of new varieties ever brought together, and embraces selections from all the known Chrysanthemum world. All the secrets of successful culture given, making this the most valuable work on the Chrysanthemum ever published. Post free, nine stamps. To Secretaries of Societies, for members, 6s. for dozen.

H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

DANIELS BROS., TOWN CLOSE NURSERIES, NORWICH.

CHRYSAANTHEMUMS, AND HOW TO GROW THEM.

The large and increasing demand for this popular work has made it necessary to print a new and revised edition (11th thousand). This contains a practical and scientific treatise on Culture, and also a critical analysis of the new varieties of the present season, by C. E. Shen, Esq.; a short history of the Chrysanthemum, by C. Harman Payne, Esq.; and a Chrysanthemum Calendar, by Mr. H. Shoemith. In addition to above, illustrations of two of the best new varieties of the year are included in this new Chrysanthemum Catalogue, which also contains the most complete list of new varieties ever brought together, and embraces selections from all the known Chrysanthemum world. All the secrets of successful culture given, making this the most valuable work on the Chrysanthemum ever published. Post free, nine stamps. To Secretaries of Societies, for members, 6s. for dozen.

H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

ORCHIDS. CLEAN, HEALTHY PLANTS AT LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

L'HORTICULTURE INTERNATIONALE (Orchid Emporium), Leopold Park, Brussels. THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN,
cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

150,000.—Special Offer of Kentias.
W. ICTION has a large quantity of the above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £30 per 1000.

W. ICTION, Putney, S.W.

Now is the Time to Plant
PYRETHRUMS, DELPHINIUMS,
and GAILLARDIAS—three of the showiest of all Hardy, Easily-grown Perennial Plants. For Priced Lists, see KELWAY'S SEED and PLANT MANUAL for 1892, 1s., post-free (deducted from first order), to those unknown to us. KELWAY'S GLADIOLI.—Now is the time to plant. Priced Descriptive List, 5s. 6d.

KELWAY and SON, Langport, Somerset.

NEW SINGLE PYRETHRUM, "JUBILEE."

First-class Certificate, Royal Botanic Society, London, June 18, 1888.

One of the most beautiful Single Varieties in cultivation; dwarf in habit, bearing in abundance very deep Carmine flowers.

See Editor's remarks in *The Garden*, June 20, 1891:—

"Flowers, deep carmine; the richest-coloured variety we have seen, and very handsome."

Well-established plants, ready for delivery in April, 2s. each (usual D scout to the Trade).

W. BALCHIN & SONS,
HASOCKS NURSERY, SUSSEX.

NOW (and when the plants
have commenced to
grow) is an excellent TIME TO PLANT
HOLLIES, CONIFERS, YEWs,
AND ALMOST ALL
EVERGREEN SHRUBS.

CLEMATIS may be planted in May.

DESCRIPTIVE LISTS of the above, and
following, free:—

CREEPERS FOR WALLS.
ROSES IN POTS.—Best New and Old
English and Foreign Sorts.

RICHARD SMITH & CO.,
NURSERYMEN AND SEED MERCHANTS,
WORCESTER.

DAHLIAS.
My Special Cheap TRADE LIST of DAHLIAS is now
published, and will be sent free on application.
EDWARD BADMAN,
NURSERIES, HAILSHAM, SUSSEX.

CHEALS' DAHLIAS.

25,000 Plants in all the Sections ready for distribu-
tion, including many valuable NOVELTIES.

NEW DESCRIPTIVE CATALOGUES now
ready, Post Free.

J. CHEAL & SONS,
CRAWLEY, SUSSEX.



CHOICE PANSIES.—Trimardeau or Giant
Pansies, Cassier's, Bugnot's, and Odier's Giant Blotched,
and Benary's Ne Plus Ultra. Price, per 100 or 1000, on
application.
S. DENSON and CO., 22, Maiden Lane, London, W.

ORCHIDS A SPECIALTY.—
Please write for New Illustrated Price LIST of well-
established, healthy, and easily-grown plants.
W. L. LEWIS and CO., F.R.S., Chase Side, Southgate,
London, N. Nursery, Orchid Road.

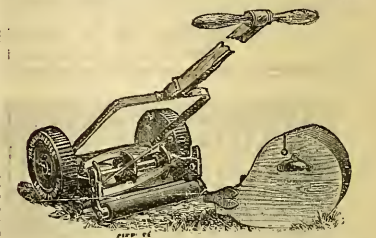
CUCUMBER PLANTS (Covent Garden
Favourite), wanted to dispose, 6s. per dozen; also
TOMATO PLANTS, leading market varieties under cultivation,
6s. per score.
E. LITTLER JONES, Clayton Nursery, Peckham, S.E.

OLD BARDFIELD OX-LIP, 6s. per dozen.
White HEPATICA, with Pink Anthers, immense
Clumps. CYTISUS ANDREANUS, strong-flowering pot-
plants, 3s. 6d. and 5s. each. HAMPSHIRE of 40 surplus strong
roots of HARDY PERENNIAL FLOWERS, from Gardens
where 1500 kinds are cultivated, 5s. 6d. A lot of good Orchids
cheap. List.—WOOD'S PLANT CLUB, Kirkstall, Leeds.

FUCHSIAS.—FUCHSIAS.—
Madame Milly Roberts, Mrs. Rundle, Masterpiece, Frau
Emma Topper, Moleworth, George Fry, Beauty of Cleveland,
Mrs. Short, Premature, Snowdew, Phenomenal, Madame
Thibaut, Ellen Lye, Joseph Bonin, Warrior, and Gustave
Doré. Will send 12, chosen from above, strong plants, for 2s. 6d.;
24 var eties, 4s. 6d.; 36 varieties, 6s.; free.
G. WIGLY, Saltergate, Chesterfield.

TRY THE PATENT "MANCHESTER" LAWN MOWER.

Awarded numerous National & International Prize Medals.



Many thousands of these excellent English made
Machines in use, giving unqualified satisfaction. Easy
to work on uneven ground, and cut long or short
grass, wet or dry, and give the turf a beautiful
velvety appearance.

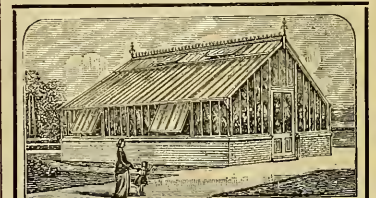
FOLLOWS & BATE LTD.,
ENGINEERS,

GORTON, MANCHESTER.

Patentees and Manufacturers of the Royal "ANGLO-AMERICAN,"
"TENNIS," and "CLIMAX" LAWN MOWERS.

80,000 SOLD SINCE 1869.

To be obtained promptly from all respectable Ironmongers
and Seedsmen. PRICE LISTS POST FREE.



THIS GREENHOUSE erected and heated complete, in
any part of the country, best materials only, workmanship
guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick
work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for
immediate use, well made, painted four coats, glazed with
21-oz. glass, carriage paid:—1-light frame, 4 x 6, 36s. 6d.;
2-light frame, 6 x 8, 58s.; 3-light frame, 12 x 6, 85s. 6d.;
Span-roof Frames, 12 x 4, 24 7s. 6d.; 9 x 8, 42 15s.;
16 x 8, 25 10s.

HARDY BRUIN & CO., Graham
Street, LEICESTER

INNES' FERTILITAS. — THE VINE and PLANT FOOD.—Of all Nursery and Seedmen, or direct, 15s. per cwt., carriage paid to all Stations. References and testimonials of the Sole Makers—
W. INNES AND CO., Sunny Hill Viney, Littleover, Derby.

STANDEN'S (PATENT) MANURE.

ACKNOWLEDGED to be unrivalled for Efficiency and Economy, as most satisfactory and lasting results follow the application of the smallest quantity. In new and enlarged Tins, 1s., 2s., 6d., 10s. 6d., and 10s. 6d.; and in Kegs, 28 lb., 10s. 6d.; 56 lb., 18s.; 112 lb., 32s. each.

Sold by all Nurserymen and Seedmen.

SOLE MANUFACTURERS:

CORRY & CO. (Limited),
13, 15, & 16, FINSBURY ST., LONDON, E.C.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatos, Peaches, &c., beyond any other Manure.

If you Try it Now
You will Order later on.

The Gardens, Chatsworth, January 14, 1891.
"I have tried your Manure on self-sown plants, and am much pleased with it. It may be used with perfect safety by the most inexperienced." (Signed) O. THOMAS.

Mr. O. Thomas has, since expressing this opinion, been appointed Head Gardener at Windsor to Her Majesty the Queen. Prices in Sacks, at Wicks, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.



TRADE MARK.



TRADE MARK.

THESE WELL-KNOWN MANURES

ARE USED BY THE

Leading Growers,
Royal Botanic Society,
Royal Horticultural Society,
Royal Parks,
London County Council,
Throughout the United Kingdom,
And in Every Quarter of the Globe.

Sold by SEEDSMEN, FLORISTS, and NURSERYMEN,
in 6d. and 1s. Packets, and SEALED BAGS:—
7 lb., 14 lb., 28 lb., 56 lb., 112 lb.
2s. 6d. 4s. 6d. 7s. 6d. 12s. 6d. 20s.

Or direct from the Works in 1s. Packets, post free, or Bags of either size, Carriage Paid (as sample), in the United Kingdom, for Cash with order as above.

The respective Trade Mark is printed on every Packet and Bag, and also impressed on the Lead Seal attached to the mouth of each Bag. The only Guarantee of Genuineness.

PRICES OF CRUSHED BONES IN VARIOUS SIZES
ON APPLICATION.

CLAY & SON,
Manufacturers and Bone Crushers,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

NATIVE GUANO.—BEST AND CHEAPEST
MANURE FOR GARDEN USE. Price 2/10s. per ton, in bags.
Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent
Carriage Paid to any Station in England, on receipt of P.O. for 5s.

Extracts from 16th Annual Collection of Reports:—
NATIVE GUANO, FOR POTATOS, VEGETABLES, &c.
H. BARKWORTH, Potato Grower, Reading, used for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops." J. BUTLER, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c.
J. PEED & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Fervian." J. FICCH, Orsell Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.



FOR DESTROYING WEEDS, MOSS, &c.
ON CARRIAGE DRIVES,
GARDEN WALKS, ROADS, STABLE-YARDS,
WALLS, STONEWORK, &c.

Saves more than twice its cost in Labour. No Smell. One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every confidence in recommending it." Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy."

Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included); in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20 gallons, 1s. 4d. per gallon. Special quotation for larger quantities. Carriage paid on 10 gals. and upwards.

Use in the proportion of one gallon to twenty-five gallons of water.

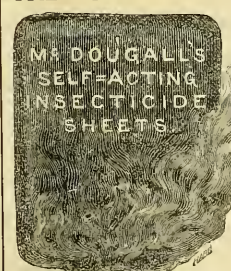
THE ACME SUMMER SHADING, White and Green.

FOR SHADING GREENHOUSES, CONSERVATORIES, &c. Does not wash off with the rain. Can be used WARM or COLD. 1 lb. makes 1 gall. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 9d.

For particulars of ANTI-FUNGI POWDER for Tomato Disease, Mould and Mildew on Roses, Vines, &c.; KENTISH PLANT MANURE, SOLUBLE MANURE, ZINC LABELS, NEW METALLIC INK, &c., apply to the Sole Proprietors and Manufacturers,

THE "ACME" CHEMICAL CO., Limtd.,
Tunbridge, Kent;
and Carlton Street, Bolton, Lancashire.

REDUCTION IN PRICE!



Easy, Certain, Safe, and Cheap. Sheets, 9d. (for 1000 cubic feet in parcels) 9s. per Dozen of 1 dozen, also ½, ¼, and 1 gross. at 13 to 12s.

McDougall's Liquid Insecticide.—For Use under Glass.
Garden and Fruit Tree Wash.—For Outdoor Use.

Plant Food or Manure.—For Vines, Fruits, & Plants.
[NOTE.—All above, for Cottage Gardens, in 6d. & 1s. Sizes.]

All Free from Poison. Patentees and Sole Makers:—
London: 10, Mark Lane.
McDOUGALL BROS., Manchester: 65, Port Street.
Glasgow: 70 to 78, King Street.
FROM NURSERYMEN AND SEEDSMEN.

NICOTINE SOAP.—An effectual and speedy Eradicator of Scale, Thrips, Green Fly, Mealy Bug, Red Spider, American Blight, and all Parasites affecting Plants, without injury to Foliage. Price 1s. 6d., 3s., and 5s. 6d.; 14 lb., 15s. 6d.; 28 lb., 10s.—CORRY AND CO., Limited, 13, 15, and 16, FINSBURY STREET. To be obtained through all Seedsmen and Florists.

For Green and Black Fly, American Blight, Camellia Scale, Red Spider, Mealy Bug, Brown and White Scale Worms, Wood Lice, &c.

"PICRENA," THE UNIVERSAL INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.

15, PRINCES STREET, EDINBURGH, July 18, 1887.—"Dear Sirs, I have thoroughly tested a sample of a new insecticide which you were so good to send me. At the rate of 1 oz. to a gallon of water at a temperature of 95°, I find it kills Green Fly immediately. Double this strength, or 2 oz. to a gallon at 120°, seals the fate of Scale of all sorts in a few seconds; while 3 oz. to a gallon at same temperature effectually dissolves Mealy Bug, and so far as I have yet observed, without the slightest injury to leaf or flower, and it is withal a most agreeable compound to work with. All our insect remedies are applied through common syringe, or garden engine, a much severer test of efficiency than when applied by hand-washing or spray—I remain, dear Sirs, yours truly. (Signed) A. MACKENZIE, of Messrs. Methven & Sons, Victoria and Paradise Nurseries, Upper Holloway, London, January 7, 1888. "GENTLEMEN—I have given your insecticide, 'Picrena,' a good trial in competition with many others. I am pleased to say that I have found it to be more effectual in destroying Mealy Bug and other insects than anything we have ever used. It ought to command a good sale. (Signed) B. S. WILLIAMS."

Sold by Chemists, Nurserymen, and Florists, in Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in Tins (1 and 2 gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and upwards, 9s. per gallon.

Prepared only by
DUNCAN, FLOCKHART & CO., Chemists to the Queen
Edinburgh.

May be had from B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, London; and from WILLIAM EDWARDS AND SON, 157, Queen Victoria Street, London.

May be had through all Seedsmen and Chemists.



Prices:—1 Gall. 3/- (tins included), 5 Galls. 2/6 per Gall., 10 Galls. 2/6 per Gall., 20 Galls. 2/3 per Gall., 40 Galls. 2/- per Gall. Carriage paid on 5 Galls. and upwards.

Kills all Weeds on Garden Walks, Carriage Drives, &c., &c. Brightens the Gravel. One application will keep the Walks Clear of Weeds for a whole Season.

Prepared Solely by

The Boundary Chemical Co., Ltd.,
LIVERPOOL.

SAVE HALF THE COST.

GARSDIE'S SILVER SAND
BEDFORDSHIRE
COARSE AND FINE

Is admitted by the leading Nurserymen to be the Best

Quality obtainable in the Trade.

Consumers should Buy from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus save half the ordinary cost. NO TRAVELLERS OR AGENTS.

Apply direct to the Proprietor for Samples and Prices free on Rail or Canal. All Orders executed with the utmost promptness and under personal supervision. Special Railway Rates in force to all parts. All kinds of PATT supplied at lowest possible prices. Sample Bag sent on application to GEO. GARSDIE, Jun., F.R.S.S., Leighton Buzzard, Beds.

"Nothing Succeeds like Success."

HUGHES' (SOLUBLE) INSECTICIDE FIR TREE OIL

The most reliable and best of all Insecticides for destroying Insects and Vermin on Plants and Fruit Trees, also on Animals, and Birds; and as a Disinfectant & Bleacher in Washing Clothes. Full Directions on the Labels of each Bottle.

Sold by Seedsmen & Chemists, 1/6, 2/6, & 4/6; 1/2-gallon 7/6, 1-gallon 12/6, or less in larger quantities.

A Treatise on FIR-TREE OIL as an insecticide, its application to Plants and Animals, sent post free on application to the manufacturer, addressed to

E. GRIFFITHS HUGHES, Victoria-st., Manchester.
Wholesale from all the London Seed Merchants and Patent Medicine Houses.

NEW YORK—A. ROLKE & SONS.

SLUGICIDE (REGISTERED).—Certain death to Slugs, fertilises the soil, perfectly harmless to plants and domestic animals. The grubbers sent post free on invoice. 1s. 6d. per box of all Seedsmen. Trade terms.

"THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

FRIDAY NEXT, APRIL 29.

A SENSATIONAL SALE, BY ORDER OF MESSRS. LINDEN, BRUSSELS.

ANOTHER OF LINDEN'S GRAND INTRODUCTIONS.

CATTLEYA ALEXANDRÆ (LINDEN & ROLFE)

(H.R.H. PRINCESS OF WALES' NEW CATTLEYA).

A DRAWING MADE BY THE COLLECTOR WILL BE IN THE ROOM THE DAY OF SALE.

MESSRS. LINDEN have dedicated it to H.R.H. THE PRINCESS OF WALES, paying this homage to an illustrious patroness of horticulture, personifying the English nation, to which Messrs. Linden are indebted for the kind welcome given to their efforts in the course of introducing into Europe new plants and ESPECIALLY ORCHIDS.

CATTLEYA ALEXANDRÆ is a most splendid and distinct Cattleya, very remarkable on account of the elongated peduncles, 1 to 1½ foot long, which bear a bouquet of ten to twelve flowers at the summit, not unlike in form with C. LEOPOLDI, but with the colour of CATTLEYA ELEGANS TURNERI, and in some varieties with LÆLIA GRANDIS TENEBROSA, with violet on the margins.

Pseudobulbs, of quite distinct appearance, are cylindrical, stout, 1 to 1¾ foot long, generally three-leaved. Leaves, very fleshy and rigid, narrowly elliptical-oblong, 3 to 5 inches long.

Never before have any importations of Cattleya been offered in better health or condition. The plants are at rest, and prove a most free-doing Orchid; and, as for flowering, it does excel any other Cattleya, as the numerous strong old spikes and flower-seats on the plants offered prove.

The drawing, and a photograph made by the collector, give an idea of its immense free-flowering quality.

MR. ROLFE WRITES TO MESSRS. LINDEN:—

"I CONGRATULATE YOU ON HAVING OBTAINED SO SPLENDID A PLANT."

Also 64 Semi-established Plants of the Marvellous

CATTLEYA REX (CATTLEYA— "THE KING.")

THE GRANDEST DISCOVERY MADE AMONGST ORCHIDS TILL NOW.

MESSRS. LINDEN are offering the rest of the plants they were unable to offer a few months ago, as they unfortunately had some of the leaves frosted in transit from Bordeaux to Brussels. They are now semi-established, commencing to root freely, and producing fine strong growths, and altogether in *Splendid Condition*.

Every plant offered is guaranteed true.

Also a fine importation of the gorgeous

CATTLEYA MOSSIÆ CHIRCUENSIS.

Many years ago MESSRS. LINDEN had the pleasure of offering an importation of this magnificent form of C. MOSSIÆ, the finest of all. Flower very large, sepals and petals blush; lip dark purple, beautifully veined with orange, margined with white.

And of CATTLEYA SPECIOSISSIMA,
Collected in a new locality where no Cattleyas have yet been found.

Also some nice imported plants of the rare and pretty

ONCIDIUM HOLOCHRYSUM.

And some good plants of the new

RODRIGUEZIA LINDENI (A. COGN.).

Also a splendid importation of

CATTLEYA AMETHYSTOGLOSSA

(CATTLEYA GUTTATA PRINZI).

Also many fine plants of the soon popular and favourite

ODONTOCLOSSUM (COCHLIODA) NÆTZLIANUM.

WHICH WILL BE

SOLD BY AUCTION BY MESSRS. PROTHEROE & MORRIS,

AT THEIR

CENTRAL SALE ROOMS, 67 & 68, CHEAPSIDE, LONDON, E.C.,

On FRIDAY, APRIL 29, at HALF-PAST 12 O'CLOCK.

CARTERS' INVICTA LAWN SEEDS

Forms beautiful
VELVET LAWNS
In 8 to 12 Weeks.

For making a New Lawn, order 4 lbs. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 14 lbs. of Carters' Lawn Manure, costing 4s. 6d., for every 1,000 square feet.

For Small Lawns order a 1s., 1s. 6d., or 2s. 6d. packet. A 1s. 6d. packet will sow 150 square feet of New Lawn.

To Renovate or Improve a Lawn, order 4 lbs. of Carters' Invicta Lawn Seed, costing 5s. 6d., and 28 lbs. of Carters' Lawn Manure, costing 7s., for every 2,000 square feet.

ABOVE PARCELS CARRIAGE FREE.

CARTERS' PAMPHLET UPON THE MANAGEMENT OF LAWNS, free for two stamps.

ROYAL SEEDSMEN BY SEALED WARRANTS.
237
338 **HIGH HOLBORN, LONDON.**

Williams' NEW PLANTS

For 1892.

Now Offered for the First Time.

B. S. W. & Son have much pleasure in announcing that the following will be ready for distribution in May:—

ALLAMANDA WILLIAMSII	21/-
ANTHURIUM LONDINENSE	42/-
AMARYLLIS "BARON PALLES"	63/-
AMARYLLIS DAZZLE	63/-
CYPRIPEDIUM PITCHERIANUM	
(Williams' variety, price on application.)	
DRACÆNA MALLETTII	21/-

For descriptions see *ILLUSTRATED NEW PLANT CATALOGUE* for 1892, Gratis and Post Free on application.

B.S. Williams & Son.
UPPER HOLLOWAY
LONDON. N.



THE Gardeners' Chronicle.

SATURDAY, APRIL 23, 1892.

GLANUSK PARK.

THIS noted Park, in Breconshire, the seat of Sir Joseph Bailey, Bt., M.P., is well situated, saving the unavoidable defect that the house, like Deepdene and many another splendid residence, looks in the wrong direction. The site was selected by the first baronet, the grandfather of the one now reigning hereabouts over a wide extent of country, and he built thereon a fine three-storeyed mansion, in the early English style, on the slope of a hill, with terraced flower-gardens and lawns reaching from the windows almost to the banks of the Usk, which runs through the park below. A sloping garden of many acres, and a river valley verdant with grass, are in themselves beautiful objects, but the landscape is far more extensive, for beyond the valley is a range of bold hills rising from their bases a mile distant, and clothed to a certain height with pastoral farms and woods. Table Mountain and Darent Mountain are the two most prominent peaks, and when the holiday folk of the district have climbed to the level top of Table Mountain, where picnics are frequent, one may admit that a mountain has been ascended not a mere hill. The slopes of the range broken with woods and pastures, and dotted here and there with white homesteads, brighten the landscape from Glanusk.

There are six acres of lawn and pleasure garden, the house occupying a good position on the higher ground. There is still higher ground behind it, on its southern side, so that if the house were turned round by some of those unseen intelligences which are now so much in evidence among spiritualists, it would front the right way for the sun, and for the blessings of light and warmth, but the view would be blocked. So far as the landscape is concerned, therefore, "tis better as it is." The house commands a down-hill view, which continues as far as the river, and the incline is sufficiently steep to admit of a terraced garden, a desirable arrangement suggesting a dry and healthy site, and lending prominence to the house. The surroundings are as good as the house itself. A series of terraces, connected by flights of stone steps, lead from it to the lower level, where the boundary between the spacious lawns and the deer park is formed by a very handsome and costly stone wall, low on the garden-side, and planted with creepers. The house, too, is well clothed with creepers, some of which, at the time of my visit (October 7), had assumed the rich tints of autumn. Some great Oaks stand in the pleasure-garden on the west side of the lawn, and a lofty row of still more remarkable Sweet Chestnuts flanks one of

JOHN GREEN, F.R.H.S., Has Now Ready 1,000,000 Good Things.



SEND FOR
ILLUSTRATED CATALOGUE
OF ALL
THE BEST THINGS.



The above prices are for J. G.'s Selection; purchasers wishing to select for themselves, should send at once for Catalogue.

JOHN GREEN, Norfolk Nurseries, DEREHAM.

100 ACRES OF "EVERGREENS"

TO SELECT FROM.
Regularly Transplanted.
Hardily-Grown.

Lift with balls of earth, so can be conveyed any distance & safely planted.

Inspection invited. Catalogue Free.

PLANT NOW.

DICKSONS NURSERIES CHESTER
(100 Acres.)

Geraniums, Lobelias, Calceolarias, Ferns, &c.
JOHN SOLOMON offers:—GERANIUMS:
Henry Jacoby, West Brighton Gem, Queen of the Belgians, F. V. Raspaill, 10s. per 100. LOBELIA: Emperor William, best blue, 2s. 6d. per 100, 20s. per 1000; Snowball, pure white, 3s. 6d. per 100, 25s. per 1000. CALCEOLARIAS: Golden Gem, 5s. per 100, 40s. per 1000. FERNS: Pteris tremula, Pteris cristata, Pteris major, in 24-inch pots, fit for 48s., 12s. per 100. All the above are sure to give satisfaction. Packing included. Cash with order.
Queen's Road Nursery, Walthamstow, E.

LAWNS AND TENNIS GROUNDS. WEBBS' PRIZE MIXTURES

Either with or without Clovers, rapidly produce the most beautiful and enduring Turf for—

GARDEN LAWNS, BOWLING GREENS, TENNIS AND CRICKET GROUNDS, &c.

Awarded the Gold Medal at Liverpool Exhibition, 1886, and Prize Medal at Paris Exhibition, 1878.

Per Pound. Per Bushel.

First Quality... 1/3 ... 24/-
Second „ ... 1/- ... 20/-

WEBBS', WORDSLEY, STOURBRIDGE.

the drives leading to the main entrance. These magnificent trees would rival even those at Cowdray, many of them measuring 15 feet in girth, and it speaks well for the climate of this western country that the fruit produced by them in good seasons is not to be despised.

The trees on the lawn include a handsome *Picea Menziesii*, which Mr. Ballard, the gardener, pointed out with pride. The fountain is a very appropriate ornament of the lawn. It is approached by the main flight of steps from the house, and is surrounded by flower beds, and hedged by boundary lines of Yuccas and low Hollies standing on the grass. The lawn embraces the eastern side, as well as the northern front of the house, and on the east the drawing-room looks down the valley of the Usk towards Abergavenny, and looks, too, upon a very charming garden, the perfume of whose sweet-scented flowers enters the windows, to charm the senses of the happy folk for whom the luxuries of Glanusk are reserved. The most effective creepers on the walls of a grand house like this are often similar to such as one may see sometimes on the walls of much more humble residences. Among them I noticed a Banksia Rose which could not blossom more beautifully than it does on many a farm-house in Surrey and Sussex. The Cotonaster and Virginian Creeper are still more common, but not the less beautiful on that account, and the Magnolia grandiflora here could hardly excel one which covers the front of a plain house in the main street at Dorking. Another notable creeper on the mansion of Glanusk is Clematis montana, and one likes to feel that such lovely objects are not reserved for the walls of mansions, or the eyes of the wealthy only. The same creeper grows as well on a small house, close to Messrs. Carters' nursery at Forest Hill, covering the wall each succeeding spring with a white sheet of flowers. The vegetable world is as democratic as knowledge, which all who take the necessary pains may acquire, and a good nursery, therefore, always proves, in its influence, a centre of "light and leading" to the gardens of its neighbourhood.

The Myrtle blossoms well at Glanusk, but it requires covering in winter. The climate is mild, and a dish of Strawberries was picked outdoors in the last week in September, but the spring frosts in the river valley, and the cold winds from the adjacent mountains, are bad for fruit trees, and for all kinds of bedding-out plants, which cannot safely be planted in the borders before June. In spite of the frequent showers, which naturally damped one's ardour a little, we visited every part of the pleasure-grounds, pausing longest at the Swiss cottage, a lovely cot, covered with various kinds of Clematis, and other creepers. This is the most ornate and interesting spot in the whole domain. The flower gardens of the young ladies are here, and close by are some gorgeous masses of that beautiful flower, *Tropaeolum speciosum*, covering several Fir poles placed for its support, and growing with great luxuriance. The moisture of the West seems to suit this lovely creeper, which grows almost as freely in several of the Western counties as in Scotland, covering some of the cottage porches. Mr. Ballard found some difficulty, however, in getting it established, but he obtained his handsome specimens by potting the plants in January, starting them in a greenhouse, and planting them out in spring. Until he adopted this plan, he met with no success, though several attempts were made, the roots in each case, coming from Scotland. It now grows very freely in the garden at Glanusk, parish of Crickhowell,

and springs up at a distance from the parent stock, running far underground. Close by is a very pretty fernery, filled chiefly with Maiden-hair for decoration, with *Goniophlebium subnuculatum*, a Fern from Madeira, loving moisture and thriving well in the neighbourhood of waterfalls. It is grown here in baskets with a hoop to spread the fronds which droop in rich profusion, reaching a length of 12 feet. A handsome *Taxodium sempervirens* grows near the fernery, and invites measurement and close attention. The trunk, wrapt in a coating of soft red bark, is 9 feet in girth, and holds its size many feet upwards, forming a pyramid of bright green 60 feet in height, the lower branches drooping on the ground. Another notable Conifer in the grounds is a handsome *Araucaria imbricata*, sixty years' planted. In the kitchen garden two large houses are devoted to two Vines, one of them being a cutting from the Hampton Court Vine with a stem 12 inches in diameter. There are nine other houses, numerous pits, and fourteen gardeners. H. E.

NEW OR NOTEWORTHY PLANTS.

DENDROBIUM ROLFEÆ.

PRIMUM ♀, NOBILE ♂.

THE flowers of this new hybrid have the usual shape of those of *D. nobile*, including its lip and broad petals; the sepals are of a delicate blush in colour, white at the base, and light blush-pink at the apex. The petals are white, tipped with rose-pink; the lip of sulphur-yellow and white, tipped with bright rose; the fleshy disc is bluish-white, with numerous maroon radiating lines, some broad, others very narrow, on either side, but no maroon blotch in front. The column is bright pea-green, with the anther-case light rose-purple. Thus it partakes very largely of the pollen parent, and has large, well-formed, delicately-coloured flowers, over 2½ inches in diameter from tip to tip of petals; petals and lip over 10 lines broad. The influence of *D. nobile* is very marked in the free growth and blooming character of the plant. It is one of the most charming of the many Dendrobies yet raised, and is dedicated by the raisers, Messrs. F. Sander & Co., of St. Albans, to the wife of our British Orchidist, Mr. R. A. Rolfe, of Kew.

VANDA ARBUTHNOTIANA, n. sp.*

This new Vanda was sent from the Malabar coast to Messrs. F. Sander & Co., St. Albans, who flowered it in the winter months of this year. In its general appearance it resembles *V. serrulata* or *V. Roxburghii*, but it differs in so many characters from both of them that it must be considered as a new species. The leaves are bright green, and thinner than in other Vandas. The point of the leaf is not irregularly toothed, but two-lobed, with a little point in the middle rib of the leaf. The flower-stalks are the same as in other tall-stemmed Vandas. The flowers are narrower and more compressed than usual in other Vandas, even the spur is compressed and sharpened on its upper and lower side, the lip is smaller, the side lobes not very developed, and the middle lobe fiddle-shaped, with three or five elevated lines running downwards from the base to the point of the lip. The colour is a more or less intense golden-yellow, with purplish stripes across the leaflets, but by no means tessellated. The full expanded

* *Vanda Arbuthnotiana*, Kianzlin, sp. n. sepalis curvato-obovatis, obtusissimis margine reflexis undulatis, intermedio recto lateralibus subobliquis falcatis antice curvatis; petalis lateralibus oblique spatulatis valde undulatis; labelli lobis lateralibus parvis semiovatis extus rotundatis, intermedio angustiore pandurato antice et postice, fere aequali disco 2-3 lamellis vix prolixius intracto, calicari compresso utrinque (infra et supra) acutato, toto flore luteo, lineis purpureis transversalibus irregulariter fractiflexis confusiusculis vel non confluentibus; foliis linearibus non abscissis apice bilobis utrinque acutis apiculo interposito.

flower is 2½ inches in height and about 1½ inch across. The plant is dedicated to Mr. Arbuthnot of Bexley, who was the first to flower the plant. Kianzlin.

CATTLEYA ALEXANDRÆ (L. Lind. and Rolfe), n. sp.*

Living plants of this handsome *Cattleya* have now been imported by Messrs. Linden, of Brussels, from one of which, together with ample dried material, the following diagnosis has been prepared. In that its botanical characteristics are clearly set forth, but it may be well to add a few words as to its affinities, and the peculiar features it presents. It has one very remarkable character, namely, the great length of the peduncles. There are ten on the plant, and these range from 15 to 18 inches long, and bear from six to ten flowers each. The longest shows a clear interval of 15 inches from the base before the first flower is reached. The plant is very robust, and the pseudobulbs bear generally three, but sometimes two, very rigid fleshy leaves at the summit. The individual flowers bear some considerable resemblance to those of a large *C. Leopoldi*, and the shape of the lip shows this to be its true affinity; the front lobe is very broad, and the side lobes cut down half way to the base, their tips just overlapping the front one when flattened out. The sepals and petals have the colour of those of *Lælia grandia tenebrosa*, tinted with violet on the undulate margins, and the lip is violet-rose in colour. It is a very interesting addition to the genus, and is dedicated, by request, to H.R.H. the Princess of Wales. R. A. Rolfe.

TRADESCANTIA (?) REGINÆ.

Under this provisional name, Messrs. Linden and Rodigas describe in the *Illustration Horticole*, t. 147, what appears to be a very handsome stove-foliaged plant. The flowers are not yet known, so that the genus cannot be told with certainty. The stems are purplish, glabrous, the leaves in two rows, with sheathing-stalks, each blade about 6 inches long, 1½ inch broad, cordate lanceolate acute, greenish-white, the central portion marked with closely set, straight, narrow dark green stripes on either side of the midrib, like the barbs of a feather. The lower surface of the lip is claret-coloured. The plant is stated to be a native of Central Peru.

DIFFENBACHIA (?) OLIVÆ.

A Peruvian plant introduced by the *Horticulture Internationale* of Brussels from Peru. It is figured at t. 148 of the *Illustration Horticole*, and is remarkable for its bold habit and large leaves, each about 18 inches long, 6 to 8 inches wide, green, with a broad white midrib and numerous large white spots. It will make a noble foliage plant.

CYPRIPEDIUM EXUL, n. sp.†

This plant was first noted by Mr. H. Ridley in the *Gardeners' Chronicle*, July 25, 1891, as *C. insigne* var. exul. "This *Cypripedium* insigne is a native of Nepal, so that it was surprising to me to obtain from a native collector a large quantity of a species closely resembling it from so far south as Siam. It

* *Cattleya Alexandræ*, n. sp.—Pseudobulbs cylindrical, covered with white sheaths, 1 to 1½ foot long, 2½ inch diameter, somewhat sulcate when old, generally three-leaved. Leaves very fleshy and rigid, narrowly elliptical-oblong, obtuse, sub-erect and concave, or flatter and more spreading; 3 to 5½ inches long by 1½ to 2 inches broad. Sheath linear-oblong, sub-obtuse, strongly keeled behind, 3 to 2½ inches long. Peduncles 1½ to 1½ foot long, stout, six to ten-flowered at the apex. Bracts triangular-ovate, rigid, spreading, 2 to 3 in. long. Sepals and petals spreading, linear-oblong, sub-acute, undulate (in dried state), 1½ to 2½ inches long, 5 to 6 in. broad. Lip three-lobed, 1½ inch long, 1½ inch broad; side-lobes semioval, obtuse, 1½ inch long, upper half free; isthmus 6 lines long by 4 broad; front lobe suddenly dilated, fimbriate-recurved, retuse, minutely ciliate-sub-undulate, 1½ inch broad, the nerves a little thickened, but scarcely verrucose. Column clavate, curved, 1½ inch long. Capsule fusiform oblong, nine-angled, 1½ inch long by ½ inch wide. Colour of the undulate sepals and petals described as of the same tint as those of *Lælia grandia tenebrosa*, tinted with violet at the margin, and the lip violet-rose. Native of Brazil.

† *Cypripedium exul*, O'Brien, syn. *C. insigne* var. exul. Ridley, in *Gard. Chron.*, July 25, 1891.

is very distinct as a variety, both in form and colouring. The leaves are shorter and more crowded; the scape shorter, the flower rather smaller than that of the typical form. The general colouring is similar to that of the Nepal plant, but the white margin of the standard is broader, and runs down to the base; the purple spots are crowded into the middle of the bright Apple-green centre. The petals and lip resembles much those of the Indian form, but the lip is more yellow. The shield is different in shape; instead of being cordate, with a notch at the apex, it is almost ovate, with, at the most, a depression at the top."

It is certainly very distinct, and the deviation amounts, I think, to a specific difference. When first I saw the plant imported, it reminded me in some degree of *C. Druryi*, and on its flowering I still see some resemblance to that species in the arrangement of the floral segments, and especially in the more or less clearly-defined dark band down the middle of each petal. Another approach to *C. Druryi* is the projection or tooth in the middle of the indentation in the front of the staminode, and which is not found in *C. insignis*.

Probably no *Cypripedium* has ever had so many importers in a year as this one had in 1891. Early in the year Messrs. F. Sander & Co. got it; then a large lot came direct to Messrs. Protheroe & Morris, and later Mr. Osmer brought what I take to be the same plant; and now Messrs. Linden have it. Meanwhile other growers got a few over direct, and so the plant should not be very scarce if the different importations have grown satisfactorily.

The specimen from which Mr. Weathers made the drawing from which our illustration was prepared, was obtained from R. I. Measures, Esq., of Camberwell, who has the best specimens of it in cultivation. Mr. Ridley's name "*exul*" fits it for a specific name, as well as it would for a varietal one, for it seems an alien from all other species. James O'Brien,

are to bloom, the ordinary varieties requiring about 8 to 10 inches of space, and the dwarf kinds doing well with somewhat less. Treated in this manner, the plants will be already in bloom by the beginning of May. Another method is to sow the seed on a sheltered bed, and to transplant in spring. Although by this plan the flowers naturally develop somewhat later, as it is only in exceptionally severe and withal snowless winters that the alpine *Forget-me-Nots* are affected by frost, we consider autumn-planting decidedly preferable. By sowing in spring, no really useful early flowers can be obtained, and this method is, in our opinion, not to be recommended.

M. sylvatica is an annual, and *M. oblongata* is treated as such, the first being sown at the beginning, and the latter at the end of March, under

grown in pots. They naturally thrive best by ponds or brooks; but planted in stiff soil, and copiously watered, they will bloom long and abundantly anywhere in the garden, although the leaves do not assume quite their normal dark green hue. They are also admirably adapted for forcing, to which end strong plants are potted in September, and by applying at first a gentle heat, and then gradually increasing the same, the grower will be rewarded by obtaining plants in time for Christmas.

M. azorica is a splendid free-blooming species, more especially suitable for pot culture, but also adapted for cutting and for bedding out. It is, however, much more tender than the sorts we have been discussing, and is sown either in autumn or during January and February in pans or boxes of light compost. The seedlings are pricked out into similar soil and kept under glass at a moderate temperature until April, when they are ready for placing in pots. The weather rarely permits them to be planted out of doors until May. They are then usually placed about 8 inches apart, and thrive well if put into a rich and not too stiff garden soil, with copious watering during the period of most rapid growth. Autumn seedlings are hardy, and can be easily wintered.

The *Myosotis* suffer occasionally from mildew, which most frequently makes its appearance when very hot weather immediately follows a period of moisture, but by sprinkling the plants with flowers-of-sulphur this pest can be usually got rid of.

For market gardeners the careful culture in pots of all the above-described varieties of *Forget-me-Not* is a profitable undertaking, as they command a constant and ready sale. With the exception of the *M. azorica* (from which slips are taken), all the sorts may be propagated by division of the plant, more especially the marsh *Forget-me-Nots*.

Referring once more to the alpine *Forget-me-Nots*, it may interest your readers to hear of a custom of utilising these favourite flowers which is very prevalent in Germany. Bereaved relatives seeking consolation by paying a floral tribute to the memory of the departed, avail themselves of the sentiment popularly attached to the plant in the following manner. They take a shallow vase whose broad open shape specially adapts it for the purpose, fill it with water, and put therein as many cut flower-stalks of the blue Alpine *Forget-me-Not* as it will conveniently hold. The vase is then placed in a shaded position on the grave, and a most beautiful and effective floral display is obtained, which without any further care or attention will last for several weeks, if the weather be not too hot.

Another method is to arrange on the grave a number of pots containing plants of the dwarf variety, the plants being then hidden by a layer of moss, which forms a carpet of green, and shows off the delicate blue flowers to great advantage. With this latter arrangement a daily watering is, of course, necessary. The attractiveness of this system of decoration can be readily imagined. *Fr. Benary, Erfurt.*

FOREIGN CORRESPONDENCE.

BAMBUA METAKE.

ALTHOUGH this fine plant is considered hardy in Holland as well as in England (see *Gardeners' Chronicle*, p. 407), it was severely injured in the winter 1890-1891 here. A plant, placed in a protected situation, and very stout, with shoots of perhaps 8 to 10 feet, was frozen to the ground. All their shoots have been lost, and although the underground shoots pushed nicely during the summer of 1891, it will be some years before it regains its old beauty. *J. H. K., Haarlem.*

FORGET-ME-NOTS.

Myosotis alpestris, the alpine *Forget-me-Not*, is one of our best biennials, and belongs to the very early and free-blooming section of garden-plants which give such gratifying results when effectively grouped in spring. Dwarf, compact varieties of this beautiful plant have been recently obtained, viz., *M. a. nana compacta*, and the especially charming *M. a. Victoria*, and these, both for borders and for pot-culture, are far preferable to the older forms.

M. a. elegantissima is a fine semi-dwarf variety, of a pyramidal habit. The old sort, however, by reason of its longer flower-stalks, is the best to grow for cut flowers, and when placed in water, yields a graceful profusion of bloom. The magnificent large-flowered *M. a. robusta grandiflora* (Elisa Fourbert), and the *M. a. Victoria*, are amongst the best of the alpestris section, they being the so-called "Hen and Chickens" *Forget-me-Not*, of which the centre flowers are double, and a figure description of which appeared some time ago in the *Gardeners' Chronicle*. The culture of *M. alpestris* is extremely simple. They may be sown under glass from July to August, the seedlings thinned out to about 1½ inches apart, and finally, in October, planted out where they

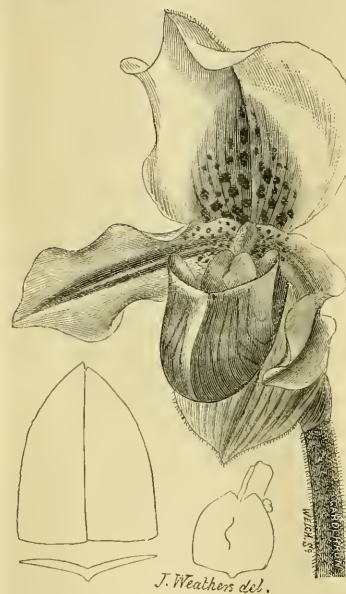


FIG. 77.—*CYPRIPEDIUM EXUL*, O'BRIEN - *INSIGNE EXUL*, RIDLEY. (SEE P. 522.)

the same conditions as the alpine *Forget-me-Nots*, and both give a continuous and rich display of bloom from the end of May onwards. If desired, however, all the above-mentioned *Myosotis* can be sown where they are intended to flower.

The splendid and much admired large-flowering *M. dissitiflora* is grown in the same way as the Alpine *Forget-me-Nots*, but not being so hardy, requires careful protection against spring frosts.

M. rupicola, on the other hand, a charming miniature *Forget-me-Not*, barely 5 inches in height, is only suited to culture in pots; or, if planted in the open, it requires a very shady situation, and a rich sandy vegetable mould.

The marsh *Forget-me-Not*, *M. palustris*, and its garden varieties, are also easily raised from seed, either by spring or autumn sowings, and give equally gratifying results, both as cut flowers and when

DORYOPTERIS AND PTERIS.

This interesting group, which is now included with *Pteris*, consists of about half-a-dozen useful little Ferns, very distinct in character and general appearance from other species of *Pteris*. They are chiefly from tropical America, and, therefore, require stove treatment, but should not have an excessively high temperature. During the summer they will do well in the cool fernery. With the exception of *D. palmata*, they do not appear to come freely from spores, and consequently are very scarce, as it is a very slow process to propagate from divisions. They succeed well in a compost consisting largely of loam, with some peat and leaf-mould, and a good sprinkling of sharp sand. The compost should be used in a rough state, the pots well-drained, and the

plants potted moderately firm; over-potting should be avoided. None of the *Doryopteris* grow large; *D. nobilis* is the largest growing, and I have never seen a specimen of this which would require anything larger than a 6 or 7-inch pot, and for *D. pedata* a 4-inch pot is large enough. *D. palmata*, too, is better when confined to the same size. Exceptionally well-grown plants will fill a 5-inch pot, but I have never seen it looking well in anything larger, except when several plants have been grown together. *D. sagittifolia* and *D. hastata* are desirable species; *D. pedata* closely resembles the pretty little *Pteris grandifolia* in general appearance, but the fronds are thicker, and the veins are reticulated. *Doryopteris ludens* is a very distinct Fern, the barren fronds are undivided, broad, and thick; the fertile ones palmately divided, and have long stalks or stipes. The most useful of the group is *D. palmata*; this is extensively grown for market, and is a pretty Fern for decoration. It will stand well, except in very cold weather; when exposed to cold the fronds blacken quickly. It is one of the best Ferns for the small fancy pots which are now so much used. I have also seen it grown in combination with *Onychium japonicum*. The two sorts grown together in the same pot are very effective. It may also be grown in the same way with other slender-fronded Ferns, including some of the *Adiantums*.

While writing of combinations, I am reminded of *Pteris argyrea* and *P. straminea*; this is one of the prettiest I have seen. The former, when grown by itself, is rather straggling and loose, but grown in combination with the latter, which is of a bright fresh green, the pale shade of green with the white variegation of *P. argyrea* is shown up to great advantage. *P. serrulata* may also be grown with *P. argyrea*, the former making a nice undergrowth for the tall fronds of the latter. Many other combinations might be recommended. In this, of course, individual taste has to be considered. To those who would try for themselves I would say, the choice should be from those which are most likely to succeed well under the same treatment, and to select only free-growing sorts. These combinations may be made while the plants are quite small, or after they are more advanced. By rubbing away a portion of the soil on one side of the balls, and pressing the crowns as closely together as possible, the fronds may be brought to mingle with each other in a natural manner, and after they have made a few new fronds they will be ready for use as decorative plants, *Pteris*.

OLEA FRAGANS.

An old plant, and one not often met with in present day collections—although one occasionally comes in contact with a well cared-for, well-grown specimen—is *Olea fragrans*. Perhaps the chief reason for the neglected state in which we so often find it is owing to the popular craze for highly-coloured plants and flowers, and to which property this subject cannot lay the slightest claim; although, if sweetness of perfume be considered, it should hold a very respectable position amongst greenhouse plants, for, without exception, it is about the sweetest little thing one could wish to meet with. This fragrant Olive is an evergreen greenhouse plant, belonging to the natural order Oleaceae, and is a native of China, from whence it was introduced in 1771. It grows to a height of from 4 to 10 feet, according to the quality of the soil in which it is planted and the position in which it is placed. The leaves are oblong, bright green, and serrated, and the small white inconspicuous flowers which are produced in axillary corymbs are highly fragrant. In China the plants are greatly esteemed on account of the very delicious *fruits* which is imparted to tea by mixing the leaves and flowers of this plant with those of the ordinary tea.

When well grown, *O. fragrans* is a very pretty and desirable subject, the foliage being fresh and

beautiful, and supposing it had no other favourable qualities it might be grown as a decorative foliage plant, and would answer very well for the purpose. In addition to being very easy of cultivation, it is not troubled to any marked degree by insect pests; thus much labour and anxiety are saved.

I have found a compost of three-fourths turfy loam, and one-fourth well-decayed manure, with a little sand added, a very suitable soil for growing it in. The plants may be placed in a sheltered position out-doors during the summer months. Propagation is effected by cuttings of well-ripened wood placed in sand, and given a gentle bottom heat; from these nice little plants can soon be obtained. *C. H. B.*

DISEASES OF THE REPRODUCTIVE ORGANS OF PLANTS, CAUSED BY FUNGI.

(Concluded from p. 491.)

ERGOT.

There are few fungi which have attracted more attention than that known to botanists by the name of *Claviceps purpurea*. From the investigations of Tulane, published in 1853, we were made acquainted with the life history, as well as the structure, of this fungoid parasite. To the professional mind Ergot consists of an assemblage of dark coloured, somewhat curved sub-cylindrical bodies, possessing a peculiar but not altogether an unpleasant odour. To the botanist these bodies shrink into insignificance in comparison with the living fungus. The Ergots, or, as they are technically called, sclerotia, lie upon the ground during the winter months in a dormant state, but in the spring begin to evince signs of vitality. Each Ergot produces one or more sporophores. These are spherical bodies, borne upon stalks like microscopic drumsticks. The spherical head is not smooth, but covered by a great number of elevated points, each of which corresponds to the mouth of a flask-shaped receptacle, the base of which is embedded in the fleshy substance of the sporophore. In colour, these structures are purple—hence the specific name; they are fleshy, and vary in size according to the size of the Ergot from which they are produced. Thus the *Claviceps* of the larger Ergots, such as those of Wheat or Rye, are very much larger than those of the minute Ergot of Reed or of *Anthoxanthum*. The perithecia contain a number of filiform sporidia, which escape from the ostiola, and are carried by air currents, or possibly by insects, to the flower-heads of the grasses on which their subsequent development is to take place. The filiform sporidia give off very narrow thread-like branches, which penetrate the epidermis at the base of the young flower just below the ovary, and give rise to the development of spawn-threads or mycelium, which permeates the tissues, and occupies all the lower part of the flower. In the course of ten or fourteen days, delicate spawn-tubes project from the surface of the affected parts, and at their tips produce myriads of very minute colourless gonidia, which are mixed with a sticky saccharine secretion. The exterior of the mass (sphaecelia or gonidiophore) has a wrinkled appearance, from a number of elevated vein-like ridges which are formed upon it. In this condition sphaecelia are visited by insects, which are attracted by the sugary secretion.

The formation of the Ergot itself takes place in the following manner:—The mycelium occupies at first the base of the young ovary in the flower of its graminaceous host. It then, in the ordinary run of cases, extends upwards, so as to occupy the entire ovary, with the exception of the apex, changing it into a whitish body, wrinkled externally by elevated veins, like ridges; on this body the gonidia are produced. The mycelial hyphae also penetrate downwards into the floral pedicel, according to Kuhn's observations. The gonidia are produced in great numbers from the tips of the hyphae. They are oval in form, and accompanied, as we have seen, by an abundant saccharine secretion, which is much sought after by insects, and by this means the

gonidia are transferred to healthy florets. The gonidia germinate freely; sometimes they emit germ tubes, sometimes they produce from the end of the emitted tubes, secondary gonidia. After a time, the formation of gonidia ceases. The hyphae, of which the gonidiophore consists, become compacted towards its base, so as to form an elongate rather dense body resting on the base of the floret below, and surmounted above by the gonidiophore, which carries on its apex the remains of the ovary, at first surmounted by the stigma. The surface of the sclerotium soon acquires a violet hue, and the cells forming its exterior gradually assume the character of a cortex. The growth of the gonidiophore ceases as soon as the Ergot begins to be formed. The formation of the Ergot takes about four weeks. During the growth of the Ergot, drops of sugary fluid are still formed, but more limpid than the saccharine secretion of the gonidiophore is. Sometimes these changes take place lower down, so that the aborted ovule is carried upwards almost entire upon the summit of the Ergot.

Ergots occur upon a vast number of graminaceous plants; perhaps on none more frequently than upon Rye, Ergot of Rye being the most familiar to us by name; but the other cereals are similarly affected by the fungus. Perhaps the next most frequent host is Wheat. All varieties of Wheat are not, however, equally subject to it. The Bearded Wheat, a sort not very largely grown in this country, because it is not so suitable for making the better kinds of flour, is much more frequently ergotised than the other varieties, but in a district where grasses are allowed to luxuriate in the hedge-banks, or more especially in ditches surrounding Wheat-fields, all kinds of Wheat become affected. It is commonly said that a damp season favours ergotisation, but this is not necessarily true, all our common grasses are liable to it, such as *Lolium perenne*, *Dactylis glomerata*, *Glyceria fluitans*, and *G. aquatica*, and above all the common Reed, *Phragmites communis*. Any of these may convey the disease to the Wheat crop, but, unless the Ergot has been allowed to mature itself upon the grasses, no amount of rain will produce it. Hence the necessity of cutting down the grasses on the borders of fields, and particularly of not allowing the grasses and reeds to fructify in the ditches, because if the grasses be cut down before they flower, the Ergot must perish.

Barley is much less frequently ergotised than Wheat, and it is doubtful if Oats ever are. The allied *Avena elatior* is, however, very frequently affected. The influence of improved cultivation has had a great effect upon the production of Ergot, especially the adoption of the system of growing crops in rotation. This has been especially remarked by Riva in the Rice fields in Northern Italy, where its introduction and general employment has wonderfully reduced the quantity of Ergot. That Rice should be ergotised is not at all surprising, because it is a grass which requires a very damp soil to grow in, and most of the grasses, liking this kind of situation, are easily ergotised; for instance, the *Glyceria*, the Reed, and the aquatic *Poa*. As long ago as the last century, it was noticed that an epidemic of ergotism which occurred in 1749 near Lille was much more severe on the south side of the town, which was marshy, than on the north, which was drier. The grass, which in this country, perhaps, suffers more frequently from the disease than any other, is *Lolium perenne* (Rye-grass), but, owing to the fact that a large number of its Ergots are of such small size, that they barely extend beyond the florets, this fact often escapes notice. Ergotisation of the *Lolium* occurs, too, late in the summer, so that the hay crop escapes, but if any road-side be examined in September and October, scarcely any unaffected plant will be found. It is quite possible to distinguish the Ergots of many of the different grasses and cereals after they have been separated from their host-plants. Thus a Rye Ergot is very smooth, curved, and tapers somewhat at either extremity. Wheat Ergots are much stouter, more blunt, and frequently split at the upper end. The Ergots of Twitch

(Triticum repens) are very much more slender than either of the above. Lolium Ergots are short, small, and obtuse. Reed Ergot is very small, smooth, dark, and tapering; the Ergot of Alopecurus is curved, dull in colour, and deeply grooved longitudinally, while those of Glycemia are dark, plump, smooth, and shining. The smallest Ergots are those of Anthoxanthum odoratum. With regard to the properties of the various Ergots, an interesting field for study is open to us. Wheat Ergot, which, by the way, is frequently found mixed with Rye Ergot in commercial samples, has been recommended as a substitute for the official kind, principally because it contains less oil and more extractives. No doubt, Ergot of Wheat is an active poison, and the reason that we do not hear more of its effects is twofold: firstly, because the variety most liable to it (Rivett's Wheat), is not much used for milling purposes; and, secondly, because of the great improvements which have been effected not only in the dressing of the Wheat by the grower, but more particularly by the miller. Scientific milling, as it is called, has now arrived at such a degree of perfection that almost every foreign body is removed from the corn before it becomes flour, by a series of mechanical appliances. If the Wheat contains Ergot, the ergots are removed, and it is surprising to what a large quantity they amount when those removed from many tons of Wheat are collected together. Thus it is that our flour and our bread are far more free from admixture with this dangerous substance than they ever were in bygone times. The subsequent history of the refuse is, however, worth tracing. It consists of Barley, Oats, Peas, Beans, Maize, and a large proportion of various foreign seeds, as well as Ergots. The whole is ground so fine that it cannot be recognised, and it is used for the manufacture of oil-cake of inferior quality—a compound which must be dear at any price. C. B. Plowright.

[The remainder of Dr. Plowright's lecture was devoted to the medical history of Ergot, a subject beyond our limitations. En]

KEY NOTES.

PLANTS IN FLOWER, &c.—*Susum antheiminticum*.—This is a plant of considerable botanical interest, and also sufficiently ornamental to be worth a place among stove plants. It is one of the three genera which now constitute the order Flagellariaceæ, but which were once included with the Rushes (Juncaceæ). *Susum* may be described as a Dracæna-like plant, the leaves being lanceolate, elegant, dark green, and from 2 to 8 feet long. The flowers, which are small and green, are borne on a branching panicle, produced from the top of the stem. The plant grows in swamps and marshy places in Ceylon and various parts of India, its large submerged floating stems and stolons suggesting the "Palmite" (Prionium), which in South Africa completely covers the rivers and streams with a stout network of stems, capable of supporting a man. There is a small plant of the *Susum* now flowering in the T range at Kew.

Monodora myrsina var. *grandiflora*.—A specimen 15 feet high of this large-flowered variety of the Calabash Nutmeg has just bloomed in the Palm-house, probably for the first time in England. The type is represented by a figure in the *Botanical Magazine*, t. 3059 (1831), prepared, however, from a plant which then grew in Jamaica. The variety was figured and described as a species by Bentham in the *Transactions of the Linnean Society*, vol. xxiii., t. 52, 53. It has flowers fully twice as large as those of the type, and larger leaves. The Kew plant is about 15 feet high, well branched, and clothed with oblong leaves a foot long by 6 inches in width; they are bright sage-green, and when young are tinged with red. The flowers are axillary, and pendent on the young branches; the peduncle is 4 inches long, and the flower is composed of six segments, the three outer ones $\frac{3}{4}$ inches long, 1 inch wide, curved, wavy, and covered exactly like the labellum of *Oncidium papilio*; the three inner segments are pale

yellow, cordate, an inch wide, and incurved. The whole flower is totally unlike any other flower known to me. It is fragrant, and remains fresh on the plant about a fortnight. A figure of it has been prepared for the *Botanical Magazine*. The genus is composed of three species, natives of Central Africa, and it belongs to the order Anonaceæ.

Pitcairnia ferruginea.—This gigantic Bromeliad flowered for the first time at Kew in 1860, and it has bloomed there frequently since. The largest specimen was removed to the Temperate-house a few years ago, where, planted in a peat bed in a sunny position, it is quite as happy as it was when in the Succulent-house. The plant now in flower is in the latter house, and is a smaller example, which was once in the collection of the late Prof. E. Morren at Liège. It has an inflorescence 6 feet long, branched, and forming a panicle of long yellowish-white flowers. Its most striking feature, however, is the rich red-brown coating of short spines, which

the spring of 1888. A figure of it has been prepared for the *Botanical Magazine*.

Acacias.—Several specimens of exceptional size are now in full flower in the Temperate-house; there are also good examples of *A. armata* and *A. pulchella* in the greenhouse (No. 4). A considerable number of the cultivated species of *Acacia* are not seen at their best except when grown into large plants. Thus the following, which at Kew are from 15 to 20 feet high, are exceedingly handsome, viz.:—*A. verticillata*, *A. salicina*, *A. armata*, and *A. pulchella*. Large bushes of *A. retifolia* and *A. Drummondii* are also attractively in flower, whilst *A. strigosa*, *A. cordata*, and several others are pretty little pot shrubs. There have been *Acacias* in flower in the Temperate-house at Kew since January. Planted out in peat beds in a sunny conservatory, most of the species do very well and flower freely; they are nearly all powerfully fragrant. W. W.

VEGETABLES.

EARLY'S CURLED SPROUT.

In the absence of colour, we are not sure whether some enthusiastic florist might not think our illustration (fig. 78), was intended to represent an eccentric Hollyhock! It is not so, however; what it does show is a very promising new form of Sprouts raised by Mr. W. Earley between the Brussels Sprouts and the Curled Kale. Judging from the specimens sent to us, the new-comer has some excellent qualities. Its good looks well commend it to the exhibitor, its firm substance to the cook, its flavour to the consumer. In addition, Mr. Earley tells us that it is perfectly hardy, and the specimens he sent us recently quite bore out that statement.

HIGHBURY, NEAR BIRMINGHAM.

THREE is an extensive collection of *Cleaves* here, including some fine seedlings, and the following are now in flower:—*Distinction*, Marie Reimer, Mrs. Laing, robustum, Surprise, a very fine variety; some of Mr. Williams' seedlings, in addition to seedlings raised at Highbury, amongst the latter a very rich deep-coloured orange-red, named Mrs. Chamberlain, a superb variety.

Anthuriums are well-grown, and the original plant of *A. Chamberlainii*, growing in the rockwork of the fernery, is now furnished with spathes, as are also *A. Scherzerianum* and *A. magnificum*, the latter a grand variety, with very broad spathes $7\frac{1}{2}$ inches long.

The conservatory is bright with a grand lot of *Azalea mollis*, *Lilium Harrisii*, *Magnolia Soulangiana Alexandrina*, and a host of other plants. In the conservatory are three centre groups of plants planted out. In one is a superb *Musa ensata* planted three years ago, which has reached to the roof, and is showing a large cluster of fruit. The stem is 7 feet high and 6 feet in circumference at the base. In the centre group is a grand specimen *Chamærop. Fortunei*, 20 feet high, with other Palms around the base. In the third group is a fine *Areca paludosa*, 10 feet high, in fine condition, with smaller Palms, and *Canna Engelmanni* and *Hedychium giganteum* about the base.

The display of Orchids at Highbury, is just now of much interest, and the collection is in admirable health. The *Phalænopsis* in the double glazed roof house are in excellent condition. Amongst the most noticeable species now in bloom are *Cattleya Lawrenceana*, very rich and deep in colour; a very lovely variety of *C. Schroderae*, a *Cattleya Trianae*, very highly coloured; and *C. T. virginialis*. Amongst *Dendrobiums*, there are *Phalænopsis Schilleriana*, *P. aggregatum majus*, plenty of *Wardianums*, with one variety especially fine and with extra strong growth; and *D. Venus*, a hybrid betwixt *D. nobile* and *D. Falconeri*. Several plants of *Dendrobium Devonianum* and others are also in bloom.

A good example of *Chysis bracteescens* is a striking object, and some plants of *Ada aurantiaca* are con-



FIG. 78.—EARLY'S HARDY CURLED SPROUT.

clothe the whole of the inflorescence except the petals. The spines rub off easily, and are almost as irritating to the skin as the spines of the Cowitch—*Mucuna pruriens*. The leaves are a yard long, stiff, channelled, with strong brown marginal spines. The plant is a native of the Andes of Peru.

Capparis flexuosa.—This is one of several species of the large genus *Capparis*, which are cultivated for the sake of their handsome flowers. It is a stout, erect shrub, about 1 yard high, with stalked, lanceolate leaves, a foot long, and a terminal erect inflorescence 6 inches long, bearing a cluster of about twenty flowers, the petals of which are green, and reflexed, so as to appear like a flat disc, from the centre of which spring numerous stamens an inch long, white, rose-purple at the base. According to Lemaire, in the *Jardin Fleuri*, where there is a figure of this plant, t. 303, it was introduced from the woods in the neighbourhood of Rio de Janeiro in 1850, and flowered in 1852. It is now flowering in the T range at Kew. I saw some very fine examples of it in flower in the Brussels Botanical Gardens in

spicuous with their drooping racemes of rich orange-scarlet flowers; a fine plant of *Lycaste plana*, has fourteen blooms upon it, and a specimen *Dendrobium vexillarium*, very deep in colour; and *D. Falconeri giganteum* with blooms 4 inches across, as well as a *D. Findlayianum*, a lovely pale coloured kind with a rich orange blotch on the lip, are all very beautiful. There is a good collection of *Madevillias*, *M. Harryana* being conspicuous amongst these just now. Some fine plants of *Odontoglossum Roezlii* and *O. citrosum*. Many others are in bloom in the numerous houses devoted to Orchids. *D.*

VARIORUM.

THE CULTIVATION OF COFFEE IN EAST-CENTRAL AFRICA.

"An interesting book has lately been published, entitled *The Martyrs of Blantyre*. The three 'martyrs' were Henry Henderson, Dr. John Bowie, and Robert Cleland, of the Church of Scotland Mission there. Henderson was a son of the manse of Kinclaven, Perthshire, and all three died less than a year ago, within a period of three months—the first deaths that had up till that time occurred in the staff of the Mission during its fifteen years' service. The story of the history of the Mission is told in the book, and the following interesting passage, as having reference to Muthill men—Messrs. Buchanan and Duncan—is worth quoting:—

"Very interesting is the story of four little slips which Mr. Duncan, the gardener, took out with him from the Botanic Gardens in Edinburgh—one Tea and three Coffee plants. If these would grow, how much it might mean for the new country! Carefully they were tended, and anxiously watched and watered; and we can understand with what feelings those who watched them saw first one, then another, then another of them die. Only one little tiny struggling slip was left, and it looked as if it were to die too; but it didn't—it lived; and that one little slip has grown into the Coffee plantations, not only of the mission at Blantyre, but of Buchanan Brothers at Zomba, of the African Lakes Company at Mandala, and of Messrs. Sharrer, Duncan, and others, till in this year (1891) we learn that the Messrs. Buchanan have in their plantations alone 1,000,000 Coffee plants, and that the highest price quoted in the London Market for the season has been for this very Shiré Highland Coffee! That little tiny slip, so feeble-looking, and once so nearly dead, yet so marvellously fruitful, is a fit emblem of the Mission itself." *Strathcarr Herald*.

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

THE ORCHARD HOUSE.—The fruits of Cherries and Plums, when the crop is a heavy one, must be thinned in accordance with the apparent ability of the trees to bring them to maturity, and of a presentable size. The lateral growths of Plums must be stopped when they are 2 inches long, and the plants syringed twice daily. Employ phosphates and some manures containing nitrogen when watering the plants which are bearing heavy crops of fruit. Free fruiting varieties of Pears in a promising condition, will also be benefited by root stimulants, and a few of the smaller fruits being removed when it is seen which are likely to swell the best. These trees, too, may be syringed in the afternoon of fine days. The setting of Apples may be aided by gently shaking the plants in the middle of the day when the pollen is dry, or the flowers may be brushed over with a rabbit's tail. At this stage the atmosphere surrounding the trees should be kept dry, and for this reason the different sorts as well as varieties of fruits are best arranged in their respective sorts and according to their times of flowering. The borders in which the pots are placed or the plants growing should not suffer lack of water, and a sharp look-out must be kept for aphids, which should they appear on the shoots must be destroyed by fumigation with tobacco or

some of its preparations two or three nights in succession after the plants have passed out of bloom; but as it sometimes happens that Plums and Cherries become infested with black or green fly before the Apples and Pears have finished flowering, some means of fumigating the trees must be adopted; or tobacco water in a diluted state, but still fairly strong, may be made use of on four or five consecutive nights, and the plants washed with clean water the morning following. Medicated tobacco paper is one of the safest and most effective kinds to apply. Admit air freely to the house at all times when there is neither frost nor cold dry, cutting winds.

FIGS in pots, and when only a limited number are forced at one time, may have their shoots stopped beyond the fifth or sixth leaf, but in houses of moderate size well filled with trees growing in borders, this operation may be performed on certain proportions of the shoots once a week. By thus deviating from the usual course, and adopting this system of only pinching a few shoots at a time, the time during which a supply of ripe fruit may be had will be extended, and the plants be less checked, and the demand of the crop on resources of the trees spread over a longer period, and severe in none. Plants in narrow borders and bearing heavy crops, should be liberally supplied with water, and a certain amount of warmth at the root, and a steady temperature maintained in the house, both of these factors being of importance. It should be remembered that violent changes from heat to cold will cause the fruit to drop, and a cold border will tend to the same result. The temperature may be 65° to 70° at night in warm weather, with a fall of a few degrees when it is cold, which will suit all plants that were started at the new year, if given a moisture laden atmosphere in the daytime.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Peirce Gardens, Swansea.

CAMELLIAS.—Plants which have finished flowering, if they have become thin in the branches, should now be cut hard back (not into very old wood, that being best done in October), and if the roots are in bad condition, the plants should be turned out of the pots or tubs, the soil removed in great part, the ball dusted over heavily with sharp sand and repotted in fresh compost, using pots of a size smaller than those they previously filled. The drainage must be good and in sufficient quantity, Camellias not liking to be disturbed annually. Rich fibrous loam, with sufficient sharp sand to keep the whole porous, suits them, but heavy loams should have one-third of fibrous peat added to every two parts of loam, and sharp sand in proportion. After repotting, stand them in a house having a genial atmosphere, not exceeding at night 58°, and syringe them twice daily with tepid water. The watering of the soil must be carefully done for some weeks, so as not to cause soddening, which is apt to occur in the period that elapses before many new roots are formed. Plants in large tubs should have the surface soil taken away down to the roots, and be topped dressed with good fibrous loam, to which a sprinkling of Thomson's manure has been added, and the whole made firm with a rammer. Whilst the plants are growing, Thomson's Manure is very beneficial to old Camellias, as is also weak soot-water. Keep the plants free from scale and mealy-bug, and clean the foliage by sponging it with water, or dry rubbing it. Use a light shade over the plants during bright weather when the plants are making growth.

SOLANUM CAPSICASTRUM.—Cut-back plants which are breaking, may be shifted into pots two sizes larger than those they are in, and be grown on in a close pit for a few days until they get established, when air may be afforded them in increasing quantity. Solanums grow well in a compost consisting of two parts of rich loam, and one part each of rotted dung and leaf soil and some sand. Solanum cuttings put in during the spring should be potted singly, when rooted, and afforded a light rich soil, keeping them close till they have formed fresh roots, and when the pots are fairly filled with roots give them a shift, their final one, using 5 or 6-inch pots, and the same kind of soil.

IPOMÆA MORFALLIÆ.—When choosing cuttings of this plant select those shoots which are firm and of three or four joints in length. Place these singly in well-drained small pots of sandy soil, surface

with half an inch of sharp sand, place the cutting pots under a hand-glass or bell-glass in the stove, and when the end of the cuttings has become callused, remove the pots to a propagating frame, with a bottom heat of 80° to 85°, keeping them close the while, shading them in bright sunshine, and not allowing them to flag. A good compost for established plants of this species of *Ipomœa* consists of equal parts fibrous loam and peat, with a liberal addition of sharp sand.

THE ORANGERY.—To have Oranges, Citrons, Lemons, Shaddocks, &c., fit for use, the plants should be grown in a higher temperature, than that in which they are generally cultivated, that of the intermediate-house being the most suitable for them. In the case of plants which have for some years been left undisturbed at the roots, the soil is sure to have got impoverished and sour, the plants should be turned out of the pots or tubs and have much of the soil cleared away, also cutting back decayed roots and repotting them in fresh soil. If many roots have been lost owing to the bad state of the soil, smaller tubs or pots should be made use of, and these should be clean, and in the case of the former, if of wood, the inside should be charred. As a potting compost, turfy loam, burnt earth, leaf mould and a fair proportion of sharp sand make a suitable one for all the Citron tribe. If the loam be heavy, or burnt earth be not used, some rough fibrous peat should be mixed with the compost. A bottom heat of 75° is of use in encouraging root action in plants with but few roots, and without plenty of roots healthy top growth is not possible. Syringe the plant once a day whilst growing, and keep the house moderately moist, shading the plants with a thin screen when the sun is powerful. Any that may require larger pots or tubs may also be repotted now. Great care must be taken to have good drainage, and to have the top covered with lumps of loam or peat make it impossible for the finer particles of soil to get amongst the crocks. Brown and white scale and mealy-bug are often troublesome, so that the plants will require watchfulness to clear them of these insects, which increase fast in warmth.

CONSERVATORY AND GREENHOUSE CLIMBERS.—When the borders have got exhausted, the work of renovation may be taken in hand at this season, so that the plants may have a long period of growth. Climbers in these structures have, in some instances, but little direct sunlight, owing to the shade thrown by neighbouring plants, and it becomes necessary to plant only such creepers as have attained to good size, or progress will be slow and unsatisfactory. In narrow borders, good drainage and the best of soil being essential to success, and these should receive attention. The composts in which the different subjects are grown should be moderately rich, but the use of much manure is not to be advised, it causing a too luxuriant growth for a time, and it is better to give annual top dressings and manure water while the plants are in active growth. Climbers are important features in the conservatory or greenhouse, which make it the more needful to have them in the best condition. Those which are grown in pots, and are already large enough, should be assisted every fortnight or three weeks with weak manure water or some well tried fertilizer, and the old soil picked out down to the roots and replaced with new. Any which require more root space may now be repotted. Keep all creepers clear of mealy-bug, thrips, brown and white scale.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

HOLLYHOCKS.—This back-row border plant is not cultivated so extensively as was once the case, yet few herbaceous plants are more useful in certain positions, or give better returns for good and generous treatment. Given a piece of well-manured, deeply dug ground to grow in, and mulching the plants as soon as planted and watered, and supplying water freely during very dry weather, the results are most satisfactory. It may be planted in groups of mixed colours in the pleasure-grounds, dotted among shrubs in the shrubberies, or planted in large beds intermingled with *Fuchsias*, on a ground-work of *Phlox Drummondii* or blue *Viola*, with plants of the striped Japanese *Maize* and *Salvia patens* near the outside, and edged with *Tom Thumb Dahlias*; the effect produced is very telling. Young plants raised from seed sown in January, and potted singly into small 60's as soon as large enough, and grown steadily on, afterwards shifting them into small pots of a light rich compost, which should be kept uniformly moist,

and syringed overhead twice daily with tepid water, are now at this date well established, and in process of gradual hardening off. Plants treated in this manner grow and flower very well, and keep free from rust. I may remark that my plants are afforded weak liquid manure whenever water is needed. Where strong plants raised from cuttings or potted-off offsets are available, they should be planted out as soon as a favourable change in the weather occurs, and the soil made moderately firm about them, affording water, and mulching as advised above.

LILIUM AURATUM, ETC.—Bulbs of *Lilium auratum* and other species which were started in pots with the intention of transplanting them into the herbaceous borders as soon as the weather permitted, should be planted among other plants whose height ranges from 2 to 4 feet. When planting the bulbs, sifted light soil and leaf-mould should be placed around them and made firm. A spray or two of evergreens stuck round about each bulb or group of bulbs for a few days will preserve them from injury by strong sunlight. A mulch of short manure or leaf-mould may be laid on the soil over the roots and nearly close up to the stems.

FRAME GROUND.—See that all plants of *Pelargoniums*, *Verbenas*, *Lobelias*, *Ageratum*, *Calceolarias*, *Leucophytums*, &c., being hardened in frames and pits, as well as those still in growing temperatures, are kept well supplied with water at the roots. The propagation of *Alternantheras*, *Golden Feather*, *Lobelia erinus*, and *Cannas*, should be pushed on with despatch; also the pricking off and potting of the same, following previous directions in regard to these operations. Shift seedling *Ricinus*, *Cannas*, *Melanthus* major, *Tobaccos*, and other sub-tropicals, into larger pots, using rich soil and good drainage. Keep all of the above in the warm-houses, to promote quick growth.

THE ORCHID HOUSES.

By H. A. BURBERRY, *Orchid Grower, Highbury, Birmingham.*

THE MEXICAN-HOUSE.—*Barkerias*, although not largely grown, are pretty and useful as autumn and winter flowering plants, and they are of easy growth and flower well if rightly treated. They should be grown in shallow pans or wooden baskets, supported on sphagnum moss, and the receptacles suspended in full sunshine, and an abundance of air allowed to circulate round them. The roots of *Barkerias* rarely go down into the moss beneath them, but grow as aerial roots. After the flowering season is passed, the plants should be kept very cool and dry, only having water supplied them occasionally till March, when the water supply may be increased; and now that the young growths are pushing forth, and until these have finished, copious supplies of water are necessary. Yellow thrips are sometimes troublesome on these plants, but these can be quickly dislodged with tobacco-water, as they do serious injury to the young growth, and often ruin the flower-spikes which come out from the apex of the young pseudobulb. *Barkeria Lindleyana* and *B. Skinneri* are, I think, the species that are the best and richest in colouring, but when well grown, all are pretty. The other occupants of the Mexican-house, which are those that require the greatest amounts of sunlight, and a buoyant atmosphere, are now generally becoming active, and new roots pushing freely into the compost. If cockroaches are troublesome, Chase's Beetle Poison should be employed to destroy them. I use but little shading, if it can be avoided, for these *Orchids*, but as mentioned in my last Calendar it is sometimes preferable to shade plants, and is the lesser of two evils.

THE INTERMEDIATE-HOUSE.—*Odontoglossum Phalaenopsis* is an *Orchid* not always found in the most luxuriant health, although one may sometimes find it growing freely. The warmth and conditions of this house suit it, but I have had it growing well in the cool-house during the summer months, removing it to a warmer house to pass the winter; but, on the whole, the intermediate-house may be said to be its proper place. It is best placed in sphagnum moss and peat, in pans, and placed near the roof, affording it during the summer a liberal supply of moisture, and it enjoys being syringed overhead; but in the winter, this syringing must be discontinued. Like *Odontoglossum vexillarium*, it is safer to keep the plant on the dry side, or the tips of the leaves will turn black. *Oncidium concolor*, *O. Marshallianum*, *O. curtum*, *O. varicosum*, and similar varieties are best grown at the cooler part of this house, well up to the light.

THE EAST INDIA - HOUSE.—*Odontoglossum Roeblii* requires a moist position and a good amount of warmth, syringing it overhead occasionally, but the compost in which it is planted should not be kept in a saturated condition. The *Calanthes* are making strong growths, and must be watered very carefully for the present, as overmuch water now would probably mean failure. *Dendrochilums* (*Platyclinis*) I find to grow very freely in this house if potted in peat and sphagnum in well-drained pots, and they will take a good supply of water when growing. *Aganisia cyanea* is also best suited here, and should be grown on a Teak raft; the same treatment will apply to *Broughtonia sanguinea*, a plant of which is now in flower.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, *Gardener, Mereworth Castle, Maidstone.*

PEACH AND NECTARINE TREES.—These trees will have made good progress, and in the warmer parts of the country set their fruits. Where the growth is forward enough, disbudding should be commenced and carried on at intervals, at first only removing just so many as will not check the fruits. In doing this, it is good practice always to make sure that one shoot exists at the base of all of last year's shoots, and if it be on the upper side of these, it will be easier to train the resulting shoot into its proper place when it becomes long enough to allow of this being done, these new shoots being the fruit-bearers of next year. Others should be left at about 4 inches apart, the leading shoots laid in at their full length, except when the allotted space is filled, when the point must be pinched out, the shoot at its base subsequently taking its place at the end of the season. These leaders, if weak, may be stopped at intervals all over the tree, so as to induce them to make better wood for another year. Much care is required in disbudding, so as to preserve an even balance in the branches, and not to let one part of a tree grow at the expense of another. For this reason, disbudding should take place first at the upper part of the tree, as it is here that the shoots begin to grow. Always begin to thin the shoots betimes, and avoid wholesale thinning, which frequently leads to the loss of the fruits when they are about the size of Peas.

WALL-FRUIT TREES.—Although most trees on walls started in favourable weather, and at one time looked full of promise, the frosts which occurred first on the night of the 15th, and have continued up to the time of writing, have killed most of the bloom, and it is very likely that the fruits that were set and the flowers that were expanded will fall off; at all events, the present outlook is a gloomy one. Those who have good blinds and glass-cupping for their trees may have escaped in part, especially where blinds are in use, as these may be lowered and drawn up on occasion. For the present, and as long as the inclement weather lasts, little work can be undertaken, unless it be the staking and securing of recently-planted fruit trees and bushes. In fastening standard trees, precaution should be taken against any injury to the bark by friction, by employing some soft material as a pad between stake and stem. The proper labelling of the trees should not be forgotten, the nurserymen's parchment labels soon getting illegible. Gooseberries and Currants that were in flower likewise suffered from frost. The contrast observed on April 16 between the deep green colour of the leaves and flowers and the snow is one which, luckily, is rarely seen, and I have not seen before in my twenty-three years' experience. On each night, since that date, we have had from 7° to 9° of frost.

APPLES.—There is still room to hope that a good crop of fruit will set, the flowers not being open in this part of the country, and nearly every variety is full of fine strong flower buds, in fact, a better promise could not be desired, and the trees, moreover, are clean, and free from insects.

THE FRUIT ROOM.—This place should be thoroughly cleaned out as soon as it is empty, the walls whitewashed, the shelves and tables scrubbed, and everything put in order for the season. Full ventilation should be afforded, if convenient. If fruit stores are to be built, it should be remembered that Peas acquire their best flavour if the store be kept dryer and warmer than that where Apples are stored, the latter keeping best and longest if frost be merely excluded, and the place is somewhat damp.

THE KITCHEN GARDEN.

By G. WYTHES, *Gardener, Syn House, Brentford.*

PEAS.—These crops should have close attention in the matter of sowing seeds regularly, if the supply of green peas for the table is expected to last the whole season. Another matter that must not be overlooked is the watering of the plants, and afterwards mulching them in dry warm weather. Peas cultivated in trenches prepared as for Celery rarely fail to produce heavy crops of fine Peas. For sowing about this date, *Champion of England*, *Criterion*, *Prodigy*, and *Veitch's Perfection* are excellent varieties, to be followed a month later by *Ne Plus Ultra*, *Success*, and *Walker's Perpetual*. Late sown seed takes but little time to germinate at this season, and thinner sowings may therefore be made. The rows may also be so arranged that other crops may be taken in the between spaces. *Ne Plus Ultra*, and others that grow as tall, need not be provided with very long sticks, as when the haulm is 4 to 5 feet high it may be topped. Early kinds should have sticks put to them as soon as they are well through the soil, previously moulding them up and dusting them with dry soot if the weather be showery. This early sticking of the rows protects the plants from the ravages of birds and from wind; and even varieties that grow but 1 foot high are the better for a few twigs being placed alongside of the rows, the pods being thus kept clean and more readily gathered.

ASPARAGUS.—The beds should have been raked over and all large stones and clods removed before any Asparagus shoots appear above ground, the alleys being also made tidy. New beds may now be planted, growth having commenced. Asparagus seed may be sown if not already done, sowing it thinly.

FRENCH BEANS.—Plants raised in pots in cold frames may now be transferred to a spot on a south border, planting them in rows, and covering them with frames or hand-glasses for a time, at night. When planting these Beans, a light soil, siftings from the potting-bench, or the like, should be strewn about their roots, the latter being made firm by pressure of the hand. Beyond affording them a light watering after planting, little water will be required for some time. Sow seeds of *Mohawk* or some early variety for succession, and again in a fortnight *Ne Plus Ultra* and *Canadian Wonder*, the latter coming into use after the former. Another sowing may still be made for indoor supply, this time sowing *Canadian Wonder*. The seeds may be sown in larger pots than hitherto, and be placed in frames which should be carefully aired, and the points of the Bean stems pinched out to induce early podding.

BROAD BEANS.—Sow on a cool border *Broad Windsor* or *Longpod* in rows, single or double, 3 or 4 feet apart.

SPINACH.—Sow on a cool quarter or border which is richly manured a few rows at fortnightly intervals. The *Victoria*, round-seeded, is one of the best Spinaches I have grown for summer consumption.

ONIONS, if for pickling or using whilst small, may now be sown on well-trodden soil, and rolled or trodden afterwards. The hoe should be in constant use amongst the rows of early-sown Onions, Parsnips, and other crops to kill weeds and stir the soil. Vegetable Marrows may be sown, choosing *Pen-y-Byd* and *Long White*, placing three seeds in a 4-inch pot, getting the plants up quickly, and hardening them off in a cold frame before planting them out in May. Nothing is gained by starving Marrows in pots, as is often done before planting, but when ready they should be planted out on a warm bed and protected with glass for a time. This vegetable well repays frame cultivation, and *Pen-y-Byd* is an excellent variety for frame culture.

RIDGE CUCUMBERS.—If these are grown, seeds may be sown in the same manner as Vegetable Marrows, planting them out at the end of next month.

TOMATOS which were sown for growing in the open air should be repotted, using more loam in the compost at this shift, and keeping the plants near the light in an intermediate-house. Another sowing in heat may be made for the main crop in the open air.

CAPSICUMS for fruiting in frames or on hot-beds in the open should be sown, and grown in heat for a time, hardening them off before fully exposing them.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 51, Wellington Street, Covent Garden, London. Communications should be written on one side only or tree paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

TUESDAY, APRIL 26.—Manchester Royal Botanical Society.

WEDNESDAY, APRIL 27.—
 { Royal Botanic Society.
 { Northern Botanical and Horticultural (two days).

SALES.

TUESDAY, APRIL 26.—
 { Odontoglossum crispum and other
 { Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, APRIL 27.—
 { Palms, Ferns, Begonias, &c., at
 { Protheroe & Morris' Rooms.
 { Slove and Greenhouse Plants, at
 { Milford Hill, Salisbury, by Protheroe & Morris.

THURSDAY, APRIL 28.—
 { Orchids at the Orchid Nursery,
 { East Dulwich, S.E. by Protheroe & Morris.

FRIDAY, APRIL 29.—
 { A new Orchid, Cattleya Alexandro,
 { from Messrs. Liden, Brussels, at Protheroe & Morris' Rooms, at 12.30 P.M.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—50°.

Fruit Culture.

POSSIBLY one of the first and not the least useful results of the technical education lectures on this and other horticultural subjects, now being given under the auspices of county councils in various parts of the country, will be the breaking up of the general monotony of practice that prevails in this most important industry. It matters little where you go—to London, or a hundred miles around it in almost any given direction—fruit-gardens and orchards are very much alike; the heights and sizes of the trees and their distance apart vary considerably, but standards on the Crab, sub-cropped with Gooseberries or Currants, are still the prevalent rule. And this monotony of practice seems less the result of prejudiced adhesion to stereotyped practice than to a general absence of knowledge of other methods. After all that has been written and illustrated about pyramidal, bush, single or multiple cordons of various forms, such as the diamond, spiral, &c., and the value and importance of dwarfing or fertile stocks, such as the Paradise, in hastening and heightening fertility—the general public seems profoundly ignorant of most of these things. Not, however, that they are unwilling to learn, or indisposed to try new methods, or forms or sizes of trees; quite the contrary. In lecturing over a rather wide area on fruit culture within the last few months, nothing, one of the lecturers tell us,

excited more interest than drawing illustrations and thorough explanations of the mode of producing such forms of trees, and others of which opportune illustrations were given on pp. 458, 459 of the *Gardeners' Chronicle*. These were also supplemented with specimens of maiden trees on dwarfing stocks, illustrating their rapid progress for growing shoots with full fruit-bearing spurs and branchlets.

Naturally, samples of early fertility had a special interest for audiences largely composed of those that live out of the proceeds of their orchards, and there seemed a willingness to test other forms and sizes of trees and different modes of culture and training, at least on a small scale. And this is all that is desirable for the present. Changes so vitally affecting the lives and prosperity of large classes should be introduced tentatively. Travelling through various fruit districts, one is constantly hearing of returns ranging from £30 to £100 per acre for the present head-crop of Apples, Pears, Plums, Cherries, and ground crop of Gooseberries, Currants, Raspberries, the latter occasionally sandwiched, though less now than formerly, with Strawberries.

The practical question then amounts to this: Can we improve such returns by growing smaller trees on dwarfing stocks, that hasten as well as heighten fertility? And the answer is less simple than it seems, since the discovery of root-pruning. This practice still seems but little understood and less practised by the majority of orchardists, nevertheless, skillfully practised root-pruning goes a long way to bring the Crab stock up to the high fertile level of the Paradise or other stocks; and in the exact ratio in which root-pruning intensifies the fertility of the Crab, it checks or suppresses its capacity for wood-making. Both are vitally important in various ways, but chiefly in enabling more Apple trees of smaller size on the Crab to be grown in a given area. Root-pruning is, in fact, but another and a clumsier method of dwarfing such strong-growing stocks as the Crab and the seedling Pear, and it acts in a similar way, though hardly to the same extent towards the augmentation of the yield per acre. Surface-rooting stocks, with a multiplicity of fibres, hasten and heighten fertility in virtue of their natural characteristics. Imagine vertical rooted stocks as the Pear and the Crab pruned into horizontal form and fibrous character, hasten, and heighten fertility in virtue of their change of form and of character. Hence, while the Paradise or common stock is naturally the best and most fertile for the growth of cordons and other small Apple trees, these can also be grown on the Crab or other Apple stock under a skilful system of root-pruning.

While believing that by doubling or trebling the root force in orchards, by growing twice or three times as many trees per acre, and also through doubling the average ratio of fertility, and greatly raising the quality of our fruits, greater profits would be realised, yet there is no pressing necessity for any general or wholesale clearance of old orchards, with a view of planting others with pyramids, dwarf bushes, or cordons.

It will be better, safer, and in the end far more successful to run the two systems abreast, and let the more profitable win the day, and occupy the greater breadth of our fruit ground. Meanwhile, there are thousands of waste nooks and corners around every cottage and farm throughout the country, thousands of acres of railway embankments, and any number of waste walls and fences that could be clothed and filled with cordon bushes or pyramidal Apples, Pears, Plums, Cherries; and few gardens or or-

chards that might not be fenced around with multiple cordons or espaliers, the walks being edged with single, double, or diamond cordons. In almost every cottage garden-allotment, small holding, and farm garden, space might be found for a dozen or score, fifty or a hundred of small fruit trees—in fact, to such great length has the hastening and heightening of fertility, and the concentration of fruit-bearing force been carried, that it is hardly an exaggeration to write that every yard of ground may support its fruit-bearing tree. As one practical result of the technical education lectures on horticulture, active efforts are being made to establish fruit-tree clubs to enable labourers to purchase the best varieties at wholesale prices, and to pay for them at the rate of a penny a week or more, as they can afford.

One objection raised against the planting of orchards with small trees, is that it would prevent the sub-culture of Gooseberries and Currants. This in the end might prove a gain to both fruits. But, without staying to argue the point, it may prove useful to point out enormous areas for the cultivation of Gooseberries, now wholly usurped by unprofitable plants. These are the White Thorn, Black Thorn, or other hedges between arable fields or farms; they are mere boundary lines, not needed to resist the ingress of stock. A tithe of these boundary-lines planted with Gooseberries, and many of these, such as the Warrington, are well-furnished with spines, would give a hundred times more Gooseberries than all the orchards and gardens now furnished with this crop.

Of course, an outcry will be raised against the birds and the boys. But with the fruit grown in this wholesale way in hedges, the raids of both would hardly be felt. Besides, fully half, perhaps three-fourths, of all the Gooseberries grown in England to-day are gathered, bottled, and eaten green. It is most encouraging to those who have long been engaged in various ways in the extension and improvement of fruit culture, to note that the committee of the International Fruit Show on the Thames Embankment next September purpose offering special prizes for collections of fruit trees in fruit, in pots, dishes, or baskets of hardy fruits artistically arranged, and of English market fruits, including Tomatos and Cucumbers. But this most important class, from a practical and pecuniary point of view, will probably prove to be that of the nurserymen's collections of fruit trees, showing the various types and modes of training for the several purposes with a view to enhance the educational value of the exhibition. In every case it is desirable that the character of the stock and of the root culture employed should be specified, as well as the age of the trees from the date of the budding and grafting. An exhibition of fruit-tree stocks of different sorts, sizes, and ages, root-pruned or otherwise, showing the effects of constitution and culture, would prove of much value to cultivators, and of great interest to the general public. The roots might be preserved fresh in clean water, or by means of frequent sprinklings. But to derive anything like the full technical or practical instruction from an exhibition of fruit-tree stocks that it is capable of affording, the whole plant and especially the number, size, and character of the roots, must be open to inspection. For it is in and through the roots far more than by any of our many methods of top-pruning, training, or special culture, that the foundation of early and permanent fertility is well and truly laid.



FIG. 79.—*PRUNUS DAVIDIANA*, THE PRESUMED SOURCE OF THE CULTIVATED PEACH. (SEE P. 530.)

PRUNUS DAVIDIANA.*—Among the most striking plants exhibited in the early spring months before the Royal Horticultural Society by Messrs. VITCH was the above species, both in its pink and in its white form. Of the latter we give a figure on p. 529, fig. 79. The plant was first described by M. CARRIÈRE so long ago as 1872. M. CARRIÈRE recognised that it was distinct from existing Peaches and Apricots, and this opinion has been upheld by M. FRANCHET. The great value of the plant for garden purposes consists in the early date at which it flowers, it taking precedence in this respect of the Almond. Of its beauty those who saw the specimens in the Drill Hall can warmly testify; and the Abbé DAVID, who introduced it to Europe, speaks of it as lighting up the country in the neighbourhood of Pekin in the spring. As a fruit tree it is of no importance, unless, as there is good reason to suppose, this may be the prototype of our cultivated Peaches. M. CARRIÈRE appears to be "writing sarcastic" when he says, "Il diffère tellement par son écorce et par son aspect, que pas un praticien serait ce même un *Pichieriste* ne le prendrait pour un Pecher, surtout lorsqu'il est dépourvu de feuilles." As to the Chinese origin of the Peach, the reader should consult the very interesting arguments of M. A. DE CANDOLLE, which he will find summarised at p. 221 of the *Origin of Cultivated Plants*, English edition (1884).

HORTICULTURAL CLUB.—The usual monthly meeting and *conversazione* took place on Tuesday evening at the Hotel Windsor. There was a large attendance of members and visitors; and amongst those present were Mr. J. LEE, who occupied the chair; Dr. Masters, Messrs. Wallis, Selfe Leonard, H. Pearson, C. E. Pearson, A. J. Pearson, Martin, Marshall, Soper, Cheal, H. E. Milner, H. Turner, Rivers, Crowley, Drury, Cockett, Cousens, H. Williams, Cutbush, Phippen, and James Laing. The discussion was opened by an address by Mr. H. E. Milner on "Landscape Gardening," and elicited warm approval. The point, however, on which most of the discussion afterwards turned, was the opinion expressed by Mr. Milner, that the opinion generally held, that a house situated on clay must be necessarily unhealthy, must be taken with limitation, as well as that in which he contended that the principle of landscape gardening might be carried out even in small villa gardens. A vote of thanks was cordially awarded to the lecturer, and also to Mrs. Harry Turner, for a beautiful basket of *Niphetos Rose*, which she sent to ornament the table.

THE GARDENERS' ORPHAN FUND.—The annual dinner will be held at the Hôtel Métropole, on Tuesday, May 17, 1892, Sir JAMES WHITEHEAD, Bart., in the chair. The president is Sir Julian Goldsmith, Bart., M.P.; treasurer, T. B. Hayward, Esq.; chairman, W. Marshall, Esq.; and hon. secretary, A. F. Barron, Royal Horticultural Society's Gardens, Chiswick. We shall be pleased to receive and transmit any amounts that may be forwarded to us for the benefit of the charity.

NOTTS HORTICULTURAL AND BOTANICAL SOCIETY.—The annual general meeting of the members of this Society was held on the 5th inst. in the Exchange Hall, Nottingham. Mr. E. BARBER, the chairman of the committee, presided. The chairman presented the tenth annual report. The various exhibitions and meetings under the auspices of the Society were referred to, and it was stated that the Society had sustained considerable loss by the death of several of its oldest members. The balance showed that the income had amounted to £230 7s. 8d., £82 1s. having been received in subscriptions, and £54 10s. 6d. from the excursion to Eaton Hall. The expenditure reached £229 9s. 10d., leaving a balance in hand of 17s. 10d. The sum of £48 18s. 6d. was paid for prizes, £31 6s. 8d. went in show expenses, and the excursion to Eaton Hall cost £82 0s. 6d.

* *Prunus Davidiana*, Franchet, *Plant. David*, part I. (1884), p. 103; *Prunus Davidiana*, Carrière in *Revue Horticole* (1872), p. 75, fig. 10.

STEIN'S "ORCHIDEENBUCH."—Mr. PAUL PAREY, of Berlin, is about to issue, in ten parts, a work on the description and cultivation of the Orchids most worthy of cultivation. The work will be entrusted to the highly capable hands of Mr. STEIN, of the Bresslau Botanic Garden. As regards the botanical characteristics, Mr. STEIN follows the system of Professor PRITZER, of Heidelberg.

TERCENTENARY OF THE BOTANICAL GARDEN OF MONTPELLIER.—In 1593 HENRY IV. sanctioned the formation of a garden and of a professorship of botany in this city. This event will be commemorated next year, on which occasion the Botanical Society of France will hold a special session at Montpellier.

FREEMANTLE AND DISTRICT GARDEN PROTECTION SOCIETY.—The fourth annual meeting of this society was held on Tuesday evening, when Mr. PESCON, the president of the society, occupied the chair. The very fact of the existence of this society, said the president, had acted as a deterrent to many would-be garden robbers, because they know full well that the society would not hesitate to prosecute, however small the value of anything stolen from a garden might be.

SEVERE WEATHER IN FRANCE: GREAT DAMAGE TO FRUIT TREES.—The *Daily News* telegraphs:—An icy wind has been blowing over Provence for some days. The fruit trees having blossomed early, the prospect of a fine crop is at an end. The probable loss to the fruit gardeners is estimated at millions of francs. The Vines of the Loire are as if scorched by the hard frosts which succeeded the summer weather of the beginning of the month, and the consequent splendid burst of vegetation. Our neighbours, then, have been no better off than ourselves.

"THE AMERICAN FLORIST COMPANY'S DIRECTORY."—Those of our readers who have business relations with the United States and Canada, should become possessors of this useful directory of florists, nurserymen, and seedsmen. A third edition has just been published by the American Florist Company, of Chicago.

BATH.—We regret to read that the Sydney Gardens, Bath, established about 100 years ago, have proved so unsuccessful that the Company under whose management they were has been wound up.

LYNN HORTICULTURAL SOCIETY.—This Society, as Mr. HAMPTON, the secretary, informs us, has now fixed the dates of their annual shows as follows:—Rose Show, June 29 and 30; Summer Show, August 17; and the Chrysanthemum Show, November 10.

AMATEUR GARDENERS' ASSOCIATION.—The effort inaugurated in the middle of February to establish in Liverpool a branch of the National Amateur Gardeners' Association has been attended with a gratifying measure of success, over eighty members having been enrolled. Professor HARVEY GIMSON is the President of the branch. At the monthly meeting held in the Common-hall, Hacksinney, Mr. DAN. E. YATES, one of the Vice-Presidents, occupied the chair, and a paper was contributed by Mr. JAS. SMYTH on "Our Advantages and Possibilities." He pointed out that up to the present time the existence of amateurs had almost been ignored at flower shows, and one of the benefits of the Association would be that it would endeavour to obviate some of the disadvantages which impeded the path of the true amateur, and also prevent flower shows, if organised by florists, degenerating into mutual reward societies. Something, too, might be done as to the interchange of plants and cuttings among the members by the formation of what might not inappropriately be termed a plant clearing-house. There were also the questions of obtaining a special rate of tariff for seeds, and the right of tenants to remove their greenhouses. In all these things he need not remind them that union was strength. Alluding to the possibilities, he said

that amateur gardeners should study to be artists, as well as mere plant growers. The Association might be able to do something to improve the channels by which fresh flowers could reach the poor and the suffering in our great institutions, and he trusted that during the winter months steps would be taken to hold classes on subjects appertaining to horticulture.

ORCHIDS AT BRUSSELS.—Another variety of *Odontoglossum Ruckerianum* is in flower in M. PEETER'S houses, quite uncommon and of a peculiar rosy-lilac colour. The two inferior sepals have a rosy ground spotted with brownish-red, clearer at the base, with large spots also of brownish-red; the third sepal less deep, similarly marked, the two petals larger than the sepals, the edges wavy, bordered with white, and with smaller spots of the same colour, the lip is white deeply spotted with brownish-red. The numerous flowers are large, and form a close cluster. *Cattleya porphyrochloa* (C. *intermedia* × *superba*), from Messrs. VERRIER, has two large and fine flowers more than 5 inches across, the lip is about 2 inches wide, white flushed at the tip with bright purple, the rest of the flower rosy-lilac, an excellent hybrid. *Odontoglossum Warscewiczii*, from Costa Rica, very rare in Belgium. *Cypripedium Winneanum*, Rehb. (C. *Druryi* × *villosum*), still rare, resembles both parents, the long central streaks of *villosum* much marked, so are the size, colour, and glossiness of the flowers. *Cattleya Lawrenceana*, excellent in depth of colouring; in this respect one of the finest specimens that we have seen.

DISEASES OF MELONS.—In the current number of the *Journal de la Société Nationale d'Horticulture de France*, M. PRILLIEUX describes a species of ulceration, or rot, very destructive to Melons, and which he attributes to the action of a fungus, with the horrible name of *Scolecotrichum melophthorum*. M. PRILLIEUX recommends the use of copper-solutions in the form of spray, but cautions experimenters to take care that the copper-solution is not acid, or it will corrode the leaves. A fragment of litmus-paper will indicate whether the liquid be acid or not.

CHICAGO EXHIBITION.—The Secretary of the Royal Commission writes:—"May I ask you to give publicity to the fact, that Her Majesty's Government having increased to £60,000 the grant of £25,000 originally made for the purposes of the British section at the Chicago Exhibition, the Royal Commission for that Exhibition are enabled to dispense with the revenue it was proposed to raise by charging the exhibitors in proportion to the extent of space occupied, and that therefore all space in the British section will now be granted free of charge."

—From the Royal Nurseries for Ireland, JOHN THORPE, of the Bureau of Floriculture, has received information that two cases containing 1,550 plants have been shipped to the World's Fair. The announcement came through ALEXANDER DIXON & Co., who maintain the nurseries. Mr. THORPE believes that his flora display will eclipse anything of the sort which the world has ever seen.

CLEMATIS INDIVISA LOBATA.—A fine specimen of the above has been in bloom recently at the Roseville Nursery, Harrowgate. The plant is trained on the roof of a greenhouse, and the effect produced by the thousands of white flowers hanging down in festoons 2 or 3 feet long, may readily be imagined. The flowers being pure white, it proves a useful addition to flowers grown for cutting, coming on as it does at a time when white flowers are scarce. The above plant expanded its first flowers about six weeks ago, and there are still many of them open. For furnishing the roofs of lofty conservatories, it is an admirable subject, being a quick grower, and not requiring a great amount of heat. Messrs. BACKHOUSE & Son, who have now acquired this nursery, will be happy to allow any one desirous the opportunity of seeing the above plant.

DEVON AND EXETER GARDENERS' ASSOCIATION.—The first annual business meeting of this association was held at Exeter on April 6. In their report the committee stated that the association had been a success from the first, and had gone on extending its scope and increasing its usefulness. The position to which it had now attained was the best possible proof of the need of such an association in Exeter, and the interest awakened, and the generous support given had been the cause of deep satisfaction. At the present time there were 104 members—ordinary and honorary—and there was a balance of £8 14s. on the right side. The committee were pleased to report that the Devon and Exeter Horticultural Society had acceded to a suggestion from that society, and offered for competition at their exhibitions this year a series of prizes for *bond fide* amateurs. The committee had accepted the offer of the *Journal of Horticulture* of a silver medal for the best essay by members of the association on "The Principles and Art of Pruning."

APRIL HORTICULTURAL MEETING AT GHENT.

—This meeting was unusually interesting. Certificates of Merit were awarded for the following plants:—1, *Saccolabium bellinum*, a rare Orchid, well grown, with very curious flowers, shown by M. Petrick, of Mont St. Amand. 2, *Adiantum grandiceps*, a graceful Fern, with drooping fronds, ending in a large and close tuft, shown by M. L. Desmet-Duvivier. 3, *Azalea dindiflora*, with deciduous leaves, flowers double, purplish, from the same exhibitor. 4, *Azalea dindiflora* Mr. Jacquet, from the same, with persistent leaves; well bloomed, of good habit, flowers clear lilac, and also double. 5, *Odontoglossum triumphans* var. *nigrum*, to M. Jules Hye; the parts of the flower are much spotted with blackish-brown, and are most effective when massed. 6, *Trichopilia suavis*, to the same orchidist; there is a large cluster of bloom at the base of the plant, which attracts much attention, owing to the curious colouring of the flowers, the marks on which suggest the spotted blooms of some varieties of *Gloxinia*. 7, *Odontoglossum Halli*, from M. L. Desmet-Duvivier; a fine plant, with four large and handsome racemes of bloom. 8, *Cattleya Trianae* *virginialis* (alba), from the same; in full bloom, the flowers not numerous, but exceedingly pretty and in full vigour. 9, *Lælia lobata* from MM. Edm. Vervae et Cie., a fine and well-bloomed plant, like *L. anceps*. 10, *Cypripedium Huybreckianum*, a hybrid from *C. hirsutissimum* × *Spirerianum*, from the same, the whole flowers recalls *C. hirsutissimum*, the white of *Spirerianum* being everywhere suffused with pale brownish red; the appearance of this beautiful variety is very remarkable. 11, *C. grande*, from the same; the bloom beautiful and curious. 12, *Oncidium apheclataum*, also from the same exhibitor; this was in full bloom, with six flower-spikes, of beautiful yellow, a splendid plant. 13, *Criminum amabile*, from the Société Horticole anonyme Louis Van Houtte père; a magnificent truss of fifteen flowers and seven buds, excellently bloomed. 14, *Masdevallia ignea*, from M. J. Hye; flower deeply coloured with rich red, in full bloom. 15, *Cymbidium Lowi*, from the same amateur; a fine plant with numerous flower-stems and about 5 feet across, the leaves entire. 16, *Odontoglossum Pescatorei*, also from the same exhibitor; a very fine raceme, the parts of each flower lightly spotted—most effective. 17, *O. Chamberlainianum*, from M. J. Hye; blooming remarkably. 18, *O. excellens illyeum*, from the same; much spotted with a pretty shade of brown, the clear yellow ground much streaked also. 19, *O. crispum insigne*, from M. J. Hye; the flower beautifully spotted with blackish-brown—an excellent variety. 20, *O. Andersoni*, still from the same; the flowers much spotted. 21, *O. Edwardi*, from M. Hye; a fine plant, with two exceedingly handsome trusses of bloom, the flowers large and dark, of a deep mauve colour. 22, *Cypripedium selligerum*, from M. A. Van Imshoot, having large flowers, with a large and dark standard. 23, *Cyclopogon Parishii*, from the same; the flower like that of *C. pandurata*,

petals greenish, lip marked with black. 24, *Sibthorpia europæa*, fol. var., to M. Ed. Pynaert; shown in a pan—the plant droops gracefully, and is most effective. Honourable Mention for: 1, *Vanda suavis*, to M. Hye; two fine stems bearing numerous flowers. 2, *Odontoglossum triumphans splendens*, to M. Ed. Pynaert; a beautiful yellow colour, with deep brown spots. 3, *Masdevallia levis*, to M. Hye; flowers very large. 4, *Odontoglossum Wilckeanum* to the same; a fine floral raceme, well developed and regular. 5, *Dendrobium Kingianum* album, to M. A. Van Imshoot; a charming little plant, the flower has white petals and a carmine lip. 6, *Cattleya lobiata Warocqueana*, to M. A. Van Imshoot; very deep in colour, flower large. 7, *Pteris Victorica*, to Mr. Arthur Van den Heede, of Gendbrugge. 8, *Lycaste plana Measuresiana*, to M. A. Van Imshoot; the lip white, spotted with carmine. 9, *Dendrobium Wallisi*, to the same; flower vivid yellow, spotted with brown. 10, *Lycaste lasiogloma*, also from the same; petals dark chestnut-brown, lip yellow, hairy.

THE BRITISH FRUIT-GROWERS' ASSOCIATION.

—The first Conference of the season will be held under the auspices of the Northumberland and Durham Horticultural Society and the Northern Allotments Society, in the Hall of the Literary and Philosophical Society, Westgate Road, Newcastle-on-Tyne, on Monday, April 25, at 3 P.M. and 7.30 P.M. The subjects for discussion will be as follows:—3 P.M., "Apples for Market: gathering, packing, storing, and marketing fruits"; 7.30, Chairman's opening address: Fruit Culture on Small Holdings, Bush Fruits for Profit, Prospects of Extended Fruit Culture in Great Britain and Ireland. Papers will be contributed by Mr. GEORGE GORDON, F.R.H.S., Vice-Chairman of the British Fruit-Growers' Association; Mr. A. H. PEARSON, F.R.H.S., Member of the Fruit Committee of the Royal Horticultural Society; Mr. WM. GOARING, Lecturer to the Hampshire County Council; Mr. JOSEPH CHEAL, F.R.H.S.; and Mr. LEWIS CASTLE, F.R.H.S., Hon. Secretary to the British Fruit-Growers' Association. Many of the leading fruit growers in the midland and northern counties are expected to take part in the discussion. Further particulars may be had from Mr. LEWIS CASTLE, Hotham House, Merton, Surrey.

FRUITS FROM TASMANIA.—We have to report the arrival and discharge of the following vessels from Hobart, with a consignment of Tasmanian Apples:—The "Oroya," with, from Melbourne, 485 cases; Hobart, 7616 do.; total, 8101 cases. The "Victoria," with 369 cases of Apples from Sydney; 424 do., from Melbourne; and 8984 cases from Hobart: total, 9777 cases. These two foot up 17,878 cases, and make a very good beginning for the season 1892.

FRUIT FROM THE CAPE.—Whilst we were busy getting our last issue to press, in view of the holidays, the steamship "Danottar Castle" was busy discharging her cargo of fruit from the Cape, consisting of Grapes, Pears, &c., so as to catch a market before the advent of Good Friday. The condition of all was reported as good. The "Athenian" arrived on the 18th, but brought no fruit, and it may interest some of those interested in the trade to learn that Messrs. BUCKNALL (Limited), do not at present intend fitting their Cape steamers with refrigerators for the carriage of fruit.

OPENING OF A NEW PARK AT CHESTER.—A few days since, at Chester, in the presence of a number of the leading citizens, the Mayor of Chester formally opened the new recreation park and grounds given to the city by the Duke of Westminster. The park, which has cost 4000*l.* to lay out, and an additional 1000*l.* as an endowment fund, is locally styled Edgar Field, owing to its proximity to a building, now in ruins, regarded as King Edgar's Palace. It was from this that eight tributary princes are supposed to have rowed King EDGAR on the Dee when he attended service at the ancient cathedral of St. John the Baptist. A vote of thanks

to the Duke was proposed by the county court judge, Sir Horatio Lloyd.

THE JODRELL LABORATORY AT KEW.—We learn from *Nature* that Dr. SCOTT has accepted the charge of the Jodrell Laboratory at Kew, and that he will in consequence resign his present appointment in the College of Science at South Kensington. We trust that this appointment may be taken as an indication that the histological and physiological sides of botany will receive more attention than hitherto. The investigation of the microscopical peculiarities of the orders and genera, nay, of the species, is an enormous task to contemplate, but it will have to be done, and Kew should take the lead. The investigation of what are known as the "adaptive" characters, or the relations between structure and climatal conditions, is again a matter of the utmost consequence to practical cultivation. The systematic study of the diseases of plants is also a subject we hope to see thoroughly taken up at Kew. Altogether, the Director of the Laboratory will have his hands full.

MR. JOHN BARRY.—We understand that Mr. JOHN BARRY, for so many years connected with the Royal Horticultural Society, has been appointed traveller in the South of England to the firm of Messrs. W. CLIBRAN & SON, Oldfield Nurseries, Altrincham, and Manchester.

THE NOMENCLATURE QUESTION.—We have received the following important communication from M. ALPHONSE DE CANDOLLE: "I have read with pleasure your articles relating to this subject, and in connection with it, I may say that I have been looking back to the twenty-six families which I have specially elaborated for the *Prodromus*, or its continuation. In these twenty-six families Mr. KUNTZE propounds twenty-eight changes in the names of the genera. In studying these proposed changes one by one, I find that twenty-two are unacceptable, for the reason that they are based upon incorrect foundations, such as, for instance, the adoption of a generic name unaccompanied by any adequate description, as if it were a genuine name associated with appropriate descriptive characters. A young and learned fellow-countryman of mine, M. BRIQUET, has also ascertained that, in the family Labiata, the names of fifteen genera are by KUNTZE required to be changed. Of these fifteen, ten, however, are invalid; indeed, we may estimate that two thirds of Mr. KUNTZE's proposed changes are uncalled for. Mr. KUNTZE also errs in taking the first edition of LINNÆUS' *Systema* (1735) as the starting point for the nomenclature of genera instead of the *Genera* of 1757. In my *Nouvelles Remarques* de 1853, I have stated why LINNÆUS' *Genera* (1757) should be taken as the starting-point. Nobody has raised any objection. I may add one illustration of the practical inconvenience that would result by taking the earlier date (1735) as our commencement. If we did so, we should apply the generic name *Tragacantha* to the 1200 species published under *Astragalus*. Mr. SCHUMANN has just published in the *Naturwissenschaftlichen Rundschau* of 1892, n. 13, an article in which he gives his adhesion to the "Lois" of 1866, and to the opinions I expressed in 1883 with reference to the "*Genera*" of LINNÆUS. He adds, that he has consulted the Berlin botanists and others before publishing, and that he finds himself in accord with them. Mr. COULTER, the Editor of the *Botanical Gazette*, and M. CARNUEL, of Florence, are of the same opinion.

Horticulturists may be recommended not to adopt newly-proposed names until they have ascertained whether those names are likely to be generally adopted by botanists. I have, for instance, seen catalogues in which the names proposed by KLOTZSCH for his dismemberments of the genus *Begonia* were taken up. Now, the genus *Begonia* is a very natural one, and when I retained it entire in the *Prodromus* citing KLOTZSCH's names as sub-divisions merely, the course I took met with general approval. It will be worse still if horticulturists attach any importance to the genera proposed by Mr. GANDOGHER for certain

sub-divisions of the genus *Rosa*.* The author, who does not rank high among the botanists, that the Roman Catholic clergy has produced, proposes to do away with the well-known group *Cinnamomeae*, and to constitute in its place a separate genus under the name *Scheuchzia*, and to which he assigns no fewer than ninety species! I suppose that for the thousands of species which he admits in the genus *Rosa*, he will be unable to find a sufficient number of adjectives or adverbs for the specific names."

IRELAND.

XANTHOCERAS SORBIFOLIA.

That handsome shrub *Xanthoceras sorbifolia* is now blooming most profusely, trained to one of my walls, while as a bush or standard it refused for years to grow at all, or do more than barely exist. I counted as many as eighteen bunches of its beautiful white blossoms with a brownish centre on one of my terminal shoots see fig. on p. 533. [Fig. of the fruit is given at p. 205, August 14, 1886.] *Genista Andraea* is also now covered with its beautiful blossoms in my greenhouse, and much admired.

Myosotidium nobile, the giant New Zealand Forget-me-not, has proved quite hardy with me, and is now coming into flower, with four spikes or bunches of bloom, in my garden, with simply a wall behind it. It seeded with me last year, and I have a fine lot of young plants of it. *W. E. Gumbleton, Belgrove, Queenstown, co. Cork.*

SCOTLAND.

BOTANIC GARDEN, GLASGOW.

REPORT FROM THE BOTANIC GARDEN, GLASGOW, BY ROBERT BULLEN.—The spring month of March was in reality the winter of 1891-92. Frost and snow were in excess of anything we have experienced in the same month for many years, not even excepting March of last year, which was an unusually cold month. Frost was registered on twenty-three nights, and the total registered for the month was 120°. Night frosts were continuous for the first half of the month, and heavy snow fell during the second week. On the 16th a misty rain and thaw set in. On the 19th frost was again recorded, and continued with more or less severity to the end of the month. The day temperature, especially during the latter half of the month, was above the average, hard frosty nights being succeeded by bright sunny days, the sun thermometer frequently registering from 70° to 76°. Very dry weather prevailed after the heavy snowfall. All vegetation is much retarded.

BOTANICAL STUDY IN GLASGOW.

The publication of the terms of the Steven Trust has led Professor F. O. Bower, the present occupant of the Chair of Botany in Glasgow University, to bring a suggestion before the trustees for applying part of the property to purposes which are both scientific and technical, and calculated to confer a benefit upon the University, and to exercise a wide influence on the general public of Glasgow. Prof. Bower points out pathetically that while the City has provided for the purchase and upkeep of the Botanic Gardens, the Botanical Department of the University has no home there, but at present consists of two small rooms and an attic in the University building. There is no class-room, and the laboratories are so small that the practical work has to be repeated three times daily to successive relays of students. The valuable herbarium lies unused in an inaccessible attic. The best scheme, in the Professor's opinion, would be the erection of a building in the Botanic Garden, the control of the building being in the hands of the Professor of Botany. On these lines Professor Bower appeals to the Steven Trustees to set aside a sum for the erection and endowment of a

building to be called the Steven Botanic Institute. The building, he says, should contain:—1. A large lecture-room to hold about 300 persons. 2. Two large museum rooms and central hall. 3. Herbarium. 4. Laboratories and private rooms for the practical work of the professor and students. An income of £400 would meet the necessary expenses of the institute. Professor Bower estimates that the cost of the building and internal fittings would amount to about £12,500, and a similar sum would give an endowment of about £400, so that a total of £25,000 would place his scheme on a satisfactory footing.

HOME CORRESPONDENCE.

NORTHERN SPY APPLE.—In answer to "D. T. F.," permit me to state that this fine variety succeeds well with Mr. R. D. Blackmore, at Teddington. The fruit grown there and tasted by me to-day is perfectly sound, crisp, and of excellent flavour. The Newtown Pippin is a failure here, and it succeeds only in certain districts in America. Washington, American Mother, Wealthy, and Melon Apple arrive at great perfection with me here, but they all require a favourable situation. It is from Tasmania that we shall get Apples of the finest quality at this season, as the climate of that colony somewhat resembles our own, with the addition of more sunshine. The fruit is, moreover, grown on young trees and unexhausted soil. *W. R. Streatham Hill.*

APRIL WEATHER IN SOUTH DEVON.—Seeing your remarks in the leading article of last week's issue of the *Gardeners' Chronicle* regarding the probable safety of our fruit crops, owing to the lateness of the spring, I fear that we in South Devon are only too early, according to my experience, for this morning we had 14° of frost, after having enjoyed perfect summer weather for three weeks, when the thermometer daily registered 65°, and on Wednesday week last it stood at 72° in the open. We have had no rain for more than a month; Pears, Plums, and Strawberries in full bloom on the south walls and borders, and on examination this morning I fear the damage done will be found considerable—in fact, almost a complete wreck of one's prospects. The Apricots were of the size of Peas, and I am hoping that they have escaped destruction—they appear to be uninjured; but the red Currants and Gooseberries are blackened, and some *Rhododendron* bushes that were in bloom are spoiled. Roses, of which many were showing flower-buds, are quite ruined as regards the early blooms. I may say, that during the previous afternoon we had a slight fall of snow, with the temperature of the air down to 40°. I hope the damage to the crops is not general. *A. Willis, Sandford Leigh, Newton Abbot, April 15.* [From many parts of the country we have received information as to the phenomenally low temperatures occurring after equally abnormal high readings. The amount of damage remains to be seen. En.]

ERICA HYEMALIS.—In a recent issue, Mr. Watson says no one knows the origin of *Erica hyemalis*, or where it came from. There must be some people alive who knew Mr. Willmore, and can tell a great deal about him. He was before my time, but my late father used to tell me about the wonderful things he did in the way of hybridising, and how, after he became blind, he still continued to conduct hybridising operations through his old gardener—old Tom Williams. Among the great number of things he raised was *Erica hyemalis*, *E. Wilmorea*, many *E. ventricosae*, *Amaryllis*, scarlet, white throat (this was as fine as some of the best of to-day); a striped *Gladiolus*, and an endless lot of things; which some one surely can give particulars first-hand. Helived in what is now part of Birmingham, Hunter's Lane. *John Pope, Birmingham.*

BLACK CURRANTS v. THE GOOSEBERRY CATERPILLAR.—With reference to "D. T. F.'s" remarks in the *Gardeners' Chronicle* issue for April 9, p. 473, respecting the planting of the Black Currants as an antidote for the Gooseberry caterpillar plague, I am enabled to, from my own observations, to corroborate them. For the past eleven years I have had under my charge an orchard under-cropped with the Black and the Red Currant and Gooseberries, the Currants occupying the lower and damper part of the orchard, and the Gooseberries planted near on the drier part. During that period of time none of the saw-fly caterpillars

have troubled us. The question has often puzzled me, for in the kitchen garden about 500 yards distant in some seasons these caterpillars were very destructive. There are a few Black Currant bushes in the kitchen garden, but not near the Gooseberry bushes, which appears to afford proof that when these are planted together or quite near each other, the former keeps the sawfly at a distance. In this immediate neighbourhood there are two other orchards of eight to ten acres each, the undergrowth of which consists nearly wholly of Gooseberry bushes, and these are periodically devastated by the caterpillars. The occupiers have often appealed to me for advice, but rarely have I been able to afford them any practical help. I have pointed to our orchard as being free from the pest, not thinking that we owe our immunity to having three-quarters of the land planted with Black Currants. Those who intend to plant land with Gooseberries should, by all means, plant the Currants, which also meet with a ready sale. *D. Roberts, Prestwold Gardens, Loughborough.*

BALSAMS IN SMALL POTS.—Balsams may be grown of a useful size for decoration in small size pots, and can be employed in a variety of ways, such as filliug room-vases standing in niches on brackets, as well as in the greenhouse. It is surprising what a quantity of bloom a plant in a 4½-inch pot will carry if it be well supplied with water and manure-water. To obtain these plants dwarf and stocky, the seed must not be sown before the middle of the month of April; and a cool greenhouse is the best place for the seedlings, after they get 2 inches high, needing as they do abundance of air to keep them stocky, and if sown earlier than that it does not admit of their receiving air freely. If afforded a gentle bottom-heat the seed will quickly germinate, and the seed-pots or pans must be put on a shelf directly the plants are above the soil. When the first pair of true leaves is formed, the plants should be potted without delay in small pots, singly, keeping them down low in the pot, but not so as to cover the true leaves. Any light soil will suffice for this potting. When the roots begin to touch the side of the pot, the plants should get their last and only shift, using a compost consisting of two parts fibry loam, and one of partly decayed horse-dung, pressing the soil into the pots rather firmer than is generally recommended for this annual plant. A shelf in the greenhouse will be found the best place for the plants till they show bloom flower-buds, supply them at all times freely with water, and after the pots are full of roots, liquid-manure should be afforded very often, in a weak state. S.

DANDELION, DOCK, AND DAISY ERADICATOR.—This new invention of Messrs. Wilkes & Son will prove a great boon to everyone in possession of, and aiming at, having a perfect lawn. It is simple, very effective, and ingenious in its design, and supplies a long-felt want, as by its use the expense and time involved in the removal of the noxious weeds indicated, is reduced to a minimum. The Eradicator does its work neatly and effectively, no soil nor turf being displaced in the operation. The Eradicator is somewhat like a garden-syringe in shape, and all that is necessary after charging it with Mark Smith's Weed-killer, is to pierce the centre or crown of the individual plants with the "piercer," which protrudes about 2 inches from the nozzle of the Eradicator, and in doing so, the fatal fluid is liberated by slightly pulling the handle, and deposited in the hole thus made, the internally-fixed spring cutting off the supply the moment the "piercer" is withdrawn. I am so thoroughly well pleased with the expeditious and highly effective manner in which the Eradicator does its work, that I have the greatest confidence in recommending it. Ladies, and indeed children, who are old enough to distinguish Dandelions, Docks, and Daises, can use the Eradicator as well as a professional gardener. A measure for filling the Eradicator with the "Weed-killer" through a hole in the side of the barrel at the top, and which has a screw-top, can be purchased with the Eradicator, the price of the latter, which is brass, being 1s. 6d. *H. W. Ward, Longford Castle, Salisbury.*

DRIED AND PRESERVED FRUITS.—It is instructive to learn that the demand for Raisins and Currants has been found during the winter to be comparatively moderate, as compared with the trade in some previous winters, although the fruits are exceptionally good and cheap. Probably this falling off in trade is accounted for by the remarkable abundance now found in grocers' shops of dried and

* *Monographia Rosarum Europae et Orientis*, vol. i., Parisiis, 1892. Autographis.



FIG. 80.—XANTHOCEBUS SORDIDIFOLIA. (SEE P. 532.)

canned or bottled fruits of many descriptions, which are very cheap and good. In dried fruits, the whole and ringed evaporated Apples are coming largely into use; the latter, especially, make capital tarts and puddings when washed and soaked in clean water for a few hours before being used. Some day we may turn to and evaporate Apples at home for home use, but the best now sold come to us from America. We have also on offer Pears, both French and American, but the latter are much the better and cheaper. Stoned Plums and Apricots, the latter being specially delicious when moderately cooked and served for consumption. These fruits are very thin and flat, but they seem to have considerable absorbent properties, as they swell up appreciably after being soaked. The flavour of both Plums and Apricots are excellent. No wonder that the British housewife prefers to buy fruits of this description to a monotonous *menu* of Raisin and Currant puddings. As far as canned and bottled fruits are concerned, so varied and so good are these that it seems almost impossible to excel them. We have now learned to can fruits at home, as I have just enjoyed some Gisborne Plums canned in Cambridgeshire, and they were, if less sugary than are the American fruits, certainly more highly flavoured. It is probable that there is much more room for our extension of the canning and bottling trade than in that of jam making, as in this direction we seem to have all that can be wished for. *A. D.*

FRUIT CULTURE: THE DIAMOND AND OTHER CORDONS.—Permit me to add my testimony in favour of the cordon form of fruit trees, pp. 453 and 459 of the *Gardeners' Chronicle*. Some of the forms are as useful for Pears and Plums, as for Apples. Cherries are more apt to grow on common cordons, and this tendency would be strengthened on diamond cordons where the branches grow into each other at points of crossing, and become as living, and if desired after from 6 to 8 years a self-sustaining fence, distinguished by its beauty and utility. The zigzag and spiral cordon is equally useful in certain positions. The latter is formed around spaces a yard more or less across, formed with three or five stakes. Plant the tree in the centre of the space and train the shoot straight across to any portion of the circumference, the nearest stake being the most convenient. Train it round the stakes till the base line is formed, then lead the one shoot round a second time a foot or 15 inches from the second semi-circular-bearing shoot, and so on shoot after shoot until a circular or spiral cordon 5 feet high is formed. But this takes time, as such cordons mostly begin fruiting the second year after planting. Among the chief causes of this very early fertility is that the maiden shoots are never cut back, but left full length from the first. The object being to form a series of circles at planes of different heights of fruit-bearing wood, there is no reason to stop the leading shoot. Consequently, it is allowed to run on unchecked until the tree has grown to the desired size. The pressure put on the growing leader to keep it in proper form, proves sufficient to break the shoots back to their base or transform them into fruit-spurs. In fact, there never was any difficulty through any excess of growth on these spiral cordons, nor on the diamond cordon fence. The early fertility, and non-stopping of leaders combined, threw the trees so early into fruit-bearing, and kept them at it so persistently year after year, as to thoroughly suppress all tendency to excessive luxuriance, and to teach the most valuable lesson in practical fruit-growing, viz., that as nothing succeeds like success—so that there is no receipt for permanent fertility equal to early and yearly crops of fruit. Baby trees may be led into fruitful ways like children into good habits, and once established both alike naturally repeat themselves. Diamond cordons or Apple fences may be formed of single cordons. Most of ours were so formed to save time, and also on the principle of not cutting back the maiden Apples. Two plants were thus planted in the same holes, one trained to the right and the other to the left, to form the diamonds which were from a foot to 18 inches in the squares. Fruit fences so formed virtually take up no space, are highly ornamental throughout the season, and the produce is prodigious. From this form of training the lines of the diamonds resisting the energy of radiation to a great extent, or some other cause, diamond cordons have often yielded full crops when good horizontal cordon bushes and pyramidal trees within a few yards have failed. The quality of the fruit has also been of the best on the diamond and other forms of cordons, and all that is needed to assure the

more general adoption of dwarf small fruit trees by amateur and professional growers is a trial of the different forms. *D. T. F.*

CLUB IN BRUSSELS SPROUTS.—When addressing a meeting of gardeners at Bournemouth a short time ago, I was informed that many of the Cabbage tribe, and the Brussels Sprouts in particular, are much subject to club in that district, and complete failures of crop are frequent. In the course of an instructive discussion, one gardener said his Brussels Sprouts had suffered so severely from this disease for years, that he had been driven to resort to several expedients in endeavouring to arrest it; but the best plan was that of earthing-up. He stated that he plants his Brussels Sprouts in trenches 4 or 5 inches in depth, and that as soon as they show signs of being affected by club, he earths the soil up to the plants, thus filling up the trenches. The result is, the stems put forth fresh roots of a somewhat dense and fibry character, and, fed by this, the plants enter upon what is really a new lease of life, and grow with remarkable vigour. At a later meeting a plant was brought for my inspection, and I found that the original roots and base of the stem had completely rotted away; but no trace of club had affected the secondary ones, and I was informed that it rarely does so. I do not know if this practice can lay claim to novelty; but that it is efficient for the purpose there can be no doubt. Clubbing, which means the formation of protuberances on the roots, is a very destructive disease, perhaps the most destructive to which the Cabbage tribe is subject. Its appearance is ascribed to one or more species of insects, but maggots appear to be always present in the tubercles. [A slime-fungus is the most usual cause.] Many remedies have been suggested. One of the most frequently urged is an entire change of ground, giving the plot affected a good dressing of lime. A mixture of plenty of wood-ashes with the soil to be planted is strongly recommended by some; others advocate lime and soot; also nitrate of soda and common salt. All these have been tried, but they have not proved generally thorough remedies. One precaution is necessary in planting out from the seed-bed. All plants showing any tendency to club should be destroyed, and only those free from any suspicion of it planted out. Some gardeners recommended making a kind of liquid paste of soot and water, and dipping the roots of the plants into it before they are planted. It does seem as if the Bournemouth practice of planting out in trenches and earthing-up, is one deserving of attention, as it is conclusively shown it answers the purpose of what is practically a cure. *R. D.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

APRIL 12.—Present: Dr. M. T. Masters, in the chair; Mr. Morris, Mr. McLachlan, Mr. Michael, Rev. W. Wilks, Professor Green, Dr. Müller, Rev. G. Henslow, hon. sec.; and Mr. Farmer, visitor.

Galls on Ribes.—A report was received from Mr. E. A. Fitch upon the galls on *Ribes aureum*, in which he observed that "the only sure thing to be said is that the galls are made by an unknown species of Phytomyia, allied to that making the well-known witch-knots on Birches." (See "Entomologist," vol. x., pp. 83-84, April, 1877). He remarks that the species of *Phytomyia* are but little known in this country.

Narcissus bulbocodium, fasciated.—Mr. Morris exhibited a specimen with five flowers united, and remarked that of 12 pots at Kew every plant bore fasciated stems. Mr. Wilks observed that in this species fasciation is constantly occurring.

The Branching of Endogens.—Mr. Morris exhibited specimens illustrative of the apparent dichotomy in certain plants. In *Pandanus*, *Agave*, *Yucca*, and many other plants, the dichotomous arrangement of the branches is due, not to a bifurcation of the bud, as is usually supposed, but to the occasional development of a single axillary bud. The growth of this bud soon equals that of the parent axis, and causes the deflection of the latter, so as to give a forked appearance. This was shown to be the case in a specimen of *Pandanus pygmaeus*. In a specimen of *Aloe acaotrina*, on the other hand, the pseudo-terminal position of the inflorescence terminating the axia had led to the growth of the axillary

buds, which were lengthening out into branches of a dichotomous character. A good example of the forked appearance, caused by the destruction of the terminal bud, was shown in a drawing of a *Coccoloba* Palm; while a similar result in an exogen, due to an abortive terminal bud, was illustrated by the common *Lilac*.

Scale Insects on Palms in West Indies.—A communication was read from Mr. Cockerell of Jamaica explaining difficulties in the way of carrying out experiments for their destruction, as the people there can only test the value of a statement by results, and if these failed, prejudices against future suggestions would arise. Again, since *Coccoloba* are attacked by many enemies, even if a remedy proposed should answer for the scales, the trees might perish from other causes. He doubted whether scale insects ever killed them, though, having weakened the trees, they might then fall a prey to other parasites. Moreover, different scale insects have different habits; some, as *Aspidiotus palmæ*, appears to live only on the *Coccoloba*, while *A. articulatus* infests many other plants, so that if the latter were destroyed on Palms, it would soon re-infest them from other sources. He thinks that all the injurious coccids have reached Jamaica in comparatively recent times; and the fact that their parasites have not been imported as well may account for their increase.

Raspberries attacked by *Dothidea*.—Some canes were forwarded from Mr. J. Willard, Holly Lodge, Highgate, covered with black spots, which have appeared during the winter months for the last five or six years. Transplanting and manuring, and the introduction of new sorts have failed as remedies. The fungus causing the mischief has been recognised by Dr. Cooke as a *Dothidea*.

Narcissus Bulbs Attacked by *Acari*.—Mr. Michael reported upon the bulbs received from Rev. W. Wilks as follows:—"I find two species of *Acari* in large numbers, either of which is sufficient to account for the damage. Both are most injurious creatures, and commence destruction upon healthy plants. One is the large and conspicuous *Rhizoglyphus* (species probably *Echinopus*, but there was no adult male specimen, without which the species cannot be determined for certain). This is a well-known destroyer of bulbs. The other, which occurs in great numbers, is extremely minute, and not to be detected without a microscope. It is a *Tarsonymus*; the species is most like *T. oryzae* (of Targioni-Tozzetti). All species of this genus are most destructive. It is only of late years that their existence has been detected, on account of their small size, the transparent and colourless nature of their bodies, and their habit of burrowing into leaves, stalks, &c. I should say that in this case they were doing even more damage than the *Rhizoglyphus*. This is, I believe the first instance of *Tarsonymus* being found in subterranean structures. A species of this genus, *T. Boxi*, destroyed every Box tree in Turin. *Tarsonymus* is well known to be very destructive to Sugar-canes in Barbadoes and Queensland." A discussion followed as to the best remedies to be applied. Mr. Michael suggested a treatment of soap and sulphur before planting, but added, that it is almost impossible to destroy the eggs by chemical agencies. Mr. Wilks observed that, since it is not till spring time when the eggs are hatched, the application would be difficult, seeing that the bulbs are planted in the autumn; moreover, Mr. Dod had shown that the effect of sulphur upon bulbs is to arrest their growth by the formation of sulphurous acid gas. Rev. Mr. Haydon had suggested, in his lectures on Daffodils, the use of powdered quicklime, and although this might destroy the outer scales as well as the eggs which lie among them, experiments with bulbs of comparatively little value would show whether the interior portions remained uninjured. Mr. McLachlan suggested paraffin; Mr. Wilks remarked, however, that this remedy, though excellent for aerial organs, was fatal to roots, but whether it would be equally injurious to bulbs could only be proved by experiment. It was thought that if the bulbs were subjected to vapourised creosote it might prove effective. Dr. Müller mentioned that oil of cloves and oil of cassia used as a watery solution would probably prove capable of destroying the acari, as they are powerful antiseptics.

Carnations Attacked by *Anthomyia*.—Specimens were received from Mr. Perry of Tottenham of the well-known parasite, *Hylemyia nigrescens*, which attacks the crowns, nodes, and basal part of the stem.

Lettuce Mildew.—The Lettuces grown in the market gardens near Ham, Twickenham, &c., are

much damaged this year by *Brenia lactuca*, formerly known as *Peronospora gangiformis*, *Botyris*, described by Rev. M. J. Berkeley in 1816 as *Botrytis* (*Journ. Hort. Soc.*, 1, t. 4). References to the literature are given in Cooke's *Handbook of British Fungi*. Mr. W. G. Smith devotes a chapter to this parasite (Chap. 34, "Diseases of Field and Garden Crops"), in which he observes that "when frame Lettuces are attacked, a good plan for the destruction of the fungus is to give as much air as practicable, and if possible to leave the frames open for at least a part of one cold night, as a short exposure to cold or slightly frosty air will not materially hurt the young Lettuces. As resting spores are found in old rotting stems, all decayed plants should of course be burnt, especially old stumps, as in them the resting spores of the mildew often exist in myriads."

Primula Forbesi.—A growing and flowering plant was again exhibited by Mr. Vilimorin. This species was shown by him on October 6, 1891, when specimens were presented to Kew and Chiswick. At both establishments the plants are in a flourishing condition.

Schizocodon soldanelloides.—A plant was exhibited by Captain Torres, Poaston Manor, Hayes Common, Kent. It is allied to *Shortia*, both belonging to the order Diapensiaceae. A vote of thanks was unanimously given to the exhibitor.

Angæum sesquipedale monstrosus.—Mr. C. Whitfield King sent a specimen in which one of the lateral petals was spurred, making a supernumerary labellum.

Committee Meetings.

APRIL 19.—The meeting of the Auricula Society added more than the usual amount of interest to the gathering at the Drill Hall, James Street, Westminster, and drew a goodly number of visitors. Contributions of cut blooms of various kinds; of alpine plants, by a hitherto unknown exhibitor of these plants, Mr. Harper, Guildford; of Orchids in flower; of Narcissus in competition, and others merely for exhibition; together with the Auriculas and Primulas, made up an exhibition where almost everyone could find something to admire and talk about.

Orchid Committee.

Present: J. Douglas, Esq., in the chair; and Messrs. J. O'Brien, H. Ballantine, C. J. Lucas, E. Hill, J. Jaques, T. B. Haywood, and M. T. Masters.

Messrs. F. Sander & Co. had a select group of Orchids in which appeared the new hybrid *Cattleya*, *C. Burberryana* × (*imbricata* × *superba*) ♀, named in honour of Mr. H. A. Burberry, the Orchid grower to the Right Hon. J. Chamberlain, M.P., the flowers resemble those of *C. superba* in shape—they are 6 inches across; sepals and petals white tinged with pink, the front lobe of the lip rich crimson. Other new plants in Messrs. Sander's group were: *Oncotoglossum Wendlandianum*, a pretty variety, apparently an *O. wandium* hybrid; *O. Owenianum*, a remarkable species with white flowers tinged with sulphur yellow, the petals showing sometimes a brown blotch, and the sepals being marked with brown, all but their margins. Another fine plant was *Oncidium Gravesianum*, one of the *O. Marshallianum* section, which came over with the true *Cattleya labiata*. The large specimen had several branched spikes of golden yellow and chestnut brown flowers. In Messrs. Sander's group also were a fine lot of varieties of *Dendrobium Phalaenopsis Schroderianum*; *Cattleya Schroderae* and several white *C. Schroderae* virginialis; *Dendrobium Venus* × *D. hercoglossum*, several of their form of *Cattleya labiata*, *C. speciosissima*, *C. gigas*, *C. granulosa*, *C. Lawrenceana*; the fine *Trichopilia crispigrandiflora*; three *Phajus Cooksonii* × *Cattleya intermedia punctatissima*, *Phalaenopsis amabilis*, *Dendrobium Brymerianum*, *Spathoglottis Lobbi*, &c.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, exhibited a new hybrid *Cattleya*, *C. Philo* × (*ricolor* ♀, *Mossiae* ♀). The flowers are about half the size of those of *C. Mossiae*; sepals and petals bluish-white, with a faint yellow tinge; front of lip crimson, with bluish-white margin; middle of the lip yellow, the base crimson, with whitish veining. *C. ricolor* is a very rare species, and this hybrid of it a very pretty variety.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (see, Mr. H. Simpkins), exhibited as *Cypripedium exul* the plant exhibited by him at the last meeting as *C. insignis siamense*, it being the opinion of orchidists generally that it is a distinct species (see p. 523); and C. E. Smith, Esq., Silvermere,

Cobham (gr., Mr. J. Quarterman), sent a dwarf plant of *Dendrobium Wardianum*, and several specimens of *Oncidium luridum*.

Messrs. Linden (l'Horticulture Internationale), Parc Leopold, Brussels, exhibited a plant and full-size coloured drawing of their new *Cattleya Alexandrina*—a most wonderful species (see p. 522). The habit of the plant is similar to *Cattleya Leopoldii*, but it has tall scapes, bearing at the top flowers equal in size to those of *Cattleya superba*, and much resembling that species in the lip. The wavy-edged petals and sepals are crimson tinged with orange.

ORCHID COMMITTEE.

List of Awards.

Silver Banksian Medal.

To Messrs. F. Sander & Co., for group of rare Orchids.

First-class Certificate.

To *Cattleya Burberryana* ×, Messrs. F. Sander & Co.

Awards of Merit.

To *Cattleya Philo* ×, Messrs. Jas. Veitch & Son.

To *Oncotoglossum Wendlandianum*, Messrs. F. Sander & Co.

To *Oncidium Gravesianum*, Messrs. F. Sander & Co.

To *Cypripedium exul*, R. Measures.

Floral Committee.

Present: G. Paul, Esq., in the chair; and Messrs. Owen Thomas, B. Wynne, C. F. Bause, H. B. May, G. Phippen, C. J. Salter, H. Turner, G. Gordon, J. Fraser, W. C. Leach, and W. Marshall.

The exhibita with which this committee was concerned were as usual numerous and varied. Mr. W. Harper, of Mill Mead Nursery, Guildford, was awarded a Silver Banksian Medal for two baskets or groups of Alpine plants, which beside being interesting were staged very effectively. The collection included the following:—*Gentiana verna* and *G. verna alba*, *Saxifraga Rochelliana*, S. Boyd, *Primula farinosa*, P. rosea, P. grandiflora from the Dolomites, flowers of a deeper yellow and habit dwarfer than the type; *Pinguicula alpina* (Faldonside seedling), *Primula Auricula*—the ordinary form, and one from the Dolomite range in the Tyrol, which has flowers of a deeper shade of yellow and a much dwarfer habit of growth; it goes under the name of *San Martinus* variety. The ordinary form of *P. Auricula* with broad foliage, 5 inches long, and powdered and pale yellow blooms, several cross-bred forms were shown—one between *P. auricula* and *P. pubescens* had powdery foliage and light yellow showy blooms; *P. pubescens* Peyritschii has lilac-coloured blooms, with a white eye and a dwarf and compact habit; *P. marginata* the Faldonside variety, *Anemone Pulsatilla pallida*, a brownish creamy-coloured variety, and *Polygala Chamæbuxus* were likewise present in this interesting lot of plants.

G. E. Smith, Esq., Silvermere, Cobham, Surrey (gr., J. Quarterman), exhibited a group of *Guedrea* roses (*Viburnum opulus*), and *Acacia hispida*. A Bronze Banksian Medal was awarded.

A very pretty basket of double-flowered *Violets* (*Viola Victoria*) came from J. T. Hopwood, Esq., Ketton Hall, Stamford (gr., Mr. W. H. Divers), and received a vote of thanks.

From the Royal Gardens, Kew, came a collection of *Hyacinths* grown there from bulbs in from three to five years, and which had flowered in the open. These spikes of flowers were equal to those obtained from bulbs from Holland; as grown at Kew they continue to improve until the fourth year, when they are said to be at their best, both in strength and colour of bloom. *Rhododendron racemosum*, a Chinese species, from J. Veitch & Sons, Chelsea, obtained a First-class Certificate. This is a pretty, dwarf-growing plant, not being more than 4 to 6 inches high as seen, and each plant was covered with blossoms, which were of a pretty pink colour. These plants had been lifted from the open ground only ten days ago. The same firm of nurserymen obtained an Award of Merit for *Hippeastrum Sylvia*, a hybrid between *reticulata* ♀ and *Bernard* ♀; the flowers, which were of good quality, were scarlet and white, and the leaves were reticulated, as in one of the parents. *Grevillea robusta elegantissima* gained a First-class Certificate; the leaves of this plant are longer and more graceful than those of the type, the leaflets being smaller, and more divided. A very fine *Spiræa* (*Astilbe Thunbergii*), shown by Messrs. Veitch & Sons, was also awarded a First-class Certificate; the blooms were about 2 feet high, but the foliage was dwarf. It had something of the appearance of *A. astilboidea* or *Spiræa aruncus*, but the growth was stronger, and the flowers finer.

From Mons, J. Salier, Paris, came a group of *Tropæolum Lobbi variegatum* (Spitfire), which is recommended as suitable for a cold house. It had variegated foliage, and bright scarlet flowers.

M.M. Eolens Frères, Ledeburg, near Ghent, sent a plant of *Imatophyllum Britannia*, with one spike, bearing an umbel containing twenty flowers. The umbel was dense, and the flower-segments slightly recurved. Another spike was also springing from the bottom of the plant.

Viscoitesa Hambleton sent seven *Hippeastrums*, the best of which, *Charles Penny*, was granted an Award of Merit. This was a flower of good substance, of a deep blood red colour, and slightly recurved in the segments.

Messrs. Paul & Son, Old Nurseries, Cheshunt, sent a group of *Roses*, Tea, and hybrid perpetuals.

Fruit Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. J. Willard, G. Bunyard, A. Dean, G. H. Sage, G. Wythes, J. Hudson, H. Balderson, F. Q. Lane, J. Smith, G. Norman, W. H. Divers, Harrison Weir, J. Cheal, D. Morris, and T. J. Saltmarsh.

A dish of very fine handsome Strawberries, *La Grosse Sucrée*, came from Mr. Gilbert, of Burghley, obtaining a Cultural Commendation. Mr. Frank Lees, F.R.H.S., The Vineyard, Connaught Road, Reading, also obtained a Cultural Commendation for a box of very fine *Vicomtesse H. du Thury* Strawberries.

Mr. Wythes, gr. to the Duke of Northumberland, Syon, again exhibited the seedling "Syon House" obtained from Keen's Seedling, and for which he received a Vote of Thanks.

Grapes were exhibited by Mr. Owen Thomas, gr. to the Queen, the Royal Gardens, Frogmore. One bunch of Black Hamburg, and another of Foster's Seedling, which were said to have been ripe in March. The bunches and berries were of fair size, and the colour of the black variety was very good for the season and the favour particularly rich.

A dish of Apples (*Barnack Beauty*), came from Mr. W. H. Divers, Ketton Hall, and was awarded a vote of thanks.

The Daffodil Committee.

In the competitive classes, Mr. C. W. Cowar, Valleyfield, Pennycook, Midlothian, was awarded a 1st prize for a collection of Daffodils grown in the open air by amateurs. A large and varied collection was staged, which included many of the newer kinds, such as *Glorie de Leiden*, *Madame Plémp*, &c. Some of the varieties, however, were weak, and this is no doubt attributable to the season, which has not been so good for these plants as it might have been.

H. J. Adams, Esq., Roseneath, Enfield, took 2nd prize in this class with a good collection, including *Henry Irvine*, M. J. Berkeley, Cernuus, pulcher, *Thos. Moore*, &c.

For nine distinct varieties of Daffodils, grown in the open, W. H. Berkeley James, Esq., Carshalton, Surrey, was awarded 1st prize, staging very good specimens, including *Sir Watkin*, *Horsfieldii*, *Grandee*, *Nelson major*, and *Maximus*; the 2nd position fell to the Rev. E. Bourne, Dunston Vicarage, Lincoln, whose collection included *albidus*, *albicans*, *Princeps*, *J. Gwyther*, and *Princess Mary*.

W. H. Berkeley James, Esq., Carshalton, Surrey, secured the premier position in competition for six varieties of Daffodils grown in the open, by amateurs, exhibiting *Emperor*, *Empress*, *Barrii conspicua*, *Grandee*, *Horsfieldii*, and *Sir Watkin*; the 2nd prize fell to J. W. Meller, Esq., Seawardstone Lodge, Chingford, who had *Incomparabilis*, *Eggar*, *Princeps*, *Emperor*, *Grandee*, and *Empress*. For a collection of Daffodils (*Polyanthus* excluded), the Rev. S. E. Bourne, Dunston Vicarage, Lincoln, obtained 1st prize for a very excellent collection, including *concolor*, *odorus plenus*, *Horsfieldii*, *Empress*, *Princess Mary*, *Cernuus*, *Rugifolius*, *ornatus*, *albicans*, &c.; H. J. Adams, Esq., came 2nd with a large and interesting collection, including *Duchess of Brabant*, *Exquisite*, *Goliath*, *W. Primer*, &c.; the third position fell to J. T. Hopwood, Esq., Ketton Hall, Stamford.

National Auricula (Southern Section).

The exhibition of this Society, which took place in connection with the meeting of the Royal Horticultural Society, on Tuesday, came as a surprise, both in reference to its extent and the quality of the flowers. Despite the untoward character of the season, Auricula cultivators managed to get their flowers into bloom, though not a few bore the ap-

pearance of having been subjected to high pressure in the way of temperature. When an Auricula show is held unusually early in a late season, it is imperative that some sort of forcing be adopted in order to get the pipe to expand. It is not too much to say on the part of those who grow Auriculas without any assistance from fire-heat, that they will not have their plants well in bloom until the second week in May, and what is somewhat noticeable, the alpine varieties appear to be much later in flowering this season than the show flowers, as they are termed, though the former were much more numerous than might have been expected.

Show Auriculas.—Strange to say, there were as many as six competitors in the class for twelve dissimilar Auriculas of the show type. Here Mr. J. Douglas, gr. to Mrs. Whitbourn, Great Gearing, Ilford, again occupied his old position of former times, taking the 1st prize with the following:—Green edges, the Rev. F. D. Horner, Abbé Lizst, both in very good condition; and Prince of Greens; grey edges, Mabel, (Douglas) Marmon (Douglas) in fine character, and so near a white edge that it might fairly have been included in the section; white edges, Elaine (Horner), Magpie (Horner), very good; and Acme. Sells, Mrs. Potts, Fanny Glass (Douglas), a large dark self, with an inclination to come coarse. Heroine, somewhat shaded on the petal edges, as the dark selfs appear to be generally this season; and Black Bess, all very fine and valuable varieties. 2nd, Mr. T. E. Henwood, Hamilton Road, Reading, whose flowers were wanting in the fine finish which usually characterises them, and showing visibly that the plants had been pushed on into flower. He had of green edges, the Rev. F. D. Horner and Rolit's Red, so named because a zone of red takes the place of the black ground generally seen in the green edges; grey edges, George Lightbody, Richard Headly, Douglas' Visit (Barlow), large in size, and somewhat rough in appearance, and George Rudd; white edges, Mrs. Dodwell, Dr. Kidd, and John Simonite; selfs, Mrs. Bentley (Barlow), fine and smooth, but much shaded; Black Bess, and Mrs. Potts. Mr. Charles Turner, Royal Nursery, Slough, was 3rd, having, among his green edges, the old Colonel Taylor. P. J. Worsley, Esq., Rodney Lodge, Clifton, Bristol, was 4th; and two other prizes were awarded.

There were six competitors also in the class for six show varieties, and again Mr. J. Douglas was placed 1st, with green edges, Rev. F. D. Horner and Abbé Lizst; grey edges, George Lightbody and Marmon; white edge, Acme; self, Mrs. Potts. 2nd, Mr. T. E. Henwood, with green edges, Rev. F. D. Horner and Lancashire Hero, in its green form; grey edge, George Rudd; white edge, Mr. Dodwell; selfs, Black Bess and Mrs. Potts. 3rd, Mr. A. J. Sanders, gr. to Viscountess Chertown, Bookham Lodge, Cobham; and three other prizes were awarded.

In the class for four varieties there were five competitors, and here Mr. William Badcock, Oxford Road, Reading, was placed 1st, with a very good lot of plants, viz., green edge, Rev. F. D. Horner; grey edges, Marmon and Richard Headly; self, Black Bess. 2nd, Mrs. Kyrie-Penson, Dinham Lodge, Ludlow, who had, green edge, Rev. F. D. Horner; grey edges, Marmon and Richard Headly; self, Black Bess. 3rd, Mr. Charles Phillips, Hamilton Road, Reading, with a seedling green edge in the way of the Rev. F. D. Horner, but a little weak in the paste; grey edges, George Rudd and Dr. Kidd; and a seedling self from Heroine, brighter in colour, and with a better paste.

The competition was good in the class for two varieties. Here Mr. Badcock was again 1st with green edge the Rev. F. D. Horner, and grey edge Richard Headly; 2nd, Mr. Charles Phillips, with green edge F. D. Horner, and self Heroine; 3rd, Mr. W. L. Walker, with white edge Mr. Dodwell, and self Black Bess.

Single Plants, Green Edges.—1st, Mr. J. Douglas, with the Rev. F. D. Horner; 4th, with Monarch; 2nd, Mr. W. Badcock, with the Rev. F. D. Horner; 3rd and 6th, Mr. T. E. Henwood, with the same. The Rev. Mr. Flood was 5th with General Neill, but it is doubtful if this was correctly named. Grey edges, 1st, the Rev. F. D. Horner, with Samuel Barlow (Bolton), a flower of excellent properties, having a fine black body-colour, smooth, and well-proportioned; 2nd, Mr. W. Smith, Bishops Stortford, with George Rudd; 3rd, Mr. W. L. Walker, with George Lightbody; 4th, Mr. J. Douglas, with Marmon; 5th, Mrs. Kyrie-Penson, with Conqueror of Europe. White edges, 1st, Mr. T. E. Henwood, with John Simonite; 2nd and 3rd, Mr. J. Douglas

with Acme; 4th, Mr. C. Turner, with Beauty; 5th, Mr. A. J. Sanders, with Acme; 6th, Mr. T. E. Henwood, with Mr. Dodwell, Sells, 1st, the Rev. F. D. Horner, with Precision, a very fine smooth self in the way of Mrs. Potts; and Kathleen, differing a little in colour, also smooth and fine, both of his own raising; 3rd, Mr. J. Douglas; 4th and 5th, Mr. T. E. Henwood, with Mrs. Potts; 6th, Mr. C. Phillips, with Heroine.

Groups of Auriculas.—Four collections of fifty plants were staged. Mr. J. Douglas having by far the best, included among his were green edges, Rev. F. D. Horner, Smetherfield, Monarch, Abbé Lizst, Prince of Greens, and Dr. Hardy (Simonite), fine pip, large tube, narrow paste, black body-colour; grey edges, Mrs. Moore, Mabel, and Neatness; white edges, Elaine (Horner), John Simonite, Peri (Douglas), and Acme; selfs, Black Bess, Mrs. Potts, Sapphire, Friar Tack, Dignity (Douglas), and Heroine. 2nd, Mr. C. Turner, who had of green edges, Lovely Ann and Lancashire Hero; grey edges, Colonel Champneys and Duke of Cambridge; white edges, Acme, Conservative, Frank Simonite, and Beauty, with several selfs. 3rd, The Guildford Hardy Plant Nursery Company.

Alpine Auriculas.—Some very fine and promising seedlings were among these. The best twelve came from Mr. W. L. Walker, who had Defiance, Hotspur, T. E. Henwood, Edith, and some valuable seedlings. 2nd, Mr. C. Turner, with Miss Blagburn, W. H. Grenfell, Jewess, H. E. Milner, very fine; Countess, Sunrise, Desdemona, white centre, very fine; Unique, Alarm, and seedlings, a fine and well-grown lot of plants. 3rd, Mr. J. Douglas, with Nellie, Unique, Charles Turner, Edith, Charles, Diadem, and seedlings. With six varieties, Mr. W. L. Walker was again 1st, with seedlings of very fine quality. 2nd, Mr. C. Turner, with Unique, H. E. Milner, Mrs. F. D. Horner, Mrs. Mettlejohn, and seedlings. 3rd, Mr. C. Phillips, also with seedlings; small plants, but of very fine quality. The best four varieties came from Mr. A. J. Sanders, who had Mercury, Sensation, King of the Belgians, and Diadem. 2nd, Mr. C. Phillips, again with seedlings; small in size, but highly promising. In the class for the best good centred flowers, Mr. C. Turner was placed 1st, with John Bewick, very bright in colour; 2nd, Mr. W. L. Walker, with Florie Henwood; and 3rd, with Hotspur; 4th, Mr. J. Douglas, with Unique; and 5th, with Nellie Hibberd, large, and bright in colour. In the class for cream and white centres, Mr. W. L. Walker was 1st, with Mary Frances; 2nd, Mr. C. Turner, with Countess; 3rd, Mr. W. L. Walker, with Edith; and 4th, Mr. C. Turner, with the same.

Fancy Auriculas.—The only exhibitor of twelve plants of these was Mr. J. Douglas; they were remarkable for their rich golden tubes, and gold and yellow body-colours. They occur among seedlings, and appear to be quite fixed in character.

Premier Auricula.—This was the green-edged variety Abbé Lizst, shown by Mr. J. Douglas, in his 1st prize twelve show varieties.

Polyanthus, gold-laced.—These lost much of their significance through being placed next to the more brilliant giant and fancy varieties, which overpowered them with their massiveness and striking colours. The best six came from Mr. R. Dean, Ranelagh Road, Ealing, who had George IV., William IV., Sir Sidney Smith, Lord Beaconsfield, and two seedlings; 2nd, Mr. James Weston, Ravenshoe, Balmham, who had William IV., Lancashire Hero, Chesire Favourite, &c.; 3rd, Mr. J. Nicholson, gr. to J. W. Meller, Esq., Sewardstone, Chingford. In the class for three plants, Mr. A. Mothershead, Slough, was 1st with George IV. and Prince Regent, both in excellent condition; and Napoleon III. In the class for single plants, Mr. Douglas was 1st with George IV., and 2nd with William IV.; Mr. Weston was 3rd with Lancashire Hero, and 4th with Prince Regent.

Polyanthus, fancy.—Owing to the frost and cold winds, these were by no means seen at their best. Still they made a brave display. Mr. R. Dean was placed 1st with twelve pots, and Mr. J. Douglas 2nd, the plants in both cases being of large size, and carrying good heads of bloom.

Primroses.—For the same reason, these were not so good as usual. Mr. R. Dean was again 1st, with twelve pots, and Mr. J. Douglas 2nd.

Primroses, Double.—With the exception of a basket sent by the Guildford Hardy Plant Nursery Co., these were not represented; the crimson Cloth of Gold, white, red, and others, were in good character.

Species of Primulas.—These were as usual of a

very attractive character. With twelve species, Mr. J. Douglas was placed 1st, having remarkably well-grown and bloomed examples of denticulata, Sieboldi var. laciniata, obovata, japonica, rosea, verticillata, Nelsoni, marginata, villosa, nivea, a hybrid between intermedia and an alpine species, and decora; 2nd, The Guildford Hardy Plant Nursery Co., who had their contribution neatly arranged in baskets, and included rosea grandiflora, nivea, auricula, ciliata purpurea and ciliata rosea, viscosa magnifica, pubescens, &c. In the class for six species, O. T. Hodges, Esq., Lachine, Chislehurst, was 1st with marginata, nivea, viscosa, viscosa var., Cashmeriana, and Wulfeniana. There was no other competitor.

Basket of Primroses.—The best came from Mr. R. Dean, the quality of the flowers being very good; and Mr. G. Phippen, Reading, took the 2nd prize.

New Auriculas.—Two prizes were offered in each section for new Auriculas. In the green-edged class, Commander, raised and shown by the Rev. F. D. Horner, was staged, the pip is large and stout, a narrow zone of black body-colour, and fairly good tube. A good deal of objection was made to this award, but the judges could plead that green-edges are scarce, and every encouragement should be given to raisers. In the grey-edged class a 1st prize, was awarded to Mr. Kyrie-Penson, for Dinham, a large well-formed grey that promises to be very useful. In the white-edged class, a 1st prize was awarded to Mr. B. Simonite, for Venus, a chaste and pleasing flower of good quality and promise. Of self flowers, a 1st prize was awarded to Mabel, raised and shown by Mr. C. Phillips, of Reading, a well-finished flower in the way of Mrs. Potts, but redder.

New Alpine Auriculas.—In the golden-centred class, the 1st and 2nd prizes were awarded to Mr. C. Phillips, for Evelyn, rich gold, black ground, shading to brilliant crimson; and Emily, deep gold, dark ground colour, shading to chestnut-crimson. In the white-centred class, a 1st prize was awarded to Mr. W. L. Walker, for Winnifred, dark ground, shading to pale pinkish salmon; and to Mr. C. Turner, for Phyllis, a very pretty and promising flower.

Certificates of Merit were awarded to Mr. Kyrie-Penson, for Dinham; and to Mr. B. Simonite, for Venus; and to Mr. C. Phillips, Mabel. To alpine Auriculas, H. E. Milner, from Mr. C. Turner, good centre, dark ground, edged with bright rosy-salmon—fine pip and truss; to Romulus, cream centre, dark ground, edged with pale pinkish-salmon; to Ben. Simonite, gold centre, dark ground, shading to a kind of pale salmon-blush; and to Perfection, golden centre, dark ground, and pale salmon edge, all from Mr. W. L. Walker, Reading.

Miscellaneous.—The Rev. F. D. Horner sent a collection of new Auriculas, conspicuous among them being his fine new yellow self Buttercup, and a very promising red-coloured self, Mr. R. Dean had a large and showy collection of Polyanthus and Primroses in pots; and from Mr. W. H. Divers, the gardens, Ketton Hall, Stamford, came a basket of the early flowering white Primrose Harbinger; and a basket of what was termed the Old Single White Primrose, which looked a poor thing against some of the fine varieties of the present day.

The Lecture.—The Florists' Tulip.

At the afternoon meeting, the paper was read by Mr. Douglas, in the absence of the Rev. H. C. Horner. Mr. Horner said, that to the inexperienced eye, an ordinary group of Tulips would appear to belong to two distinct species, and explained in florists' terms the phenomena of "rectification," and said that a Tulip might have a self-colour for the first five years of its existence, or even longer, but at about that time it would become rectified, and the flower variegated. All Tulips commenced with a self-colour, and all afterwards would become "rectified." He did not know of any other plant which was the subject of such a phenomenon. The florist divides the Tulip into two distinct classes, those with a yellow base, and those having a white base or ground. The colour of the base always decides the class of the flower. Mr. Horner then went on to describe the markings that should be present in the florist's Tulip, and said that only two kinds were permissible, the one called the "feathered" Tulip, and the other the "flame." If any of the markings interfered with the feather, even in the eyes of the florist it was condemned, and so with the "flame" section. The Tulip must possess neither more nor fewer than six petals, or it would certainly lose

MARKETS.

THE WEATHER.

DISTRICTS.	TEMPERATURE.		RAINFALL.	BRIGHT SUN.
	ACCUMULATED.			
Above (+) or below (—) the Mean for the week ending April 10.	Above 42° for the Week.	Below 42° for the Week.	More (+) or less (—) than Mean for the Week.	Percentage of possible Duration for the Week.
	Above 42°, difference from Mean since Jan. 3, 1892.	Above 42°, difference from Mean since Jan. 3, 1892.	No. of Rainy Days since Jan. 3, 1892.	Percentage of possible Days since Jan. 3, 1892.
			Total Fall since Jan. 3, 1892.	

		Day- deg.	Day- deg.	Day- deg.	Day- deg.	10ths Inch.			
0	6	11	59	+ 17	+ 182	4	63	11	49
1	7	9	50	— 18	+ 208	3	50	57	53
2	6	7	39	— 18	+ 172	1	53	46	30
3	5	18	39	+ 31	+ 189	4	+ 54	46	31
4	6	23	46	— 2	+ 214	1	47	46	45
5	4	34	21	— 19	+ 126	1	40	40	49
6	5	20	45	— 8	+ 175	5	51	82	51
7	5	19	39	— 14	+ 163	1	51	69	49
8	2	35	16	+ 14	+ 96	3	50	66	51
9	4	21	35	— 22	+ 113	4	53	64	60
10	3	41	22	— 32	+ 122	5	49	79	64
* 2	—	33	2	— 7	+ 41	3	+ 58	80	52

s. d. s.		s. d. s.	
Acacia or Mimosa,		Marguerites, per doz.	
French, per bunch	16-20	Bunches, " " "	30-40
Arum, per doz. bl.	20-30	Narcissus, per doz.	
Azalea, p. doz. sprays	9-10	F., p. bnu. white,	
Camellia, white, doz.	20-30	" " "	20-40
Carnations, 12 blms.	2-3	Narcissus (various),	
Cinerarias, 12 bun.	6-9	Scilly, doz. bunches	20-40
Daffodils, doz. sprays	10-12	Oorchids	
" single	16-20	Cattleya, 12 blms.	6-30
" various	60-80	Otogadoglossum	
Eschscholias, doz. bun.	20-30	Pelargonium, 12 blms.	6-30
Freissias, doz. bun.	20-30	" let, per 12 bun.	40-60
Geranias, per dozen	30-60	" 12 sprays	0-10
Gardenia, 12 sprays	9-10	Primula, doz. bun.	40-60
Hycos, doz. sprays	10-12	Primula, sig., 12 bun.	40-60
" Dutch, p. box	16-50	Roses, Tea, per dozen	9-20
" French, bunch	9-16	" coloured, dozen	20-60
Jacqueline, doz. sprays	10-30	" yellow, (large	
Lilac white (French)		chairs), per doz.	16-40
" per bunch	4-5-50	red, per dozen.	2-40
Lily of the Valley, per		red, 12 bunches	40-60
Lilyum Harrisii, doz.	2-40	Talipot, p. doz. blms.	0-60
Lily of the Valley, per		Tuberoses, 12 doz.	10-10
doz. sprays	0-60 10	Violets, Parme, per	
Maiden Hair Fern,		" English, 12 bun.	10-16
12 bun.	6-8-80	Wallflowers, French,	
Mignonette, 12 bun.	0-60	per dozen bunches	20-40

	s. d. s. d.			s. d. s. d.	
Artichokes	Globe,		Lettuces, per doz.	1	6-20
Each	...	0 4-0 6	Mushrooms, punnet	2	0-...
Beans, French, lb.	...	0 6-0 30	Mustard and Cress,
Each	...	0 3-0 0
Carrots, per bunch	...	0 4-0 6	Parsley, per bunch	...	0 3-0 6
Calliflowers, each	...	0 3-0 6	Seakale, p. basket	...	0 2-0 30
Calery, per bundle	...	1 0-0 30	Shallots, per lb.	...	0 6-...
Cucumbers, each	...	0 8-1 3	Spinach, per bushel	...	0 6-...
Each	...	0 6-0 6	Tomatoes, per lb.	...	1 0-1 6
Grapes, new, per lb.	...	3 6-6 4	Turnips	...	0 4-0 0
Herbs, per bunch	...	0 9-1 0			

SPITALFIELDS: *April 20.*—Quotations:—Imperators, 50s. to 80s.; Hebrons, 50s. to 80s.; Main Crop, 60s. to 85s.; Snow-drops, 61s. to 70s.; Bruce Magnums, 53s. to 70s.; Sutton's Abundance, 75s. to 80s. per ton.

BOROUGH: *April 19.*—Quotations:—Bruce Magnums, 60s. to 90s.; Dunbar do., 80s. to 90s.; Fenland do., 50s. to 55s. per ton.

STRATFORD: *April 20.*—Quotations:—Light-land, 53s. to 80s.; Dark do., 52s. 6d. to 90s.; Scotch, 70s. to 100s.; Hebrons, 60s. to 70s. per ton.

Averages.—Official statement of the average prices of corn, imperial measure, for the week ending April 16, and for the corresponding period last year:—1892: Wheat, 30s. 7d.; Barley, 28s. 10d.; Oats, 20s. 7d. 1891: Wheat, 39s.; Barley, 27s. 9d.; Oats, 19s. 8d.

SEEDS.

LONDON: April 20.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., write that there is now a good seasonal demand for farm seeds. Prices all round keep at the moderate level previously ruling. Stocks, moreover, are getting rapidly reduced. Some handsome American and French Red Clover-seeds can now be obtained at very reasonable figures. Fine samples of Alsike and White have become scarce and command advanced rates. There is no change this week in grasses, Sainfoin appears nearly exhausted, and being much wanted is consequently dearer. For Tares there is a brisk sale at last week's low curricula. Canaryseed is strong at the recent advance. Hempseed keeps steady. Mustard and Rapeseed are firm.

FRUITS AND VEGETABLES.

STRAITFORD: April 19.—There has been a plentiful supply of all kinds of produce at this market during the past week, and a brisk trade was done as under:—Greens, 1s. 6d. to 2s. 6d. per tally; Cauliflowers, 1s. 6d. to 2s. per dozen; ditto, 6d. to 8d. per tally; Turnip-tops, 2s. 6d. to 3s. per dozen; Broccoli, 2s. to 3s. 6d. per bag; Rhubarb, 2s. to 2s. 6d. per dozen bunches; Turnips, 30s. to 40s.; Carrots, household, 32s. to 40s. per ton; do., cattle-feeding, 20s. to 25s. 6d.; Parsnips, 60s. to 70s. do.; Mangolds, 16s. to 20s. per ton; Swedes, 1s. 2d. to 1s. 4d.; Onions, English, 7s. to 8s. per bush; Dutch, 8s. 6d. to 9s. do.; Apples, English, 4s. to 5s. per bushel; Watercress, 7d. to 9d. per dozen.

SPITALFIELDS: April 19. Quotations:—Seakale, 9d. to 1s. 6d. per punnet; Curry Kale, 6d. to 1s.; Spinach, 2s. to 3s. 6d. per bushel; Turnip-tops, 1s. 6d. to 2s. 6d.; Swede-tops, 1s. 6d. to 2s.; Sprouting Broccoli, 1s. 6d. to 2s. per sack; Greens, 2s. to 2s. 6d.; Carrots, 1s. 6d. to 2s. per dozen; Spring Onions, 2s. 6d. to 4s. 6d.; Parsley, 4s. to 6s. 6d. per dozen bunches; Turnips, 1s. 6d. to 2s. per bag; Cauliflowers, 6s. to 12s. per tally; Parsnips, 4d. to 6d. per score; Leeks, 3s. to 4s.; Cos Lettuces, 2s. to 3s.; Cabbage, 9d. to 1s. per dozen; Celery, 6d. to 1s.; Horseradish, 1s. to 1s. 2d. per bundle; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; English Onions, 8s. to 9s. per cwt.; Belgian and Dutch do., 6s. 6d. to 7s. 6d. per bag of 110 lb.; Spanish do., 10s. to 12s. per case; English Apples, 2s. 6d. per bushel; American do., 12s. to 22s. per barrel; foreign Tomatoes, 1s. to 2s. per box; forced Rhubarb, 1s. 3d. to 1s. 9d.; natural do., 1s. 6d. to 2s. 6d. per dozen bunches.

BOROUGH: April 19.—Quotations:—Broccoli, 1s. 6d. to 12s. 6d. per tally; Sprouting do., 1s. 6d. to 2s. Turnip-tops, 1s. 6d. to 2s. 6d. per bag; Spinach, 3s. 6d. to 4s. 6d. per bushel; Greens, 2s. to 2s. 6d.; Turnips, 1s. 6d. to 1s. 9d.; Carrots, 1s. 3d. to 1s. 8d. per dozen bunches; Egyptian Onions, 8s. to 9s. per cwt.; English Apples, 2s. 6d. to 6s. per bushel; Canadian do., 14s. to 20s.; Newtown Pippins, 15s. to 28s. per barrel.

HAY.

Averages.—The following are the prices at the principal metropolitan markets during the past week:—Clover, prime, 80s. to 102s.; inferior, do., 45s. to 75s.; hay, best, 60s. to 92s.; inferior, do., 26s. to 50s.; and straw 20s. to 38s. per load.

NOTICES TO CORRESPONDENTS.

BOOKS: H. B. Kitchin and Market Garden, London: Macmillan & Co.

DIOSMA UNIFLORA, &c.: O. B. The spring propagation of *Diosma* is performed with wood which has grown in the current year, hastened if you like by placing the plant in an airy intermediate house, in which the inmates are syringed, and the house closed about 3.30 or 4 P.M. The wood should be getting firm, but it should not be ripe or hard. The cuttings may be made 2 to 3 inches long without a heel, and should be taken from the circumference of the plant. Prepare well-drained pots, half-fill them with siftings, the size of Kidney Beans, and then on this put finely-sifted loam, peat and sand, and finish with half-an-inch of the cleanest sand; give the pot a watering sufficient to wet the soil throughout, let it dry somewhat, fit a bell-glass over it to mark the space to be occupied with the cuttings, and then insert the latter to about half their depth or rather less, the part below the level of the sand being denuded of leaves by cutting them off, not plucking. Water the cuttings, and when the leaves are dry, put on the bell-glass. A very mild, warm bed should have been made of the old materials of a hot-bed, and covered with a frame of close-fitting lights; and when the bottom-heat of this bed is steady at about 60°, plunge the cutting-pots to the rim. Shade the same in sunny weather, and remove the bell-glasses for ten minutes every morning, wiping them out quite dry. The cuttings may require to be watered before they are rooted, in which case the pots must be removed from the bed, for the purpose, to a place in the shade, and

replaced when the water has drained away from them. If the water can be applied by means of a very fine spout or a goose-quill put through a bit of cork stuck into the spout of an ordinary watering-pot, it is better than employing a Rose, however fine. When the cuttings are rooted they should be potted off into thumba, and kept in the warm frame till roots push into the soil, affording them a little air daily. After establishment they may be grown in an ordinary cold frame till the autumn. *Fabiana*, *Phyllis*, *Camellia* for stocks; *Epacris*, some of the *Ericas*, *Myoporum*, *Coronilla*, *Cassia*, *Myrtles* may be struck in the same manner. This kind of mild-warm bed is excellent for the propagation of *Eunymus*, *Aucuba*, *Spiraea*, *Weigelia*, *Deutzia* from cuttings of soft wood; and for stem cuttings of *Bambusa*, *Yucca*, *Arundo*, &c.

GOOSEBERRIES: T. T. If, as you say, the bushes bear well, you trouble yourself about the red mites? See our columns next week.

HEDYCHUM GARDNERIANUM: B. F. M. M. The stems should be cut down when they show signs of decay. It is only the new growths that will flower. Keep it dry, if from October to March, in a border, by affording no water to that part of the border, or if in a pot by turning it on its side under the greenhouse stage. Intermediate or cool greenhouse. In warm weather outside.

MUSHROOMS DAMPING OFF: W. H. T. Without knowing anything of the methods pursued or the state of the bed, we should suppose that the young Mushrooms die either from want of warmth in the bed, or want of moisture in the soil, or both combined. A bed should be made of such a thickness and of such materials as will preserve a heat in it until the crop of Mushrooms is exhausted.

NAMES OF PLANTS: *Poppy*, *Cupressus* *Corneyana*; 4, *A Juniper* in a young state, which we cannot name.—G. H. 2, *Cupressus* *Goveniana*.—A. D. W. *Nandina domestica*.—Eydol. 1, *Picea excelsa*; 2, *Prunus laurocerasus* var. *angustifolia*; 3, *Thuja Warrena* of gardens; 4, *Thuopsis dolabrata*; 5, *Retinospora plumosa* of gardens; 6, *Cryptomeria japonica*.—E. P. D. *Primula denticulata*.—L. J. A. 1, *Primula veris*; 2, *P. vulgaris*, umbellate form; *Stellaria holostea*; 4, *Arenaria rubra* (perhaps); 5, *Saxifraga tridactylites*.—Subscriber. The dried leaf is, probably, *Aralia Sieboldii*.—F. A. G. *Selaginella cesia*.—W. S. C. P. 1, *Chionodoxa sardensis*; 2 and 3, next week; 4, *Dactylis cespitosa*.—G. S. Small white Orchid, *Cœlogyne graminifolius*, *Dendrobium carliferum*.—J. W. W. *Odontoglossum crispum*, a singular-looking var.; *O. nebulosum* is a very fine variety—few better.—A. B. *Dendrobium primum*.—W. J. *Dendrobium crepiditum*, and the brightest form of it we have seen. *O. E. B.* *Cœlogyne cristata*.—T. *Lonicera caprifolium*.—E. M. 1, *Ageratum Weinmannianum*; 2, *Kennedia rubicunda*; 3, *Ageratum album*; 4, *Salvia generiflora*.

SCARLET PELARGONIUM: *Hazelwood*. We cannot undertake to name varieties of florists' flowers. Send a flower to a nurseryman who grows these flowers extensively.

VERONICA: J. G. Many thanks. The appearances are as you describe them, and are very curious. Such changes in phyllotaxis are not uncommon in some plants, but the explanation is not easy.

WORMS IN GRAVEL PATES: *Senex*. You might use salt (agricultural) or some of the arsenical weed killers. The latter are poisonous to fowls, and are apt to injure animals that roll on the walks, and afterwards lick themselves. Both will kill live walk edgings, which must therefore not be touched with them. Perhaps, the safest remedy would be clear lime-water used over the surface of the walks with a rose-ann. The worms would come to the top soon after a watering with this, and might then be swept up, and the walk well rolled. The watering might be repeated when necessary; but it is the formation of the walk that is at fault.

COMMUNICATIONS RECEIVED.—J. W.—Prof. Heuriques, Coimbra.—Prof. Penzig, Genoa.—Mr. J. G. Lemmon, California.—T. W. S.—G. H.—J. W.—D. T. F.—H. E.—M. D.—J. F. Neudeck—M. A. de Candolle, Geneva.—W. S. Brisbane.—F. Hansen, California.—F. G. T. Hydras.—Chas. De B.—H. F.—W. E.—B.—H. J.—A.—N. E.—B. S. T. W.—J. D.—R. P.—W. K.—K. G. S.—A. J. T.—B. A.—G. P.—Fonum.—Dr. Kränzlin.—W. A. C.—R. A.—R. J. O'B.—J. R.—E. T.—A. D.—J. C.—C. W.—D. T. C.

PHOTOGRAPHS RECEIVED WITH THANKS.—The Earl of A.—M. L. Linden, Brussels.—S. C. N.—S.—D. M.—J. D.—T. B. H.—W. Soutter, Brisbane.

RELIANCE FERTILISER.

A highly concentrated Plant Food, cleanly to use, for Greenhouse and Garden. The least possible waste, with utmost efficiency. 7 lb. 1s. 4d.; 14 lb. 3s.; 28 lb. 5s. 6d.; 56 lb. 10s.; 112 lb. 18s.; and—

NITROLAINE.

A cheap and excellent "all-round" manure for Fruit, Flowers, Vegetables, Grass. A genuine Plant Food, rich and lasting. 56 lb. 3s.; 1 cwt. 5s. 6d.; 5 cwt. 28s.; 10s. worth of Manures carriage paid to any railway station 200 miles, or on C. P. & Co.'s rounds. Guano, Nitrate, Ammonia, Phosphates, Bone Manures, &c.

LEAF MOULD, PEAT MOULD, FIBROUS LOAM, and COMPOST COMPOST 3s. per 4 bushel sack; 1s. per bushel. Best Brown Peat, 5s. per sack; 1s. 6d. per bushel. Coconut Fibre, 1s. 3d. per sack; 5 for 6s. Silver Sand (course or fine), 1s. 6d. per bushel. Charcoal (nuts or fine), 2s. per bushel.

Price Lists free. The Trade supplied on liberal terms. "PLANT FOODS and HOW TO APPLY THEM," a Descriptive List, with Directions for Use, post-free, Ltd. HORTICULTURAL SUPPLY CO., Old Stow Tower Wharf, London, S.E.



THE PERFECT WEED KILLER

COMPLETELY DESTROYS VEGETATION on Garden Walks, Carriage Drives, Stonework, etc.

WE GUARANTEE

all Weed Killer bearing our Trade Mark to be thoroughly effective. Refuse Imitations. THE GARDENERS' MAGAZINE says: "The Perfect Weed Killer is at once simple, cheap, and effective. At the Royal Gardens, Kew, the Royal Horticultural Society's Gardens, Chiswick, and other public places, the Perfect Weed Killer is trusted for making a clean sweep of noxious weeds."

PRICES: 1 Gallon, 2s. 5 galls., 1s. 6d. per gallon; 10 galls., 1s. 4d. per gall. Carriage paid on 10 galls.

Special Quotations for Larger Quantities.

THE PERFECT SUMMER SHADING

Supersedes all Others FOR SHADING GLASS ROOFS OF ALL KINDS. Is applied COLD, yet does not wash off with Rain. 1 lb. makes 2 gallon.

Price—1 lb. Tin, 1s.; post free 4jd. extra.

H. and A. CHEMICAL COMPANY,
97, Milton Street, Glasgow.
May be had through Chemists or Seedsmen.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blights, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in latter case for American Light, and as an emulsion when paraffin is used. Has obtained many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade, Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

EPPE'S Selected PEAT,
For ORCHIDS, STOVE PLANTS, Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. **SPECIAL ORCHID PEAT**, is sack only. Rich fibrous LOAM, superior LEAF-MOULDS, Coarse, Crystal and FINE SILVER SAND, CHARCOAL, G.N. FIBRE REFUSE, fresh SPAGNUM, PATENT MANURES, FERTILISERS, INSERTICIDES, and all other Garden Requisites. **Peat Moss Litter.**
The Original Peat Depot, RINGWOOD, HANTS.

RICHARDS' NOTED ORCHID PEATS, And other SELECTED Peats, Loom, Sand, Manures, Mats, Netting, Shadings, Tobacco Paper, Insecticide, Weed-Killer, and all Garden Sundries, at the Shortest Notice. Special Railway Rates to all parts. The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Child Road Depot and Grounds—Ringwood, Hants. Samples and Price List post-free.

CARSON'S PAINT
Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of **OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.**
1 Cwt., and Oil Mixture, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free. **GROVE WORKS, BATTERSEA, LONDON, S.W.**
15, VICTORIA STREET, WESTMINSTER, S.W.; and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. each; free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

SPHINCTER-GRIP Steel Wire Armoured GARDEN HOSE

Bore— $\frac{1}{2}$, $\frac{3}{4}$, $1\frac{1}{2}$, $2\frac{1}{2}$, and 1 inch.
Price—7jd., 8jd., 10jd., 1s., and 1s. 2d. per foot.

Carriage Paid, from—

HEATHMAN'S HOSE FACTORY,
2, ENDELL STREET, LONDON, W.C.

**ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,
AND ALL GARDEN SUNDRIES.**

SEND FOR A

PRICE LIST

from the Largest Manufacturer in the Trade,

H. G. SMYTH,
21, GOLDSMITH STREET,
DURRY LANE, W.C.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO

THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.

**The Original and Only Makers of the
GENUINE RIVETED TRENTHAM BOILERS**

WITH SOLID ENDS. Also—



SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).

These Boilers, after long experience, have
proved themselves the Most Efficient, Economical,
and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges,
and Expansion-Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

EXTRA STOUT strong-tanned NET, 2 yards
wide, 14d. yard; 4 yards wide, 3d. yard; or 2 yards wide,
10s. per 100; 4 yards wide, 20s. per 100 yards. NEW TWINE
NETTING, 1 yard wide, 14d. yard; 2 yards wide, 3d. yard;
4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. COTTON
NET, extra meshes to square inch, 1 1/2 yards wide, 7d. yard run.
W. CULLINGFORD, 24, Eastern Road, Plaistow, E.

INTERNATIONAL HORTICULTURAL EXHIBITION,

EARL'S COURT, S.W. OPENING DAY, MAY 7, 1892.

£1500 GIVEN AWAY IN PRIZES TO BOTH NURSERYMEN AND AMATEURS.

Chairman of the Executive Committee, H. E. MILNER, Esq., F.L.S., Assoc. M.Inst.C.E.

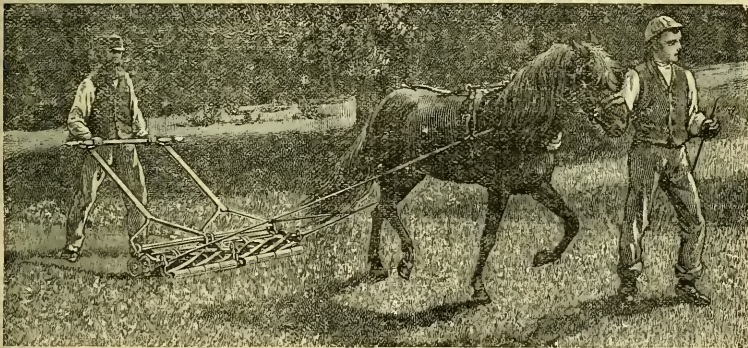
General Committee:—

* Mr. H. E. MILNER, F.L.S., C.E., 7, Victoria Street, S.W.
Chairman.
„ R. BALLANTINE, Chairman Chrysanthemum Society,
7, Distaff Lane, Cannon Street, E.C. (Trent).
„ W. BENNETT, F.R.H.S., Rangemore Gardens, Burton-on-
P. BARR, F.R.H.S., 12, King Street, Covent Garden.
„ P. BLAIR, Trentham Gardens, Stoke-on-Trent.
„ W. BULL, F.L.S., F.R.H.S., King's Road, Chelsea, S.W.
„ W. BURNES, Eggshot Park, Egghot.
„ H. CANNELL, F.R.H.S., Swanley.
„ H. T. CUTBUSH, F.R.H.S., The Nurseries, Highgate.
„ R. DEAN, F.R.H.S., Ranelagh Road, Ealing (Ilford).
„ J. DOUGLAS, Mem. Council F.R.H.S., Great Gearys,
E. O. GREENING, 186, Creek Road, Deptford.
„ G. GORDON, F.R.H.S., Editor *Gardeners' Magazine*,
1, Priory Park, Kew.

Mr. H. HERBERT, F.R.H.S., New Road, Richmond.
„ J. HUDSON, F.R.H.S., Gunnersbury House, Acton.
„ E. HILL, F.R.H.S., Tring Park, Tring.
„ W. JAGGULEY, F.R.H.S., Marstoe House, Frome.
„ J. JENNINGS, F.R.H.S., A cott, Leighton Buzzard.
„ JOHN LEE, F.R.H.S., 75, Warwick Gardens, Kensington.
„ WM. LEE, F.R.H.S., Royal Vineyard Nursery, Ham-
mersmith, W.
„ F. Q. LANE, F.R.H.S., Great Berkhampstead.
„ D. F. LAIRD, 17, South Frederick Street, Edinburgh.
„ J. MCINDOE, Hutton Hall, Guisborough, Yorks.
„ W. MARSHALL, F.E.S., Chairmao Floral Committee,
R.H.S., Auchenraib, Bexley.
„ A. McKELLAR, Sandringham, King's Lynn.
„ G. T. MILES, F.R.H.S., Wycombe Abbey, High Wy-
combe.
„ G. MUNRO, F.R.H.S., Covent Garden, W.C.

Mr. W. PAUL, F.L.S., F.R.H.S., Waltham Cross, N.
„ H. M. POLLETT, F.R.H.S., Fernside, Bickley.
„ G. PHIPPS, F.R.H.S., Victoria Nursery, Reading.
„ T. W. SANDERS, Editor *Amateur Gardening*.
„ J. SMITH, F.R.H.S., Mentmore, Leighton Buzzard.
„ A. TURNER, F.R.H.S., Royal Nursery, Slough.
„ H. TURNER, F.R.H.S., Royal Nursery, Slough.
„ H. W. WARD, F.R.H.S., Gardens, Longford Castle.
„ W. WILLIAMS, F.L.S., F.R.H.S., Upper Holloway, N.
„ W. H. WILLIAMS, F.R.H.S., The Nurseries, Salisbury.
„ J. WRIGHT, F.R.H.S., Sub-Editor, *Journal of Horti-
culture*, 171, Fleet Street, E.C.
„ B. WYNN, F.R.H.S., Editor *Gardening World*, 1,
Clement's Inn, Strand, W.C.
„ G. WYTHES, F.R.H.S., Syon House, Brentford, W.
* Members of the Executive Committee.

INTENDING EXHIBITORS should make immediate Application for Space, which is rapidly being taken up, not intending to exhibit, will allow their Gardeners to compete in the various classes. It is hoped that Noblemen and Gentlemen who are
DISPLAYS in every branch of Industry of Interest to Practical and Scientific Horticulturists. For Schedules of the General Exhibits, Flower Shows, and all information, address the Secretary,
G. A. LOVEDAY, Esq., B.A., International Horticultural Exhibition, Earl's Court, London, S.W.



THE

“NEW EASY” LAWN MOWER.

The **LIGHTEST RUNNING** and
CHEAPEST ROLLER Machine.

UNEXCELLED DURABILITY.

Made in all Sizes, from 10 to 24 inches.

The **LARGEST SIZE** EASILY WORKED by ONE MAN.

Illustration shows two 24-in. Machines coupled
together, doing the work of a 50-in. Horse
Machine, at one-third the initial cost.

SOLE LICENSEES—

SELIG, SONNENTHAL, & CO.,

85, Queen Victoria St., London, E.C.

HEATING! HEATING!! HEATING!!!**THE THAMES BANK IRON COMPANY**

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the
largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

**PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-
END, Etc.; VENTILATING GEAR and VALVES.**

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes,
without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—“HOT-WATER, London.” Telephone, No. 4763.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included. Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.



JAS. BOYD & SONS,

HORTICULTURAL BUILDERS
AND HEATING ENGINEERS,
PAISLEY.

**HORTICULTURAL
STRUCTURES**
of every description,
in either Wood or Iron,
or both combined.

Wooden Chapels,
Shooting Lodges, Cottages,
Tennis Courts, Verandahs, &c.

Hot-water Apparatus
for warming Churches,
Schools, Public Buildings,
Mansions, Harness Rooms,
Drying Rooms, Hothouses, and
Buildings of every Description.

Illustrated Circulars
Post-free.

Complete Catalogue, 3s.



And for all Glass Structures that require Shading. Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—CORYY and CO. (Ltd.), Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.

STOCK	SIZES
Inches.	Inches.
14x12	20x15
16x12	20x18
18x12	22x18
20x12	24x18
16x14	20x18
18x14	22x18
20x14	24x18

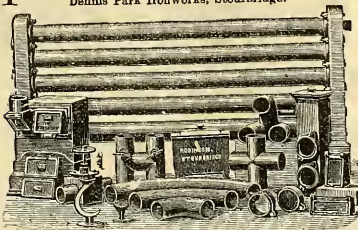
21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

THOS. W. ROBINSON,
Dennis Park Ironworks, Stourbridge.



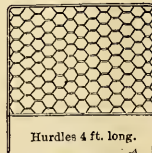
EXPANSION JOINT HOT-WATER PIPES,
SOCKET HOT-WATER PIPES.

Illustrated revised Price List on application, free.

BOULTON & PAUL, MANUFACTURERS, NORWICH.

Improved Pea Trainers.

To be used instead of
Pea-sticks.



Hurdles 4 ft. long.

Cash Prices.

3 ft. high, 4 ft. high, 6 ft. high.
1/3 each, 1/9 each, 3/5 each.

Diamond Wire Trellis.

For Training Plants.



Cash Prices.

Stock Sizes, 5-in. mesh,
light quality. s. d.
6 ft. by 3 ft. each ... 2 6
6 ft. by 4 ft. " ... 3 6

Galvanized Pea and Seed Guards.

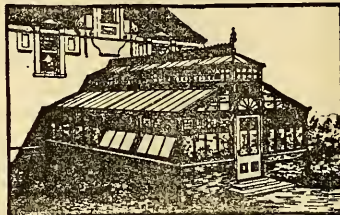
3 ft. long, 6 in. wide.
Two end pieces to the dozen
lengths.

CASH PRICE, 4/6 per dozen.

ILLUSTRATED CATALOGUE of all our Manufactures,
free on application.

BOULTON & PAUL, NORWICH.

RICHARDSON'S



HORTICULTURAL BUILDINGS.

Conservatories, Greenhouses,
Vineries, Peach Houses,
Stove and Orchard
Houses, &c. Also
Boilers, Pipes,
and Fittings.

MANY
PRIZE MEDALS.
WARMING and
VENTILATION of
Churches and Public Buildings
(as well as Greenhouses).

**W. RICHARDSON & CO.,
DARLINGTON.**

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN

TREE GUARD, "The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanized Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire,
Dec. 28, 1887."

"DEAR SIRS,—I have now had
an opportunity of trying
your PORCUPINE TREE
GUARDS, and they seem
quite to answer my pur-
pose, so you may send me
50 more as before. I en-
close cheque for your
account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.

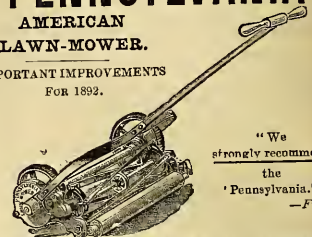


Paris International Exhibition, 1889.
HIGHEST AWARD, SILVER MEDAL.
NO AWARD WAS GIVEN
to any English or Continental-made Lawn Mowers!
THE PERFECTED

"PENNSYLVANIA"

AMERICAN
LAWN-MOWER.

IMPORTANT IMPROVEMENTS
FOR 1892.



"We
strongly recommend
the
'Pennsylvania.'"
—Field.

PERFECTION OF EASY WORKING AND EFFICIENCY.

The only American Lawn Mower fitted with Six Cutting
Blades. It will mow grass closely and smoothly, and with
half the labour of the best English Machines. All
sizes, up to largest (21 in.), can be worked easily by one man.

ONE MONTH'S FREE TRIAL ALLOWED.
Carriage Paid to all Stations.

Gardeners, professional or amateur, who value time and
wish to avoid laborious work, while obtaining the best possible
results in the way of keeping their lawns in perfectly trim
order, should write for Price Lists and Testimonials from—
LLOYD, LAWRENCE & CO.,
34, WORSHIP STREET, LONDON, E.C.,
and all Ironmongers and Seedsmen.

RANSOMES'

At the Jubilee Meeting of the R.A.S.E.,
HER MAJESTY THE
QUEEN and H.R.H. PRINCESS
VICTORIA OF PRUSSIA each pur-
chased a RANSOMES' LAWN MOWER.



All
Mowers
sent on a
Month's
Trial,
Carriage Paid.

LAWN MOWERS, The Best in the World.

In all sizes to meet every requirement.

"NEW AUTOMATON," the Best Gear Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"ANGLO-PARIS," the Best Small Machine.
"EDGE CUTTER," the only one of real service.
"BANK CUTTER," the Best for Cutting Slopes.

THE BEST PONY and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.

RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

If you fail to obtain this
Valuable Canvas from your local
Seedsmen, send a post-card to—

BENJ. EDGINGTON,
(LIMITED),
2, DUKE STREET,

London Bridge, S.E.,

Who will reply by return, with
Samples and full Particulars.

"FRIGI DOMO" CANVAS.

TANNED NETTING.—For Preserving Fruit.

Trees, Flower Beds, &c., from Frost and Blight.
35 square yards for 1s.; any width sent. Carriage paid on all
orders over 5s.

HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses, Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. **HOT-WATER BOILERS and HEATING APPARATUS**, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps. **FALACIA PLAIN HORTICULTURAL WORKS, NORWICH.**

GREENHOUSES FOR THE MILLION.—Cheapest Depot for any kind of Glass Erections in the County. Note the following:—100 feet by 20 feet, £160; 100 feet by 12 feet, £90; 60 feet by 12 feet, £60; 30 feet by 10 feet, £30. Several excellent Second-hand Houses marvelously cheap. **Hawkins' Perfection** System of Glazing is the best, and defies competition. Estimates Free. Do not buy without first having price from **HAWKINS, Horticultural Builder, Ashford, Middlesex.** Established 1871.

GARDEN REQUISITES, as supplied to the Royal Gardens.—**COCOA-NUT FIBRE REFUSE**, 1s. 3d. per sack, 10 for 12s.; 20 for 20s.; 30 for 28s., sacks free; 2-ton truck, 30s., free on rail near works. **FINE ORCHID PEAT**, 6s. 6d. per sack. **BROWN FIBROUS DOB**, 5s. per sack. **FIBROUS FOAM, LEAF-MOULD, and PEAT-MOULD**, each 3s. per sack. **Coarse SILVER-SAND**, 1s. 6d. per bushel, 14s. 4 ton, 25s. per ton. **CHARCOAL**, 8s. per sack. **SHAGBARK M**, 7s. 6d. per sack; all sacks and bags, 2d. each. **RUSSIA MATS**, 10s. 6d. to 19s. per dozen. **RAPHAEL, VIRGIN CORK, STAKES, &c.** **BONES**, 4-inch, 11s. per cwt. **Pure BONE-DUST**, 11s. 6d. **TORACCO PAPER**, Specimens, 10d. per lb., 28 lb. for 21s. **CLOTH**, 1s. per lb., 28 lb. for 26s. **Price List**, free. **W. HERBERT AND CO.,** Hop Exchange Warehouses, Southwark Street, London, S.E.

BROWN and BLACK FIBROUS PEAT, 25s. per Ton, or £5 per Truck of 4 Tons; Bags, 5s. each; 10 Bags, 45s. **PEAT**, for forming Rhododendron, Bog, and American Plant Beds, 21s. per Ton, or £4 4s. per Truck of 4 tons; Bags, 5s. each; 10 Bags, 45s. **THOMAS WALKER, Tekels Park, Camberley, Surrey.**

ORCHID PEAT; best Quality; **BROWN FIBROUS PEAT** for Stove and Greenhouse use. **RHO-DODENDRON and AZALEA PEAT.** Samples and Prices of **WALKER AND CO., Farnborough, Hants.**

EWING'S MILDEW COMPOSITION.—The original certain and safe remedy. In bottles, 1s. 6d. and 3s.; per gallon, 12s. **CORRY AND CO., Limited, 13, 15, and 16, Finsbury Street, E.C.** Sold by all Seedsmen.

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. **Cheapest Prices of** **WATSON AND SCULL, 50, Lower Thames Street, London, E.C.**

HORTICULTURAL SHADINGS and NETTINGS. **TIFFANY, COTTON WOOLLS, and WADDINGS.** Supplied Wholesale by **JOSEPH COOKSON, 21, New Cannon Street, Manchester.**

SIX CARPET PORTRAITS, 3s.; three for 1s. **Twelve Carte Portraits, 2s. 2d.**; six for 1s. **Eight-inch Enlargement, 3s.**; three for 6s. **Stamp size, 24 for 1s. 6d.**; 100 for 3s. **Send Carte or Cabinet or Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.**—**FRANCIS AND CO., 28, Ludgate Hill, London.**

TO HORTICULTURISTS.—GREENHOUSE GAS COKE and SMITH'S COKE delivered in Trucks loads to any Station in England and Wales. Address **G. J. EVESON, 26, Corporation Street, Birmingham.**

BOOKS ON ROSES, by **WM. PAUL, F.L.S.** **THE ROSE GARDEN**, 9th edition, 4to, 360 pages, fifteen coloured plates, numerous engravings, 17s. 6d. net; the same, 8vo, without plates, 8s. 8d. net. **ROSES IN POTS**, 7th edition, Illustrated, post-free, 1s. **ROSES and ROSE CULTURE**, 6th edition, Illustrated, post-free, 1s. **The Journal of Horticulture**, says: "The best works on Roses are those by Mr. Wm. Paul." **WM. PAUL and SON, Nurseries, Waltham Cross, Herts.**

THE AMERICAN FLORIST CO.'S DIRECTORY OF

FLORISTS, NURSERYMEN, and SEEDSMEN of the UNITED STATES and CANADA for 1892, IS NOW READY,

Price 8s., post-paid. REMIT BY INTERNATIONAL MONEY ORDER, PAYABLE TO **G. L. GRANT, Secretary, AMERICAN FLORIST CO., CHICAGO, U.S.A.**

LIFE ASSURANCE AT ABOUT HALF THE USUAL RATES.

MUTUAL RESERVE FUND LIFE ASSOCIATION

OF NEW YORK.

E. B. HARPER, PRESIDENT.
PURELY MUTUAL.

ABSOLUTE SECURITY. STRICT ECONOMY.
The most successful Life Assurance Company in the World. Total amount of Insurance in force, 1891 ... £44,190,635
New Business, 1891 ... £10,270,938
New Business accepted, 1891 ... £8,100,403
Total Death Claims paid ... £2,454,963
Savings to Members by its System, about ... £6,000,000

Chief Office for Great Britain:

90, QUEEN STREET, CHEAPSIDE, LONDON E.C.

THE RAILWAY PASSENGERS' ASSURANCE CO.

Pay over £2,700 weekly

as **COMPENSATION** for **ACCIDENTS OF ALL KINDS.**

64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN,

BOILING WATER OR MILK.

EPPS'S GRATEFUL-COMFORTING.

C O C O A BREAKFAST-SUPPER.

Royal Horticultural Society.
ASSISTANT TO THE SUPERINTENDENT, CHISWICK GARDENS.

WANTED, a young MAN (20 to 30 years of age), with a good sound practical knowledge of Gardening, good handwriting, and able to keep accounts. **Wages, 30s. a week.** Apply, with testimonials (copies only) to the **SECRETARY, Royal Horticultural Office, 117, Victoria Street, Westminster, S.W.**

THE AGRICULTURAL EDUCATION COMMITTEE of the Leicestershire County Council and the AGRICULTURAL SOCIETY, REQUIRE THE SERVICES of a PRACTICAL GARDENER, able to deliver Lectures on Horticulture, and Management of Allotments. The person appointed must devote his whole time to the work. Applications, stating salary, age, and giving references, must be sent in before April 30, to the Secretary—J. W. SANDERS, Kilby Grange, Leicestershire.****

Landscape Gardener.
JOHN CARTER, Nursery, Keighley, Yorkshire, is in IMMEDIATE WANT of a trustworthy MAN, who can furnish working Plans and Estimates for Laying New or Altering Old Grounds, and who thoroughly understands carrying out the work. Apply as above, stating wages, &c.

WANTED, for Clapton Nursery (3 miles from Clevedon), a MAN to take the Management of Despatching Orders, where a Parcel Post Business is done. **Wages about 18s., with small cottage (four rooms) and garden.** Permanent situation to a trustworthy man.—**H. ENGLISH, Clevedon and Clapton Nurseries, Clevedon.**

WANTED, a first-class ORCHID GROWER.—Must have had good experience, and have exceptional character as to ability and industry.—State all particulars, wages, &c., to **V. S., 41, Wellington St., Strand, W.C.**

WANTED, a GARDENER.—Wife to do Family Washing, for which all is found, including fire and soap. **Wages, 31s. a week, Cottage (adjoining Laundry), and Garden.**—Apply by letter, **B. A. A. Fiske's Library, 1, Hertford Street, May Fair, London, W.**

WANTED, a HEAD WORKING GARDENER, where four are kept; married, no children. Write, stating previous experience, wages, and full particulars, to **ALFRED COOPER, The Gables, Surbiton.**

WANTED, a good SINGLE-HANDED GARDENER, Wife as Landlady; lives at Lodge; boy to help. **Vineries.** Good characters indispensable.—**G. N. HOAKE, Finchers, Amersham, Bucks.**

WANTED, an UNDER GARDENER.—Wife can have work in Laundry.—Apply, **GARDENER, Wood Hall, Shenley, Herts.**

WANTED AT ONCE, a good all-round GARDENER, under 40, married, without encumbrance. Wife to undertake Laundry Work for small family.—Apply, by letter only, stating wages required, 3 good rooms provided.—**T., Woodlands, Purley, Surrey.**

WANTED, a good all-round GARDENER, not on Premises.—About 2 acres Flower, Kitchen, Lawn, Glass.—**UNDER GARDENER, Larkspur, Thornton Road, Clapham Park, Streatham Hill Station.**

WANTED, an UNDER GARDENER, for Lawn and Pleasure-Grounds.—Strong, willing, and experienced. Good character required. Age about 23.—**M. EKE, The Gardens, Wadhurst Castle, Sussex.**

WANTED, as FRUIT FOREMAN, a practical MAN, who has had experience in good nurseries in the growing of all kinds of Outdoor Fruit Trees, and is capable of managing a staff of men. A thoroughly competent man is required, to whom a good salary will be given.—**W. M. PAUL and SON, Paul's Nurseries, Waltham Cross, Herts.**

WANTED, a WORKING FOREMAN.—Must understand Jobbing and Nursery Business; one who can drive preferred. **Wages** commence 30s. per week. Constant employ to suitably. **Mrs. apply, BOURNE and UNDERWOOD, High Street, Camden Town, London, N.W.**

WANTED, an experienced FOREMAN and MANAGER, in a small Market Nursery.—**JAMES WALTON, Lee Green, Lee, S.E.**

WANTED, a FOREMAN and GROWER in a Provincial Nursery. Must be good all-round man. Abstainer. Highest references required. **Wages 25s.**—**X. Y. Z., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.**

WANTED.—A WORKING FOREMAN for General Nursery and Florist Trade. Permanency to an energetic and competent man. State experience, age, and wages required.—**1 Oak's Hill, Almondbury, Leeds.**

WANTED, IMMEDIATELY, for Market Nursery, a MAN, age about 25, well up in Facking, Bunching, Cut Flowers, &c.; growing Ferns, Cut Flowers, Cucumbers, Tomatoes, &c. Able to take charge in absence of the manager. **Wages, £1 weekly, overtime paid;** state references.—**B. A. A. Fiske's Library, 1, Hertford Street, Strand, W.C.**

WANTED, a FIRST JOURNEYMAN, for the Plant Houses.—Be well up in General Plant Work, Chrysanthemums, and Table Decorations. **Wages 16s. per week.** **Bothy, Milk, and Vegetables.**—**H. F., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.**

WANTED, a JOURNEYMAN, for the Houses.—Apply, by letter only, to **J. EVANS, Melchet, Romsey, Hants.**

WANTED, an outdoor MAN; must be a good workman and quick builder. **Wages, £1 per week.**—**PERKINS and SONS, Warwick Road Nurseries, Coventry.**

WANTED, an energetic young MAN, single, in a small Nursery Garden. Capable of growing Cucumbers, Tomatoes, Cut Flowers, &c., for market.—Apply, stating particulars of capabilities, last and previous situations, and wages expected, to **J. BUTLER, Station Nursery, Sittingbourne.**

WANTED, an energetic MAN, for a Florist and Fruiterer's Shop. **Wreaths and Bouquets.** Abstainer. Highest references indispensable.—Apply, **EAST-BOURNE, 41, Wellington Street, Strand, W.C.**

WANTED, a good ALL-ROUND HAND for growing Plants and Cut Flowers for Market.—**W. G. BAILEY, The Nurseries, Boxley.**

WANTED, several JOBBING HANDS.—Must be experienced and sober. **Wages, 22s. with overtime.** Apply, **BOURNE and UNDERWOOD, High Street, Camden Town, London, N.W.**

WANTED, TWO MEN for the Nursery, one for Chrysanthemums, other for Tying, Facking, and Watering. Also strong LAD.—Apply to **E. WATHEAD, Woodside Nursery, North Finchley.**

WANTED, TWO young MEN, used to Market Work, to live in bothy.—State age and wages to **J. SMITH, The Nurseries, Ashford, Middlesex.**

WANTED, an active young MAN, quick at potting, watering, and tying, for a Market Nursery.—**Mr. ORWOOD, Nursery, Cowley, Mill Road, Uxbridge, Middlesex.**

WANTED, a MAN well up in Roses and Soft-wooded Plants. Must be a good Budder and Gaffer.—Apply, stating wages, experience, &c., to **EDWIN MURRELL, Portland Nursery, Shrewsbury.**

WANTED, for Nursery Work, a young MAN, one with reliable character, and willing to take an interest in Orchids preferred; age, experience, and wages expected, to **F. ROSS, Brewer Street Nursery, Blichingley, Reuill.**

WANTED, an energetic MAN, that understands Pleasure-ground Work. **Wages, £1 per week.**—State age and experience to **W. THEOBALD, Hatchford Park, Cobham, Surrey.**

WANTED, SEVERAL energetic young MEN for Cucumber Growing in a large Market Nursery. State age and wages required.—**GUIVER BROS., and LAWSON, Durant's Nursery, Fonder's End, Middlesex.**

WANTED, for a market establishment, a strong active young MAN, about 25, must have a knowledge of Budding and Grafting Roses, and the propagation of market plants. State experience and wages required.—G. FRATHERBY, Vineries, Gillingham, Chatham.

WANTED, a young MAN for the Frames and Chrysanthemums. Must be quick at Potting, Tying, &c., and have good character. Wages, 18s., and overtime.—G. BENNETT, Florist, Hanwell, W.

WANTED, a young MAN accustomed to Chrysanthemums and Cucumbers; wages, 18s. per week.—Apply, JOSEPH LOWE, Ladbroke.

WANTED, a strong, active young MAN, for the Flower and Kitchen Garden. Used to Scythe and Lawn-mower. Wages, 18s. per week.—W. S. COLTON Bassett, Bingham, Notts.

WANTED, where Fruit, Flowers, &c., are grown largely for Market, an active, industrious, steady YOUNG MAN, with a knowledge of Fruit Culture under glass. Age about 20 to 22.—R. GREENFIELD, Ranelagh Nursery, Leamington Spa.

WANTED, a young MAN, quick at Potting, Watering, &c.—Apply, PADDOCK NURSERIES, Romford, Essex.

WANTED, IMMEDIATELY, FIVE or SIX young MEN, quick at Tying and Watering.—Apply, stating wages required, 37, Queen Street, Cardiff.

WANTED, a strong, active young MAN, about 22, to work Outside and take duty in turn at Fires. Wages 15s. per week. Bothy, Milk, and Vegetables.—Apply, J. ENGLAND, Edenthorpe, Doncaster.

WANTED, in a Market Nursery, a strong and active young MAN well up in Propagating of Soft-wooded Plants and Raising of Ferns. Constant employment one third suits.—Apply, FATEMAN AND WHITE, Hyde Side, Lower Edmonton, N.

WANTED, AT ONCE, an IMPROVER, a young man, age about 20.—Wages 11s. per week, bothy, milk, and vegetables.—C. H. PERKINS, The Gardens, Milton Abbey, Blandford.

FLORIST—**WANTED**, a thoroughly experienced ASSISTANT, Good Saleswoman.—Address, A. WEBB, Kelham Gardens, Newark-on-Trent.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should Write for Prospectus of the Scientific Dress Cutting Association, 274, Regent Street, London W. Situations found for all pupils at good salaries. No Lady's education is complete without a knowledge of Dress-making.

WANT PLACES.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register several excellent Men, competent either to fill the situation of HEAD GARDENER, BALIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the above capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

Head Gardeners.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BALIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman requiring a particular class.—St. John's Nurseries, Worcester.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such help will be able to supply any Lady or Gentleman requiring a particular class.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

STEPHEN CASTLE, F.R.H.S., CONSULTING HORTICULTURIST, &c., Ashford Vineyard, Fordingbridge, Salisbury, has no reserve of PRACTICAL MEN with high qualifications and good references, to RECOMMEND as HEAD GARDENERS. Full particulars on application.

TO GENTLEMEN with large Gardens.—The Advertiser, a Gardener of great experience, and a well-known skilful Horticulturist, will be open to an engagement early in May, or would Rent a Large Garden or Superintend on Commission.—OMEGA, 99, Kennington Road, London, S.E.

GARDENER (HEAD); age 33, married.—Mr. WILLIAMS, Blenheim Palace, Woodstock, wishes to recommend John Coles to any Lady or Gentleman requiring an efficient and competent Gardener, who thoroughly understands the management of a large Establishment; for the last seven years Principal Foreman at Blenheim.

GARDENER (HEAD, or good SINGLE-HANDED); Age 29, married; thoroughly experienced in all branches. Excellent references from previous and present employers.—W. FLEET, 2, Sherwood Road, Harrow.

GARDENER (HEAD); age 32, married, no family.—W. R. INNES HOPKINS, Esq., Witton Tower, viz Darrington, can with confidence recommend Thos. Singleton, his present Head Gardener, to any Lady or Gentleman requiring the services of a thorough practical man, highly conversant in all branches of his profession, and the requirements of a good Garden. Eighteen years' experience.

GARDENER (HEAD);—Age 42, married, no family. Life experience in all branches of Gardening.—F. W., 37, Bridge Street, Witney, Oxon.

GARDENER (HEAD); age 37, married; thoroughly experienced in all branches. Twelve years' good character with present employer.—W. R. HODGES, The Gardens, Copley Dene, Highgate, N.

GARDENER (HEAD);—Age 20, married; thoroughly experienced in all branches, including Orchids; well recommended by previous and present employers.—J. H., The Gardens, Wallingford Castle, Berks.

GARDENER (HEAD); married, no family.—SAMUEL COOKE, Head Gardener to R. B. Ewer, Esq., Outlands, Horley, Surrey, and previously twelve years Head Gardener to Sir George Trevelick, C.B. at St. John's Home Park, Kingston-on-Thames, desires a re-engagement to any Lady or Gentleman requiring a good practical working Gardener; discharged early in May. Please address as above, with all particulars.

GARDENER (HEAD);—Age 34, married, no family; has a thorough practical knowledge in the cultivation of all varieties of Plants, Fruit, and Vegetables, together with the requirements and management of well kept establishment. Five years' good character as Head Gardener, and is strongly recommended by Mr. J. WILLARD, Head Gardener, Holly Lodge, Highgate, N., where he was previously employed, and who will answer any inquiries.—Please reply to F. W. RUSSELL, Wood Green, Chesham.

GARDENER (HEAD);—Thorough knowledge of the profession in all its branches. Excellent character.—G. BEGG, Wyfold Court, Reading.

GARDENER (HEAD);—Experienced all-round, including Orchids, Decorating, &c. A First-class Grower. Thoroughly sober and reliable.—NUNN, 20, Oxford Terrace, West Norwood.

GARDENER (HEAD); where several are kept.—Age 44; life experience in all branches; thirteen years Head in last place, five in previous.—WILES, Edith Road, Oxford.

GARDENER (HEAD); married, two children.—H. J. ELWES, Esq., will be pleased to recommend his Gardener, G. Harford, to any Lady or Gentleman requiring the services of a good all-round Gardener; eighteen years' experience in all branches, including Orchids.—Colebourne, Andoversford, Gloucester.

GARDENER (HEAD); where three or four are kept.—Single; twelve years' experience. Good references.—H. D., Beech House, Sherwood Rise, Nottingham.

GARDENER (HEAD WORKING); or good SINGLE-HANDED.—Age 30, married; seventeen years' good experience. Total abstainer. Three years' good personal character. Leaving through Gentlemen giving up place.—H. CARPENTER, 10, Luthern Place, Upper Tulse Hill, Brixton, S.W.

GARDENER (HEAD WORKING);—Middle-aged; life experience in all branches; excellent personal character for ability and sobriety. Wife offers part service.—2, Rose Cottages, Bittoms, Kingston.

GARDENER (HEAD WORKING); where others are employed.—Age 40, married, no family. Life experience in all branches; highly recommended by present and past employers.—J. HIGGINS, Gardener, Butleigh, Glastonbury, Somerset.

GARDENER (HEAD WORKING);—Age 43, married; twenty years' practical experience. Thoroughly understands Grapes, Peaches, Fruit, Flower, and Kitchen Garden. Abstainer.—A. B., Mr. Jackson, Stationer, Castle Hill, Ealing Dean.

GARDENER (HEAD WORKING);—Age 28, married; thoroughly experienced in all branches. Excellent character from present and previous employers.—R. WILKINSON, The Gardens, Stapleford Park, Pontefract.

GARDENER (HEAD WORKING); where two are kept.—Age 27.—J. ANDERSON, Charman Dean, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD WORKING); Land and Woods, if required.—Age 42, married; life experience in the profession. Upwards of twenty years as Head in good establishments; excellent references.—GARDENER, Messrs. Williams and Nicholson, Land Agents, Ovestry.

GARDENER (HEAD WORKING);—F. CORNISH, The Gardens, Jollywicks, wishes to recommend his Foreman, James Peck, to any Lady or Gentleman requiring branches, including Orchids, Stove and Greenhouse Plants, Fruit, Hardy Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING); where one or two are kept; age 32, married when suited, excellent character from present and previous employers.—F. COUSINS, Wood Hall, Shenley, Herts.

GARDENER (HEAD WORKING); Age 35; can be highly recommended to any Lady or Gentleman requiring the services of a good all-round Gardener. Seven years' present situation.—S. J. G. W., 30, Lower Camden, Chislehurst, Kent.

GARDENER (HEAD WORKING);—Age 32, married; thoroughly experienced in all branches. Three years in last situation.—S. S., 2, Croft Cottages, Bell's Hill, Barnet.

GARDENER (HEAD WORKING); age 30, married, no family.—Mr. CLINGING, Sandstead Court Gardens, Croydon, can confidently recommend his late Foreman as a thoroughly reliable and practical man. Sixteen years' experience.

GARDENER (HEAD WORKING);—Age 39, married, abstainer; life experience in early and late, forcing all kinds of Fruits, Flowers, Vegetables, Mushrooms, Flower, Fruit, and Kitchen Gardening, including Carpet Bedding, Home and Table Decorations. Highest reference.—C. TAYLOR, 2a, Brynmor Road, Battersea Park, S.W.

GARDENER (HEAD WORKING);—Thorough good all-round man; very active and energetic. Twelve years' good character and testimonials. Family grown up.—W. 114, R. R. The Gardens, Twickenham, Weybridge, Herts.

GARDENER (HEAD WORKING);—A Lady wishes to recommend her Head Gardener, age 35, married. Life experience in good establishments. Excellent references. Three and a-half years' in present situation. Leaving through break-up of establishment.—GARDENER, Stoneleigh, Weybridge.

GARDENER (HEAD WORKING); where others are kept.—Married, no family; abstainer; life experience Early and Late Forcing of all kinds of Fruit, Flowers, Vegetables, Mushrooms, also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' good character from late employer and sixteen years' references.—J. D., Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING); where three or more are kept.—Age 32, married; fifteen years' experience in all branches. Good references. Five and a-half years in present situation as Head. Leaving through gentleman's lease expiring. Excellent character.—G. BENFIELD, The Gardens, Salthouse Road, Swindon.

GARDENER (HEAD WORKING);—Age 30, married; thoroughly experienced in the Cultivation of Stove and Greenhouse Plants, Forcing, Fruit, Flower and Kitchen Garden. Sixteen years' practical experience. Excellent testimonials. Death cause of leaving.—A. CORDERY, Shalis, Bitterne, Southampton.

GARDENER (HEAD, or good SINGLE-HANDED);—Good all-round. Age 35; married; no family. Two years in present situation. Please state wages.—The GARDENER, Yelverton Lodge, Richmond Road, Twickenham.

GARDENER (HEAD, or good SINGLE-HANDED);—Age 30, married, one child; thoroughly experienced. Good character.—X. Y. Z., 77, Danbrook Road, South Stratham, London.

GARDENER (HEAD, or good SINGLE-HANDED);—Experienced in all branches; Early and Late Forcing, Stoves, Cucumbers, &c.—H. HORTUS, 3, Merredene Street, Brixton Hill, London, S.E.

GARDENER (HEAD or good SINGLE-HANDED);—Age 26, single; eleven years' practical experience; over three years good character as single-handed gardener.—G. FARRANT, Highland Road, Leatherhead.

GARDENER (HEAD, or good SINGLE-HANDED); age 27; twelve years' practical experience. A Gentleman wishes to recommend a man as above. Southern Counties preferred.—W. OWEN, Auriga Terrace, Market Harboro.

GARDENER (SINGLE-HANDED, or where help is given); age 38, married.—Mr. MOLYNEUX, Swaimore Park, Bishop's Cleeve, Hanley, will be pleased to recommend a really first-rate Gardener; the best references. Apply as above.

GARDENER (SINGLE-HANDED, or otherwise); age 25.—Captain DAWSON can recommend his Gardener, who has been with him over two years as above, Total abstainer.—The GARDENER, Woodcroft, Bournemouth.

GARDENER (SINGLE-HANDED, or where help is given);—Age 25, single; abstainer. Nearly two years' character; six years previous.—H. C., Doulton Cottages, Chertsey, Surrey.

GARDENER (SINGLE-HANDED, or where help is given);—Age 27, married when suited. Good experience in Vines, Peaches, Cucumbers, Flower and Kitchen Gardens. Three years' good character.—H. CHANDLER, Sealand, Robertsbridge, Sussex.

GARDENER, where help is given, or SINGLE-HANDED.—Age 27, married when suited, total abstainer; understands Greenhouse Plants, Cucumbers, Tomatoes, &c. d general routine of Gardening.—H. WAYLING, Cold Harbour, Waddon, Croydon, Surrey.

GARDENER (Experienced);—Age 38; Growing for Market, Grapes, Peaches, Melons, Mushrooms, Tomatoes, or take charge of good Jobbing Commission. Good references.—GARDENER, 6, Agill Cottages, Richmond.

GARDENER or FOREMAN in the Houses.—Age 26; experienced in all branches, good character.—W. H., 34, Croham Road, South Croydon, Surrey.

GARDENER (SECOND), where three or four are kept.—Age 27, single; four years in last place Inside and Out. Good character.—A. CHAPMAN, 7, Lewis Road, Loughborough Junction, S.E.

GARDENER (SECOND), where four or five are kept, or Inside and Out; wishing to improve himself. Can have over seven years' excellent character. Bothy preferred.—G., Albany Road, Hershaw, Walton-on-Thames, Surrey.

GARDENER (SECOND).—Mr. J. W. REED, 8, Oldlands Park, Weybridge, wishes to recommend a young man (age 25) as second, to any Gardener requiring a good man, both Inside and Out.

GARDENER (SECOND), where five or six are kept.—Age 22, single; has had five years' experience in Gardening. Good character.—EDWARD NORGETT, Easton, Peterfield, Hants.

GARDENER (SECOND).—Age 23; used to In and Outdoor work, good references.—Apply to H. TILLEY, Hailton, Lincoln.

GARDENER (SECOND), or good SINGLE-HANDED.—Ten years' practical experience, Inside and Out. Good character. Can be well recommended.—H. C., Coulson, Surrey.

GARDENER (SECOND or SINGLE-HANDED), age 23, six years' experience, good character. Putty or Ex-ter preferred.—S. IVINGTON, Dairy, City of St. Mary, near Exeter.

GARDENER (UNDER), Inside and Out.—Age 24; four years' reference from last situation.—H. BARTON, 19, Queen Street, Crook's Place, Norwich.

GARDENER (UNDER).—Age 25; Kitchen Garden and Lawn, assist in the Houses if required. Good character from last situation.—H. B., Bartley, Totton, Southampton, Hants.

GARDENER (UNDER).—Age 24, where six or seven are kept. W. WARD, Castle Malgwyn Garden, Boncath E. S. O., South Wales, can with confidence recommend J. HILL, to any one requiring a steady, trustworthy, Under Gardener, as above. Abstainer, bothy preferred.

GARDENER (UNDER), where two are kept.—Age 19; five years' experience and good character. Near London preferred.—A. ASHBY, Duncombe Road, Beugo, Hertford.

GARDENER (UNDER), Outside.—Age 20, with widowed Mother, to live in Lodge, if required; good experience; Kitchen Garden and Pleasure-Grounds. Four years' good character.—J. WELLER, Gardener, Longstock House, Stockbridge, Hants.

GARDENER (UNDER); age 23.—J. MADDOX can very highly recommend a strong, steady, and reliable man as above. Only cause of leaving death of Gentleman.—Glantonva House Gardens, Footypleth.

GARDENER (UNDER), Inside.—A young Man (age 18), anxious to improve, seeks situation in a Gentleman's Garden. Two years' good character. No bothy.—A. H., Watlington Park, Downham, Norfolk.

GARDENER (UNDER).—Age 20; willing to make himself useful. Abstainer. Good references. Good experience in Pleasure Grounds.—A. D., 7, Queen's Road, Winchester, Hants.

GARDENER (UNDER).—Married, no family; thoroughly understands Outdoor Work and Cows. Wife experienced Landress.—G. H., Ranksborough, Langham, Oakham.

GARDENER (UNDER), or JOURNEYMAN in the Houses, or Inside and Out, in a Private Establishment.—Age 22; tall. Disengaged.—G. REID, Little Eaton, near Derby.

NURSERY MANAGER, or FOREMAN (INSIDE).—Middle-aged; thoroughly practical. Good Propagator and Grower. Fourteen years in present place. Experience.—WM. GOLBY, Edgeland, Brierfield, Burnley, Lancashire.

To Nurserymen.

MANAGER, or PROPAGATOR and GROWER, in a good establishment. First-class references can be given for character, and twenty-five years' practical and successful abilities. Wholesale and Retail.—H. W. REID, 2, Kirby Villas, Fletcher Road, Chiswick, W.

To Nurserymen.

PROPAGATOR.—Age 23; nine years' experience in Stove and Soft-wooded Stuff for Market. Good references.—H., 41, Wellington Street, Strand, W.C.

PROPAGATOR (ASSISTANT), or FOREMAN (UNDER), Inside.—Seven years in the Trade, last three with Messrs. Funn & Son, of Cheshant, who will be happy to answer any inquiries.—W. GROVE, Cheshant Street, Cheshant, N.

To Nurserymen.

PROPAGATOR and GROWER of Soft-wooded Plants and Ferns.—Age 27, married; twelve years' experience.—W. WRIGHT, 8, Oldham Terrace, High Street, Acton, W.

FOREMAN, GROWER, and PROPAGATOR.—Many years in the London Trade; well up in choice Fruits, Trees, and Ferns, Mushrooms; also Roses, Ferns, and Flowering Plants for Cut Bloom.—X. Y. Z., Mr. Dabbins, Evershot, Dorset.

FOREMAN, MANAGER, or as SHOPMAN.

—Age 26; experienced in all Branches. Good Florist.—N. N., Institute, Haslemere, Surrey.

FOREMAN, or JOURNEYMAN (FIRST).—In the Houses, in a good establishment; age 24, nine years' practical experience, excellent references.—T. RIDGE, The Grove, Totteridge, Herts.

FOREMAN, or MANAGER of a Branch Establishment.—Advertiser (age 28) desires an engagement as above. Fourteen years' Trade experience. Practical and energetic.—E. B., Dysart Coffee Tavern, Ham, Surrey.

FOREMAN (Inside), Mr. T. OSMAN, The Garleus, Ottarshaw Park, Chertsey, would be pleased to recommend W. Shoemith to anyone requiring a thoroughly practical man.

FOREMAN, in the Houses.—Age 26; English. Experience at Birdall House, Caversham, and Stoke Edith Park; two years present place; twelve years' experience.—H. BELL, The Gardens, Ballywalter Park, co. Down, Ireland.

FOREMAN, in a good Establishment; age 25.—E. BECKETT, gardener to H. H. Gibbs, Esq., M.P., can, with the greatest confidence, recommend his first journey to any Gardener requiring a first-class man.—The Gardens, Aldenham House, Elstree.

FOREMAN, in a good Place.—Age 26; thirteen years' practical experience. Excellent references.—J. SHERKING, Messrs. Parker & Sons, St. Michael's Hill Nursery, Bristol.

FOREMAN, in a first-class place.—Excellent references; tenor singer.—H. W. HARPER, Netherdown, Rugeley.

FOREMAN, in the Houses; age 22; abstainer. J. SHARPE can recommend W. Colbourn as above. Well up in Plants, Fruits, Early and Late Forcing, Chrysanthemums, &c. Three Previous places.—The Gardens, Neville Court, Tunbridge Wells.

FOREMAN, in a good establishment.—Age 27; good experience in Plant and Fruit culture. Three years in present situation, four and a-half previous; can be well recommended.—A. UFWARD, The Gardens, Chirkley Court, Leathershead.

FOREMAN, or FIRST JOURNEYMAN in a good establishment.—Age 24; four years' experience and good character.—GEORGE LAWRENCE, Burdick Park, Swindon.

FOREMAN, or SECOND, in a good Garden.—Age 28; eleven years' experience. Well up in Fruits and Plants. Excellent references.—T. ATTWOOD, Packington, Ashby-de-la-Zouch.

FOREMAN, in a good establishment.—Age 29, single; general experience in all branches; good reference as above from good establishments.—F., Mrs. S. Parsons, Pampisford, Cambs.

JOURNEYMAN (FIRST), in the Houses.—Age 22; for over six years with Messrs. Turner Bros. Bothy preferred.—J. FIMBLETT, Mr. Julian, Ensheden, Northants.

JOURNEYMAN (INSIDE), under a Foreman.—Age 22; used to Table Decoration. Five years' experience, Inside and Out. Bothy preferred.—F. F., The Gardens, West Stoke, Chichester.

JOURNEYMAN, in the Houses, in a good Establishment, under a Foreman.—Age 24. Bothy preferred. Two and a-half years' character.—W. A., Little Linford, Newport Pagnell, Bucks.

JOURNEYMAN, Inside, under a Foreman.—Age 23; good character. Abstainer. Bothy preferred.—J. WEDDON, Poplar House, Harefield, Middlesex.

JOURNEYMAN, Inside or Inside and Out, in good private establishment.—Age 23; good character, abstainer.—W. N., 2 Grove Villas, Station Road, Church End, Finchley.

JOURNEYMAN, age 22.—R. GILBERT, Burghley Gardens, Stamford, can supply a thoroughly good young Man as above. Seven years' experience.

JOURNEYMAN (FIRST), in the Houses in a good establishment.—Age 23; six years' good character from present situation. Can be highly recommended; bothy preferred.—F. ELLIS, The Gardens, Southover Hall, Burwash, Sussex.

JOURNEYMAN (FIRST), in a good establishment.—Age 24; has good experience in Vines, Fines, Plants, &c.; can be highly recommended; 1 1/2 years in last situation; good testimonials.—T. HILLETT, Newtown, Milborne Port, Somerset.

JOURNEYMAN; age 20; total abstainer.—G. MERRITT, Park View Nursery, Harpenden, can highly recommend a young man as above, for Indoor, Kitchen Garden, &c.

JOURNEYMAN (FIRST).—Age 22. Nine years' experience in all its branches, and Table Decoration; two and a-half years' last situation; good character; abstainer.—W. BOALCH, 3, Kenilford Road, Baltham, S.W.

JOURNEYMAN (FIRST).—In the Houses in a good Establishment; age 24. Ten years' experience; good character.—W. FOSTER, Sproughton Gardens, near Doncaster.

JOURNEYMAN (FIRST or SECOND), Inside, or Inside and Out, in a Gentleman's place.—Age 21; life experience. Abstainer.—A. TANNER, Grove Ground Cottage, Shanklin, I.W.

JOURNEYMAN (FIRST, or SINGLE-HANDED).

—Age 23; nine years' experience, Inside and Out. Good testimonials.—A. M., 4, Pond Square, South Grove, Highgate, N.

JOURNEYMAN (SECOND), Inside, in a large private establishment.—Age 19; five years' experience; excellent character.—ROE, 18, North View, Holgate, York.

JOURNEYMAN, in the Houses, where three or four are kept.—Age 21; two years' good character from last place.—F. PIKE, Tipping, Midhurst, Sussex.

JOURNEYMAN, Inside, in a Private Establishment; age 22.—W. WELCH, Hartham Park Gardens, Corsham, Wils., wishes to recommend a young man as above. Good character, and several years' experience Inside and Out.

JOURNEYMAN, Inside, or Inside and Out, in a good Establishment.—Age 18; 10 years' experience. Total abstainer. Highly recommended by present employer. Six years' experience in All-round Gardening.—H. ALLEN, Gardener, Backlands Hall, Cavendish, Suffolk.

JOURNEYMAN, in the Houses, Private Place, or Nursery.—Age 22; four years' experience. Steady and willing. Abstainer.—G. C., 8, Belvedere Cottages, Church Road, Wimbledon.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; good experience. Four years' excellent character from present situation. Height, 6 feet.—E. HEWER, Colehill, Highworth, Wilts.

JOURNEYMAN, in the Houses, in a good establishment.—Age 22; seven years' experience. Can be highly recommended from present and previous employers.—J. KING, 129, Salisbury Road, High Barnet, Herts.

IMPROVER.—Age 19; willing to pay £5 for two years' learning in a good private place; been six years in a nursery.—H. COULPLAND, Hull Road, Hesse, Hull.

IMPROVER.—Situation wanted in Gentleman's garden as above, by a strong, active, willing youth, not afraid of work.—MISOM, Head Gardener, Claydon House, Witley, Bucks.

IMPROVER, Inside, in a good private establishment.—Age 20. Five years' good character from Head Gardener; bothy preferred.—W. GATFORD, Holty, Edeuridge, Kent.

TO HEAD GARDENERS.—R. WELER, Glenstal Castle Gardens, Limerick, can confidently recommend a strong, active young man to take the lead in Kitchen and Flower Gardens. Nine years' experience. Irish, Catholic, age 25. State terms.

TO GARDENERS, &c.—A young Man seeks a situation to assist in Propagating and Growing all sorts of Soft-wooded Stuff. Six and a half years' experience, and good references.—W. J. L., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS.—Situation wanted by a Youth (age 18), under a good Gardener, Inside and Out. Two years' good character.—W. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS.—Situation wanted by an active young Man (age 24) in the Pleasure Ground; good experience; good reference.—R. WHEATLEY, Bourton, Shireham, Herts.

TO NURSERYMEN.—A young Man (age 22) requires situation where Fruit or Flower are grown for Market. Good references, over two years from last employer. Total abstainer.—H. RUSSELL, 58, Rendlesham Road, Hackney Downs, Croydon, N.

TO NURSERYMEN.—Situation wanted by a lad (age 16). Three years' good character from last employer; active, steady, and industrious.—JOHN ASKER, 4, Myrtle Grove, Sydenham, S.E.

To Nurserymen or Gardeners.

HANDYMAN wants employment; Painter, Glazier, Hotwater Fitter; own tools. Any district. Jobnot objected to.—J., 55, Stockwell Green, S.W.

SALESMAN, or ASSISTANT, in a Florist's Business.—Age 20; good experience.—A. J. FOWLER, 5, Southdown Terrace, Oakley Road, Eastbourne.

CLERK (NURSERYMAN'S DESPATCH, or GENERAL).—Experienced. Good reference.—H. P., 2, Somerset Villas, Finchley Park, North Finchley, London.

FLORIST.—Situation wanted, by a young Lady. First-class hand, with a good knowledge of Fruit. Highest reference s.—RIGBY, 27, Goulden Street, Manchester.

HORTICULTURAL EXHIBITION, EARL'S COURT.—Young Lady (age 20) seeks engagement as ATTENDANT for STALL.—A. B., 11, Averell Street, Hammersmith, W.

HOLLOWAY'S PILLS are securities of health to all nations, of what climate. They best give a hope, relief, and comfort to millions. In irritation and debility, generated by excess of any kind, or in general prostration of the system, their effect is rapidly soothing, renovating, and restorative. They rapidly drive from the system the morbid cause of ailment, and renew in the frame its pristine animation, health, and vigour. They greatly increase the appetite, give tone to the stomach, assist the digestion, and impart elasticity to the spirits; their essence cures the circulation, and, carried through its course, exerts its cleansing power over every organ. In the lungs they effect most striking changes, converting the impure venous into pure arterial blood, by which the whole frame is recruited.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by— They are the first, foremost, and best in the world.
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS,
THE EMPEROR OF RUSSIA,
The Late EMPEROR OF THE FRENCH,
And most of the Nobility, Clergy, and Gentry of the United Kingdom.



Upwards of 170,000 of these Machines have been sold since they were first introduced in the year 1856, and thousands of unsolicited Testimonials have been received, testifying to their superiority over all others. They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER,
With Improved Steel Chains and Handles.
To cut 6 in., can be worked by 1 £1 15 0
To cut 8 in., do. do. ... 2 10 0
To cut 10 in., do. by a strong youth 3 10 0
To cut 12 in., do. by a man ... 4 10 0
To cut 14 in., do. do. ... 5 10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

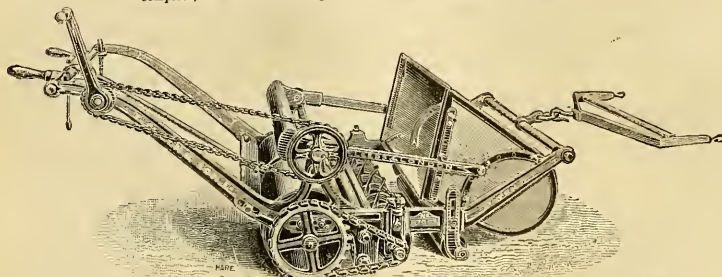


DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man £3 10 0
To cut 18 inches, do. on even lawn ... 7 10 0
To cut 20 inches, do. man and boy ... 8 0 0
To cut 22 inches, can be worked by two men £8 10 0
To cut 24 inches, do. do. ... 9 0 0
* If made stronger, suitable for Donkey, 30s. extra.

These Mowers are the "No Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, or Side-delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches ... £14 0 0
To cut 28 inches ... 18 0 0
To cut 30 inches ... 18 0 0
Leather Boots for Donkey ... 1 0 0
Leather Boots for Pony ... 1 0 0

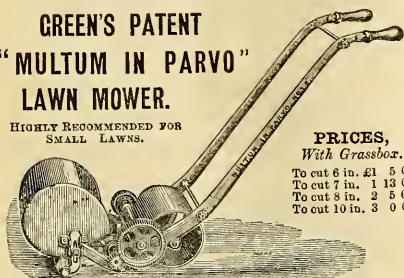
The 26 and 28 inches cut easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

HORSE MACHINES.

To cut 30 inches ... £22 0 0
To cut 36 inches ... 26 0 0
To cut 42 inches ... 30 0 0
To cut 48 inches ... 34 0 0
Leather Boots for Horse ... 1 0 0

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES, With Grassbox.

To cut 6 in. £1 5 0
To cut 7 in. 1 10 0
To cut 8 in. 2 5 0
To cut 10 in. 3 0 0

GREEN'S PATENT LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.

Size with 1 wheel for Ordinary Courts, price 14s.

Do., with 3 wheels, 17s.

Size for Clubs and Large Grounds, price £1.



Small Bag of Marking Composition, 9d.

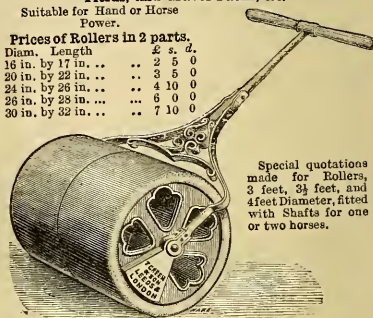
REDUCED PRICES OF GREEN'S PATENT ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam.	Length	£	s.	d.	
16 in.	by 17 in.	..	2	5	0
20 in.	by 22 in.	..	3	5	0
24 in.	by 26 in.	..	4	10	0
28 in.	by 28 in.	..	6	0	0
30 in.	by 32 in.	..	7	10	0



Special quotations made for Rollers, 3 feet, 3½ feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 ins. diam., £1 16s.

Packing Case, 3s.

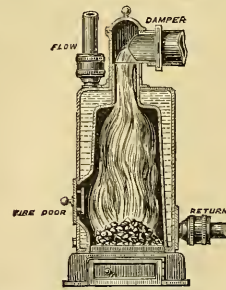
Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

A very useful and serviceable Machine.



MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

HOT-WATER BOILERS



AND OTHERS WITH SHELVES, AND HOLLOW OR ORDINARY CAST-IRON GRATE BARS.

VERTICAL SADDLE BOILERS, &c.

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c. Descriptive Illustrated PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON; or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

The GARDENERS' CHRONICLE

ESTABLISHED 1841.

No. 2679.

No. 279.—VOL. XI. {THIRD SERIES}

SATURDAY, APRIL 30, 1892.

[Regt. as a Newspaper. {PRICE 3d. POST-FREE, 34d.

CONTENTS.

Apples, Norfolk Beauty and Northern Spy ...	564	New or noteworthy plants ...	564
Books—		Cypripedium × Huy- ...	561
Disease in Forest ...		Kniphofia Nelsoni ...	564
Trees ...	564	Stapelia Woodii ...	564
Les Maladies des Céré- ...	564	Orchids at M. Lemoi- ...	562
Silva of North Ame- ...	564	Pholidocarpus thur ...	565
rica, vol. iii. ...	564	Pithecolobium Saman ...	564
Traité d'Horticulture ...	564	Pedicarpus pectinata ...	562
Pratique Belles ...	564	Potato disease, preven- ...	564
British Ferns, exhibition ...	564	Rain tree ...	567
Broccoli Perfection ...	565	Salix caprea ...	567
California as a home ...	564	Societies ...	568
Carrot grub ...	564	British Fruit Growers' ...	566
Chicago Exhibition ...	563	Association ...	566
Cocos-nut, double, at ...	562	International Horticul- ...	562
Kew ...	562	tural Exhibition ...	562
Cypripedium Laurebel x ...	561	Linnean Society ...	562
Daffodils in Ireland ...	565	Royal Florists ...	563
Dendrobium prunum ...	565	York Botanica ...	563
Kniphofia at home ...	564	Stock-taking; March ...	563
Greenhouse-blinds ...	565	Systematic botany ...	563
Hellebores—Lent Roses ...	564	Toryan Fruit-farm Com- ...	562
Ireland, Daffodils in ...	566	Traveler's notes, a ...	565
Lacken, the conserva- ...	564	Week's work, the ...	565
tories at ...	565	Apiary, the ...	569
Lent Roses ...	564	Flower garden, the ...	568
Lille, Orchids at ...	562	Forestry ...	569
Nursery notes ...	566	Fruits under glass ...	569
Messrs. J. Veitch & ...	566	Hardy fruit garden ...	568
Son, Chelsea ...	566	Kitchen garden ...	567
R. F. Ker & Sons, & ...	567	Orchid houses ...	568
burth ...	567	Plants under glass ...	567
Royal Nurseries, Slough ...	567	Zanzibar ...	562

ILLUSTRATIONS.

Cypripedium Laurebel x ...	560
Kniphofia Nelsoni ...	564
Pithecolobium Saman ...	567

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

"The Gardeners' Chronicle" in America. The Subscription to America, including Postage, is \$4.30 for 12 months. Agent for America, E. H. LIBBY, Manager, The Rural Publishing Co., Times Building, New York, to whom American orders may be sent.

150,000.—Special Offer of Quantities. W. ICKTON has a large quantity of the above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £30 per 1000.

W. ICKTON, Putney, S.W.

SPECIMEN CAMELLIAS.—Over 50 splendid plants are included in AUCTION SALE on May 4 and 5. Send for Descriptive LIST to R. B. LAIRD AND SONS, or MITCHELL, Horticultural Auctioneer, 6, Comely Bank, Edinburgh.

BARR'S BEAUTIFUL HARDY DAFFODILS.—Cut SPECIMEN FLOWERS, correctly named, now ready, at the following prices, post-free:—One flower each of 12 kinds, 2s. 6d.; of 18 kinds, 3s. 6d.; of 30 kinds, 6s. 6d.; of 50 kinds, 12s. 6d. Three flowers each of above, 8s., 12s., 18s., 24s., and 36s. respectively.—BAKE AND SON, 12 and 13, King Street, Covent Garden, London, W.C.

TARRAGON.—Best variety. Fine clumps, transplanted spring, 1891, cheap. GRAPE VINES, large stock of superior Canes. CLIMBING ROSES, 10 to 12 feet. WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

SPECIAL CHEAP offer of BEANS to clear.—Scarlet Runners, Canadian Wonder, Negro Long Pod, and others. For samples and price apply to R. PILKINGTON BROWN & CO. (est. 1879), 226, York Road, Wandsworth, S.W.

SUTTONS' FLORISTS' FLOWERS.

The best strains in existence.

SUTTON'S PRIZE BEGONIA.

5s. and 2s. 6d. per packet.

SUTTON'S PERFECTION CALCEOLARIA.

5s. and 3s. 6d. per packet.

SUTTON'S SUPERB CINERARIA.

5s. and 2s. 6d. per packet.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.—All flower seeds post free.

ON SALE, ONE CYCAS REVOLUTA, about fifty leaves; grand specimen.

Apply, J. WALSHAW, 7, Northgate, Halifax.

FOR SALE, two fine LATANIA PALMS, in good condition; one, twelve leaves, in pot; the other, twenty-six leaves, in tub. What offer?

GARDENER, Low Hill, Bushbury, Wolverhampton.

VIOLAS.—Our Collection of these is unique, and quite unrivalled. Sample dozen, including many of the finest sorts, in their respective colours, post free, for Half-a-crown.

DAHLIAS.—We grow 50,000. Only the very best varieties kept in stock. A trial dozen will convince everyone of this. Plants of all sections ready now, 4s. 6d. per doz., carriage free. DORRIS AND CO., Florists, Rothsay, Scotland.

FRUIT TREES—APPLES, PEARS, PLUMS, CHERRIES, per 100 or 1000. Fruit Stocks to offer. Descriptive CATALOGUES, post free, on application.

FLETCHER BROS., Ottershaw Nurseries, Chertsey, Surrey.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 6d. per 100.

RICHARD SMITH AND CO., Worcester.

JOHN COLLINGRIDGE is open to receive

Commissions of Choice CUT FLOWERS for SALE, on COMMISSION. Highest references.

New Flower Market, and 5, Russell Court, Strand, W.C.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOES, GRAPES, &c. Good references.

MESSRS. SQUELCH AND WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOES, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE.

Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

The Best Present for a Gardener. VINES AND VINE CULTURE.

The most complete and exhaustive Treatise on Grapes and their Culture ever published.

New Edition. Price 5s., post-free, 5s. 6d.

A. F. BARRON, Royal Horticultural Society, Chiswick.

FERNS! FERNS!!—Trade.—Greenhouse and Store, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cuneatum, Aralias, Cyperus, all in 4's, 6s. per doz. Palma, and Ficus, 1s. each. Large Ferns, 10 best sorts, 5s. 6d. per doz., in 4's. Cineraria, Spiraea, Marguerites, Genistas, Eubodanth in bloom, 9s. per dozen, in 4's. Adiantum cuneatum and P. tremula, extra size, in 24-inch pots, 16s. and 20s. per 100. Packed free, Cash with Order.

J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

WANTED, Old Stools of ASPIDISTRAS, FICUS ELASTICA, and CALLAS, in EXCHANGE for strong, healthy plants of CUCURBITACEA CRISTATA, equal to the Chatsworth variety; or CUCURBITACEA CRISTATA, equal to the Chatsworth variety; or CUCURBITACEA CRISTATA, equal to the Chatsworth variety; or CUCURBITACEA CRISTATA, equal to the Chatsworth variety.

TURNER BROS., Green Hill Nursery, Garston, Liverpool.

WANTED, Twelve Fruiting and Twelve Succession SMOOTH CAYENNE PINES.—Particulars and price to—

Mr. W. RUMSEY, Joyning's Nurseries, Waltham Cross.

CARTERS'—THE BEST SEEDS.

CARTERS' HOLBORN PRIZE PRIMULA.

CARTERS' VICTORIA PRIZE CALCEOLARIA.

CARTERS' BRILLIANT PRIZE CINERARIA.

The finest strains in cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN, 237 and 238, HIGH HOLBORN, LONDON, W.C.

OLD BARDFIELD OX-LIP, 6s. per dozen.

White HEPATICA, with Pink Anthers, immense Clumps. CYTISUS ANDREANUS, strong-flowering pot-plants, 3s. 6d. and 5s. each. HAMPEPS of 50 surplus strong roots of HARDY PERENNIAL FLOWERS, from Gardens where 1500 kinds are cultivated, 5s. 6d. A lot of good Orchids Cheap. List.—WOOD'S PLANT CLUB, Kirkstall, Leeds.

PANSIES.—Finest Show and Fancy Pansies, in 50 Grand Named Sorts, my selection, 25s. per 100; in 100 Sorts, 30s. per 100. Catalogue free, on application.

JOHN FORBES, Hawick, Scotland.

Seeds.—Carriage Paid.—Seeds.

DICKSON AND ROBINSON'S DESCRIPTIVE CATALOGUE for 1892.

Enumerates the Best and Choice Varieties of VEGETABLE and FLOWER SEEDS, and SEED POTATOS; MANURES, INSECTICIDES, HORTICULTURAL IMPLEMENTS, and GARDEN REQUISITES. Post-free on application. COLLECTIONS of VEGETABLE SEEDS, from 5s. to 84s. COLLECTIONS of FLOWER SEEDS, from 2s. 6d. to 84s. Seed Warehouse, 12, Old Millgate, Manchester.

KELWAY'S SEED MANUAL for 1892.

"Of the many manuals, &c., we certainly have seen none to surpass Messrs. Kelway's in plain, practical usefulness."—Agriculture.

1s., post-free (deducted from first order) to those unknown to us.

KELWAY AND SON, Loughport.

F. W. KRAUSE, Neusalz, Silesia, Germany, WHOLESALE GROWER of LILIES of the VALLEY (true Berlin variety) on 10 acres of sandy soil. In autumn of each year selected 3-yr. old Crowns, large-flowered, for Early Forcing. Lowest Price and Terms on demand. Testimonials for unsurpassed quality. Established 1870.

Telegrams: KKAUSE, Gardener, Neusalz, Silesia, Germany.

FOWLER'S LAWN SAWN.—For destroying

Daises and other Weeds on Lawns, &c., at the same time acting as a Fertiliser, and improving the growth and colour of the grass. Price, in time, 1s., 2s., 3d., and 5s.; kegs, 8s. 6d., 16s., and 30s.

CORRY AND CO., LIMO, 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

Boulton & Paul's Outdoor Requisites.

BOULTON AND PAUL, MANUFACTURERS, NORWICH.

Every Requisite for the Kennel and Poultry Yard, Aviaries, Pigeon Cotes, Pheasants.

Requisites for the Garden, Park, Pleasure Grounds.

Wire Netting for Game and Sheep. Iron and Wire Fencing.

Gates, &c.

Send for Illustrated CATALOGUES, post-free, on application.

THE CHADBORN AND COLDWELL MFG. CO.,

Makers of the Patent "EXCELSIOR" LAWN MOWER, 223, UPPER THAMES STREET, LONDON, E.C.

Registered Telegraphic Address: "LAWN MOWERS, LONDON."

J. WEEKS AND CO., HORTICULTURAL

ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE AND PLANT MANURE.—This valuable Manure is made only by us.

Every bag and tin has our trade-mark. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid, London Agent: Mr. GEORGE 10, Victoria Road, Putney, W.M. THOMSON AND SONS, Cloudfords, Galsahiel, N.B.

SALES BY AUCTION.

Tuesday Next, and three following days.

THE
STAND HALL COLLECTION
OF ORCHIDS.

ABSOLUTELY WITHOUT RESERVE.

HIGHLY IMPORTANT SALE

of the whole of this Renowned Collection, including many plants matchless in point of rarity, the whole being unsurpassed for culture and condition.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions from the Executors of the late Thomas Standt, Esq., to SELL BY AUCTION, on TUESDAY NEXT, May 3, and THREE FOLLOWING DAYS, at 12 o'clock each day, on the Premises, Stand Hall, Whitehead, near Manchester, the whole of the

Extensive COLLECTION OF ESTABLISHED ORCHIDS.

Amongst the Gems may be mentioned the following:—

<i>Angreum sesquipedale</i>	<i>Dendrobium Phalaenopsis</i>	<i>Statterianum</i>
<i>Cattleya alba</i>	<i>Statterianum</i>	<i>Statterianum</i>
" <i>Statteriana</i> , First-class Certificate	" <i>Statterianum</i>	" <i>Statterianum</i>
" <i>Acklandiae</i>	" <i>Sunderianum</i>	" <i>Sunderianum</i>
" <i>calumata</i> , fine variety	" <i>Venus</i>	" <i>Venus</i>
" <i>Gaskelliana</i> alba	" <i>Lelia Ameriana</i> , rare	" <i>Lelia Ameriana</i> , rare
" <i>intermedia</i> alba, First-class Certificate	" <i>anceps</i> , <i>Sanderiana</i>	" <i>anceps</i> , <i>Sanderiana</i>
" <i>Mendellii</i> bella	" <i>Schroederi</i>	" <i>Schroederi</i>
" <i>Rex</i>	" <i>Williamsi</i>	" <i>Williamsi</i>
" <i>Skinneri</i> alba, grand plants	" <i>Daviesi</i>	" <i>Daviesi</i>
" <i>Trause</i> , "Duke of Marlborough"	" <i>elegans</i> <i>Turneri</i> giganteum	" <i>elegans</i> <i>Turneri</i> giganteum
" <i>Emile</i> , unique	" <i>Turneri</i> , varieties	" <i>Turneri</i> , varieties
" <i>Leena</i> , grand variety	" <i>Statteriana</i> , Award of Merit	" <i>Statteriana</i> , Award of Merit
" <i>Regina</i>	" <i>Frederica</i> , immense plant	" <i>Frederica</i> , immense plant
" <i>Johnsonii</i>	" <i>Philbrickiana</i> , nice plant	" <i>Philbrickiana</i> , nice plant
" <i>Plumosa</i> , Award of Merit, R.H.S.	" <i>Statteriana</i>	" <i>Statteriana</i>
" <i>Walkeriana</i>	" <i>Wolstenholmei</i>	" <i>Wolstenholmei</i>
<i>Cyclopogon cristata</i> alba, fine plant	" <i>alba</i>	" <i>alba</i>
" <i>maxima</i> , fine plant	" <i>Leucocentra</i> , wonderful plant	" <i>Leucocentra</i> , wonderful plant
" <i>Lemoniana</i> , fine plant	" <i>derful</i> plant	" <i>derful</i> plant
" <i>Chatsworth</i> var. fine plant	" <i>Bluntii</i>	" <i>Bluntii</i>
" <i>Trentham</i> var.	" <i>Daviana</i>	" <i>Daviana</i>
<i>Cymbidium chrysanthum</i>	" <i>Statteriana</i> , First-class Certificate	" <i>Statteriana</i> , First-class Certificate
" <i>Lowianum</i>	" <i>purpurata</i> , varieties	" <i>purpurata</i> , varieties
<i>Cypripedium argus</i> Moensii	" <i>Schroederi</i> , large mass	" <i>Schroederi</i> , large mass
" <i>Arthurianum</i>	" <i>Russelliana</i>	" <i>Russelliana</i>
" <i>Bartlettii</i>	" <i>alba</i>	" <i>alba</i>
" <i>Boissierianum</i>	" <i>Whittemana</i>	" <i>Whittemana</i>
" <i>cardinale</i> , extra fine	" <i>phaliphus</i>	" <i>phaliphus</i>
" <i>Charles Canham</i>	" <i>tenebrosa</i>	" <i>tenebrosa</i>
" <i>grande</i>	" <i>Treviseriana</i> , Award of Merit, R.H.S.	" <i>Treviseriana</i> , Award of Merit, R.H.S.
" <i>lo grande</i>	" <i>Lycasta Skellerniana</i> alba, giganteum, grandest var. yet known	" <i>Lycasta Skellerniana</i> alba, giganteum, grandest var. yet known
" <i>Lathamianum</i>	" <i>alba</i> , fine plants	" <i>alba</i> , fine plants
" <i>Morganiae</i> Burfordiense, fine plant	" <i>Ondoglossum crispum</i> , the finest spotted and other varieties	" <i>Ondoglossum crispum</i> , the finest spotted and other varieties
" <i>grand variety</i>	" <i>Androsiana</i> , grand var.	" <i>Androsiana</i> , grand var.
" <i>Mooreana</i>	" <i>Edwardii</i>	" <i>Edwardii</i>
" <i>Mastersianum</i>	" <i>Galeottiana</i> , Award of Merit	" <i>Galeottiana</i> , Award of Merit
" <i>Masculianum</i>	" <i>Jenningsiana</i>	" <i>Jenningsiana</i>
" <i>Niobe</i>	" <i>Rossi</i> , in grand var.	" <i>Rossi</i> , in grand var.
" <i>niveum</i> album (true)	" <i>Oncidium incurvum</i> album	" <i>Oncidium incurvum</i> album
" <i>omnium superbum</i>	" <i>Leopoldi</i>	" <i>Leopoldi</i>
" <i>Rothschildianum</i>	" <i>orthotrichum</i> album	" <i>orthotrichum</i> album
" <i>Schroderi</i>	" <i>Sophrontes grandiflora</i> , grand varieties	" <i>Sophrontes grandiflora</i> , grand varieties
" <i>Spicerianum</i> magnificum	" <i>Vanda coelestis</i> , finest var.	" <i>Vanda coelestis</i> , finest var.
" <i>Sallieri</i>	" <i>Hookeri</i>	" <i>Hookeri</i>
" <i>selligerum</i> rubrum	" <i>teres</i>	" <i>teres</i>
" <i>tessellatum</i> porphyreum	" <i>alba</i>	" <i>alba</i>
" <i>Tautauianum</i> lepidum	" <i>Kimballiana</i>	" <i>Kimballiana</i>
" <i>vestitulum</i> superbum	" <i>snavis</i>	" <i>snavis</i>
" <i>Wallisii</i> , very fine plants	" <i>tricolor</i>	" <i>tricolor</i>
<i>Dendrobium Ainsworthii</i>	" <i>Petersianum</i>	" <i>Petersianum</i>
" <i>resum</i>	" <i>Sanderianum</i> , &c.	" <i>Sanderianum</i> , &c.

Catalogues (1s. each, returnable to Purchaser), may be had of Mr. JOHNSON, Head Gardener, on the Premises, and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

The celebrated "Lora" Collection of ESTABLISHED ORCHIDS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY, May 31, at 12 o'clock, the whole of the valuable collection of ESTABLISHED ORCHIDS, by order of E. Goto, Esq., who is disposing of them in consequence of having to winter abroad. The Plants are in capital condition, and comprise many special things that have been sent direct from the Brazils by a counsellor-out there, notably the *Laelia Ootiana* (believed to be unique), first-class certificate R.H.S.; *L. grandis tenebrosa*, fine examples; *L. elegans Schilleriana*, several in gigantic pieces and fine varieties; *L. elegans Turneri*, specially dark variety; *L. purpurata grande* and *Edwardii*, both wonderfully fine forms; *Sophrontes grandiflora* (supposed to be a yellow variety). In addition to these will be found fine examples of *Cypripedium bellatulum*, *villosum*, *aureum*, *Spicerianum* *magnificum*, *calurum*, *Harrisianum*, *Dominicanum*, *albomarginatum*, and others; *Cattleya Skinneri* *alba*, *C. Harrisoni*, *violacea*, *Cattleya* *gigas* (many fine varieties), *C. Dormaniana*, *C. Mendellii* *grande* and *O. M. superbusima* (both specially fine varieties), *Brassia lanceanum longissima*, grand pieces of *Oncidium Marshallianum*, &c.

On view morning of Sale, and Catalogues had.

Tuesday Next.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 3, at half past 12 o'clock, the COLLECTION OF ORCHIDS, formed by E. Burnett, Esq., of Kennerly, who is leaving the residence, comprising *Ondoglossum*, *Cattleya*, *Cypripedium*, *Dendrobium*, *Laelia*, *Vanda*, &c., and including *Ondoglossum vestitulum*, extra fine dark variety; *Cypripedium Spicerianum*, extra fine specimen, with numerous growths; *C. Elliottianum*, one growth; *C. Rothschildianum*, one growth; *Cattleya crispa superba*, with two sheaths; *C. gigas*, fine plant; *C. Mendellii*, splendid variety; *C. Trause*, *Guinetiana*, *C. Mendellii* *Lendiana*, nine bulbs; three plants of *Vanda Amesiana*, and other choice varieties.

Also twenty-five lots of various ESTABLISHED ORCHIDS, being the remaining portion of the private collection.

On view morning of Sale, and Catalogues had.

Wednesday next.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, May 4, at half past 11 o'clock, PALMS in variety, *GREEN HOUSE FERNS*, *LILY BULBS*, *HERBACEOUS PLANTS*, *GLADIOLI LEMOINEI*; 5000 double and single *BEGONIAS*; 120 TREES CARNATIONS of the best sorts with flower buds; 30 imported plants of *BOINEXA COULETII*, the Giant Californian white Poppy; 10 *DENDROCALYX RIGIDUM*, the yellow flower-bush poppy; *BAMBOO CANE*; *BAMBOO LADDER*; *WOOD TRELLIS*; *RUSTIC WORK*, *GARDEN SEATS*, &c.

On view morning of Sale, and Catalogues had.

Special Consignment.—Wednesday Next.

1300 *PANCRATIUM CARIBAEUM*, fine Bulbs, 30,000 *PALM SEEDS*, comprising *KENTIA BELMOREANA*, *C. FORSTERIANA*, *And an IMPORTATION OF CAPE BULBS*, including *Babianus*, of sorts; *Lachenalia*, *Lizias*, *Tritonias*, &c. 250 *FLOWERING BULBS OF WURMBEA DIVISA*.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on WEDNESDAY NEXT, May 4.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, by order of Messrs. Charlesworth, Shuttleworth, & Co., of Hutton, Bradford, and 213, Park Road, Chatham, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 6, at half past 12 o'clock, a quantity of *CATTLEYA LABIATA AUTUMNALIS* YEREA—the variety received in fine condition from an entirely new district. Their collector writes that the greater portion of the plants he saw were in flower, many of them very grand forms, both light and dark varieties. Also established well-grown plants of *ONDOGLOSSUM*, *ONCIDIUM*, *MASDEVALLIA*, *CYPRIPIEDUM*, *CYMBIDIUM*, &c.; a quantity of *DENDROBIUM ALBUM* and *D. AUREUM*, received from the same collector, in flower, from various owners; *ORCHID PEA*, &c.

On view morning of Sale, and Catalogues had.

Friday Next, May 6.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. Charlesworth, Shuttleworth, & Co., of Hutton, Bradford, and 213, Park Road, Chatham, to sell on FRIDAY NEXT, May 6, at half past 12 o'clock, a quantity of *CATTLEYA LABIATA AUTUMNALIS* YEREA—the variety received in fine condition from an entirely new district. Their collector writes that the greater portion of the plants he saw were in flower, many of them very grand forms, both light and dark varieties. Also established well-grown plants of *ONDOGLOSSUM*, *ONCIDIUM*, *MASDEVALLIA*, *CYPRIPIEDUM*, *CYMBIDIUM*, &c.; a quantity of *DENDROBIUM ALBUM* and *D. AUREUM*, received from the same collector, in flower, from various owners; *ORCHID PEA*, &c.

On view day of Sale.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, by order of Messrs. Walter Kenney & Co., 147, Lombard Street, E.C., on FRIDAY NEXT, May 6, at half past 12 o'clock:—
65 *RENANATHERA LOWII*
200 *CYPRIPIEDUM LOWII*
250 *CYCLOGENE DAYANA*
300 *POSTERMANII*

On view morning of Sale, and Catalogues had.

Tuesday, May 10. From Messrs. F. Horsman & Co. A superb lot of *ONDOGLOSSUM CRISPUM* and its varieties, especially *alba*, and many of the plants of a quantity of *COMPAETETIA MACROELECTRON* and other plants.

MESSRS. PROTHEROE AND MORRIS will sell the above by Auction at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, May 10, at 12.30 o'clock.

On view morning of Sale, and Catalogues had.

Tuesday, May 10.

1500 *PHALENOPSIS SCHILLERIANA*, *AMABILIS*, and *STYLARIA*.

A grand importation for Sale, absolutely without reserve. The plants have arrived, and are in really splendid condition, the *Schilleriana* and *amabilis* being especially fine.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on TUESDAY, May 10.

Tulse Hill.

THE CHOICE COLLECTION OF ESTABLISHED ORCHIDS formed by S. G. LUTWYCHE, Esq., who is leaving the residence.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL BY AUCTION, on the Premises, Brampton, 90, Tulse Hill, S.W., on WEDNESDAY, May 11, at half past 12 o'clock, the whole of these choice and well-grown ORCHIDS.

Friday, May 27.

SPECIAL SALE OF ORCHIDS IN FLOWER. Being the day following the Great Temple Show. MESSRS. PROTHEROE AND MORRIS desire to announce that they have fixed the above date for a SPECIAL SALE OF ORCHIDS IN FLOWER, and will be glad to RECEIVE ENTRIES as early as possible.

Friday, May 13, 1892.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. F. SANDER, St. Athans, to SELL BY AUCTION, at their Rooms, on FRIDAY, May 13, the following VALUABLE ORCHIDS:—

CYPRIPIEDUM, *ONCIDIUM*, *SPIDER PLANTS*, &c. Introduced by us through H. M. Ridley, Esq., M.A., F.L.S., Director of the Botanic Gardens and Forests Department, Singapore. It has also been introduced by R. I. Measures, Esq., and R. H. Measures, Esq., the former gentleman gaining an Award of Merit from the Orchid Committee of the Royal Horticultural Society at the Society's last meeting for a well-grown and beautifully flowered specimen. We beg to offer a high price for healthy and well-grown plants, imported in the early part of last year. We also offer for the first time—

A NEW and MOST REMARKABLE *DENDROBIUM* from the Celebes, the bulbs measuring in some instances 3 feet in length, the numerous leaf-stems showing that the blooms are large, and the plant exceedingly profuse-flowering.

A grand lot of a *CYPRIPIEDUM* resembling C. STONKI, from Sulu and North Borneo; some of the leaves are enormous, and vary greatly in size, &c.

A splendid importation of the new and beautiful *ONCIDIUM GRAVESIANUM* SPS. NOVA, Sander, in grand masses and perfect health. This fine NEW SPECIES received an Award of Merit at the Royal Horticultural Society's last meeting April 12, 1892, for which we much admire its rich and various shades of brown and yellow combined; the colours are deservedly the most popular.

Also many other RARE and VALUABLE ORCHIDS.

Cape revolution.

An IMPORTATION of 25 cases received direct from Japan. They are in excellent condition.

MESSRS. PROTHEROE AND MORRIS desire to announce the arrival of the above, which will be included in an Early Sale.

BORDER PLANTS, TUBEROSES, CHOICE GLADIOLI, BEGONIAS, &c.

MR. J. C. STEVENS will SELL BY AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, May 4, at half past 12 o'clock, a fine collection of BORDER PLANTS, comprising NEAR CARNATIONS, PICOTEES, PINK, PYRETHRUMS, IRIS, PANSIES, &c.; choice *GLADIOLI* from Holland; Double and Single *BEGONIAS*, Japanese *LILIIUM*, *TUBEROSES*, and *AMARYLLIS* from the Cape, &c.

On view morning of Sale, and Catalogues had.

Thursday Next.

VALUABLE IMPORTATION OF *ONDOGLOSSUM CRISPUM*, in splendid condition, by order of Messrs. F. HORSMAN & CO.

MR. J. C. STEVENS will include in his SALE BY AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 5, a fine importation of *ONDOGLOSSUM CRISPUM*, in large mass; and *COMPAETETIA MACROELECTRON* (rare) introduced by Mr. John Carlier. By order of Messrs. F. HORSMAN & CO.

On view morning of Sale, and Catalogues had.

Thursday Next.

SPECIAL SALE OF ORCHIDS IN FLOWER and BUD. MR. J. C. STEVENS will SELL BY AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 5, at half past 12 o'clock precisely, a good collection of ORCHIDS in FLOWER and BUD, comprising *ONDOGLOSSUM CRISPUM*, *C. ALEXANDRINUM*, *O. triumphans*, *O. Cervantesii*, *Ada aurantiaca*, *Chelodanthe*, *Masdevallia*, *Pyramis*, *M. Chelodanthe*, *Cypripedium*, *Dendrobium*, *Cattleya*, *Mendellii*, fine vars., &c. Also 10 cases of *LILIIUM* SPECIES from South Africa; a fine collection of *AMARYLLIS* from the Cape, *LILIIUM* from Japan, *TUBEROSES*, and *AMARYLLIS* SPECIES, &c.

On view morning of Sale, and Catalogues had.

Unprecedented Nursery Sale.

Owing to the Ground being required for Building purposes, MESSRS. F. B. SAUND AND SONS have instructed Mr. DAVID MITCHELL, Horticultural Auctioneer, to DISPOSE of, by PUBLIC AUCTION, on WEDNESDAY and THURSDAY, May 4 and 5, each day at half-past 11 o'clock, the whole of their immense stock of STOVE and GREENHOUSE PLANTS growing in their numerous Glass-houses at West Coates Nurseries, Haymarket, Edinburgh (previous to the Houses being removed and re-erected at the Nurseries, Murrayfield). The Stock consists of magnificent Specimens of Greenhouse Rhododendrons, such as *Frage*, *Chloro*, *Chloro* lot of *Palm*, *Crotoneas*, *Eucharis*, magnificent *Pitcher* plants (rare kinds), also large Tree Ferns with fine stems, and without exception the grandest lot of Camellias ever offered for sale by Public Auction, in size and descriptions see Catalogues, which are now ready.

West Coates Nurseries, Edinburgh, April 4, 1892.

Dolphin Sale Rooms, Market Place, Doncaster.

HIGHLY IMPORTANT SALE OF SPECIMEN AZALEAS in flower; ORCHIDS, PALMS, PITCHER PLANTS, CALADIUMS, ANTHURIUMS, STOVE PLANTS, FERNS, and sundry Decorative Plants, from the establishment of a well-known successful private exhibitor.

MR. HERBERT ATRON will SELL BY AUCTION, the above, at his new and commodious sale rooms, Dolphin Chambers, Market Place, Doncaster, on WEDNESDAY, May 4, 1892, at 2 o'clock prompt.

The Plants will be on view some morning from 10 to 1 o'clock.

Catalogues may be had on application to the Auctioneer, Dolphin Chambers, Market Place, Doncaster.

MIDLAND COUNTIES.—TO BE SOLD, at a great sacrifice, to effect an immediate Sale. Close to important Station, on the N. W. Ry. Old established General NURSERY BUSINESS. Very Low Rent. Any reasonable offer will be entertained.

Apply, PROTHEROE AND MORRIS, Estate Officers, 67 and 68, Cheapside, London, E.C.

TO BE SOLD, as a Going Concern, the LEASE (over 19 years), and Seven GLASSHOUSES, 700 feet run, well and suitably heated, situated in a town of over 12,000 inhabitants, and within 20 miles of Covent Garden. Would suit admirably a couple of energetic young men, as it is capable of being largely extended, and is such a genuine chance that those interested should make a note of it by cutting this out, as it will not again appear. The most satisfactory re-ens on giving up will be furnished. Apply, A. B. C., 41, Wellington Street, London, W.C.

To Fruit Growers, Nurserymen, and Others.

GOOD ARABLE and MEADOW LAND to be LET or SOLD. Close to the main road at Poaders End (6 miles from London). Long leases granted. Rent, £12 per acre per annum, with option to purchase the Freehold any time during the first nine years. Several large Market Nurseries are established on the Estate. Full particulars of A. and G. GUYER, Land Agents, Poaders End.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Fisheries, Water Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by PULHAM and SON, 55, Finsbury Square, London, E.C., and Brookhouse, Hert's. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospects. Address, SECRETARY, 43, Great Tower Street, E.C.

PINES for Sale.—50 strong Suckers, Cash or EXCHANGE.—Apply, J. HOPKINS, High Cress, Framfield, Sussex.

STRAWBERRIES.—Paxton, Thury, &c., grand Plants. WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

VINES.—Gros Colmar, in 60's, now ready for potting on, 40s. per 100. R. FOULGER, Holly Bank Nurseries, Potter's Bar.

To the Trade.

MANGEL WURZEL and TURNIP SEEDS, of H. and F. SHARPE have very fine Stocks of the above-named Seeds of 1891 grown and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advantageous prices.

The quality is very fine and the growth strong.

Samples and prices on application.

SEED GROWING ESTABLISHMENT, WISBECH.

300,000 FRIESEIA ref. alba, pure white, & sweetly perfumed, easily grown in or out-of-doors, grand for forcing, just imported, 30s., 100s.; 4s. 100; 1s. doz.—J. JAMES, New Malden, Surrey. Trade supplied.

Trade Offer of Large Palms.

W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application. W. ICETON, Putney, S.W.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have just received
LARGE and SPLENDID IMPORTATIONS
of the following and other

ORCHIDS.

ODONTOCLOSSUM CRISPUM

(FINEST PACHO TYPE).

DENDROBIUMS,

In grand masses, and in great variety.

MEXICAN ORCHIDS,

In great variety.

ORCHIDS from GUATEMALA

And other Countries.

Prices and Full Particulars sent post-free on application.

THE VINEYARD and NURSERIES,
CARSTO, NEAR LIVERPOOL.

FOR ORCHIDS, and GARDENERS to Grow Them, apply to SANDERS, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MOARTHUR, The London Nursery, 4, Maida Vale, London, W.

20,000 GERANIUM CUTTINGS, F. V. Rs-pail, clean, to clear, £1 per 1000, 3s. per 100.—JAMES GREEN, Recluse Nurseries, March.

The best April Broccoli in the World

HARTLAND'S APRIL QUEEN, per packet, 1s., post free.

It may be tried for purity of stock, flavour, and quality against any sort in Europe.

WILLIAM HENRY HARTLAND, F.R.H.S., Seedsman, &c., 21, Patrick Street, Cork.

Many Acres of Lilies of the Valley!

T. JANNOCK, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNOCK, Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales, Dersingham, King's Lynn, Norfolk.

5000 Celebrated JOHN RUSKIN (New), Earliest STRAWBERRY in commerce, 100s. or out. Grand Forcer. Plants, 12s. per 100, by Post 1s. extra. This Strawberry has made 60s. per lb. this season. Payton, 2s. per 100. Lacton's Noble, 2s. 6d. Autumn-sown Cabbage Plant, 3s. per 1000; postage 1s. 6d. extra. APPLE GRAFTS of the leading sorts can be had. Send for LIST. W. HORNE, Perry Hill, Cliffe, near Rochester, Kent.

Alternantheras, Lobelias, Musk, Ferns, &c.

JOHN SOLOMON offers:—**ALTERNANTHERA:** Amoena, magnifica, paronychioides, versicolor, grandis, arancifolia, &c. major, 6s. per 100, 50s. per 1000. **LOBELIAS:** Emperor William, best blue, 2s. 6d. per 100, 20s. per 1000; Snowball, pure white, 3s. 6d. per 100, 25s. per 1000. **HARRISON'S MUSK,** 6s. per 100. **FERNS:** Pteris tremula, Pteris caudata, Pteris major, in 3½-inch pots, 6d. for 4s. 12s. per 100. All the above are sure to give satisfaction. Packing included. Cash with order. Queen's Road Nursery, Walthamstow, E.

DAHLIAS.

10,000 DAHLIAS.—The cream of all sections. Now ready, Show, Fancy, Pom-pom, Cactus, and Single varieties, well-rooted, and true to name, price, 6 for 2s.; 12 for 3s.; 2 doz., 5s. 6d.; 20s. for 100; our selection. Carriage paid. Descriptive List of all the best new and set on varieties in cultivation, with price of purchaser's selection, free. Send for a sample dozen, and give us a trial order.

10,000 LOBELIA EMPEROR WILLIAM.—The best blue variety. Strong, well-rooted plants, from cuttings, 4s. per 100.

TEA ROSES in pots.—Thousands of good plants in all the best varieties, such as Niphetos, Climbing Niphetos, Catherine Mermet, The Bride, William Allen Richardson, Ferle des Jardins, Sunset, &c., 6s. per doz., and 3s. per dozen. Selected plants, 1s. 6d. per 100, 2s. 6d. each. Suitable for planting in the Conservatory, Greenhouse, outside planting, or growing in pots.

GIANT PANSIES, finest blotched varieties. Ne plus Ultra, 2s. per dozen; 12s. 6d. per 100.

NOW is the best time to buy and to secure the finest plants, all packing free. Trade supplied. Catalogues gratis.

A. J. and C. ALLEN, Florists and Rose Growers, REIGHAM, NORWICH, NORFOLK.

PELARGONIUMS, SHOW, SPOTTED, and FANCY.

Good strong sturdy stuff, in 4½, 50s., 75s., 100s. per 100. Very fine, strong, autumn-struck HENRY JACOBY GERANIUMS, in 60s., 10s. per 100; tied out of pots, 12s. per 100. Delivered free on rail, Cash with order.

N. LAWRENCE and SON, BURNSFIELD NURSERIES, CHATTERIS, CAMBS.

L'HORTICULTURE INTERNATIONALE

(Orchid Emporium), Leopold Park, Brussels.

THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will be at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

THE "BEST" LAWN SEEDS.

New Circular, Post-free, on application.

DICKSONS & CHESTER
(LIMITED)
Seed Merchants & Nurserymen

DANIELS BROS.,

TOWN CLOSE NURSERIES, NORWICH,

BEG to offer the following from their splendid collection of choice named Florists' Flowers, &c., all in sturdy young stuff, mostly from single pots, guaranteed true to name, and sent Post or Carriage Free on receipt of Cheque or Post-office Order.

Per doz.—s. d.

Abutilons. Very choice sorts ... 6 for 2s. 6d. 4 6

Coleus. All the most beautiful sorts ... 6 for 2s. 3 6

Chrysanthemums. Japanese and Incurred. Choice sorts from our splendid collection ... 6 for 2s. 3 6

per 100, 15s.; 6 for 1s. 6d. 2 6

.. New and very select ... 6 for 2s. 6d. 4 6

.. "W. A. Manda," the new Golden Yellow Ostrich Plum, splendid ... 6 for 2s. 6d. 4 6

.. Six superb new varieties, including "Gloire du Rocher," "Florence Davis," and "Vivand Morel" ... 6 for 2s. 6d. 4 6

.. Carnations and Picotees. A very choice collection, including all the newest and finest sorts, 6s., 8s., & 12 0

.. Six very choice sorts, including "Germania" ... 6 for 2s. 6d. 4 6

.. Dahlias. Show and Fancy, a magnificent collection, including all the finest varieties ... 6 for 2s. 6d. 4 6

.. Show and Fancy, new and very choice sorts, 6 for 2s. 6d. 4 6

.. Cactus-flowered. A superb collection, including the best of recent introduction ... 6 for 2s. 6d. 4 6

.. Cactus-flowered. New and very choice sorts ... 6 for 2s. 6d. 4 6

.. Cactus-flowered. Six grand new varieties, including "Beauty of Arundel" ... 6 for 2s. 6d. 4 6

.. Single-flowered. A charming collection, including the newest ... 6 for 2s. 6d. 4 6

.. Single-flowered. Six new and very select sorts, 6 for 2s. 6d. 4 6

.. Pom-pom or Bouquet. A very choice assortment ... 6 for 2s. 6d. 4 6

.. New Marguerite. Single, pure white, very pretty, each, 2s. 6d.; 3 for 6s. 6 0

.. New "Tom Thumb." Single, very pretty, only 1 foot high, 3 for 2s. 6d.; 6 for 4s. 6d. 4 6

.. Fuchsias. Single and double-flowered. All the most beautiful varieties ... 6 for 2s. 6d. 4 6

.. New and extra choice ... 6 for 2s. 6d. 4 6

.. Six superb new varieties, including "Mrs. Charles Daniels" ... 6 for 2s. 6d. 4 6

.. Heliotrope, "White Lady." Fine for pot culture, delicately scented ... 6 for 2s. 6d. 4 6

.. Musk. New double-flowered ... each 6d., 3 for 2s. 6 0

.. Harrison's Giant. Splendid variety ... 6 for 1s. 6d. 2 6

.. Marguerites or Parisian Daisies. Yellow or white ... 6 for 1s. 6d. 2 6

.. Pelargoniums. New Zonal. All Autumn struck—single-flowered ... from our grand collection; splendid for pot culture ... 6 for 2s. 6d. 4 6

.. Six new varieties of 1891 (Pearson's) ... 7s. 6d. 4 6

.. Double-flowered. Zonal. Grand varieties; fine for pots ... 6 for 2s. 6d. 4 6

.. New double-flowered Ivy-leaved. Magnificent varieties for pots or hanging baskets, &c., &c., very choice sorts ... 3 for 2s. 6d. 6 0

.. Gold and silver tricolors. The most beautiful sorts ... 6 for 2s. 6d. 4 6

.. Streptocodon Jamesoni. Beautiful plant for the greenhouse ... each 6d., 3 for 2s. 6 0

.. Tropaeolum "Comet." Brilliant scarlet, splendid for pots ... each 6d., 3 for 1s. 3d. 2 6

.. Begonias. Variegated-root hybrid. Magnificent single-flowered varieties. Immense blooms of the most beautiful colours. Strong flowering tubers, very choice mixed ... 6 for 2s. 6d. 4 6

.. Extra choice sorts, for pot culture ... 6 for 2s. 6d. 4 6

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

.. Double-flowered, very fine mixed ... 6s. and 12 0

MEXICAN PLANTS.

AGAVES, CACTI, FERNS, YUCCAS, ZAMIA.			
Carriage Paid—doz. 100.	Carriage Paid—doz. 100.		
Resurrection Plants 3s. 15s.	Echinocactus Sheeri 7s. 40s.		
Tillandsia (air plants) 3s. 20s.	" teresensis .. 7s. 40s.		
Mamillaria pusilla 3s. 15s.	" lophothete .. 7s. 40s.		
" echinata ... 3s. 15s.	Mamillaria Lascia-		
" pectinata ... 3s. 15s.	cantha ... 5s. 30s.		
" monclava ... 3s. 15s.	" melacantha ... 5s. 30s.		
" applanata ... 4s. 20s.	" micromeris ... 5s. 30s.		
Echinocereus enne-	" pusilla texana 5s. 30s.		
canthus ... 5s. 25s.	Cereus grandiflorus		
" Blandieri ... 5s. 25s.	(cuttings)... .. 8s. 50s.		
" pectinatus ... 5s. 25s.			

Special Prices to the Trade for large quantities.

Extra fine plants collected for Public and Private Gardens. Correspondence solicited. Remittances should be made in drafts on London, New York, or Mexico. Small amounts may be remitted to Messrs. WATSON & SCULL, 90, Lower Thames St., E.C. McDOWELL, GUAJARDO HNOS, MONTEREY, MEXICO.

Via New York and Laredo.

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

CHRYSANTHEMUMS,
AND HOW TO GROW THEM.

The large and increasing demand for this popular work has made it necessary to print a new and revised edition (11th thousand). This contains a practical and scientific treatise on Culture, and also a critical analysis of the new varieties of the present season, by C. E. Shes, Esq.; a short history of the Chrysanthemum, by C. Harman Payne, Esq.; and a Chrysanthemum Calendar, by Mr. H. Shoemith. In addition to above, illustrations of two of the best new varieties of the year are included in my new Chrysanthemum Catalogue, which also contains the most complete list of new varieties ever brought together, and embraces selections from all the known Chrysanthemum world. All the secrets of successful culture given, making this the most valuable work on the Chrysanthemum ever published. Post free, nine stamps. To Secretaries of Societies, for members, 6s. per dozen.

H. J. JONES, Ryecroft Nursery, Lewisham, S.E.

**SPECIAL
OFFER
OF
VINES.**

STRONG GRAPE VINES
in variety.

Specially Large Stocks of the following kinds:—
BUCKLAND SWEETWATER,
DUKE OF BUCKLEUGH,
ALICANTE,
GROS COLMAR,
GROS MAROC.

Special Prices upon application.

DICKSONS NURSERIES CHESTER
(LIMITED) (100 Acres)**NEW SINGLE PYRETHRUM, "JUBILEE."**

First-class Certificate, Royal Botanic Society, London, June 16, 1888.

One of the most beautiful Single Varieties in cultivation; dwarf in habit, bearing in abundance very deep Carmine flowers.

See Editor's remarks in *The Garden*, June 20, 1891:—
"Flowers, deep carmine; the richest-coloured variety we have seen, and very handsome."

Well-established plants, ready for delivery in April, 2s. each (usual discount to the Trade).

W. BALCHIN & SONS,
HASSOCKS NURSERY, SUSSEX.

CHEALS' DAHLIAS.

25,000 Plants in all the Sections ready for distribution, including many valuable NOVELTIES.

NEW DESCRIPTIVE CATALOGUES now ready, Post Free.

J. CHEAL & SONS,
CRAWLEY, SUSSEX.

Seed Potatoes.

H. AND F. SHARPE having a Surplus Stock of the following varieties of SEED POTATOES, are prepared to offer them at VERY REDUCED prices, to clear out, viz:—

Veitch's Improved Ashleaf Kidney,
Myatt's Prolific Ashleaf Kidney,
Rivers' Royal Ashleaf Kidney,
Gloucestershire Early Kidney,
Sutton's Abundance.

Clark's Main Crop Kidney,
White Elephant.

Also several other varieties.

The above have been grown expressly for Seed purposes.
SEED GROWING ESTABLISHMENT, WISBECH.

ORCHIDS A SPECIALTY.

Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants.
W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchid Road.

CLEMATIS for Bedding.

Three and four years old, my selection, to include finest varieties, 100 for 50s.

CHARLES NOBLE, BAGSHOT.

ODONTOGLOSSUM CRISPUM ALEXANDRÆ,

FROM THE PACHO DISTRICT.

HUGH LOW and CO. have recently received very large importations of the above in selected pieces, and in the very best possible condition, and respectfully solicit an inspection of the plants by Gentlemen interested in Orchid Culture.

PRICES AND SAMPLES ON APPLICATION.

CLAPTON NURSERY, LONDON, N.E.

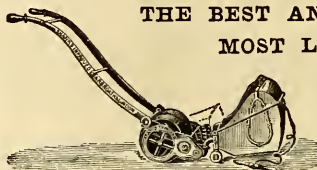
SHANKS'S LAWN MOWERS

THE BEST AND
MOST LASTING

MACHINES.

Give Universal
Satisfaction.

THE BEST SIDE-WHEEL
MACHINE EVER MADE.



THE STANDARD MACHINE.



"BRITANNIA" MOWER.

ALEX R. SHANKS & SON,
DENS IRONWORKS, ARBROATH, N.B.,
AND
110, CANNON STREET, LONDON, E.C.

FOR LISTS, ADDRESS—
"LONDON WAREHOUSE:—
5, OLD SWAN LANE, UPPER THAMES STREET, E.C.
WHERE REPAIRS ARE ALSO EXECUTED.



AWARDED TEN GOLD AND SILVER MEDALS.
REGISTERED NO. 13,195.
PRICES OF 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
ARMOURD.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices—
3-in. dia., best quality ... 36/3 1/2 in. dia., ex. stout qual. 52/0
" ex. stout quality 43/7 1/2 " best quality ... 52/0
" best quality ... 45/0 " ex. stout qual. 60/7
All Hose Carriage Paid and despatched same day as order is received.
Also Maker of Hose for Delivery. Steam, Fire, Suction, and Liquid Manures, &c. Supplied to all the Principal Corporations, Parks, Estates, &c. at Home and Abroad. Over 5,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING, ROOFING FELTS, SACKING, &c., Post Free. MAKER TO HER MAJESTY THE QUEEN.
ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE,

“HERCULES” BRAND (Regtd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



“Are you not afraid those children will injure the Hose or stop the water?”
“Oh, no! This SPHINCTER GRIP ARMoured HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of.”

CONTRACTORS to all DEPARTMENTS of HER MAJESTY'S GOVERNMENT and the HORTICULTURAL and AGRICULTURAL SOCIETIES.

HUNDREDS OF UNSOLICITED TESTIMONIALS.

BEWARE OF WORTHLESS IMITATIONS, and send for ILLUSTRATED and DESCRIPTIVE CATALOGUE (post free on application) of HOSE and GARDEN WATERING APPLIANCES and FITTINGS of every kind.

HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891.

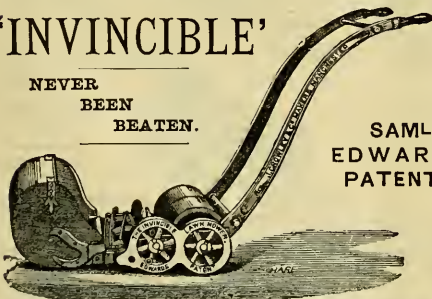
No Exhibition Medal or Award has ever been secured by any other firm for Armoured Hose.

OFFICES and SHOW ROOMS—9, MOORFIELDS, LONDON, E.C. Works—LONDON and NORTHAMPTON.

GOLD MEDAL LAWN MOWERS

‘INVINCIBLE’

NEVER
BEEN
BEATEN.



SAML.
EDWARDS' PATENTS.

‘VICTOR’

EASY
TO
WORK.



TWO HANDLES, same price.
Light in Construction.
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

FORBES' CATALOGUE FOR 1892,

Is the largest, best, and most comprehensive ever issued on FLORISTS' FLOWERS and HERBACEOUS PLANTS. It contains full and accurate descriptions of all the best Antirrhinums, Begonias, Carnations, Dahlias, Delphiniums, Fuchsias, Peonies, Pansies, Violas, Pelargoniums, Pentstemons, Petunias, Phloxes, Pinks, Potentillas, Primulas, Pyrethrums, Verbenas, Herbaceous Plants, &c.; also of my true and reliable strain of

EAST LOTHIAN STOCKS,

which, by the force of their merit, are now justly celebrated all the world over. In 5 distinct sorts, crimson, purple, scarlet, white, and Wallflower-leaved white, each sort, 1s., 2s., 6d., and 5s. per packet.

It is an indispensable Reference-Book on all sections of Florists' Flowers, and should be carefully perused by all buyers of flowers.

Free on application.

JOHN FORBES, Nurseryman, Hawick, Scotland.

FERNS A SPECIALITY
The finest & most interesting Collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy Exotic & British
EVERY ONE interested in FERNS SHOULD
SEND FOR OUR partially descriptive
CATALOGUE FREE ON APPLICATION.
also our ILLUSTRATED CATALOGUE No. 21.
Price 1/6 post free.
W & J BIRKENHEAD
FERN NURSERY, SALE, MANCHESTER.

TRADE OFFER OF PALMS.

COCOS Weddelliana, in thumbs ... at 20s. per 100.
in 60's, ... at 55s. per 100.
KENTIA Fosteriana and Belmoreana, in thumbs, at 20s. per 100.
" " in 60's, at 60s. per 100.
" " in 48's, at 24s. per doz.
in 32's, at 48s. per doz.
SAPORTHIA Elegans, in 60's, ... at 32s. per 100.
in 48's, ... at 25 per 100.

W. Iceton has a fine Stock of Asparagus Plumosus anane, in 48's and 60's; Pandanus Veitchii, Draena Lindenii, and Ficus elastica.—W. ICETON, Putney, S.W.

BARR'S SEEDS, BULBS AND PLANTS.

VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladstoli, Lilies, Anemones, Ranunculus, Hyacinthae candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michelmans Daisies, Perennial Sunflowers, Double and Single Freemias, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.

BARR AND SON, 12, King Street, Covent Garden, London.

FERNS!—FERNS!—FERNS!

A first-class lot of PTERIS TREMULA to offer.

Packed and put on rail, free in London, 12s. per box of two dozen. Cash.

H. TITE, Covent Garden, W.C.

SHOWY, CHOICE CARNATIONS

HARDY

of good kinds.

FLOWERS,

An immense Stock, Well-grown Plants, Free-flowering varieties.

for

Some of the best in cultivation. Prices most moderate throughout.

BORDERS.

Our selection, in good sorts, at from 7s. 6d. per dozen.

The Garden

Also Auriculas, Pansies, Pentstemons, Phloxes, Primulas

always gay.

Pinks, and Pyrethrums.

DICKSONS NURSERIES CHESTER
(LIMITED)
(400 Acres)



CHEAP, to CLEAR.—500 CALADIUM
ARIZONITES, strong roots; 200 TRITOMA UVARIA,
and several thousand WHITE PINKS, large clumps.
JOHN SON & CO., Hampton-on-Thames.

CECROGYNE CRISTATA, from 9d. each;
Chatworth variety, 1s. 6d. Also the Trencham and
Maxima varieties cheap.
Trustees late J. STEVENSON, Timperley, Cheshire.

STRONG HERBACEOUS PLANTS, in 50
named varieties, 4s. 6d.; 100 varieties, 8s.; 200 varieties,
18s.; 1000 in 100 varieties, 40s.; 1000 in 200 varieties, 80s.
Edging and Bedding sorts, 5 varieties, 2s. per 100; 15s. per
1000; in ten varieties, 3s. per 100; 25s. per 1000; in 20
varieties, 4s. 6d.; 30s. per 1000; **SEEDLING RHODO-**
DENDRONS, two years, 3s. per 1000; 21s. 10s. per 100,000;
do., three years, 4s. per 1000; 21s. 10s. per 100,000.
SAMUEL SMITH, Slaghille Nursery, near Matlock.

Now is the Time to Plant
PYRETHRUMS, DELPHINIUMS,
and **GAILLARDIAS**—three of the showiest of all
Hardy, Easily-grown Perennial Plants. For 1892, list,
see **KELWAY'S SEED AND PLANT MANUAL** for 1892, 1s.,
post-free (deducted from first order), to those unknown to us.
KELWAY'S GLADIOLI—Now is the time to plant. Priced
Descriptive List, free.
KELWAY AND SON, Langport, Somerset.

NEW TOMATO—"THE COMET."
Having a few finest strong plants to spare of this splendid variety,
a plant of which exhibited at Edinburgh International Show
last September carrying seventy-eight fruits; the first five
trusses occupied a space on the stem of 27 inches and carried
forty-four fine smooth fruits measuring from 8 to 11 inches in
circumference. I am offering them, carriage paid, at 6s. per
dozen, out of 3½-inch pots.

ALEXR E. CAMPBELL, Gourick, N.B.

CABBAGE PLANTS (Autumn Sown), of
Enfield, D-fance, East Ham, D-unhead, and Thousand
Head, 5s. per 1000 on rail. **LETTUCE**, Cos and Cabbage, and
TRIPOLI ONIONS, 4s. per 1000, on rail; 1s. 6d. per 100, free.
WALLFLOWER PLANTS, mixed, large-flowering, 3s. per
100, 20s. per 1000. **PANSY**, Yellow, White, Black, Stained,
Gold-Edged, or Mixed, 5s. per 100, 40s. per 1000. **SAGE**
PLANTS, 4s. per 100, 30s. per 1000, on rail.
EDWARD LEIGH, Cranleigh, Surrey.

Geraniums—Verbenas—Fuchsias.
WILLIAM BADMAN offers, in well-rooted
stuff fit for present potting-up, **GERANIUMS**,
Vesuvius, Hy. Jacoby, Queen of Belgians, Master Christine,
West Brighton Gem, F. V. Raspaal, Madame Vaucher, all at
10s. per 100; **SILVERS**, Flower of Spring, May Queen, Bijou,
10s. per 100; **Crystal Palace Gem**, Happy Thought, 10s. per
100; **BRONZE** of sorts, 12s. per 100; **TRICOLORS** of sorts,
18s. per 100; **LOBELIA**, Brighton, Emperor William, 2s. 6d.
per 100, 21s. per 1000; **Snowball**, 3s. 6d. per 100; **VERENAS**,
Purple, White, Scarlet, 3s. 6d. per 100; **Candle Hero**, fine
Crimson, 5s. per 100; **PELAGONIUMS**, Show and Decorative,
best sorts, 3s. per dozen, packing included. Terms, Cash
with Order.—**CEMETERY NURSERY, GRAVESEND.**

Carpet Bedding Plants.
WILLIAM BADMAN offers good rooted
cuttings, **COLEUS Verschaffelti**, **FRESENIA Lindenii**,
ALTERNANTHERA, amana, spectabilis, all at 6s. per 100; **CEN-**
TAUREA candidissima Seedlings, 6s. per 100; strong plants,
15s. per 100, packing included. Terms, Cash with Order.
CEMETERY NURSERY, GRAVESEND.

NEW, WHITE, SHOW DAHLIA,
"JOHN WALKER."

THE FINEST WHITE EVER OFFERED.
EIGHT FIRST-CLASS CERTIFICATES LAST SEASON.
Plants in May, 10s. 6d. each.

SHOW,
FANCY,
CACTUS,
POMPON,
SINGLE,

DAHLIAS.

Choicest sorts, extra fine roots.
4s. to 9s. per dozen.
CATALOGUES FREE.

JOHN WALKER, Nurseryman,
THAME, OXON.

H. CANNELL & SONS
REGONIAS, finest and best
Collection in the world, now
in flower. Splendid tubers
for bedding. Catalogue free.
S W A N L E Y, K E N T

ENOUGH FOR THE WISE

Protect your Gardens from Ravages of Birds.
TANNED NETTING, 35 yards, 1s. Can be
sent any width; carriage paid on orders over 5s. Also
BELL-TOP FENTS, 40 feet in circumference, with pegs,
pole, all complete, from 20s. to 30s. each.
HENRY ROBINSON, Tent and Net Merchant, Eye, Suffex.

WEARE THE ONLY
LAWN MOWERS
BY ROYAL



MAKERS OF
APPOINTED
WARRANT.

MAKERS TO HER MAJESTY THE QUEEN AND HIS
ROYAL HIGHNESS THE PRINCE OF WALES.

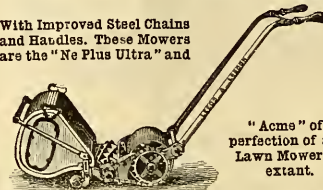
GREEN'S PATENT "SILENS MESSOR" LAWN MOWING MACHINES

ARE THE
FIRST, FOREMOST,
AND
BEST IN THE WORLD.

ALSO
TENNIS COURT MARKERS
AND
GRASS EDGE CLIPPERS.

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains
and Haddles. These Mowers
are the "No Plus Ultra" and



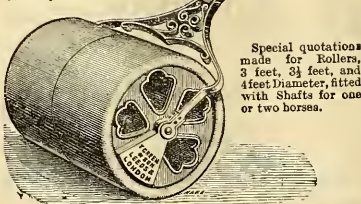
"Acme" of
perfection of all
Lawn Mowers
extant.

They have stood the test for upwards of thirty years, and
have carried off EVERY HIGHEST PRIZE which has been
given in all cases of competition.

GREEN'S Patent ROLLERS,
For Lawns, Drives, Bowling Greens, Cricket
Fields, and Gravel Paths, &c.
Suitable for Hand or Horse
Power.

Prices of Rollers in 2 parts.

Diam.	Length	2 s. d.
16 in. by 17 in.	2 5 0
20 in. by 22 in.	3 5 0
24 in. by 26 in.	4 10 0
26 in. by 28 in.	6 0 0
30 in. by 32 in.	7 10 0



Special quotations
made for Rollers,
3 feet, 3½ feet, and
4 feet diameter, fitted
with Shafts for one
or two horses.

Price Lists on Application.

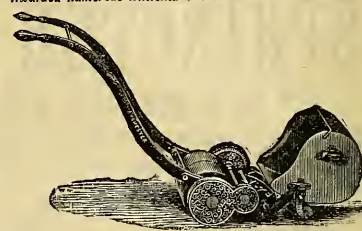
They can also be had of any Ironmonger, Merchant, or Factor,
in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments
for the Trade, as well as Others.

THOMAS GREEN & SON,
LIMITED
LEEDS and LONDON.

TRY THE
"TENNIS" LAWN MOWER.

Awarded numerous National & International Prize Medals.



A beautifully designed, well constructed, highly
finished, English made, and almost noiseless Machine.
Durable, easy to work, and eminently suitable for the
Tennis ground, and also for Ornamental Gardening.
It has no equal. Thousands are in use, giving
unqualified satisfaction. Every Machine guaranteed.

FOLLOWS & BATE LTD.,
ENGINEERS,
GORTON, MANCHESTER.

Patentees and Manufacturers of the Patent "CLIMAX," "MAN-
CHESTER," and Royal "ANGLO-AMERICAN" LAWN MOWERS.

80,000 SOLD SINCE 1869.

EST To be obtained promptly from all respectable Ironmongers
and Seedsmen. PRICE LISTS POST FREE.



And for all Glass Structures that require Shading.
Sold in packets, 1s. each, with full directions for use, and may
be obtained from all Seedsmen and Nurserymen.
The public are cautioned against spurious imitations. Each
packet should bear the Trade Mark as above. Manufacturers,
CORRY and CO. (Ld.), Horticultural Sundries Merchants,
Offices and Show Rooms, 13, 15, and 16, Finsbury Street,
London, E.C. Sold by all Seedsmen and Florists.

Paris International Exhibition, 1889.
HIGHEST AWARD, SILVER MEDAL.
NO AWARD WAS GIVEN
to any English or Continental-made Lawn Mowers!
THE PERFECTED

"PENNSYLVANIA"
AMERICAN
LAWN-MOWER.

IMPORTANT IMPROVEMENTS
FOR 1892.

"We
strongly recommend
the
'Pennsylvania.'"
—Field.

PERFECTION OF EASY WORKING AND EFFICIENCY.
The only American Lawn Mower fitted with Six Cutting
Blades. It will mow grass closely and smoothly, and with
half the labour of the best English Machines. All
sizes, up to largest (21 in.), can be worked easily by one man.
ONE MONTH'S FREE TRIAL ALLOWED.
Carriage Paid to all Stations.

Gardeners, professional or amateur, who value time and
wish to avoid laborious work, while obtaining the best possible
results in the way of keeping their lawns in perfectly trim
order, should write for Price Lists and Testimonials from—
LLOYD, LAWRENCE & CO.,
34, WORSHIP STREET, LONDON, E.C.,
and all Ironmongers and Seedsmen.



THE "CLIMAX" (CONCENTRATED) WEED KILLER

Is Stronger and Superior to all rivals for permanently destroying all vegetation on Carriage Drives, Garden Walks, Stable Yards, Railway Stations, Ash Tennis Courts, Stonework, &c., &c. Saves many times its cost in labour, and will eradicate the weeds far more thoroughly than the most careful hand-weeding, keeping them away for a whole season.

Has no Smell.—Improves and Brightens the Gravel. Can be applied with an ordinary Watering-Can. Will not Injure the Skin or Clothing.

NOTE.—One Gallon makes 51 Gallons for Use.

PRICES.—In $\frac{1}{2}$ -Gallon Tins, 1s. 9d.; 1 Gallon, 3s. (tins included); 5-Gallon Drums, 2s. 9d. per Gallon; 10 Gallons, 2s. 6d. per Gallon; 20 Gallons, 2s. 3d. per Gallon; 40-Gallon Casks, 2s. per Gallon. 5 Gallons and upwards sent Carriage Paid.

Drums Charged for, but Allowed when Returned in Good Order.

The "Climax" Insecticide.

The CHEAPEST of all INSECTICIDES. NON-POISONOUS, SAFE, & EFFECTIVE.

The only Insecticide that Improves and Brightens the Foliage, while at the same time it completely destroys all Insects and Parasites which infest the Foliage and Roots of Plants.

It will not Injure the most Tender Foliage.

PRICES.—In Tins, $\frac{1}{2}$ Pints, 1s. 3d.; Pints, 1s. 9d.; Quarts, 3s.; $\frac{1}{2}$ Gallon, 5s.; 1 Gallon, 9s.; 5 and 10-Gallon Drums, 8s. per Gallon, Carriage Paid.

THE MYTHE CASTLE GARDENS, TEWKESBURY, AUGUST 13, 1891.

GENTLEMEN,—I have given your "Climax" Insecticide a good trial on tender foliage—Orchids and Ferns—for Bug and Scale. In every instance I have found the Bug and Scale dead, and the foliage bright and clean. I found it most effectual for Black Fly on Peach Trees.

The "Climax" Insecticide ought to be better known; it is the only one I have found to kill Bug on tender plants without injury to the foliage.

I am, yours faithfully, W. MACKIE.

THE GARDENS, MOYALLON HOUSE, GILFORD, CO. DOWN.

DEAR SIR,—In reply to your inquiry, I found the "Climax" a really good and effective Insecticide, completely destroying Mealy Bug, Thrip, and Green Fly on the most tender plants, without the slightest injury to the Plant; in fact, it brightens and improves the appearance of Foliage Plants very much.

Yours, &c., J. LYNAS.

SOLELY PREPARED BY

THE BOUNDARY CHEMICAL COMPANY, LIMITED,

OFFICE:—211, GREAT HOWARD STREET, LIVERPOOL.

SANKEYS' famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots'; they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your Garden Pots, and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM

TO

THE PUBLISHER,

41, WALLINGTON STREET, STRAND,
LONDON, W.O.

1892.

Please send me "THE GARDENERS' CHRONICLE" for _____ Months,
commencing _____, for which I enclose P.O.O. _____.

Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,

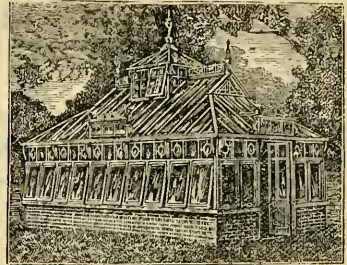
No. 42, DREYER LANE, London, to A. G. MARTIN.

Cheques should be crossed "DRUMMOND."

G. C.

April 30, 1892.

BECKETT BROS., CHIELSFORD.

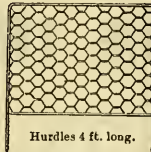


Thoroughly Practical and Experienced Horticultural Engineers
in all branches connected therewith.
Price List and Estimates free on application.

BOULTON & PAUL, MANUFACTURERS, NORWICH.

Improved Pea Trainers.
To be used instead of
Pea-sticks.

Diamond Wire Trellis.
For Training Plants.



Hurdles 4 ft. long.

Cash Prices.

3 ft. high, 4 ft. high, 6 ft. high.
1/3 each, 1/9 each, 3/6 each.

Cash Prices.

Stock Sizes, 5-in. mesh,
light quality, s. d.
6 ft. by 3 ft., each ... 2 6
6 ft. by 4 ft., each ... 3 6

Galvanized Pea and Seed Guards.



3 ft. long, 6 in. wide.
Two end pieces to the dozen
lengths.

CASH PRICE, 4/6 per dozen.

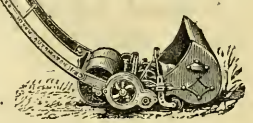
ILLUSTRATED CATALOGUE of all our Manufactures,
free on application.

BOULTON & PAUL, NORWICH.

RANSOMES'

At the Jubilee Meeting of the R.A.S.E.,
Windsor, HER MAJESTY THE
QUEEN and H.R.H. PRINCESS
VICTORIA OF PRUSSIA each purchased a RANSOMES' LAWN MOWER.

All
Mowers
sent on a
Month's
Trial,
Carriage Paid.



LAWN MOWERS,

The Best in the World.

In all sizes to meet every requirement.

"NEW AUTOMATON," the Best Gear Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"ANGLO-PARIS," the Best Small Machine.
"EDGE CUTTER," the only one of real service.
"BANK CUTTER," the Best for Cutting Slopes.
THE BEST PONY and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.

RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).

These Boilers, after long experience, have
proved themselves the Most Efficient, Economical,
and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges,
and Expansion-Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.



FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

SALE, MAY 13.

CATTLEYA MENDELII.

MESSRS. PROTHEROE & MORRIS

Have received instructions from Mr. F. SANDER, to SELL by AUCTION, at the Central Sale Rooms, 67 and 68, Cheapside, London, E.C.,

ONE OF THE FINEST IMPORTATIONS EVER OFFERED OF CATTLEYA MENDELII.

There are over 1000 plants, in splendid health, from districts where only the finest varieties are found.

ONCIDIUM GRAVESIANUM

(ROLFE).

A Grand Lot of Plants of this Splendid New Species. Rich Golden-yellow and Chestnut-brown Spikes of Flowers.

Award of Merit last Meeting of Royal Horticultural Society.

CYPRIPEDIUM EXUL

(RIDLEY).

Award of Merit last Meeting of Royal Horticultural Society.

A Superb New Cypridium of very great merit; the flowers are clear, and beautiful Golden-yellow and white, with a band down the centre of each petal.

The Sale will also contain a CYPRIPEDIUM from North Borneo; CŒLOGYNE PANDURATA, CALANTHE VESTITA FOURNIERII, a probably new BRASSAVOLA, CATTLEYA LABIATA true, CATTLEYA MOSSIÆ, RODRIGUESIA PUBESCENS, CATTLEYA DU BUYSSONIANA, CATTLEYA GRANULOSA. The new EPIDENDRUM GODSEFFIANUM, a PERFECT GEM. The new EPIDENDRUM WATSONIANUM, a beautiful yellow and white flowered species, &c., &c., &c.

F. SANDER & CO., ST. ALBANS.

SALE, MAY 13.

200 FINE PLANTS

OF

**CATTLEYA VICTORIA
REGINA (SANDER).**

ON MARCH 4 LAST WE SOLD AN IMPORTATION
OF THIS CATTLEYA, AND WE AGAIN OFFER AN EXTRA
FINE LOT OF PLANTS, IN SUPERB CONDITION,

FOR SALE, ON MAY 13,

BY

Messrs. Protheroe & Morris,

AT THEIR

CENTRAL SALE ROOMS,

67 & 68, CHEAPSIDE, LONDON, E.C.

F. SANDER & CO.

ST. ALBANS.



THE

Gardeners' Chronicle.

SATURDAY, APRIL 30, 1892.

**POTATO DISEASE IN IRELAND:
ITS CAUSE, AND REMEDY.**

IT will be easily understood that a field of corn, after a long rain, will dry through the influence of wind and sunshine in three or four days, whilst it takes as many weeks and longer to dry a forest. Through wind and heat the moisture is absorbed from the soil into the air, ascending into cold regions, thereby becoming condensed to clouds, which are carried by wind to the east. Ireland being next neighbour to America, receives the moisture which comes down as rain during weeks without ceasing, destroying the unripe Potatoes which lie embedded under the surface. The subsoil being too hard to let the water pass through to a greater depth, it remains about the tubers, cooling them to a low degree; and, worst of all, when sunshine sets in, evaporation commences, thereby cooling the leaves and stalks to such a low temperature, that a fungus (*Peronospora infestans*) grows with such rapidity as to kill the foliage in a few days, thereby depriving the tubers of their natural means of getting rid of the moisture; consequently, rot sets in, and destroys the crop.

The depression amongst the workmen of Silesia a few years ago, induced me to study the cause. As a gardener on the largest scale, I had an opportunity to study the climates of Ireland, England, France, and Germany. In order to prove for myself the theory which I am about to put forward, I took several measurements of the temperatures of soils in different places, in good weather, choosing land held and cultivated by peasants, and that of our kitchen garden. In all cases the thermometer was sunk 9 to 10 inches under the surface, and left about an hour completely covered, as if nothing had been deposited there. In our kitchen garden, which is well trenched and well manured, the thermometer, on being taken out, showed 90° F. of heat, whilst the readings of those which were buried in the ground belonging to peasants, amounted only to 71° F. Here we must ask ourselves, Where does this difference come from the different soils being exposed to the full rays of the sun?

The answer is, the kitchen garden soil is cultivated to the depth of 3 feet, the other lands being only cultivated to the depth of 9 to 10 inches the subsoil being in the same state as it was when man first began to till the land.

Deep culture is not new in farming, but too much importance has been attached to throwing the top spit down, and to bringing up the subsoil to the surface. This is the great mistake which was made in this country, and which caused people to abandon deep culture altogether, finding that all sorts of grasses would

starve, their roots being too weak and too short to reach the rich mould which lay at the bottom of the trenched or ploughed field.

I had remarked this here in Silesia, and that is what induced me to try the plan of trenching, leaving the top spit at the surface. The great advantage which agriculture would derive from trenching in this manner is incalculable. In a young state the plants receive nourishment at once; the subsoil, being loosened, lets the water through to the hard bottom, where it remains until the soil above gets warmed and absorbs it, nourishing the young roots on its way to the surface.

In order to put the foregoing theory to a practical test, I received permission from my employer to trench 20 German acres in Neudeck at his expense. I was permitted to choose the land for experiment myself. I selected part of a field which was naturally cold and wet from its position. We commenced at the lower end of the field, which lay on a gentle slope, by throwing aside the top spit quite out of the way; this was found to be about 9 inches deep. As soon as that was removed, we made a trench about 2 feet deep, leaving this soil to fill in the opening at the other end when we should finish. This done, we took a piece, 3 feet wide, and the whole breadth, throwing the top spit over the subsoil we had just thrown up before. Now we had a fair start, and no more mistakes could be made. The soil was left in its rough state, as it had fallen from the spades, till the whole was finished. As soon as the whole was finished, it was levelled, the piece of land taking its former appearance, with the exception that the soil was about 9 inches higher than the other part of the field which had not been disturbed.

It was curious to see how the ground dried under our feet; it got so dry that it was immediately fit to receive farm seeds of any kind, whilst the other part of the field, which lay in its usual state, required at least ten or twelve days to dry it.

Our work being finished, we gave up the field to the Count's land-steward, who followed our doings with much interest, he being afraid that the land would prove too soft for his animals to tread upon; this was a mistake. There was no manure carted on the soil, as it had been manured in the previous autumn, and ploughed in, a circumstance which did not please me much, but I was so confident in the good effects of the work we had done that I did not mind that.

Fourteen acres were laid down with Champion, 1 acre with Ashleaf Kidney Potatoes, and 1 acre with Carrots. I must here mention that the remainder of the field was also planted with Champion Potatoes. On the trenched ground the foliage could be seen ten or twelve days earlier than on the adjacent field. The rest of the season, any one could see that something extraordinary had taken place, inasmuch as the foliage on the trenched ground was of a much darker green than that of the other part of the field.

In the middle of the month of October, the Potatoes were taken up and weighed, the weight amounting to 125 cwt., or 6 tons 500 lb., the ton reckoned at 2000 lb., or just double the quantity which we have in good seasons, and all sound and fit for table. The Ashleaf Kidneys gave 85 cwt., or 4 tons 560 lb., Prussian weight. The Carrots, which were thinly sown, gave a first-class crop.

It is now five years since the piece of ground in question was trenched, and up to this date, no matter what the weather might be, all sorts of crops have been excellent.

If the ever-recurring destruction of the Potato crop, and the consequent losses and disappointment, be taken into consideration, I can see no other means by which it may be averted, than by loosening the subsoil, leaving the top spit at the top, thereby making the soil capable of absorbing the moisture, and lodging it far below the tubers.

There is no doubt that if this is brought home to the noblemen and gentlemen of Ireland, the phrase "No work" will soon cease to be spoken. Ireland would at once have plenty of remunerative employment for her strong and willing labourers, and the surplus of water which during the last forty-five years has proved to be a curse, may then change to a blessing. I beg to say that bog lands are not included. *Neudeck, March 21, 1892.*

NEW OR NOTEWORTHY PLANTS.

KNIPHOFIA NELSONI, *Mast., sp. nov.**
(See fig. 81.)

THE *Kniphofia* which we have dedicated to its discoverer, Mr. William Nelson, is as attractive as it is distinct. There is nothing like it in the Kew herbarium, and it is new to Mr. Baker, who kindly allowed us to consult his manuscript monograph of the genus, compiled for the South African Flora. The plant is of tufted habit, bearing numerous spreading leaves, each about 18 inches long, and springing from a membranous sheath-like base; the upper portions of the leaf are glabrous, linear, almost like those of *Festuca ovina*, furrowed in the middle of the upper surface, convex beneath, and with three prominent nerves, one central, two lateral. This construction of the leaf suggests that the plant is adapted for a dry atmosphere, the form of the leaf and the small evaporating surface ensuring the plant against excessive evaporation. The erect scape, which is of the thickness of a crow-quill, or thicker, is longer than the leaves, and bears at the top an oblong or cylindrical raceme, about 2 inches long, of numerous densely-crowded, deflexed, brilliant orange-scarlet flowers. The bracts are membranous, 3-nerved, oblong-lanceolate, twice the length of the deflexed, reddish, puberulous pedicel, but very much shorter than the flower-tube. The flowers are about $\frac{1}{4}$ inch in length, tube cylindrical, or slightly distended in the middle, 6-nerved, scarcely contracted at the throat, the limb equally divided into six very short ovate lobes. Stamens hypogynous, all included, three outer ones, half the length of the flower-tube; three inner ones, shorter. Ovary glabrous, ovoid, narrowed near the top, abruptly truncate at the apex, and terminated by a long filiform included style, with an absolutely three-lobed stigma. The floral arrangements testify to the necessity for fertilisation by the agency of insects. In foliage, the plant somewhat resembles *K. triangularis*. *K. ensifolia*, from the Transvaal, and *K. porphyrantha*, from the Orange Free State, are both widely different from our present plant. The mode of growth and the circumstances under which it is found are detailed in the interesting letter from Mr. Nelson in our present issue, entitled *Kniphofias*

at Home. *Kniphof*, after whom the genus was named, was Professor of Botany and Medicine at Erfurt, where he died in 1763. *M. T. M.*

STAPELIA WOODII, *N. E. Br. (n. sp.)*.

In this species the stems are $1\frac{1}{2}$ to 3 inches long, glabrous, green, mottled with purple, 4-angled, the angles with stout ascending teeth, $\frac{1}{4}$ to almost $\frac{1}{2}$ inch long. The cymes are sessile, three or more flowered; the pedicels about 1 inch long, and glabrous; the sepals ovate-lanceolate acuminate, 2 to $2\frac{1}{2}$ lines long, and glabrous. The corolla is $1\frac{1}{2}$ inch in diameter, nearly flat, glabrous on both sides, but strongly rugose on the face, of an uniform dark purple-brown colour, marked with a few yellowish dots, and ciliate on the middle portion of the ovate, shortly acuminate lobes, with vibratile, clavate, dark purple hairs, just the base and apex of the lobes being without cilia. The outer corona of five short, nearly rectangular, horizontally-spreading lobes, emarginate or erose, denticulate at the apex, and of dark purple-brown colour; the inner corona of five ovate-acuminate lobes, horizontally incumbent on the top of the style-column, entire, or with a small tooth on each side, and with a small protuberance on the shoulder of a dark purple-brown colour.

This species was sent to Kew from Natal by Mr. J. M. Wood, the Curator of the Botanic Garden at Durban, after whom I have named it, as a slight acknowledgement of the many interesting plants, both living and dried, he has sent to Kew during the course of several years. It belongs to the section *Podanthes*, but is very distinct from any other species known to me. *N. E. Brown, Herbarium, Kew.*

CYPRIPEDIUM X HYDRECHTSIANUM (*Ed. Vervaeke*).

The upper sepal dull yellow, the base very finely speckled with brown, and shading into black, the centre white at the base, with many and minute specks or spots of pink, with a wide border of pure white, the mid-rib deeper pink than are the spots in the centre, in shape rounded at the edges, and the tip green and hooded. The outer surface is evenly tinged with rosy-lilac. The lower sepal straw-coloured, with two lines of black dots. The petals are of medium size, slightly pendent, ground greenish-yellow for two-thirds of their length, spotted with dark chestnut-brown, rosy-purple towards the tip, which is very wide and spoon-shaped, the upper part delicately wavy, and lightly fringed with creamy-white. The lip coppery-bronze, spotted with brown in the centre and round the orifice. The staminoode rosy-lilac, lightly bordered with pinkish-white, the upper part has two white spots, and the centre is citron-yellow.

It is a hybrid between *C. hirsutissimum* X *C. Spicerianum*. The dorsal sepal resembles that of the latter, the rest of the flower and the foliage show *C. hirsutissimum*. This fine hybrid obtained a Certificate of Merit at the meeting of the Ghent Chambre Syndicale des Horticulteurs Belges et de la Société Royale d'Agriculture et de Botanique, on April 3, 1892. *C. de B.*

KNIPHOFIAS AT HOME.

THE excellent article on this noble genus of plants which appeared in your issue of October 3 last, induces me to make a few remarks thereon. The "Cape Colony" created by your worthy correspondent must have proved eminently attractive; personally, the most gorgeous show of these fine autumnal flowers I ever met with in the old country was at Chatsworth, many years ago; but since these gorgeous effects seem so sensational at home, what shall be said of this grand genus of plants hereabouts, where they are numbered by thousands.

The mountain streamlets and rich alluvial valleys at their base were aglow during October and November—their great months here. Our unprecedented rains of last season seem to have suited these plants exactly, for they appear more at home than I remember to have seen them before, which is clearly indicative of their fondness for water and a generous soil. They delight in our breezy uplands of 7000 feet

* *Kniphofia Nelsoni*, Mast., sp. nov. — *Crespitosa glabra, foliis e basi lata membranacea plurimaria erecto-patentibus linearibus 40–50 cm. long., vix 2 mm. lat., supra sulcatis infra convexis, integris vel obsolete denticulatis, tri nerviis, nervis prominentibus; scapo erecto compresso subapicatis folia superante ad apicem racemum pluriflorum, oblongo cylindrico, 5–6 cm. long. gerente; bracteis membranaceis, 3-nerviis, oblongo-lanceolatis, demum arete reflexis, circa 5 mm. long.; pediculis bracteis dimidio brevioribus; floribus, acutis, cuneatis deflexis, sing. 25–30 mm. long., medio, 3 mm. lat., luteo rubro-aureatis, tubo fusiformi-cylindrico, 6-nerviis, ad faucem vix angustato, limbo breviter, aequaliter 6-lobis lobis late ovatis acutis; staminibus 6-hypogynis biserialibus inclusis, 3 externis perianthii tubo dimidio brevioribus, 3 internis parum brevioribus; ovario glabro oblongo, ovoides-superne truncato stylo longo inclusis supero angustato stigmate trilobis, acutis, fructu a me non visto. In ditto "Orange Free State," et Nelson lecta. *M. T. M.**

above the sea-level, and attain to their greatest magnificence in the deep alluvial, unctuous valleys, where the ground is constantly moist, yet well-drained. Many forms occur, some with erect, handsome foliage, and grand bloom-spike, of some 6 feet in altitude; others much resemble a Pine-apple in style of growth, while some are dwarf in character; broad, narrow, and glaucous-leaved forms all occur, in addition to early and late-blooming varieties. It requires but a slight stretch of the imagination to believe many of these forms to be of natural hybrids in all the variations and gradations met with hereabouts. Nothing could seem happier than these hybrid forms, which produce a stately effect, most decidedly their own. Though I have travelled over thousands of miles of South Africa, I never met with this genus so fine as hereabouts—the conquered territory of the Orange Free State—which is essentially their home.

A creamy-white species, that occurs sparingly in Natal, and far in the interior, where the climatic conditions are warmer, does not occur here, which is an exception to the rule; this only grows in hot, moist, valleys, and, I imagine, would at least require some protection at home in winter, whilst any forms growing hereabouts would be quite hardy.

I have deferred sending you this article until I could procure a specimen for your inspection, to accompany it, of a lovely dwarf species that blooms this month (February), and is now at its best. I therefore, enclose a couple of specimens of it. It is new to me, and I regret that it will, at least, lose its colour ere it reaches you. This is a very elegant miniature species with a quaint quiet beauty all its own; it reaches 12 to 18 inches in altitude, has but very slight grass-like leaves, never makes a clump, always grows in single crowns, with never more than one solitary bloom-spike. The flowers are of a rich scarlet colour with a very slight trace of orange, no yellow whatever about it, is uniform in colour, both in exposed and protected sides of the florets, which are uniformly cylindrical, and neither constricted near the base, nor dilated near the mouth, so usual in the large-growing species, and the limb is distinctly six-lobed; this is very rare, and bears no comparison to the forms mentioned above. I met with but a few of this species, which has its own locality, and is peculiar in selecting a position where the sunshine intrudeth not. (See description on p. 554 and fig. 81.) The circumstance that it never makes a stool, and its fondness for shade, distinguish it as quite unlike the other kinds in these respects. To find this plant when not in bloom is simply an impossibility, but when in season its inflorescence draws one as though by magnetic attraction, as its exceedingly chaste and slightly orange-scarlet flowers are unusually attractive. Perhaps it may prove to be the long lost *K. pumila*, though Paxton describes this species as orange, whilst the one under notice is almost entirely scarlet. *W. Nelson, Ficksburg, Orange Free State, South Africa.* [Since writing this letter, Mr. Nelson has removed to Booyesen's, Johannesburg, Transvaal. En.]

BELGIUM.

THE ROYAL CONSERVATORIES AT LACKEN.

SINCE the Royal conservatories have been opened to the Belgian public by King Leopold II. on certain specified days, as many as 15,000 visitors have been admitted altogether, being an average of 5000 or 6000 a day. These figures speak for themselves. We have been permitted, by the kindness of Mr. H. Knight, the Director of the Royal Parks and Gardens, to visit the hot-houses at Lacken, for the purpose of publishing some account of them in the *Gardeners' Chronicle*. We may divide the houses into two divisions—the first, those open to the public; the second, those reserved for propagating purposes.

First Group.—The public is first admitted into the entrance-hall, which overlooks the park; on the side next the light is a stage covered with flowering plants. In the distance may be seen the

many workmen employed in building a new chapel. This is to be octagonal, and in the angles will be circular rooms, opening into the centre; all the roof will be glazed. In the eight circular side rooms, ornamental plants will be arranged, and flowers on *fête* days. Thus, it will be both a church and a conservatory.

From the entrance-hall the visitor enters a gallery leading to a Palm-house, very ornamental in appearance, where most of the plants are planted out and effectively grouped. We cannot enter into details of architectural construction, nor of the electric light used in all the houses, but will pass on to the plants. Amongst others, we saw *Pandanus utilis* with trunks 5 to 6½ feet high; *Attalea speciosa*, from Brazil, with leaves 24 feet long; *Cycas circinalis*, with a trunk 13 feet high; *Caryota urens*, with fine fronds 16 to 20 feet long; a not less fine *C. furfuracea*; a fine Traveller's Tree, *Ravenala madagascariensis*, or *Urania speciosa*; an unusual and probably unique specimen of *Pritchardia pacifica*, a very fine *Kentia Lindenii*, a sturdy sample of *Brownea grandiceps*, &c. A glass gallery leads to the Azalea-house. On both sides of this gallery flowering plants are arranged; among others, fine single and double *Cinerarias*, and well-grown *Pelargonium inquinans*. The double *Cinerarias* were raised in the royal grounds; many are remarkably good.

The Azalea-house is of great size. If the specimens are well-flowered, the choice of varieties leaves something to be desired; the collection must be constantly replaced to keep it in full beauty. In this house, besides *Primula obconica*, which is effective because so profusely in bloom, we saw charming varieties of *Aquilegia chrysantha*, raised from seed from an English variety. These pretty flowers will, doubtless, be soon very popular. The standard *Roses* were in full bloom, and the scent delicious.

We next enter another gallery (the lengths of all these galleries combined reach 3900 feet), where we admire a floral arch and a perfect bower of plants. The climbing plants, which form the arch and border the walls, hang down in graceful profusion, all growing in the common earth of the country; Mr. Knight explains the secret of his success in the circumstance that he uses Thomson's improved Vine and plant Manure, which is composed of the refuse of the slaughter-house dried and ground; this spread over the soil renders it permeable, and when diluted by watering, gives the plants the nutrient necessary, especially where free air is withheld from them. *Fuchsias*, zonal *Pelargoniums*, *Heliotropes*, *Genistas*, and other common plants succeed well all along the gallery. Climbing and trailing plants, such as *Jasminum grandiflorum*, *Akebia quinata*, *Bignonia capreolata*, *Passiflora*, *Tropæolum*, *Rhodochiton volubile*, *Tecoma capensis*, *Cantua dependens*, *Abutilon tricolor*, *Pelargonium hederæfolium*, *Lardizabala biternata*, *Clianthus Dampieri*, &c., are among the many flowers which, shaded with verdure, decorate this gallery. To the right is a Laurel house containing a statue of Diann, beyond this another gallery (there is no monotony felt, for all are differently arranged), in which are many fine plants of *Genista*, a large *Banksian* Rose covered with double white flowers, standard *Roses*, and lastly, an avenue of *Roses*, against a background of herbaceous *Ferns*; while against the wall, which is concealed by *Ficus repens*, a large gallery, with a fine staircase, leads to the celebrated winter garden.

On entering the Congo-house, which we hope will some day contain specimens of the flora of the Congo, we see fine *Palms* rising from a carpet of *Selaginellas* and *Tradescantias*. The *Palms* are *Latania borbonica*, *Chamærops humilis*, *Kentia*, *Livistona australis*, *Phoenix sylvestris*, &c. The winter garden is shaded by a large blind in the centre; it contains *Palms*, which are wonderful, and perhaps unique in Europe. The *Phoenix sylvestris*, with four stems, are fine specimens; and there are *Latania borbonica*, nearly 80 feet high; *Kentia sapida*, in full bloom; *Caryota elegans* about 80 feet

high, and bearing a fine cluster of fruit about 5 feet long; *Livistona australis*, with a splendid trunk, and hundreds of leaves; *Caryota Rumphii*, with a trunk over 2 feet thick; a fine *Aralia dactylifera*, 32 feet high; *Tree-Ferns* rising from a carpet of *Selaginella*; *Brugmansia Knightii*, flowering well, and many other interesting plants. Almost all are in ground heavily manured with Thomson's Manure, and are doing well. It is unfortunate that the electric light is, as at present managed, somewhat injurious to them. There is yet another house containing many fine *Camellias*, not now in bloom, and a large orangery with a *salle de fêtes* adjoining.

The Second Group of Houses.—These are reserved for the propagation of plants for the decoration of the other houses; here are grown pretty and well-coloured *Calceolarias*, *Sonerilas*, *Bertolonias*, *Nepenthes* (well-grown), *Stephanotis floribunda*, a pretty strain of *Mimulus* and of *Anthuriums*. The *Orchid-house* shows careful cultivation, by the health of all the plants. We saw good forms of *Lycaste Skinneri*, *Phalænopsis Schilleriana*, very fine; a slender *Cypripedium Boxalli atratum*, and a well-bloomed *Anellia africana*. There are also excellent varieties of *Vanda tricolor aurea*, and a dozen fine specimens of *V. suavis*, each with four large trusses of splendid flowers. A large house is devoted to *Roses*, containing specimens of all the best varieties. *Ch. De Bosschere*.

A TRAVELLER'S NOTES.

(Continued from p. 428.)

BARODA.

December 4.—The public park of Baroda was chiefly laid out in Mr. Woodrow's time, Mr. Henry's immediate predecessor. Though undoubtedly too much space has been devoted to roads, it is prettily and effectively laid out for the enjoyment of the people. The roads and paths are well kept, and in good condition; the main roads are 25 feet wide, the secondary ones being only from 8 to 10 feet. The park, bounded on one side by one of the main roads of Baroda, and on another by the Vishwamintre River, is almost flat, and entirely under grass, except where buildings stand, or roads have been constructed. The river, in addition to bounding one side, meanders through high banks, and passes along the entire length of the park. In going from one end to the other, one might cross it four times. The park is about 100 acres in extent.

One enters through handsome iron gates supported on either side by stone pillars. On the left under a group of trees is the keeper's lodge, whilst next to the rails on the right is a narrow border planted at intervals with young *Cocon-nuts* (*C. nucifera*), some 20 feet high, with handsome leaves springing from the base and upwards, often 12 feet long; whilst in the border beneath may be seen *Russelia grandiflora* in flower, a pretty little shrub, the long shoots of which are covered at the tips for about 18 inches, with small brilliantly-coloured scarlet flowers—its one fault is, perhaps, its somewhat straggling habit. The stonework supporting the palings is hidden by variegated *Eranthemums* and *Acalyphas*—chiefly *musica*. On the opposite side of this walk are oblong beds filled with various plants, such as *Clives*, now out of flower (the leaves of these look much drawn); Mr. Henry finds that they require shade for successful culture, also *Gaillardias* and *Tagetes signata*. One bed in particular attracted my attention—it contained a very pretty species of *Aster*, dwarf and neat, much resembling *Amellus*.

At the end of this path one comes to the river at the point where it is crossed by a handsome single-arch stone bridge (an engraving of which was recently in the *Gardeners' Chronicle*), (Oct. 3, 1891). On the same bank, but at the further side of the bridge was the first piece of *Ipomœa carnea* in full flower it has yet been my privilege to see. This plant now flowering freely here, though a native of South America, is most common, and seems to adapt itself either as a climber or a moderate-sized shrub. Its

large *Convolvulus*-like flowers of a pale purplish rose are produced in profusion—and though perhaps in England we might call it somewhat washy, it is undoubtedly one of the most effective objects to be seen in Baroda at this season. The purple heads of *Gomphrena globosa* stood out well against the white stone parapets of the bridge; this plant is a weed here.

Starting from this point along the river bank, and passing at the end of the walk, two stumps clothed with *Ipomoea sempervirens*, its pretty palmate leaves and small white flowers faintly tinged with lilac hanging gracefully on all sides of its support, one again comes into the main road leading in a direct line to the white stone pavilion, the only spot in the park that is the private property of the Gaekwar. Between the gate and this pavilion is an exceedingly pretty viaduct or bridge. High arches of *Bougainvillea splendens* or *spectabilis*, covered with flowers, are passed through at each end. The stems are often 3 inches in diameter. The parapets of this white stone viaduct and the pavilion beyond, together with the innumerable brilliantly coloured purple bracts on the shoots of this *Bougainvillea*, often several feet long, in the full tropical sun, produce an effect I should imagine difficult to equal. Many plants of this *Bougainvillea* are scattered about the park and elsewhere. *B. lateritia*, with its brick-coloured flowers is also to be seen.

At the end of this small viaduct, the road divides into three. The one to the right, facing almost due south, has on one side a nice row of Bamboos, chiefly *B. tulda*, and *Casuarina glauca*. Besides *B. tulda*, common in Bengal and used for almost innumerable economic purposes, a variety with greyish stems and large brown hirsute bracts, has also been planted here. The number of Bamboo species is so great that to venture on specific naming is dangerous. The delicate Pinus-like foliage of the *Casuarina* alternating with the long sub-pendulous shoots of the Bamboos gives a charming effect. In the centre road, as already stated, 25 feet wide, a huge Mango, the branches of which are intertwined with *Bougainvillea spectabilis*, catches the eye, whilst a fine specimen of *Tamarindus indica* (the *Tamarind*) is close by. These two trees, together with *Cassia sumatrana*, are those which abound most in the park.

Shortly before reaching the large grass-plot in front of the pavilion, and at a junction with a cross road, is a large oval bed, the prevailing plant being *Ruellia jucea*, about 2 feet high. Its delicate grass-like foliage and scarlet tubular flowers form pretty objects with a background of *Acalyphas* and other shrubs.

A huge circle of grass entirely encircled by the roadway, with a tall *Thuja orientalis stricta* (the only *Conifer* growing in the park) in the centre, and laid out with small beds filled with dwarf plants of an herbaceous description, is immediately in front of one of the four entrances to the pavilion. The grass is very good, and is carefully watered. Its ordinary name is Doob-grass, the *Cynodon dactylifera*, or *Cynodon Dactylon* of science; it is thick, soft, and not coarse. Mr. Goldring has used it in all his work. The beds are filled with small *Nasturtiums*, just planted from the seed-beds, *Calliopsis*, *Ageratum*, &c. I have also noticed in other parts *Angolonia salicariaefolia*; it is a dwarf plant some 18 inches high, with long terminal racemes of purplish flowers. Vines, both red and white, usually a bed of a kind, are also to be seen, as is also (*Enothera Drummondii*, producing its yellow flowers freely. In the centre of some of these beds are Mexican *Agaves* or *Crinum*, whilst in every case there is an edging of *Alternanthera*, unfortunately but poorly coloured.

In one of the angles of the pavilion, *Tabernaemontana coronaria* has been planted, and has formed thick bushes 4 to 6 feet high, in splendid condition. A few flowers were scattered about, but it is not seen in perfection till later. It requires a considerable amount of water, and is much sought after by the natives on account of its scent. In one of the beds near here a *Clerodendron* in flower attracted my attention. Mr. Henr. considers it one of the best

shrubs he has. The individual flowers are not large, but the heads of bloom of moderate size are so numerous as to make it worth planting. In colour it is white. This species, *C. aculeatum*, as well as other *Clerodendrons*, are most useful for ordinary landscape purposes, being sufficiently showy to create a feature, and enduring a continued drought admirably. It is also said that cattle will not touch its bitter thorny shoots; it is hence useful for hedges. *Grevillea robusta* is scattered about, and seems to thrive. At present there are none much over 15 feet. Its foliage is of a darker tint than in Ceylon, possibly because it does not grow so quickly. *Terminalia Catappa*, a handsome and ornamental tree, the bark and leaves of which yield a pigment with which the natives dye their teeth black, and from which they also make Indian ink in some parts. The Country Almond, a specimen of which is near this spot, is a distinct-looking plant; it has large, broad, obovate foliage, much like a North American *Magnolia*, dark green in colour, often tinged with red. The seed is large, resembling an Almond. *J. H. Veitch.*

(To be continued.)

PITHECOLOBIUM SAMAN.

We are indebted to Mr. James H. Veitch, whose letters in the course of his Indian travels are appearing in our columns, for the opportunity of illustrating a branch of the Rain Tree (*Pithecolobium Saman*, fig. 81), showing in the right-hand figure the leaves expanded in the sunlight, and in the other, when folded and bent downwards at night. The tree is a native of Venezuela and the Amazon district of South America, but has been introduced largely through the medium of Kew to most tropical countries as a shade-tree. It is a lofty tree, resembling an Oak, producing an abundance of foliage, which affords most grateful shade; while the pods, filled with sugary pulp, are very valuable as cattle-food. The growth of the tree is rapid, but the timber is not greatly valued.

HOW DID TRUMPET DAFFODILS COME TO IRELAND?

It has often appeared desirable to ask your numerous readers—particularly such as are given to historical research—whether any information can be given as to how Ireland got its single Trumpet Daffodils in such quantity. We have no evidence that similar fine sorts, except one or two, can be traced to England, outside the operations of Herbert, Backhouse, Leeds, Nelson, and some others. The chief varieties I refer to as having been discovered in this country since the Daffodil Conference of 1884—Ireland not even then being suspected of possessing any—are as follows: *Arde-Righ*, the earliest of all large Trumpet Daffodils; *Countess of Annesley*, *Princesse*, *Golden Plover*, and *Sunbeam*, which is a yellow-foliated variety of the latter; *Androcles*, *Goldfinder*, and some others, none of which can be traced to England, and, from a commercial point of view, none more useful for forcing, unless the Tenby and Sir Watkin, both English introductions.

I purposely exclude all garden varieties, as *Horsfield*, *Emperor*, *Empress*, &c., and simply place England against Ireland on the merits as channels of supply for export. The wild *Pseudo-Narcissus* of English coasts to be found in large quantity in England, strange to say, cannot be found in Ireland. [We have it from Belfast. Ed.] As a commercial flower it is worthless, dying out, under garden cultivation. We have no other variety traceable to wild origin except *rugilobus* and *maximus* outside the British Isles—I mean varieties grown for market. As for all the various sorts introduced from Spain and Portugal, except perhaps *Maw's Bicolor*, they are simply of no use; and yet lots of money have been wasted on them. Their collection affords very healthy exercise for the explorer and enthusiast more or less, but in the end they are not sufficiently remunerative. I believe I have got N.

maximus and true *N. nobilis* from their native sources, and *N. princeps* can be traced to Italy; but where are we to seek for the origin of *Arde-Righ*, *Countess of Annesley*, *Golden Plover*, &c., shall I include the Tenby Daffodil, as this can also be traced to the county of Wexford, on the opposite coast to Tenby. I submit that we have not discovered the original source of these varieties, and Ireland certainly holds the field for quantity as regards commercial Daffodils. Mr. Barr and Mr. Ware will acknowledge the truth of this, and may be enabled to throw some light on the subject. Surely these particular varieties were not dropped exclusively from the sky on to Ireland and not on England, in a pre-historic age. Were they not rather brought from the east and south in the wallets of the ancient Christian pilgrims? If so, was not England civilised simultaneously with this country? Or is it merely an instance of the "survival in the fittest?"

Soil and climate will in part, I suppose, solve the mystery of their continuance in the flora of Ireland. The land at *Arde-Cairn*, a deep rich loam, overlies the limestone, and this soil I have caused to be analysed, the results of which I will give if your readers wish it. I have also had a clump of the *Arde-Righ* Daffodil reduced to ashes, foliage and bulbs, so as to get at what it takes from the soil, this is also at your disposal if you wish. [Yes, please.]

The first time that I re-discovered that beautiful white trumpet Daffodil, *Bishop Mann*, it was in a border which for over a century had been undisturbed, and where Beech trees probably 150 years old grew. I had to let some of the bulbs remain in the crevices of the roots of the Ash and the Beech trees. They are still in the same place, and no one could get them without destroying the trees. I think pasture grass, same as tree roots, takes from the soil the impurities that cause disease in Daffodils, and I shall be happy to hear something on this matter. *Wm. Baylor Hartland, Arde-Cairn, Cork.*

FOREIGN CORRESPONDENCE.

CALIFORNIA AS A HOME.

I MUST say I was astonished to receive one bunch of letters after another with every overland mail arriving ever since I wrote the article headed as above in the columns of your journal; they all related one way or another to the matter I had spoken about, and pretty nearly everyone expressed his view about the difficulty with which a gardener can make his way in the old country. It is impossible to answer these letters other than through the columns of this paper (especially those without sufficient postage).

I put everything needful to know about this State into my previous communication, and I repeat, there is place for thousands in this State. But while I advise all those dissatisfied with their surroundings, and yet anxious to make their way, to try their luck in this Golden West, I cannot reach a helping hand to any one. I have been in this State only five years, but have not only found suitable employment, a happy home, and social position, but also a bright future so far as human supposition goes. Why should not others be just as successful?

The position a gardener takes, be it in England or Europe, is a poor one until he climbs a little up the ladder of success, which only one out of five is apt to do. What to do for the rest? I have lost quite a number of dear friends partly in the murderous climate of Africa in employment for the most doubtful colonial undertakings, partly as travellers in search of one plant or another. If they are not dead, they are sure to be put back in their health or ruined for good. I therefore thought it to be a kind measure on my side to draw the attention to this State. I for myself have seen good and bad days, and I must say that in looking back upon the past, I believe it to be a necessity for a man to undergo times a little harder than they face us near home and under the

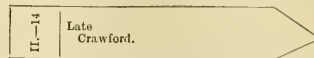
protection of the paternal purse. I remember the days when I hauled manure for pretty nearly three months in succession through the streets of San Francisco, and how the boys in the stable used to exclaim when beholding me, "Ah, there is the fellow with the golden specks." I had many a laugh, and laugh yet. It did me good to be looked down upon; though a gardener's position is where he has to do stable work, it does him good for a time, provided he does not lose his opportunity.

The position of a gardener is not very different, no matter which country he chooses for a living. I felt that all along, and hastened to better myself. Here is a country where a person can do so. But it would be wrong to believe that positions are open in this State no matter where you apply. A gardener gets about 20 dols. and all found to begin with (per month), in the east only 12 to 15 dols. But any labourer gets more here than in any other country. Then, again, if a person considers the

But it would be foolish for anybody to buy land from agents going about England or anywhere else, unless a person is acquainted with them as friends, and knows for certain that whatever they represent is true. All I can advise is, try for yourself, and if you are in earnest you are sure to succeed better than you can do, as a rule, in the old country. Soft jobs are scarce things in this country, but I have not seen a person yet who minded working hard if he saw the way to success.

Labelling in Botanical Gardens, &c.—Having had some experience with labelling trees, and having seen only too often how much trouble some gardens seem to have in providing a proper labelling, I propose to give you my way. Take the wood of trees found not to be attacked by ants and other insects, and which will resist rot in the ground. We take the Cedar (*Lihocedrus decurrens*) or Redwood (*Sequoia sempervirens*), either of which will resist rotting for thirty years. I have it cut into 3-inch strips,

botanical gardens, or any plantation set out in rows under your charge, take a little trouble in numbering your labels; thus, for instance—



II. means that your label belongs to the second row, and 14 is the fourteenth plant; Late Crawford, the name of your Peach, or whatever is in the place. If you proceed thus, you, or even your most humble working-man, will be able to stake the label right, if through some reason or other it should have been misplaced. The bevelling of the top will prevent splitting to a great extent while you drive the label with a wooden hammer. *Geo. Hansen, California.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By G. WYTHES, *Gardener, Syon House, Brentford.*

THE BEET-ROOT.—The seed for the main crop of Beet-roots should now be sown. After the seed has been sown in the drills—15 to 18 inches apart—some clean light sifted soil should be scattered along them, or thrown broadcast over the beds. If possible, a border thoroughly exposed to the sun, and which was manured for some other crop last year, should be chosen for Beet-roots; the wider distance between the rows should be adopted for large-growing roots only. I have in some years past grown the Cheltenham Green-top Beet-root, and it is one that requires space and a poorish soil, so as to avoid having coarseness of flesh. For a late supply, none is better than Dell's Crimson, a small long-keeping variety—useful when Beet root is wanted late in the season.

SALSAFY AND SCORZONERA.—Seeds of both of these roots may now be sown in deep, well-worked, rich soil, but one not recently manured, or roots will be badly forked. In a very light soil, they should not be sown before May 10, as they soon grow, and if sown too early, very often half the crop runs. In dry weather, it is advisable to water the drill before sowing. The rows should be 18 inches apart, and the plants thinned to half that distance, or less. The so-called Sandwich Island Salsafy is a good variety, and larger than the older varieties. If only one of these vegetables is grown, the last-named should have the preference. Chicory should likewise be sown, if large roots are required; I find it best to make two sowings—a small one at this date, and another a month later, as in my light soil much of that which is early sown runs to seed. Chicory requires similar treatment to Salsafy, and the roots stored for winter use. The tops, being valuable for salad when forced, should not be cut off close. The Witloef is a superior kind of Chicory, larger rooted than the common one, and is a good winter vegetable, as well as a salad plant, when the leaves are forced in darkness.

WINTER BROCCOLI should now be sown, and as their ability to withstand frost depends upon the sturdiness of their growth, seed should be thinly sown on poorish soil, and for late crops the plants are more hardy if pricked off. I sometimes find a difficulty in getting vacant plots for this crop when the plants are ready for planting, but when they are pricked out they do not suffer much. One of the very best varieties for the latest supply before Cauliflowers come in, in June, is Veitch's Model, a dwarf, very hardy, and compact-growing variety, the head well protected by foliage. It succeeds Catell's Eclipse, Gilbert's Late White, Sander's Late, and Ledsham's Latest, all of which are good.

BRUSSELS SPROUTS.—Those sown and raised in frames will be good plants at this date, and may be planted out on a rich soil deeply dug. I like to have deep drills drawn for this crop, the drills protecting the plants somewhat from the wind, and in dry weather retaining the moisture from the waterings. Care should be taken when lifting the plants to preserve the roots intact and balls of earth with them, the planting being performed with the trowel, making soil close up to the lower leaves firm about the plants. If Paris Market or a dwarf-growing variety is used for the earliest crop, these may be planted in rows 2 by 2½ feet apart, and tall growers 3 feet apart. There is no necessity to prick out the later varieties of Brussels Sprouts if the seed be sown



FIG 81.—PITHECOLOBUM SAMAN, THE RAIN TREE. (SEE P. 556)

favourable climate, as I described it in my previous communication, he can see himself, that California is or will be a garden from one end to the other ere long, and that there is a very poor market for pot plants or the like, when everybody is able to grow himself all he requires for his place. Nothing freezes in winter time, and cut flowers are cheap because they are produced in such abundance. There is another field through which anybody can cultivate and be independent from the first crop, the seed growing. There is no harvest spoiled or influenced through wet autumns, and moisture depends upon your irrigating from the middle of May until November. No more favourable conditions could be asked for. Then, again, does not every little place require some kind of a florist, landscape gardener and fruit tree raiser? Hundreds of towns are rising up everywhere, and whoever settles first has the best chance. And the fruit growing industry, as I said before, is such a promising one, that there is a chance for every man who tries a little hard. It is the easiest way to set up for an independent living and a sure way to success, provided a person understands a little about it himself and sticks to it.

picking out, of course, only the clear lumber. Width 3 inches, thickness 1 inch. I plane it all round, taking care to surface the edges, and bevelling the top a trifle; the bottom is pointed by the saw, and edged by the plane. One side (the one for writing) is more carefully planed than the back. I then set the labels into a solution of blue-stone (sulphate of copper) in water for about three weeks, but take care that the solution does not rise any too high where I intend writing; it will always show through the colour, and make your work unsightly. Winter evenings or rainy days afford opportunities for writing the stake. The cost of white lead must not be too thick, and do not paint too many at a time—not more than you can write—before they get dry. Write with a soft pencil into the colour down to the very wood, and make your work neat and proportionate. After the labels are written, let them dry well before handling, so as not to rub out the minute lines. After drying, give each a good coat of varnish—two if you can afford it; and rest assured you have got as good and cheap a label as any gardener might wish to possess.

Another point. If you have plantations like

thinly. If a very late crop is desired, take the small plants from the latest sowing and plant them on a north border.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, *Gardener, Mereworth Castle, Maidstone.*

FRUIT TREE BORDERS.—These should be examined, and if found to be dry, copiously watered forthwith with water that has been exposed to the air for some time. The surface should be pricked over previous to applying the water. At this season, and more especially where glass coping or heavy canvas blinds are made use of to protect the blossom of wall trees of all kinds, the soil is very apt to get dry, the tree suffering in consequence. All bearing trees, particularly if the borders are well drained, should receive a mulching of manure; but in the case of heavy soil, or trees inclining to gross growth, this mulching need not be applied till June or July. All large, late transplanted trees must be occasionally well supplied with water both overhead and at the roots, mulching them with decayed strawy manure—never fresh manure; this mulch being used expressly for keeping the soil moist, and in no way to feed the trees, need not be rich in manurial constituents.

APRICOTS.—These trees should be partially disbudded, by taking some of the young side-shoots and the forerights, or those growing at right angles to the face of the wall, and others should be pinched at the third or fourth joints, so as to induce the formation of bloom-bearing spurs. The fan is the usual mode of training employed for this fruit, the branches which die off being then more readily replaced by others which may have been reserved, or which may be induced to grow to that end. Should much fruit have set in clusters, some of these may now be thinned off, and also all fruits so situated that they cannot develop properly. If the trees are old and full of fruit, as old trees are apt to be, a sprinkling of the soil over the roots with guano or some other approved artificial manure, slightly pricking the same into the soil, and watering it will prove very beneficial to the trees.

SWEET CHERRIES.—The course of treatment in regard to training, &c., is similar to that pursued with the Apricot, bearing in mind the need for keeping them supplied with plenty of young fruitful wood in case the large branches should die. The leading shoots of branches should be laid-in betimes, before their points are injured by the wind blowing them against the wall, and in driving nails into the wall, observe carefully not to strike or otherwise damage the tender bark—nor should the latter come in contact with wire. Early varieties which were in full bloom during the recent severe frost, may have many blackened blooms, but those that were not expanded may yet be safe and strong.

CHERRIES in orchards under turf should have the herbage eaten off by cattle, so as to keep it short; sheep may also be turned out and fed with a little oil-cake, this will greatly benefit the trees.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

ROSES: WATERING AND SYRINGING THE TREES.—Owing to the dry weather, which has prevailed for the last two months, all Rose standards, bushes, &c., especially those in beds and in light soils, should be well watered at the roots, and the watering should be repeated according as the soil is light or heavy, if the weather continues dry. Examine all the more forward Roses on walls and trellises, and if aphid be present syringe them after the sun has gone down with weak tobacco-water, that is, four gallons of water to one quart of tobacco-water. This wash will dislodge the aphid, and render the leaves distasteful to aphid for some time afterwards. If the aphid is not destroyed thus, it is more difficult to deal with. Tobacco powder dusted over the shoots infested with fly while the bark and leaves are damp with rain or dew, washing the trees the following day with clean water, serves the same purpose. For trees growing against or close by dwelling-houses, the latter remedy is preferable, as it leaves no unpleasant odour behind it. The Rose-maggot works havoc among the leaves and flower-buds of Roses if it be not well-searched for. They may be found rolled up in the leaves, which must be unfolded, and the maggots killed, but where time does not permit of this being done, the latter should be killed by squeezing it.

Keep the suckers that spring from roots of Rose stocks persistently removed.

HARDY FERNERIES.—Clear away any leaves that may have accumulated in and about the Ferns, pull up all weeds, and cut off the dead fronds of the Ferns. Thin out plants of Ivy and Periwinkle, or other trailing plants employed as a groundwork to the Ferns, so as to allow the fronds now pushing up space for development. These trailers, it may here be remarked, should be thinned-out several times during the summer and autumn.

WATERING SEEDS, ETC.—Recently-sown seeds of annuals and grasses should be watered three or four times a week if the weather be still dry. This attention to watering such things is especially necessary on light soils. Late-planted trees and shrubs, and turf recently laid, require attention in the matter of watering.

RENOVATING LAWNS, ETC.—It is not yet too late to improve an impoverished lawn by top-dressing it with a mixture of sifted soil and leaf-mould. To an ordinary size garden-barrowful of which mixture a 6-inch potful of Thomson's Vine and Plant Manure, or some other artificial manure, may be added with advantage. A little of this mixture scattered over newly-turfed ground, and then brushed well over it so as to fill the interstices, will amply repay the trouble of doing it. Bare patches of lawn should be sown with fine grass seeds, slightly covered with leafy soil, and then rolled. Wood-ashes mixed with leaf-soil and a little soot, all finely sifted, and used in the proportion advised for artificial manure, make a good lawn-improver. Where turf has been cut in the home park or pastures, the space thus laid bare should be made good with soil, raked level, and trodden firm, sown with good grass seed, and then rolled. If the land is grazed, hurdles should be put around the place.

THE ORCHID HOUSES.

By H. A. BURBERRY, *Orchid Grower, Highbury, Birmingham.*

DENDROBIUMS.—Many of the species of Dendrobium having already flowered are forming their new pseudobulbs, and upon the proper growth of these will depend the quantity and quality of the flowers another year, therefore the present time is an important one for them. The new growths of *D. Wardianum*, *D. Ainsworthii*, and others, which flowered early, will have reached a good height, and be freely forming roots, and require that watering the plants, and sprinkling the path, floor, and bare surfaces generally, should receive regular attention; but I would again remark, that if manure be applied, it should be with great caution, and if it be of an artificial kind, some knowledge should be obtained as to the proper and safe strength at which to use a solution of it. For my part, I prefer a manure made from cow or sheep-dung, the strength of which can be easily gauged, and with which plants can be treated to a weak mixture without fear of doing harm. As a general rule, the potting compost for Dendrobiums must not be allowed to get too dry, but the plants carefully inspected daily, affording water where the moss is whitish. A genial moist growing atmosphere must be maintained, and a temperature of 65° to 70° by night, and from 80° to 85° with sunbat by day. If red-spider should show itself, which it will do, on the under-surface of the young leaves, causing a whitish appearance on the same, the sponge and soapy-water must be brought into use. Dendrobium heterocarpum is rather liable to be infested with this insect, and needs careful watching accordingly. On bright days, and especially later when the young growths are further advanced, and when the danger from damping-off is less, overhead syringing with tepid soft water, will be found very beneficial to Dendrobiums, but for the present a good deal of discretion is needed in this respect, the young growths of some species being very tender, especially the *D. superbum* (macrophyllum) section, and *D. Bensoni*, which is now in flower. Indeed, the latter is liable to lose its growths in this way when those are nearly matured, and it is not safe at any time to let water lodge in the young growths; indeed, both of the last-named species must be watered very carefully for some time to come, being kept on the dry side, and stood in the lightest and warmest part of the house. The same may be said of *D. Parishii*, a species which will soon be in flower, as will *D. aggregatum majus*, *D. Jenkensis*, and *D. Falconeri*. These last-named three species should be grown on Teak blocks or rafts, and *D. Falconeri* copiously

syringed, although when its growths are mature, it may be rested in the cool division. *D. crystallinum* is another species that flowers late, and it is very pretty. *D. Phalaenopsis*, *D. Digibum*, and other species from Torres Straits, should occupy a place where they get plenty of light and heat; in fact, few species of Dendrobium are heat-loving plants whilst growing, but a few, however, do not require so much warmth as others, and these come chiefly from the eastern coast of Australia, viz., *D. speciosum* and *D. Kingianum*, and *D. Jamesianum* and *D. infundibulum* from the mountains of Moulmein—these may be grown in a cool-house. A few grow well in the intermediate house, the names of which will be found in my Calendar for February 8. The propagation of Dendrobiums is easy, but it is not practised so much as would be the case if many of the most beautiful varieties were not imported in such large quantities, and the low prices at which strong plants can be purchased. The somewhat slow method of propagation is superfluous under these circumstances, unless it be that of some extraordinarily good variety or of a garden hybrid; and when it is desired to raise a stock of these, the old pseudobulbs, which it is supposed may be cut away without injury to the plant, may be laid on sphagnum moss, and from these young growths will appear, which will form healthy young pseudobulbs in due time. I have already described my method of re-potting, and given the most suitable season for the same, which is directly the plant has passed out of bloom. Re-potting, it may be remarked, checks the growth of Orchids a little, but it is a necessary evil, and must be done sometimes, though if the compost consist of the best materials, it need not be done so often as is sometimes supposed necessary. The one main point is to have the materials in which Dendrobiums are grown not too much decayed, or the roots will not enter it, and the consequence is that the new growth is weak. If fibrous peat of good quality is not at hand, it is better to employ sphagnum moss alone.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Castle, Swansea.*

HUMEA ELEGANS.—Seeds of this beautiful plant may now be sown, so that well-established plants may winter well. Those plants raised last year, and wintered in 6-inch pots, should now be repotted into others three sizes larger, for if they are cramped for root-space, the lower leaves are apt to be lost, which is always a disfigurement in *Humea elegans*, and must be carefully guarded against. It is a plant which always meets with admiration, and is excellent for indoor decoration, or for placing in the conservatory. It has a good effect as a lawn plant standing in ornamental pots, or in ordinary pots sunk to the rims in the soil. Green-fly is partial to the plant, and should never be allowed to infest the foliage, or it will be quickly destroyed, or, at the least, much disfigured. A rich sandy compost and firm potting, not burying the stem in the soil, are essential.

IVY-LEAVED PELARGONIUMS.—The improvement which has been made in *Pelargonium patatum* is such, that at the present time the plants rank amongst the handsomest soft-wooded plants of the greenhouse. The colours of the flowers are distinct and good, and the trusses larger than formerly, and single and double-flowered varieties should be grown. The double-flowered varieties are, perhaps, not so graceful as the others, but when the flowers of the former are cut from the plants, they last much longer. The plants may be trained, if in pots, to small sticks inserted just inside the rim of the pots, or loosely to trellises; they are also capital for baskets, or planted out in well-made borders for covering the end, side, or part of the roof of an intermediate or cool greenhouse. Old plants which are pot-bound will require re-potting into larger pots, in a compost consisting of turfy loam two parts, one of decayed manure, and sharp sand. Pot them evenly, and do not water overmuch before the roots have penetrated the fresh soil. Pinch out the ends of the leading shoots when growth commences, and till a sufficient number of lateral shoots are formed to furnish them well.

FUCHSIAS.—These plants should be encouraged to make free growth, and any which may stand in need of re-potting should be attended to forthwith, affording liberal shifts, using a rich compost, and at the same time potting the plants with moderate firmness. Stop the leading shoots as they push out to a length of 3 or 4 inches, and

also the leader occasionally, so as to get the necessary number of lead shoots, for furnishing the future specimens. Fuchsia cuttings which were put in as previously advised, will now be ready for potting singly into small pots, keeping them close until they are established. Shift on into larger pots whenever required, never allowing them to become pot-bound until they have reached their final shift.

WATERING AND SHADING.—As many kinds of plants have been recently repotted, water must be judiciously afforded, and when the ventilators of the pits and houses are closed for the day, the plants should be syringed freely, and all the bare surfaces wetted, so as to create humidity. Shading will require constant attention in the prevailing changeable weather, and in this matter the gardener should not be caught napping, or many things will be spoiled for the season. Air must be admitted as early in the day as the state of the weather will permit, and draughts of cold air must carefully guarded against in greenhouse, showhouse, or stove.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

STRAWBERRIES.—The remainder of the Strawberry plants intended for forcing this season may now be brought on in cold frames, if house accommodation be scanty, and without any aid from artificial heat, or that derived from fermenting materials. The ground in the frames should have a layer of fine coal-ashes for the pots to stand upon, and if they are deep, some means must be taken to bring the plants up to within a distance of 8 inches of the glass, which may be effected with inverted pots and pieces of boards. During mild weather, the front walls of the frames may be raised half-an-inch from the ground, thereby securing a free circulation of air within the frames, the plants being syringed, otherwise treated as advised in my former calendar. As it is, however, sometimes desirable to continue the supply of fruit from pot plants till such time as it may be gathered from plants in the open air, a batch with this object in view should be stood outside the frames in which they have been wintered, and some placed at the foot of a wall having a northern aspect, and before these last-named come into flower, and especially if the weather be dull and wet; they should be inured to full sunlight by degrees, and afforded the protection of a cold frame, elevated by having a brick placed under each corner. Besides raising the frame 3 or 4 inches from the ground, the sashes may likewise be tilted at the top and the bottom, and thus the crop may be retarded, and a link formed between the indoor and the outdoor supply of Strawberries.

PEACHES.—Trees carrying fruits approaching maturity should be less liberally supplied with atmospheric moisture, and the syringe brought less into play than in earlier periods of growth, and entirely dispensed with on trees whose fruits have begun to ripen. At this stage the plants are liable to be attacked by red-spider, which if it have got a hold upon them, hard syringing will drive off, but this would injure the fruit; still, seeing that next year's crop depends on the healthy condition of the trees, it will be advisable to remove any fruits that are ready for use, and give the trees a thorough drenching with clean water. The early morning is the best time for this operation, the warmth of the sun soon drying the fruit. The Peach-tree borders at this season usually stand in need of being watered, and where this is found to be necessary, and the plants are not too vigorous, I would advise the use of a liberal dressing of phosphatic manure being first applied, and then washed in with clear water. Tie in all loosely-hanging shoots, and expose the fruits to the sun by bringing the leaves that shade them to the back of the fruit, and, if really necessary, cutting them off wholly or in part. A temperature, ranging from 55° to 60° at night, with a moderate amount of air admitted in accordance with external conditions, should be afforded the trees whilst the fruits are ripening.

SUCCESSION HOUSES. in which the fruits have passed the period of stoning, may be forced a little harder if it be desired to ripen the crop early, and, for this purpose, 65° at night will be a safe degree of warmth to maintain, the house being shut up early in the afternoon, and the temperature allowed to rise to 95°, well syringing and damping down at that time. In houses where the trees are more backward, or

stoning has commenced, strict attention must be paid to ventilation, so that no sudden changes of temperature may occur at this stage, a minimum temperature of 55° being maintained, and air afforded; when the temperature commences to rise above this figure, that is, until they have stoned, a cool airy atmosphere should be afforded them, the plants being well dewed over twice a day, and the borders and paths kept moist. Keep all growths tied in, regularly stopping the minor lateral shoots when these are not required to fill space on the trellis. When the fruits have attained to the size of Hazel-nuts, no time should be lost in proportioning the number to be carried according to the vigour of the trees.

THE APIARY.

By EXPERT.

TWO QUEENS IN ONE HIVE.—Attention having lately been called to the possibility, and in all probability the advantage, of having two laying queens in one hive, a good many beekeepers will be making experiments this season in the hope of clearly defining and perfecting the system by which, perhaps, a much larger yield of honey per hive can be reckoned on than at present. The beekeepers axiom, to "keep all stocks strong," seems more than ever possible to accomplish now it is established that two queens will lay eggs in one hive, divided only from each other by a perforated division board, the worker progeny from both commingling and working amicably together in the supers, which they treat as one common storehouse. To obtain the best results from the new system, the principal difficulty to be surmounted, as with the old, is the prevention of swarming, and the remedies—abundant room, sufficient ventilation, and young queens must be provided for. Probably the kind of hive best adapted for use would be a long one, to contain about two dozen standard frames, to be used as the double-brood nest, with facilities for adding one or two storeys as required, to take sections or frames for extracting. As two entrances have to be provided, these should be placed at each end, and be the full width of the hive. If the floor board is so constructed that it can be let down an inch or so to increase the size of the entrance when the hive gets crowded with bees, and additional ventilation is necessary, it would be an advantage. The perforated division in the centre of the brood chamber can be made of zinc, and to prevent any possibility of its getting out of place, and so defeating the object in view, might be made a fixture. If a hive is got ready somewhat on these lines, any two colonies standing close together could be shifted into it at once, and in a day or two, after the bees become settled down, put the supers on, first using a queen-excluder, to cover all the frames below. Another way of adapting the idea, which may prove useful in more ways than one, will be to use an ordinary storifying hive. Select a strong stock, and take out two of the frames containing brood and the queen, which place in the middle of an empty body-box, filling up with frames of comb. Place this over the old brood chamber, first of all putting on a queen-excluder. The queen will go on laying eggs above, and the bees, finding that she is unable to get below owing to the excluder, will start queen cells there, and the young queen, after she emerges, will be able to fly out, get fertilized, and return, that by this means there will be two laying queens in one hive. If everything goes right, there will be an enormous population later on, and additional room must be given above as required.

FORESTRY.

By J. B. WESTER.

SEASONABLE WORK.—Generally the weather of late has been trying to vegetation of all kinds, and especially to newly-planted trees and shrubs, so that much care will be necessary in watering and mulching these, and shading them where requisite until the roots have become established. I may briefly state that the planter should in all cases exercise his judgment on the spot, and act as circumstances may direct. I may, however, enforce the dictum that all evergreen ornamental trees and shrubs of any considerable size should be mulched as soon as planted; if the situation is an exposed one, a screen of evergreen branches should be erected around the plant. Hill-planting, where the notch-system of planting has been the one adopted, will require much attention, as in many cases the surface-sod will be apt to curl with drought, exposing the roots of the plant to

the air; and if this be not noticed in time, and the notch closed again by tramping it, the plants are sure to perish. In rocky ground, where plants cannot be made use of, the present is the best season in which to sow seeds of trees and shrubs. When looking after my planters on such situations, I generally have a spud attached to the end of my walking-staff, by which means I am enabled to open small slits or holes in the crevices of the rocks, and drop a few seeds or berries, which in due time will make their appearance above-ground, and give the spot a clothed, furnished appearance. In this simple, inexpensive way I have converted some bare gullies among the recesses and shelving rocks of the hills into attractive scenery.

This is the best time to sow *Rhododendron* seeds on prepared mossy ground to raise plants for game coverts, and improve the appearance of bare woods; and for full directions as to the modes to pursue, see my former article on this head in these pages. The seeds of coniferous trees of various species may now be sown on well-worked, friable soil, of a light texture, formed into seed-beds of 4 feet wide. Planters should make sure that their Scotch Fir seed is the produce of the true Highland Pine, as the Continental variety of this tree is in every respect inferior to that type. The seed should be sown broadcast on the surface, and 1 lb. of seed allowed for every 12 lineal yards of a bed the breadth specified above; the covering should be fully one-fourth of an inch in depth. Larch seed may be sown in a similar way to that of the Scotch Fir, allowing 1 lb. of home-saved seed for every 4 or 5 lineal yards of a bed 4 feet wide; but in cases where Continental seed is employed, the seeding should be made much thinner, as foreign seed is generally of stronger vitality than seed collected in this country. Before sowing, the seed had better be spread out some 10 inches in thickness on a floor, and thoroughly saturated with water; they should then be turned thrice a day for a few days before committing them to the ground. To want of this precaution, many failures can be traced. The seed-beds should be carefully protected from birds until such time as the plants are established above ground; and as a precaution against late spring frosts, a few evergreen branches and twigs should be stuck into the beds here and there to shade and screen the plants from the influence of the sun by day, and frost at night, until such time as no further danger need be apprehended. Other coniferous tree seeds may be sown in a similar way, and the quantity of seed used for a given space, and the depth of covering must be regulated in a great measure by the size of the seed.

If not already done, complete the grafting of such forest and ornamental trees as are usually increased by that method; look over and repair any defects or damage that may have occurred to the clay of those grafted some time since, and earth up dwarf grafts, only leaving the scion above ground. Now that cattle are being turned out to grass, fences of all kinds should be examined, and put in repair where necessary. Tree guards in the park or lawn should also be overhauled at this season, and defects made good. Young plantations in Great Britain and Ireland are occasionally damaged to a large extent by the inroads of sheep and cattle, whereas by a little timely attention this might be prevented, which would not only be a saving in capital, but add largely to the appearance of the estate. As the season for barking Oak is almost at hand, and as early saved bark is by far the best, and commands the highest price in the market, no time should be lost in having everything prepared and ready to make a commencement as soon as the bark can be stripped easily. The trees to be removed should therefore be marked as far as possible with the view of preventing mistakes in the hurry of barking, and all the tools used in the job should be overhauled and repaired. The bark of the Larch, Birch, and Spanish Chestnut are all used for tanning purposes, but as the barks of these are not all of the same value, each kind should be kept by itself. Forest trees of a few years growth that have been raised from seed on the spot where they are to remain should be examined at this season, and in cases where two or more plants are growing in proximity to each other, the weakest should be cut out or removed, and the best left. In cases where blanks occur here and there, some of these superfluous plants should be carefully lifted with a spade and inserted where they are wanted, and surface scrub should be cut down in order to allow the plants space to develop properly, and in a uniform manner, according to the height of the plant.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY,	MAY 3	Royal Horticultural Society's Committee meet at the Drill Hall, James Street, Westminster. Lecture by Prof. M. Foster.
WEDNESDAY,	MAY 4	Royal Botanic Society: Musical Promenade.
THURSDAY,	MAY 5	Linnean Society.
FRIDAY,	MAY 6	Dundee Horticultural Association.

SALES.

TUESDAY,	MAY 3	The Stand Hall Collection of Established Orchids, at Stand Hall, Whitefield, near Manchester, by Protheroe & Morris (four days). Established Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY,	MAY 4	Border Plants, &c., at Stevens' Rooms. Palms Begonias, 30,000 Palm Seeds, &c., and a large number of Plants, Cape Bulbs, at Protheroe & Morris' Rooms.
THURSDAY,	MAY 5	Orchids in Flower, at Stevens' Rooms.
FRIDAY,	MAY 6	Orchids from Messrs. Charlesworth, Shuttleworth & Co., and others, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—51°·7.

Exhibition of British Ferns.

In the recent issue of the *Royal Horticultural Society's Journal*, there was inserted a schedule relating to the forthcoming exhibition of British Ferns to be held in August under their auspices at Chiswick. Comparing this schedule with those which have recently preceded it, we find at once a mass of welcome evidence that these beautiful and interesting plants are at last obtaining a share of that popularity which they so richly merit, but which for many years has been denied them. Hobby-riders are proverbially apt to magnify the virtues of their specialties, but although British Fern fanciers may also be open to the same reproach, a little consideration will show that their fancy is fully justified by its naturally unique character, and the charming results to which their careful culture has led. In the horticultural world there are many hobbies and specialties. Orchids, Roses, Dahlias, Daffodils, Auriculas, &c., have each their multitude of ardent admirers, to whose long-continued competition for supremacy we owe myriad types of floral loveliness, which, unaided by such selective culture, we may assume Nature would never have produced. In these we have not only a practical infinity of varietal forms, but also a marvellous range of colour, which affords the hybridiser an illimitable field for the production of new combinations. In none of these floral branches, however, nor indeed in any other class of foliage plants, can we claim to be so absolutely independent of foreign aid as we are in the case of the multitudinous forms of British Ferns, and on this fact we found our assertion that the hobby is a "unique" one. The fancy Orchids are all foreign; in Roses we are largely indebted to France, and our native wild Rose has done little to swell the catalogue of gems. As to Dahlias, the very name conveys foreign influence, and all are pure exotics; for Daffodils, though we are happy in the possession of native

forms, Mr. Barr has to ransack Spain and other foreign habitats to swell the category to any size, and most of the forms are of foreign origin. Of Auriculas, we may say the same as regards origin, though the great mass of the types are due to selective culture here. In every case, indeed, but that of our native Ferns, the existing varieties are, more or less, due to exotic influence; with these, however, practically the whole of them, numbering, though they do, thousands, are not only perfectly indigenous British plants, but, what is still

chiefly in the adjoining counties of Dorset, Devon, and Somerset, numbering, we believe, about 600, every one of which is perfectly distinct, and a good number perfectly unique in type. In this connection it is necessary to state that it is by no means a question of hair-splitting with regard to these diverse forms. When we hear of thousands, the natural impulse is to assume that the Fern hobbyist, like other specialists, acquires an educated eye which enables him to distinguish and find differences which are quite invisible to the lay eye, but to which



FIG. 82.—CYRTOPODIUM LAUREBEL X: FLOWERS, DEEP LILAC CRIMSON. (SEE P. 561)

more extraordinary, and renders the Fern hobby, as we have said, an unique specialty, all the abnormal types are perfectly natural and wild, having been discovered by careful search, or in some cases by casual passers-by in our Ferny lanes and woods of Devon and Dorset especially, but also in many other counties of Britain generally, where the conditions are congenial to Fern life. This remarkable fact is exemplified by the existence of several collections in the country, which, representing the local finds only, and these of excellent form, run well into the hundreds. Mr. Moly's, of Charmouth, is a typical instance of this, his own finds, now

the specialist gives a long name, and so swells his lists unduly. This, however, is emphatically not the case; put any two recognised distinct finds side by side, and no one could confound them, while often the difference is very great. Collectors, however, are rarely content either with their own finds or varieties otherwise acquired; naturally the next step is to propagate the best forms with a view not merely to disseminate and so perpetuate them, but also to the improvement of the type by selection from the seedlings. In speaking of type forms we should explain that the existing varieties generally may be divided

into sections, each section consisting of sub-variations of one peculiarly distinct abnormal plan of growth. Thus there are the crested or tasselled, plumose or feathered, cruciate or crossed truncate or abbreviated, tortuose or twisted, revolute or rolled up, and eccentric forms of other types which have sported again and again, and have even been mingled by crossing, but

variation through the spore is singularly capricious in its scope. In some cases, thousands of plants may be raised, time after time, and yet the parental form is invariably reproduced; in others, inferior types, or even common ones, only result; in others, after a long period of constancy, there is a "break," and a host of different forms result—this, of course, being the

British Fern varieties, which, after all, would only possess attractions for Nature's curios-hunters, did they not also possess in the large majority of cases a beauty and delicacy of development which places them certainly on an equal footing with their exotic relations of tropical and subtropical regions. In comparison with these, enormous as the range of exotic genera and species is as compared with indigenous ones (some forty odd only), another unique feature appears in the fact that one little group of islands, mere dots on the map of the world, have produced a far larger number of varieties, and these of far greater range of form, than all the other Ferns of the world put together. Thus, while in exotic Ferns the collections consist of specimen plants, representing as many species as possible, varietal forms are few and far between, being absent altogether in the large majority of known species. In British collections, however, with the exception of a few of the rarer species, the normal ones generally find no place, all being varieties. This fact becomes still more striking when we consider how many of the exotic forms have been trade plants, and grown by the million for a long period, during which the culture of British species had been confined to a few amateurs and about as many nurserymen as can be counted on the fingers. Commerce, however, has rarely engendered that careful, niggling, probing, and prying sort of attention which, in the ardent amateur, so frequently leads to the detection and protection of gems in their young state, which, on the wholesale plan, are apt to be overcrowded and killed before declaring their character openly enough for less scrutinising eyes. To this we are inclined to attribute somewhat the comparatively rare production *en evidence* of new exotic types. Some of the *Pteris*, *Adiantum*, and *Gymnogramma* species have sported freely, it is true, but, as we have said, a host of exotics have yielded nothing. If we take one genus, for example, viz., the *Asplenium*, we find this difference very curiously exemplified. Of our few species, *Asplenium trichomanes*, *A. viride*, *A. adiantum nigrum*, *A. lanceolatum*, *A. ruta muraria*, and *A. marinum*, have all produced marked and constant varieties (crested, plumose, depauperate, &c.), *A. septentrionale* and *fontanum* alone being excepted; yet, when we examine the immense number of exotic species, amongst them all we can only muster some half-a-dozen of truly abnormal sports.

When we add to this peculiar capacity the perfect hardiness of our native Ferns (*Adiantum Cap-veneris* and *Asplenium marinum* excepted) which demand no heat in winter, and thrive with a minimum of attention, in shady positions, where flowers would languish, we think it is a matter for congratulation that these beautiful plants are again coming to the fore, and trust that the forthcoming show will be numerously attended, so that their merits may be duly recognised, and their more extended culture encouraged by the memories of the lovely type-forms, which are certain to be exhibited. We understand that exhibits will emanate from several of the best collections, which have, so far, only been seen privately by privileged friends. A truly representative collection may therefore be confidently anticipated.

CYPRIPEDIUM LAUREBEL × (*Lawrenceanum* ♀ *bellatulum* ♂).—This, one of the first crosses with *C. bellatulum*, was raised in the gardens of Sir Trevor Lawrence, Bart., M.P., and exhibited by him at the meeting of the Royal Horticultural Society on April 12, when the Orchid Committee



FIG. 83.—KNIPHOFIA NELSONI, MAST., FLOWERS ORANGE-SCARLET. (SEE P. 554.)

The section through the flower, and the fragment of the leaf, are shown as magnified 2 diameters, the pollen-cells 200 diameters.

which nevertheless maintain persistently the chief peculiarity of the original wild find. It will now be understood what we mean when we say that all the "types" have been found wild, since so far as we are aware, though selective culture has yielded a veritable host of distinct varieties, they have all been modifications or combinations only of really typical wild plants.

The capacity of these wild forms for further

cultivator's opportunity. In other cases, sub-varieties of very distinct character have appeared singly, and these have yielded constant progeny in their turn. When to these peculiarities we add the possibility of obtaining mixed types by sowing spores of two or more distinct forms together, the limits of obtainable variation will be seen to be practically non-existent. So much as regards the multifarious side of the

unanimously awarded it a First-class Certificate. Reference to our illustration (p. 560) will show that in the form of the flower the new hybrid partakes largely of *C. Lawrenceanum*, although in its thicker texture, and in other particulars, it shows ample traces of the other parent. In colour, this beautiful novelty is of a rich rosy-crimson, with a tinge of green at the base of the sepals and petals, and a pure white margin to the upper sepal. There are numerous brownish-purple lines radiating from the base of the upper sepal, and some spots of the same hue on the petals. The name is a combination between those of its parents.

PODOCARPUS PECTINATA.—The *Podocarpus* in the establishment of Messrs. SANDER & Co., of which we made mention in our issue for January 23, 1892, ser. 3, xi, p. 113, as probably the *Podocarpus pectinatus* of BRONNIART and GRIS, was, it appears described in the *Bulletin de la Société Botanique de France*, xvi., 330, as *Dacrydium Pancheri*, with a note to the effect that PANCHER, who collected it in New Caledonia, had attached the name *Podocarpus pectinata* to the specimens (one of which we saw in the New Herbarium), whence the editor of the *Kew Bulletin* notes that we should call the plant in future *Podocarpus pectinata* of PANCHER. It is not a matter of much importance from a horticultural point of view, but we are decidedly of opinion that a manuscript name should not be officially recognised in preference to a published one. A student of the future, meeting with the phrase *Podocarpus pectinata*, Pancher, and desirous of investigating its history, would find in his search, for no such species has been published, but only a *nomen nudum*. Of course, if he could consult the materials and documents at Kew or in Paris, he would soon get on the track, but it is not every one who can enjoy such advantages.

ZANZIBAR.—According to Sir JOHN KIEK, in the April number of the *Kew Bulletin*, the temperature of Zanzibar ranges from 72° as a minimum in August, to 82° Fahr. as a maximum in March, the extreme range being only about 16°. The rainfall only amounts to 43 inches, of which 10 or 11 fall in April and May, and only half an inch in June. April is the specially rainy month, both as to quantity and the number of rainy days.

"THE FIELD CLUB."—We received some time since a volume of this periodical devoted to natural history, edited by Rev. THEODORE WOOD, and published by ELLIOT STOCK. Now that our naturalists are preparing for the summer campaign, we may opportunely call attention to this unpretending but very readable publication, which appeals to naturalists of all kinds and degrees. Margate may not appear very attractive to this class of visitors, nevertheless the perusal of the articles on the neighbourhood of the "Cockney's wash-tub," will show that it is in reality full of interest to those who know how to look.

PALMS AT KEW.—The Palms and Pandanads, which, with the Cycads, now form the most striking feature of the large Palm-house at Kew, have, says the *Kew Bulletin*, increased so much in size, as well as in number, as to necessitate a re-arrangement of the whole of the plants to provide more ample accommodation for the specimen Palms. These now occupy, with other large monocotyledonous plants, the whole of the central part of the house, and the north wing, excluding the side-shelves. The large Cycads, with the large dicotyledonous plants, are arranged chiefly in the south wing of the house. The small Cycads are on one of the side-shelves.

THE DOUBLE COCOA-NUT AT KEW.—Plants of the interesting double Cocoa-nut, or *Coco de mer* (*Lodoicea seychellarum*), have been raised at Kew from nuts, and a germinating plant forwarded to this establishment by the Honourable T. RISELY GRIFFITH, Administrator of the Seychelles, says the *Kew Bulletin*, April, 1892, p. 107. The largest plant is now developing its third leaf; the dimensions of the second leaf, developed last year, are as follows:—

length of petiole, 30 inches; length of blade, 4 feet; width of blade, 4 feet; number of folds in blade, 56. The midrib of the leaf describes a semicircle, and the whole of the divisions, which are a foot long, are recurved. This plant will shortly be placed in the Victoria-house, where there are now young healthy examples of the following somewhat rare Palms in cultivation:—*Mauritia flexuosa*, *Manicaria sacifera*, *Hyphene thebaica*, *Borassus flabelliformis*, *Bismarckia nobilis*, *Pholidocarpus Ihur*, *Licuala grandis*, and *Socratea exorrhiza*.

TORQUAY FRUIT FARM COMPANY.—This new venture is being pushed on with considerable vigour, says our contemporary the *Western Mercury*. A syndicate of gentlemen has started the concern on some land belonging to Mr. R. MALLOCK, M.P., of Cockington Court, and besides the ground landlord, Mr. J. W. WHITEHEAD (hon. secretary of the Torquay Horticultural Society), and several other gentlemen are concerned in the undertaking. Already there are 25,000 different trees and plants in one field, including 10,000 Strawberry plants, and Apples, Pears, Plums, Raspberries, Gooseberries, and Currants. In another place there are 1000 Rhubarb plants, 1,700 Asparagus and Seakale, and any amount of Horse-radish and early vegetables. Mushrooms are to be a specialty, and 2 acres of beds are to be made forthwith. Permanent works are in progress, including ten long glasshouses, comprising vineries, and orchard, Tomato, and Cucumber houses, beside others for pyramid Peaches and Nectarines, late Vines, and Figs. Some of these houses are of considerable dimensions, over 22,000 square feet of glass being used, and 5 tons of sheet lead for putting it in place. There are nearly 6000 feet of piping laid, and special tubular boilers are being erected of exactly the same pattern as are used with so much success at the fruit farm of 600 acres at Lord SUDLEY's estate at Teddington. The progress and development of the farm, of which Mr. LUCKHURST is manager, will be watched with interest.

POPULAR NAMES.—With reference to *Trillium erectum*, Mr. MEEHAN, in his excellent *Monthly*, alludes to the circumstance that this American plant goes by the name of Three-leaved Nightshade, Wake Robin, Bath Flower, and Birthwort. This furnishes a good illustration of the inconvenience of popular names. In this country the Nightshade is *Atropa belladonna*, a widely different plant; Wake Robin is *Arum maculatum*, a plant almost equally remote; and Birthwort applies to *Aristolochia clematitis*, which has nothing to do with the plant under notice. Surely *Trillium erectum* is not more difficult to remember or pronounce than any of the others, while it has the great advantage that the name applies to the plant in every country in the world. There are cases where popular names are desirable, but this is not one of them.

MOSELEY BOTANICAL GARDENS AND COLLEGE GROUNDS, BIRMINGHAM.—A rose show will be held on Tuesday and Wednesday, July 19 and 20 next, at which we note some enticing prizes are offered for groups of plants and cut blooms. The larger competitions are open, and the others are limited to the locality. Mr. H. RICHARDS is the secretary, and Mr. W. DEAN, Dolphin Road, Spark-hill, Birmingham, director of the horticultural exhibition.

MR. JOHN CARRUTHERS has been selected to give the course of botanical lectures at the Agricultural College of Downton during the coming summer. Mr. CARRUTHERS is favourably known by an able paper on the Larch disease, and has for some time assisted his father in his duties at the Royal Agricultural Society.

THE CAPRIFICATION OF FIGS.—We read in the *Australasian* of March 12, that at the Hobart meeting of the Australian Association for the Advancement of Science, Baron VON MUELLER referred to the necessity of reconsidering the caprification question in the new edition of select plants, and brought up also the progress report of the committee

at the Hobart and Christchurch meetings. Baron VON MUELLER has since received an interesting letter on this essentially practical subject from Dr. G. EISEN, the Fig and Raisin expert of San Francisco, wherein occurs the following pertinent passage:—"We have had genuine Smyrna Figs growing here for over twelve years, but so far not a single fruit has matured of its own account. But last July I pollinated some twenty Figs by means of the pollen from the male or Caprifig. The effect was, that four weeks later the twenty Figs matured magnificently, but no others, although there were several hundred trees and thousands of fruit, which all dropped off."

GINGER.—As in the case of so many widely-cultivated plants, the Ginger-plant is not known in a truly wild state. According to the *Kew Bulletin*, attempts have been made to grow it in Fiji, where the plant thrives, but where difficulties arising from inexperience have arisen in the preparation of the root-stock for market.

LINNEAN SOCIETY OF LONDON.—At an evening meeting, to be held on Thursday, May 5, 1892, at 8 P.M., the following papers will be read:—1, "Lichenes, Epiphyllii, Spruceani," by Dr. J. MUELLER; 2, "Notes on the Family Saturniidae, with descriptions of New Species in the Collection of the British Museum," by W. F. KIANV, F.L.S.

ROYAL BOTANIC SOCIETY OF LONDON.—At a meeting of this society held on Saturday, says the *Daily News*, April 25, Mr. J. BALL SEDGWICK in the chair, a flowering specimen of an epiphytic plant of Central America, imported under the name of Spanish Moss [*Tillandsia usneoides*], for stuffing mattresses, with other interesting plants from the society's gardens, was shown.

THE INTERNATIONAL HORTICULTURAL EXHIBITION to be opened on May 7, at Earl's Court, is now in an advanced condition, and will prove of considerable interest to many. The grounds have undergone many alterations since the close of the exhibition held in the same grounds last year, and in them will be found perhaps the most interesting feature, for there are to be representations of the leading historic and national styles of gardening, as the Egyptian, Japanese, Roman, Tudor, Italian, Jacobean, Georgian, &c., all of which it has been tried to reproduce as faithfully as possible, and the gardens are to be planted with (as far as can be done) the plants which were used at the period depicted. To add to the reality of the scene, the boundary walls are painted up to represent the architecture or the landscape of the time and country as is necessary. If carried out well to the end of the season, these representative gardens should prove instructive as well as interesting. A considerable portion of the main building has been planted in the subtropical style, and contains many fine plants. During the continuance of the exhibition, periodical flower shows will be held, two buildings, each measuring 50 by 200 feet, being set apart for this purpose. One of the most attractive features at this Exhibition, will be the so-called "Insectivorous House," (†) where plants which prey upon insects will be exhibited. The house is now being constructed just outside the north end of the main building by Messrs. CROMPTON & FAWKES, of Chelmsford, who are the designers of it. The building is T-shaped, and will be heated by FAWKES' Slow-Combustion Apparatus. The interior will be arranged with staging round the sides and probably rockwork in the centre, and the entrance and exit will be so disposed that the stream of visitors can always be kept in one direction. One other point should be always remembered, and that is, that the net profits are to be devoted to the Gardening Charities.

ORCHIDS AT M. LEMOINIER'S, AT LILLE.—This amateur, a son of the most celebrated of French amateurs, who died recently, continues his father's work. In addition to the various branches of gardening which are followed in his large establishment, M. R. Lemoinier proposes to enlarge his collection of Orchids considerably. Already there are two

large houses entirely filled with these beautiful plants. We have noticed many excellent varieties of *Odontoglossum crispum*, a remarkable new form of *O. sceptum*, the ground yellowish-white, with large spots of different shades of chocolate; a fine example of *O. Andersoni*, with three fine racemes, wonderfully strong, and coming from one bulb; an *Oncidium sarcodea* with 300 flowers, and a second example with 400 buds; the rare *Epidendrum Cooperi* from Brazil, with five clusters of bloom on one stem—this fine Orchid has been in flower for six months; some very fine examples of *Vanda gigantea*, tricolor, Leopoldi, suavis, and other varieties; a fine *Phalaenopsis Boxalli*; a very fine variety of *Cypripedium Curtisi*, with large flowers; *C. selligerum* and *Druryi*; a plant of *Angraecum sesquipedale*, with two stems, bearing five, and a third bearing two fine flowers; beautiful examples of *Phalaenopsis Sandersoniana*; *Odontoglossum citrosomum*, with a stem nearly a foot long; *Oncidium curtum*, and a collection of numerous varieties of *Odontoglossum Cervantes*, &c.

SYSTEMATIC BOTANY.—A course of lectures will be delivered at the Medical School, St. Thomas's Hospital, Lambeth, S.E., by ALFRED W. BENNETT, M.A., B.Sc., V.P.L.S., Lecturer on Botany at the hospital. The lectures will be delivered on Tuesday and Wednesday mornings, at 10 A.M., commencing Tuesday, May 3, and will be illustrated by diagrams and fresh specimens. Tickets may be obtained from the Secretary to the Medical School, St. Thomas's Hospital, S.E. Fee for the course, three guineas.

CHICAGO EXHIBITION.—A young lad, son of the editor of the *Florida Standard*, is making, for exhibition at the Fair, a table, upon which appears an inlaid map of the State, each county being accurately represented by a separate piece of native Florida wood. In the Californian building will be shown a growing specimen of every Californian domestic flower obtainable, and also paintings in water and oil of 600 wild flowers and grasses. A unique exhibit from Pennsylvania will be a map of the United States, 18 by 24 feet, made entirely of pickle, vegetables, fruit, &c., preserved by the company which makes the exhibit. The State lines will be accurately shown, and the lakes and rivers will be represented by vinegar. The larger cities will be indicated by spices. The whole will be covered with a single piece of plate-glass, which is being specially made for the purpose. The expense of this interesting exhibit of the pickling and preserving industry will be 15,000 dollars!

FLOWERS FOR HOSPITALS.—Last week about 5000 *Daffodils* were sent by the Earl of ANNESLEY from the Park at Castlewellan to the North Dublin Flower Mission at St. George's Hall, Temple Street, for distribution among the hospitals of the north side of the city. This week a still larger quantity have been received from the same source.

LABELS.—Messrs BLAKE & MACKENZIE, of Liverpool, send us specimens of their Willaden patent waterproof labels for Roses. In addition to the durability of these prepared cardboard labels, the patentees obligingly print on the label the name of the Rose. What a boon this is, every amateur knows.

AGRICULTURAL CHEMISTRY.—M. P. P. DEHERAIN has just published through G. MASSON, of Paris, a treatise on agricultural chemistry, *Traité de Chimie Agricole*. A volume of 900 pages is not grasped at a sitting, so that we must defer further notice of this book till we have had the opportunity of examining it. Nevertheless, everyone who realizes what M. DEHERAIN has accomplished, will feel assured that this *Traité* is the work of a master-hand.

STOCK-TAKING: MARCH.—The Chancellor of the Exchequer has been taking stock of the past financial year, and finds the actual returns over a million sterling in excess of his anticipations; and

this in spite of all sorts of adverse circumstances—tariffs, wars, strikes. Of course, the excess is not all due to trade and commerce, but it is there, and that is for the present sufficient. Just about the time the Chancellor was thinking of his annual statement, the United States Federal Treasury was nearly empty—one telegram stating that if sundry bills were pressed they could not be met! In respect to the stock-taking by the Board of Trade, we note an excess of imports to the amount of £1,451,118 over those for the month of March last year. The following figures are from the "Summary" of last month's imports:—

IMPORTS.	1891.	1892.	Difference.
	£.	£.	£.
Total value for month	£31,233,059	£32,704,177	+1,451,118
II. (A.)—Articles of food and drink—			
duty free	10,906,537	12,025,367	+1,028,830
(B.)—do., dutiable	2,051,693	2,319,861	+268,165
VI. (A.)—Raw materials for textile manufactures (including Flax, Hemp, and Jute)	8,111,316	7,926,096	—185,216
VII. (A.)—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	2,591,726	2,593,041	+1,315
IX. (A.)—Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,142,625	1,301,134	+158,519
(B.)—Parcel Post ...	43,541	34,186	—9,355

The following figures relate to the imports of fruit and vegetables during March:—

IMPORTS.	1891.	1892.	Difference.
Fruits:—			
Apples, raw ... bush.	156,941	351,814	+194,873
Cherries ... ..	...	5	+5
Pears ... ..	...	1,754	+1,754
Grapes ... ..	...	777	+777
Unenumerated, ...	20,791	19,528	—1,263
Onions bush.	368,611	251,058	—114,553
Potatoes cwt.	251,075	76,076	—187,999
Vegetables, unenumerated, raw, ... value	£58,110	£31,082	+£2,972

It is needless to say that every line of this table is of interest to our growers at home, some of whom will doubtless have noted the fact that Pears from the Cape, sold the other day by auction at Covent Garden, fetched 10d. each. The Tasmanian Apples are arriving now, and will continue to come in due course. The several arrivals are recorded in our columns week by week.

EXPORTS.

The exports of British and Irish manufactures for month of March show a decrease of £1,997,996, as compared with the figures for the same month in 1891. At that time we were not quite shut off from the American markets, and the French tariff had not been altered to suit the views of French manufacturers. The decrease of exports during the past quarter amounts to £3,827,475. It is very old news to those who read their daily paper that social life in "trade-protected" countries on the Continent is not by any means a happy one—indeed, it is far otherwise; nor can universal happiness and prosperity be noted of such of our colonies as believe in Protection. All this, however, reacts upon us, and we can only hope for sounder political education and its happy results. We have been informed of a bold bargain made by a syndicate of merchants hailing from Lyons, Roubaix, and St. Etienne, which has bought up all the available Indian silk (tassar = Tyseore), leaving only the waste for such as choose to buy it here. It follows that manufacturers wishing to buy the above description of silk will have to go to Lyons for it! Surely our shrewd men of business have been napping. Manufacturers, however, have had their revenge. To-day, if you want the

best figured velvet to be had in the world, you must come to England for it. As long ago, and now, with plush, so now with velvet—the English maker stands alone!

EUCHARIS BAKERI.—"G. H. B." writing in the *Garden* of April 23, says that he has raised E. Bakeri by crossing E. amazonica with E. candida. We hope "G. H. B." and others will repeat this very interesting experiment.

HONOURS FOR HORTICULTURISTS.—Messrs. J. DE COCK and DE SMET, nurserymen, of Ledeberg, near Ghent, have been made Chevaliers of the Order of Leopold.

VERSAILLES SCHOOL OF HORTICULTURE.—M. NANOT has been appointed Director, in the room of the late M. HARVEY.

EPWORTH SHOW AND GALA will be held in the Rectory Grounds on Monday, August 1. Flowers, fruit, vegetables, and farm produce will be exhibited.

YORK FLORISTS' SOCIETY.—The first of a series of shows under the auspices of the York Florists' Society was held in the Exhibition, kindly placed at the disposal of the Society by the Executive Committee. There was an excellent show of Ilyacintus, over 200 pots, the greater portion of which were up to a good standard. Tulips were a special feature of the show, and the exhibits deserve every commendation. Mr. J. T. HINGSTON sent a fine collection of Auriculas, for which he was awarded special prizes; but generally the Auricula and Polyanthus were poorly represented. Nothing being charged for admission to these shows, the attendance of the public is nearly always good.

LINNEAN SOCIETY.—At the meeting held on Thursday, April 21, Professor STEWART, President, in the chair, Mr. HENRY GROVES, was elected a Fellow. Mr. W. B. HEMSLEY, F.R.S., read a paper entitled "Observations on a Botanical Collection made by Mr. A. E. PRATT in Western China, with Descriptions of some new Chinese Plants from various Collections." Mr. PRATT travelled in 1889–90 in Western China, close on the borders of Eastern Tibet, and though chiefly in search of zoological specimens, he fortunately secured the services of a native who had been trained to dry plants by Dr. HENRY, the result being that he was enabled to bring home a very interesting botanical collection. The plants were obtained chiefly at elevations of 9000 to 13,500 feet, in the neighbourhood of Tat-sien-lu, a frontier town, situated in about 30° N. lat. and 102° 15' E. long., and although Mr. HEMSLEY reported that he had not finished working out the collection, he estimated that it contained about 500 species, of which, perhaps, 150 species were new to science. The paper was criticised by Mr. C. B. CLARKE, who remarked, that the mountain ranges of Western China seemed to abound in showy herbaceous plants, rivaling in this respect the richest districts of the Himalayan region, of which, in fact, it is a continuation.

PUBLICATIONS RECEIVED.—*Traité de Chimie Agricole*, par P. P. DEHERAIN (Paris, G. MASSON, Éditeur, Librairie de l'Académie de Médecine, 120, Boulevard Saint Germain). *Iconography of Australian Salsolacous Plants*, decade ix., by BARON FERDINAND VON MUELLER, K.C.M.G.—*The Botanical Gazette*.—*Le Moniteur d'Horticulture*.—*The Species of Ramex* (Professor TRELFORD).—*Müller's Deutsche Gärtnerei*.—*Canadian Horticulturist*.—*Garden and Forest*.—*Le Jardin*.—*Report of the Fruit-growers' Association of Ontario*.—*Annales Agronomiques*.—*Buletino d. R. Soc. Toscana di Orticultura*.—*Agricultural Bulletin of the Malay Peninsula*.—*Agricultural Gazette of New South Wales*.—*Agricultural Science*.—*The American Florist*.—*Insect Life*.—*Bulletin d'Arboriculture*, &c.—*Hints to Emigrants*.—*Fetich's Manual of Orchidaceous Plants*, pt. viii.

NOTICES OF BOOKS.

TRAITÉ D'HORTICULTURE PRATIQUE, par Georges Ballair. (Paris, O. Doin.)

An excellent manual for the practitioner, dealing with market garden culture, and the management of kitchen garden crops, as well as of Orchards and fruit gardens; Strawberries, however, being for some occult reason omitted. Floriculture and arboriculture are also treated of, but less fully, while culture under glass and especially forcing operations are only incidentally referred to. Within the limitations which the author has imposed upon himself, he has produced an excellent work, clear, concise, and trustworthy.

DISEASE IN FOREST TREES.

Under the title of *The Manifestation of Disease in Forest Trees*, Mr. C. E. Curtis has published a short treatise (Field Office). Its brevity is one of its great merits. It may be useful to novices in calling their attention to points deserving their notice, but we can hardly recommend it as a faithful expositor of the manifestations of disease generally. Here is a paragraph taken from the section on bark diseases, which shows that the author has very peculiar views about the cambium:—"From whatever cause it arises, the cambium, or formative fluid which flows between the inner bark and 'albumen,' or sap-wood, is retarded, and does not reach the leaves in sufficient quantities, and therefore is insufficiently elaborated. This engenders disease, which, if allowed to go on unchecked, will end in the destruction of the tree."

LES MALADIES CRYPTOZOMIQUES DES CÉRÉALES. Par Jean Laverdo. (Paris, Ballière.)

This is a little book which may be safely recommended to those who desire to obtain a general acquaintance with the diseases to which our cereal plants are subject. The life-history of the various parasites is sketched, and the inferences of a practical nature which may be drawn from them are duly pointed out. The great caution necessary, but rarely exercised, in the application of farmyard manure, is insisted on. It is clear that this substance furnishes an admirable means of cultivating and of distributing various parasitic fungi, which, in another stage of their growth, prey upon the cereal plants. The troubles of the gardener and the farmer are very largely due to inattention or ignorance of the ways of life of microscopic organisms. If the lecturers on horticulture under the various county councils can only drive this lesson home, there will be no room for doubting the value of such lessons.

SILVA OF NORTH AMERICA.

This third volume of Professor Sargent's *Silva of North America** has appeared with exemplary promptness. In execution and interest it is fully equal to its predecessors. Two orders only find a place in this volume, but when it is stated that one of the two is Leguminosae, the paucity of the orders treated of in this volume will be no matter for surprise. Anacardiaceae comprises five species of *Rhus* and one of *Cotinus*. This last-named genus is usually included with *Rhus*, but Professor Sargent has gone back to ancient usage, and given generic position to *Cotinus*. A well-known representative of this genus is the Venetian Sumac, or Wig-plant, *Rhus Cotinus*. Owing to the, as we think, strained application of the rule of priority in matters of nomenclature, and the adoption of the oldest specific name, without reference to any other consideration, points of which we spoke lately at some length, our old friend, *Rhus Cotinus*, becomes now *Cotinus Cotinus*. This seems rather absurd, but as we are accustomed to *Vere de Vere* and occasional similar reduplications, we may in time

become reconciled to *Cotinus cotinus*.* The American representative of this genus, *C. americanus*, is interesting as showing the wide extension of the genus through southern Europe, the Levant, Cashmere, the western Himalaya, and northern China. The vernacular name, "Chittam Wood," suggests the possibility in the future of uncomfortable confusion with the Chittam wood of Scripture, and of difficulties on the score of priority of nomenclature! Under the head of *Rhus*, we have not only the necessary botanical details, but also interesting notes relating to the varnish tree of Japan, the manufacture of lacquer-ware, and of other economic products. The singular immunity which some people, and some animals, enjoy from the evil effects of the juice of *Rhus Toxicodendron*, is an illustration of the old adage, that what is one man's meat is poison to another.

Rhus typhina is the common Stag's-horn Sumac, whose loose straggling branches and velvety twigs are conspicuous objects in old-fashioned gardens. The foliage is brilliantly coloured in autumn. The shrub has been so long an inmate of our gardens, that we had ceased to think of its native country; and we imagine it will come as a surprise to many to learn that it is a native of parts of Canada and the north-eastern States of the Union.

Of Leguminosae, thirty species are described and figured in this volume with the fulness and accuracy Professor Sargent has led us to anticipate. Of these, several are of great interest. We can only refer to a few among them, such as the *Rhynchospora* or False Acacia, the Locust tree of the United States. The timber of this tree is so valuable on account of its hardness and durability, that it attracted the attention of Cobbett, who advocated its claims with extraordinary and, as is now ascertained, exaggerated warmth. On the Continent it is much used to fix sloping railway banks, to supply stakes in the vineyards, and for ornamental purposes. The author mentions no fewer than thirty varieties, among the most curious of which are the variety with the leaves, reduced to a single pinna, the mop-headed or Parasol Acacia, suitable for street planting, as furnishing shade without encroaching too much on the space. Its formality of outline is, however, such that its employment should be carefully limited, and care should especially be taken to plant it only in appropriate localities. Professor Sargent does not allude to a variety which is especially useful for street planting, *Robinia pseudacacia* var. *Bessoniana*, which is nearly allied to the Parasol Acacia, but possesses some advantages over it. The var. *Dacotense* is remarkable for its pink-coloured flowers. All the varieties are remarkable for the way in which they fold their leaflets as the temperature declines in evening. *Virgilia lutea* finds a place under *Cladrastis*. It is a tree much appreciated in English gardens, but is said to be one of the rarest and most local trees of Eastern North America. *Gymnocladus dioica* (here spelt *Gleditsia*), and *Cercis*, are familiar names to British arboriculturists. Less familiar are some of the natives of Florida, Texas, and the country adjacent to Mexico, all of which, however, find a place in this volume. The account of the Mesquite, or Honey Locust, *Prosopis juliflora*, is particularly interesting; indeed, there is scarcely a page in the book where even the reader not specially interested in trees may not find something to attract his attention. Interesting biographical details are given relating to the botanists and collectors incidentally mentioned in the text, whilst, of course, the interests of botanist, the geologist, and the naturalist generally, have been carefully studied. The facts collected relating to the geological distribution in past time, and the geographical position in the present, will prove of the highest value. Comparative microscopical details are not omitted, but they might be expanded with advantage, with special reference to the adaptation of particular plants to

particular conditions of climate, &c. The illustrations are truthful, comprising sufficient detail to be serviceable to the botanist, whilst the particulars given in the text as to rate of growth, quality, and uses of timber and the like, will commend the book to the notice of planters.

HOME CORRESPONDENCE.

THE CARROT-GRUB.—In reply to "R.D.'s" query in a recent issue of the *Gardeners' Chronicle* (p. 500), asking someone to suggest means of destroying the Carrot-grub, I beg to say that if the ground intended to be cropped with Carrots or other root-crops, subject to the attacks of the grub and other creatures injurious to root-growth, be manured, dug, or ploughed in the autumn, as soon as the previous crop is removed, so as to allow time for the decomposition of the manure, and the absorption by the soil of the ammonia arising therefrom, and the ground surface-dressed with fresh soot immediately before drawing the drills for the reception of the seed in spring, the object in view, i.e., clean roots, will be secured. I have never known this simple antidote to fail. Although its application on ground rendered foul by heavy dressings of farmyard manure being annually laid on a week or two before sowing the seed, may not be quite efficacious the first year, but by manuring the ground at the time indicated above, and repeating the surface-dressing of soot the following year just before sowing the seed, the ground will be freed of all insects that injure the roots of Carrots, Turnips, Potatoes, &c. Moreover, fresh soot is not only a good purifier, but also a powerful fertiliser, of the soil when judiciously applied. H. W. W.

LENT ROSES.—The stalked Hellebores, generally known as Lent Roses, are finer this year than I have ever known them in my garden. They are later than usual, being still, on April 18, at their best, and being entirely uninjured either by the severe weather of March, or by the snow and unusual cold of the week before Easter, when on five successive nights we had minima of 21°, 23°, 20°, 20°, 25°, and 3 or 4 inches of snow and thaw several times repeated. A few years ago I gave up growing this ornamental class of plants, because year after year they were crippled and spoilt by the frosts and east winds of March. I then found that frost did them no harm, provided they could be entirely sheltered from wind, and by selecting spots where this condition is secured, especially close against walls facing north or north-west, or amongst evergreen trees or shrubs. I have a very fine show of varieties in many colours. Seedlings which come up around the plants in abundance, and vary much from the same parent, make the best specimens. I find that it takes plants nearly as long to recover from division as to flower from seed, namely, three or four years. Short-tailed field-mice are very destructive to the young shoots, and as they constantly repeat their depredations, I conclude that the plant, though poisonous to man, is harmless to them. I am told that where Hellebores are grown near water, the water rats are very troublesome. I have not yet tried planting them where rabbits have access; but very few plants are proof against these, the worst vermin against which gardeners can have to contend. C. Wolley Dod, Edge Hall, Cheshire.

SALIX CAPREA.—I never saw a larger crop of catkins of the common Willow or Goat Willow than this year, where, growing in the woods, mixed with the Hazel bushes, and when the ground is sloping, it is certainly showy. The woolly-looking bushes show to advantage from a considerable distance. The wood of this Willow is largely used by sheep-hurdle makers about here, it being very pliable. E. M., South Hants. [*Salix caprea* is a tree which, when not pollarded, will grow to a height of from 24 to 30 feet, with smooth shoots and buds, egg-shaped, or elliptical leaves, which on the upper side are smooth, green, and glistening; and on the lower side blue-green and woolly. The catkins are very large; the male egg-shaped, and the female cylindrical. There is a pretty pendulous form of this species which looks well worked on tall stems. En.]

APPLES NORFOLK BEAUFIN AND NORTHERN SPY.—Your excellent correspondent, "D. T. F.," in the *Gardeners' Chronicle*, p. 491, inquires how it is that the Norfolk Beaufin is hardly saleable in some of our markets. I think the answer lies in the fruit

* Boston and New York, Houghton, Mifflin & Co. (Williams & Norgate).

* As enquiries sometimes reach us as to the proper pronunciation of this word, it may not be inappropriate to say that the o and the i are both short, and that the word should consequently be pronounced as if written—kot tin-us.

being sent to wrong markets, or to improper storing. With respect to markets, one has sometimes to pay dearly for experience. For instance, I have sent Apples to two markets; at the one, the price realised was exactly four times that of the other, though the fruit was in every respect the same. Another point is the unsuitable structures in which fruit is stored; a really good fruit-room is the exception and not the rule, and shrivelled fruit will never obtain a ready sale at good prices. Of this I am certain, that British Apples grown in good districts, properly attended to in every way, and consigned to the right markets, will compare favourably in price with fruit from anywhere. As to the Normandy Pippin, I can endorse all your correspondent states as to its poor quality. The Northern Spy Apple is one which I question if anyone can grow really well and profitably in this country. I have tried it here as a cordon on walls and in bush form, giving them every attention, but the result has never been satisfactory, although our soil and district is a good one for Apples. The same remarks apply to Newtown Pippin, which needs a good wall or orchard-house to get fine well-developed fruits. Fortunately, we have plenty of good varieties suitable for planting for profit, and it is a grave mistake to plant any uncertain kinds in growing for market, but I fear much haphazard planting is done. S. T. Wright.

PRUNING DENDROBIUMS.—Kindly permit me once more to trespass on your valuable space to offer a few remarks on Mr. Burberry's, on p. 463. Mr. Burberry there asks how it is that I shelter myself behind a *nom de plume*? Well, some people write because they like to see their names in print; others because they are paid for doing so; but "B. P." writes in the interest of good gardening, counting no favours; neither does he care for empty honours, or seek his own aggrandisement; such things he leaves for those more ambitious. But he is well known in the gardening world not far from the place where Mr. Burberry resides. As Mr. Burberry seems to doubt that it is possible to grow plants to the size I mentioned, I may tell him that it would give me great pleasure to show them to him, but he would have to make a rather long journey to do so. Possibly he may have an opportunity some day of seeing some of them without travelling so far, as they may be exhibited nearer his home; we shall then see how this "suicidal" person, who cuts off the growths from his plants, will be able to give an account of himself. May be, he will not fare so badly after all. When one of the greatest Orchid critics we have in the country recently saw one of these plants which had been under the care of this plant spoiler, he did not make the same observation that your able correspondent did, but pronounced them excellent. There are one or two words in my last note which, with your permission, I should like to correct. The word "yes" (we decorate), was made to read "yet" (we decorate), and the word "store-house" was altered to "stove-house." I must now beg to take leave for a short time of your correspondent, as before long he may have the satisfaction of not only seeing some of the plants, but making the acquaintance of your humble correspondent. B. P. [The writer of the Orchid Calendar in these pages keeps in mind the needs of all sorts and conditions of growers, and especially of the amateur, and it is the latter who would suffer loss and vexation by following the practice of "B. P." in dealing with Dendrobiums, for if he cut down his plants to the ground, it would be necessary for him to get fresh pseudobulbs by putting the plants in a place with the warmth of a fruiting Pine-stove—a kind of place he is not likely to possess; and for this reason, cutting hard back is not a good practice for him to pursue. Ed.]

GLADIOLUS IN ROSE-BEDS.—I was much pleased to see the remarks of "J. S." on p. 438 of *Gardeners' Chronicle*, drawing attention to the practice of planting Gladiolus in Rose-beds. It has been my custom for the last eleven years to plant Gladiolus of sorts in Rose-beds, taking the choice hybrids up in the autumn, but leaving the corms of *G. Brencleyensis* in the beds all the winter, and this, too, without much loss. The choicer hybrids I generally start in pots, and plant out in May, at the same time placing a stake for tying the flower-spikes to. Two years ago I tested some corms of hybrid Gladiolus for hardiness, by leaving them in the beds all the winter, mulching them and the Roses with manure, and last year and this very little harm ensued. I use plenty of sand and charcoal-dust when planting any Gladiolus intended to be left out in the soil, and

prefer to fill each bed with one variety. All things considered, I do not think *G. Brencleyensis* can be beaten for general effect, and it is cheap. Gladiolus, however, of any sort, planted in Rose-beds, make a show at a time when Rose-flowers are not very plentiful. I will go a step further, and advise that Mignonette should also be planted out from pots, or sown in patches on Rose-beds, and Mignonette Golden Queen produces a charming effect. *John Chinnery*.

PERFECTION BROCCOLI, ETC.—Green crops in the gardens throughout the Midlands were much cut up during the latter part of the winter, and, in many cases, killed. In looking over the garden at Stoneleigh Abbey, it was noticed that Perfection Broccoli, a variety sent out by Messrs. Sutton & Sons, was the only one which had escaped. Autumn-planted Cabbages have suffered severely at that place, and Strawberry plants out-of-doors, in the Kenilworth district, have lost most of their leaves. A fine lot of ripe fruits of the variety Vicomtesse Hélicart de Thury was observed in one of the houses. *W. D.*

PHOLIDOCARPUS INUR.—In the *Gardeners' Chronicle*, No. 275, p. 430, it is stated that this Palm is a native of Madagascar, which is an error, as it comes from Ceram. We have in the Botanic Garden at Buitenzorg some fine specimens of this Palm about 70 feet in height, and which produce plenty of seeds, which have been sent to most of the European botanic gardens. The Palm was introduced from Ceram to Buitenzorg by the late Curator, Mr. Binnendyk. *Wignam, Curator of the Botanic Garden, Buitenzorg*.

EAST LOTHIAN STOCKS.—How very sweet and refreshing is the sight and perfume of a group of these plants at this season, and yet in scarcely one garden in a dozen are they to be found. These Stocks are of easy culture, and amongst those which give us the most pleasure when grown, useful alike for cutting and for decorating the greenhouse. The white variety of East Lothian Stock and double-flowered Raspail Pelargonium are very much appreciated with us. I generally commence to sow Stock seed in the month of July, and go on sowing at intervals till the end of the following one, which ensures me a succession of flowers during the winter and spring. The seeds are sown in shallow boxes, and the seedlings are potted off in small and large 60's, those in the smaller pots being subsequently put into 48's, and those in the larger ones into 32's, in which sizes they flower satisfactorily. *W. A. Cook*.

COMPARATIVE HARDINESS OF GARDENIA FLORIBUNDA.—That this plant is capable of withstanding a continued and very low temperature without injury, I have proved this winter. Two fairly good plants were placed in a cold pit last September, and have received no protection whatever, beyond what the glass afforded, during the winter, water was supplied to them very sparingly, and these plants seemed none the worse for this kind of treatment; in fact, they are at present in the same place, and pushing vigorous flower buds. I may add that the pit has been kept close, and the plants syringed twice daily during the past month. *W. H. Aggett, Oakdene, Guildford*.

DOUBLE WALLFLOWERS.—These are useful plants to possess in winter and early spring, and they do well, like Stocks, in pots, and many flower-spikes on my plants were more than 1 foot long. The single-flowered Wallflowers, red and yellow, are also nice to cut from, and in winter I take these plants up with a ball of soil and plant them close together in boxes, and place them in a cold house, and obtain in this manner a lot of early flowers, which makes variety. *W. A. Cook, Compton Bassett*.

AURICULAS.—In your report of the National Auricula and Primula Society, it is said that it is doubtful if the General Neil was correctly named. I can, however, vouch for it being so, as I had no other green-edge open at the time, and I have several plants of the same now, including the three that were shown, and no two alike. They were early trusses, and had been grown entirely in a cold frame. As regards all show flowers, I am very particular to keep them correctly named. *John Gilbert, gardener to Rev. L. R. Flood*.

GREENHOUSE BLINDS.—Some few years since, I thought out and put in practice an arrangement of greenhouse blinds which was very simple, inexpensive, and effective. Perhaps "E. W. Ipawich" might

find it suitable to his house. Mine is also a three-quarter span, facing south, and needing blinds only on that side. Along the ridge of the roof runs a vertical board about 4 inches wide, with other boards also about 4 inches wide hinged to its upper edge, and fixed by buttons and hooks in a position parallel to the roof. Under this board, forming a sort of eaves, the whole of the blinds are covered up and are kept up all the winter without damage. The width of eaves necessary will depend on the length of rafter—mine is about 9 feet. The upper edge of each blind is tacked to the vertical ridge-board, and extend in width from one main rafter to the next. Down these rafters run galvanised iron wires (B. W. G. No. 14), kept about 2 inches from the roof fixed above to the ridge-board, at the edges of the blinds, and below fixed to blocks of wood screwed on to the rafters. Down the sides of the blinds are fixed curtain rings at about every 6 inches, the ring 1 inch in diameter, and running easily on the wires. The base of the blind is attached to a wooden rod having a screw-eye at each end, which also runs along the wires. The manipulation of the blinds is done by piercing this rod with a hole about 9 inches from each end, to each of which are tied the ends of a loop of thin saab-cord, which passes lengthwise round the blind, just long enough to allow of the end of the loop being fixed by a cleat in the framework of the greenhouse. Each string also passes through a corresponding screw-eye in the ridge-board. On pulling the two portions of the loops which pass under the blind, it is drawn up and tightly reefed under the eaves-board, and in pulling the two which are attached to the rod at the base of the blind, it is pulled down. I trust that in trying to be brief I have not become obscure, but the blinds themselves (of which I did with my own hands all the fitting except the boards at the ridge) work so easily that a child of five years, who often takes with me my morning turn round the garden, operates the blinds. *L. C. Rugby*.

THE RETURN OF WINTER IN THE MIDDLE OF APRIL.—Fortunately, as it has happened, we had but little frost this winter till April began. But this fact so far as sunshine was concerned pulled up the season rapidly at times, and had it not been for the biting east wind blowing parallel with the sunshine, all fruit buds and Roses would have leaped forward into conditions of severe risk and danger. But that cold at night and in the sun-warmed air even by day, of which we all complained so much, has proved to have saved the major portion of our fruit crops and Roses. Those, however, in warm soils and sheltered localities have been much thinned by the late frosts and snow storms, if not wholly destroyed. Neither have they suffered in these matters alone. In our home favoured, climatically, neighbour France, from which I read of new Estates being already dug and eaten, with a sort of envy, the other day, while we had not finished planting at home. I read in the *Daily News* of to-day, April 20, of great damage to fruit in Provence. A chilly wind has been blowing over Provence for days, telegraphs the Paris correspondent, the fruit trees having blossomed early, the prospect of a fine crop is at an end. This probable loss to the fruit gardeners is estimated at millions of francs. The Vines of the Loiret are as if scorched by the hard frosts which succeeded the summer weather of the beginning of this month, and the consequent splendid burst of vegetation. Our hope of a less dismal state than our neighbours lies chiefly in our vegetation making a less sudden and splendid burst. Being so often beaten back by spring frost, our fruit trees have become more shy in making forward movements in the spring, and it may be hoped that much of our fruit and many of our Roses in our later colder districts may have escaped destruction. Even the Blackthorn is not yet expanded, and very few Plums or Pears, while Apple blossoms yet sleep with hardly half a eye open. *D. T. F.*

SOCIETIES.

ROYAL BOTANIC.

APRIL 27.—It was a very bright display of spring-flowering plants, &c., which was to be seen in the large conservatory in the Society's gardens, Regent's Park.

Messrs. J. Laing & Son, The Nurseries, Forest Hill, S.E., was awarded 1st prize for twelve Begonias, which consisted of exceptionally well-grown

specimens of a first-rate strain. Some of the best were Baroness Burdett Coutts, a large flower of deep pink; Princess Christian, a delicate creamy-white; Mrs. Reguart, a good and bright yellow; Princess May, pure white; Stanstead Glory, very large—pink and white; Lady Theodora Gresty, a well-shaped flower, and perhaps, the prettiest of all. The above are all double-flowered varieties, but there were also several good single varieties shown.

For the best collection of six Roses, the 1st prize was awarded to Messrs. Paul & Son, Old Nurseries, Cheshunt, who had thoroughly well-grown and richly flowered specimens of *La France*, *Avocat Duville*, deep crimson, good; *Violet Bouyer* bluish-white, *Alphonse Souper*, *Marquise de Castellane*, and that very useful *Noisette*, *Celine Forestier*. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, obtained the second position for his specimens of *Magna Charta*, *Madame Montet*, Dr. Andry, *Comtesse de Serenye*, and *Heinrich Schultheiss*.

Six Greenhouse Azaleas, by Amateurs.—In this competition, Mr. H. Eason, gr. to B. Noakes, Esq., Hope Cottage, Highgate, secured the premier award with *Belle Gantouise*, *Magna Charta*, *Roi des Pays Bas*, *Reine des Pays Bas*, and *Ferdinand Kegelany*; the 2nd prize was awarded to Mr. R. Scott, gr. to Miss Foster, The Holmes, Regent's Park.

In the nurserymen's class for Azaleas, there was no competition, and a 3rd prize was awarded to Mr. H. James, Castle Nursery, West Norwood, for six varieties, the merit of which was below that of the amateurs.

Mr. R. Scott was 1st for twelve plants of *Dielytra spectabilis* (in pots), with well-grown examples. Again, in the open competition for twelve *Spiraea japonica*, Mr. Scott was to the front; and Mr. W. Morle, the Grand Floral Depot, 283, Regent Street, was 2nd.

Messrs. J. James & Son, Woodside, Farnham Royal, Slough, were awarded 1st prize for an exceptionally good collection of nine *Cinerarias*, large-flowered, richly coloured, and dwarf of stature; Mr. J. Douglas, gr. to Mrs. Whitbourn, Great Gearies, Ilford, was a good 2nd.

For 12 *Amaryllis*, the 1st prize was secured by Messrs. Paul & Son, Old Nurseries, Cheshunt, with seedlings which showed great variation of colour, and appeared very fresh. Here again Mr. J. Douglas was 2nd, with some really good examples, most of which were varieties of his own raising.

Mignonette, twelve pots. In this class Mr. W. Morle was 1st, with an improved new variety, dwarf, and compact. The flower heads were very strong, and held themselves erect without the aid of sticks. Mr. F. Stansell, 83, Macfarlane Road, Wood Lane, Shepherd's Bush, was 2nd, exhibiting some very fair specimens.

Messrs. Paul & Son, Cheshunt, were awarded a 1st prize for a good collection of alpinas, including *Aubertia Leichlini*, A. Frobellii, *Arnebia echinoides*, *Armeria Lauchiana*, *Primula rosea*, *nivalis*, and *Peyretieria*; *Alyssum podolicum*, A. pyrenicum, *Gentiana verna*, *Saxifraga arietoides* alba, *Hutchinsonia alpina*, *Waldsteinia trifolia*, *Ranunculus amplexicaulis*, &c. The same firm of nurserymen were also successful with a collection of hardy herbaceous plants, which included *Doronicum plantaginifolium* excelsum, *Orobus vernus*, *Pulmonaria saccharata*, *Uvularia grandiflora*, the pretty little *Irish azures*, with its dwarf blue flowers; *Muscari armenica*, *Tulipa sylvestris*, *Geum aureum*, several varieties of *Tulips*, *Violas*, and *Polyanthuses*.

For a collection of twelve plants of *Primula cotinifolia* Sieboldii (*Primula amena*), Mr. J. Douglas was 1st, with plants which were profusely flowered. He was also 2nd for a collection of hardy *Primulas*, several of which were seedlings of his own raising. Mr. J. Douglas was also 1st for twelve *Auriculas*; and Mr. H. J. Sanders, gr. to Viscountess Cheshunt, Bookham Lodge, Cobham, was 2nd.

In the class for twelve alpine *Auriculas*, Mr. Douglas was again 1st; and Mr. C. Turner was 2nd. A 2nd prize was awarded to Mr. J. Douglas, for a collection of twelve distinct varieties of *Polyanthus*.

Messrs. Jas. Carter & Co., High Holborn, were awarded a large Bronze Medal for a group of Cacti, and a Silver Medal for a large collection of *Cinerarias*, of their prize seedling strain.

A Silver Medal was awarded to a group of Roses in pots, and a collection of rose blooms exhibited by Mr. W. Rumsey, Waltham Cross; also to Mr. Jno. Walker, Thame, Oxon, for a collection of cut roses, including a large number of *Maréchal Niel* and *Niphetos*.

Messrs. Barr & Son, King Street, Covent Garden, had an extensive collection of *Narcissus* and hardy

spring flowers, including many of the newer and better varieties of *Narcissus*, and of *Anemones*, *Muscari*, &c. An award of a large Silver Medal was made.

Mr. C. Turner, Royal Nurseries, Slough, exhibited a group of novelties in *Azalea indica*, and he was awarded a small Silver Medal.

From Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, came a group of plants and flowers, principally hardy, including *Primulas*, *Irises*, *Liliums*, *Narcissus*, several species of hardy *Orchids*, *Dielytra spectabilis* alba, &c. An award of a Silver Medal was made.

A choice and tastefully arranged group of miscellaneous plants came from Messrs. John Laing & Sons, Forest Hill, including good decorative stove plants, several species of *Orchids* in flower, as well as *Cannas*, *Ericas*, *Primulas*, *Spiraeas*, &c. A large Silver Medal was awarded.

FRUIT GROWING IN THE NORTHERN COUNTIES.

APRIL 25.—Under the auspices of the British Fruit-Growers' Association, and in connection with the Newcastle Spring Flower show, conferences on fruit-growing were held on Monday in the hall of the Literary and Philosophical Society, Newcastle.

Mr. A. H. Pearson, F.R.H.S., Chillwell, read a paper on "Apples for Market." The qualities of a good market cooking Apple, he said, were size, appearance, free-bearing, quality, and good constitution. The first thing in obtaining size was to select good varieties; and good cultivation, which was the exception rather than the rule, was needed. The trees should be planted in pyramid form, and worked on a Paradise stock.

It had been said that allotments would spoil the chance of the market grower. His opinion was that they would make the business better than in the past, for, however many fruit trees an allotment grower could grow, they would only whet his appetite, and the appetite of his family for more of them.

Mr. Witherspoon said it was only by growing what would excel in the north of England that they could compete with the teeming quantities of fruit sent from the south of England, and the rest of the world. Their misfortune in the north of England was, that they were a month later than in the south. His experience was that the varieties of Apples suited for growing in the north of England were few.

Mr. Harris, Alnwick, said his experience was, that Apples could be grown in the North of England for the market, but not to compare for size and colour with those grown in the South.

A Northumberland grower thought that up the Vale of the Aln there was some of the finest land for fruit-growing in England. He preferred standard Apples (on the crab) to the Paradise stock. Durham was a poor county, he considered, for fruit, on account of its cold and clayey soil.

Mr. Gordon, the Vice-President of the British Fruit-Growers' Association, explained that the object of the Association in holding these conferences at Newcastle was the encouragement and improvement of fruit-growing in the North of England.

Evening Conference.

Mr. William Goaring, lecturer to the Hants County Council, read a paper on "Culture of Bush Fruit." Climate, he said, was important in the cultivation of this fruit, but, apart from climate, patience and industry were most important. He intended to speak mainly on Gooseberries, red Currants, and black Currants. He advised cultivators to unite in planting the same kinds in quantities, and so gaining a good reputation for the neighbourhood. They should not cultivate from cuttings, but buy from a reliable firm of nurserymen who had a reputation to maintain. It was important to pluck fruit in the green state for the first two or three years. The bushes required time to grow, and they could not while growing them take big crops at the same time.

Mr. Goaring gave information also with regard to red Currants, which were, he said, less profitable than Gooseberries, but sometimes yielded splendid crops, and black Currants, which were more profitable than red.

Mr. Witherspoon said their experience in the North of England was against the growing of red and black Currants. He advised the growing of Raspberries and Strawberries instead.

Mr. George Gordon, of the *Gardeners' Magazine*, read a paper on "Fruit Culture on Small Holdings." They had every reason to congratulate themselves, he said, on the attempt now being made to confer on the agricultural labourers better opportunities

of becoming owners and tenants of land. He could not, however, regard otherwise than with grave apprehension projects of bringing townsmen back to the land, because of the risk of failure—that was to say, bringing them back in large bodies as had been suggested in some quarters. The Fruit-Growers' Association had had to devote considerable attention to the misleading statements made by irresponsible persons with the view of attaining popularity. The Association had endeavoured to show that fruit culture, intelligently carried out, would yield a good return for the capital and labour invested; that in districts favourable to hardy fruits, the returns would be in excess of those obtainable from the ordinary farm crops, and that this culture would be especially suitable for small holdings. Over-production was not, in his opinion, within measurable distance. We imported fruit annually to the value of £6,000,000. Some speakers took that as representing the fruit that we could grow in this country; but, as a matter of fact, more than half represented fruit that they must of necessity be dependent on the foreigner for. It was reasonable to infer that, with increased supplies from the home orchards, there would be a lessened demand for foreign fruits were the consumption of fruit stationary. As a matter of fact, the consumption of fruit has very largely increased of late years, and was likely to continue to do so. He advocated the formation of experimental orchards on gentlemen's estates, and perhaps on large areas of ground, such as were devoted to allotments or small holdings. In the Newcastle district, Apples and Plums would be the most suitable of the large fruits, and Currants, Gooseberries, and Raspberries of the small fruits. In many instances, Strawberries also might be grown with good results. Mixed planting of large and small fruits would, in a series of years, prove the most profitable. He spoke on the benefit of supplying local markets before packing and sending fruit to a distance. He explained methods of planting and culture, and advised careful grading and careful packing. (Extract, *Newcastle Daily Leader*, April 26).

NURSERY NOTES.

MESSRS. JAS. VEITCH & SONS, CHELSEA

WHEN visiting these nurseries on a recent occasion, a very fine collection of *Anthuriums* was observed in a span-roofed house near the main entrance. The plants, in all about 100, occupied the centre stage, the bulk of which were in pots varying from 6 to 10 inches, whilst a few large specimens were in pans some 2 feet across. A few plants of A. Rothschildianum, a pretty variety with spotted spathe about 2 inches wide, and yellow spadix, the result of a cross between A. Scherzerianum and A. S. album, had a pleasing effect amongst the scarlet and crimson spathe of the selected varieties of A. Scherzerianum and A. Andreanum. Of Scherzerianum were noticed some excellent varieties, but of Andreanum there were not many specimens in spathe.

In the Hippeastrum (*Amaryllis*) house, some 400 or 500 flower-scapes were observed, in which colour of flower and substance in leaf and flower were conspicuous features. Previous to the spell of warm weather, as many as 800 scapes with blooms were at one time visible.

In passing through a house in which were a collection of *Clivellas*, we remarked a fine variety called *Acquisition*, whose scapes bore from fifteen to twenty flowers upon each, which were a soft flame colour, with white throat.

In another house, a large number of seedling *Streptocarpus* were observed, some of which were just beginning to bloom. The success achieved by hybridisers with this species is highly creditable, and there are few plants that are more beautiful or delicate in their tints than some of these seedlings, and being of easy culture, and useful for cutting, and lasting in bloom for a long period of time, these plants should become popular.

The raising of new varieties is being undertaken with great energy by Messrs. Veitch, and with marked results. The show of these plants may be expected to last six months longer. *Finette* is white, with seven lines of violet; *Virgil* has pure white

flowers, with a deep chocolate blotch; but the most beautiful is *Acia*, a delicate heliotrope colour with a chocolate-blotched throat. The greenhouse was gay with a beautiful and miscellaneous collection of spring-flowering plants, as *Azaleas*, *Ericas*, *Hyacinths*, *Spiræas*, *Pæonies*, *Roses*, *Clematis*, *Lilium Harrisii*, *Andromedæ*, and the beautiful new hardy Broom (*Cytisus scoparius* var. *Andreasus*).

Some very delicate and useful-looking, double-flowered *Rhododendrons* were also in bloom, and deserve special attention. There were three varieties of these named respectively *R. balsaminiflorum* album, *R. b. aureum*, and *R. b. carneum*. *Narcissus* "Gloire de Linden," is a very beautiful variety of large flowering type, the sepals and petals are lemon colour, and the trumpet of a deep yet bright yellow. The breadth of the sepals and petals, measuring from tip to tip, was about 4 inches, and the top of the trumpet 1½ inch.

AMARYLLIS AT AIGBURTH.

The exhibit of new hybrid *Amaryllis* by Messrs. R. P. Ker & Sons at the Liverpool Horticultural Society's spring show, in St. George's Hall, last month, gave promise of their collection being of high quality, and this added to the fact that Messrs. Ker always do well whatever they undertake, led me to make a visit of inspection to their collection of these bulbs.

A house has been specially built for the culture of *Amaryllis*—a span-roofed one, running nearly due north and south, 56 feet in length and 20 feet in width, the width of the sash-bars apart allowing of the use of panes 20 inches in width, and the height inside is sufficient for comfortable walking. There is a stage running down the middle of the house, and one runs round the sides and ends. The system of culture is very simple, most of the bulbs being in 5½-inch pots, and some of the flowering bulbs are thriving admirably in 5-inch pots, having two flower-spikes and eight flowers on some; in others, one spike and six flowers. The culture pursued is what might be termed a cool one. Starting at 50° to 55°, the warmth is increased gradually to 60°, and after the bulbs have started, some slight amount of bottom-heat is afforded. Ventilation is admitted under the stages and on the west slope of the roof, and shading is dispensed with, except a very light kind that is used on very bright days following a period of dull weather. A variety named *Melpomene* is a giant as to its leaves, these being 3½ inches wide. The flowering bulbs of *Amaryllis* exceed 900, which number may be about equally divided into three tints of crimson. *R. G. Waterman, Wootton, Liverpool.*

AURICULAS AT SLOUGH.

A houseful of 2000 or more *Auriculas* is indeed a fine sight, and that is what may be witnessed on the Royal Nursery, Slough, at the present time, and for the next two or three weeks. A long span-roof house, with a broad level stage on either side, is full of plants in bloom, or nearly so, and as many of them are in small pots, and are stood close together, the number stated above is probably under-estimated. There are show and alpine varieties, the former numerous represented, and decidedly earlier in flowering than their alpine relatives; and many of the selected seedlings of the past year will not bloom for a week or so yet, and it not infrequently happens that the choicer flowers are among those which open latest.

Many of the older varieties of show *Auriculas* are still grown, because collections are in great demand, and it is impossible to supply plants of novelties, as they increase slowly. Some of the older ones are scarce also, such as Colonel Taylor, which can be seen in fine condition at Slough, and which is without doubt unrivalled for the brilliant green of its edge. In the new green edges of later years, such as *Talisman*, the Rev. F. D. Horner, *Abbé Lizet*, &c., there are improvements in tube, paste, and body-colour, but they do not compare with the Colonel's edge, General Neill, *Lovely Ann*, Prince of Greens, *Talisman*, the Rev. F.

D. Horner, and one or two others can be seen in bloom, and some less known, of which there is only a plant or two. *Roll's* green edge, also of a bright green, is remarkable for its zone of red, which takes the place of the usual black body-colour. A plant of the grey-edged *George Lightbody* can be seen as a perfect green edge, not a usual occurrence by any means, but which occasionally happens, but it is only an accident, and will not be permanent.

Of grey edges there are *George Lightbody*, *Lancashire Hero*, C. E. Brown, *Richard Headly*, *Alexander Meiklejohn*, *Confidence*, old Conqueror of Europe, *Robert Trail*, and a few others. Some choice varieties, such as *George Rudd*, are as yet in small quantities only.

Among the newer white edges are *Woodhead's* *Mr. Dodwell*—one of the very best when in its finest character, *Conservative*, and one or two others; and such useful older varieties as *Acme*, *Smiling Beauty*, *Beautifolia*, and *Taylor's Glory*.

Of the newer still there are *Heroine*, *Mrs. Potts*, *Black Best*, and *Sapphire*; and such older ones as C. J. Perry, *Clipper*, *Ellen Laocaster*, *Lord of Lorne*, almost our only red self that is procurable; *Pizarro*, *Mr. Smith*, &c. It was pleasant to renew acquaintance with *Spalding's* *Metropolitan*, an old bright purple self that can still put in a good claim to be grown.

The alpine ones are so numerous and so fine, that it is almost invidious to particularise. One notes with satisfaction that the notched segment is rapidly disappearing, and the edge of the pip is now circular and perfectly smooth. The new varieties are in some instances of large size, but of superb quality. The true white centres increase slowly, but selections of 1890 and 1891 are full of promise. Then the alpine ones grow and bloom so freely; many of the plants at Slough appear to be cultivated in absurdly small pots, but they make huge plants, and produce wonderful trusses of bloom. A dozen of the very finest varieties for exhibition will be found in *Bella Wheelwright*, cream centre; *Albion*, white centre; *Countess*, white centre—a charming shaded blue variety; *George Wheelwright*, golden centre; *Exquisite*, golden centre; *Hotspur*, extra fine, golden centre; *Lady H. Grosvenor*, cream centre; *Mungo McGeorge*, golden centre; *Miss Blagburn*, very fine, golden centre; *Magnet*, golden centre, extra fine; *Mrs. Stafford*, white centre; and *Primrose Dame*, bright pale golden centre, also very fine. *R. D.*

MARKETS.

COVENT GARDEN, April 28.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day, &c.]

TRADE IMPROVING, WITH SUPPLIES OF HOTHOUSE GOODS SHORTER. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantum, per doz. 4 0-12 0	Lilium Harrisii, 12, 18 0-30 0
Arum, per dozen ... 6 0-8 0	Lily of the Valley, pot 1 6-2 0
Aspidistra, per doz. 15 0-25 0	Marguerites, per doz. 6 0-12 0
Azalea, per doz. ... 24 0-35 0	Mignonette, doz. pots 6 0-12 0
Begonia, per doz. ... 6 0-12 0	Palms, various, each 1 0-4 0
Cinerarias, per doz. 4 0-9 0	— specimens, each 10 0-10 0
Cyclamen, per doz. 9 0-18 0	Polka-pinks, per doz. 12 0-24 0
Cyperus, per dozen 4 0-10 0	— scarlet, p. doz. 2 0-6 0
Droseras, each ... 1 0-5 0	Primula's, various, doz. 4 0-6 0
Erica, various, doz. 12 0-18 0	Roses, Fairy, p. doz. 6 0-10 0
Ferns, various, doz. 4 0-9 0	— chandel, each 12 0-18 0
— per 100 ... 8 0-15 0	Spice, per doz. ... 6 0-12 0
Fiens elastica, each 1 8-7 0	Tulips, per doz. pots 6 0-8 0
Genistas, per dozen 6 0-10 0	

Bedding plants, various, in boxes, 1s. to 3s.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples, Canadian and Nova Scotian, per barrel ... 10 0-25 0	Grapes, new, per lb. 2 8-6 0
Apples, <i>St. Elmo</i> , per barrel ... 1 0-4 0	Lemons, per case ... 8 0-14 0
Apples, Tasmanian, per case ... 7 0-14 0	— <i>St. Elmo</i> , 2 8-6 0
	— <i>St. Elmo</i> , 2 8-6 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Acacia or Mimosa, per bunch 1 6-2 0	Mignonette, 12 bu. 4 0-6 0
— French, per bunch 1 6-2 0	Marguerites, per doz. ... 3 0-4 0
Anemone, 12 bunches 1 6-3 0	— 12 sprays ... 8 0-10 0
Arum, per doz. bl. ... 2 0-4 0	Narcissus (various), per doz. ... 2 0-4 0
Azalea, p. doz. sprays 0 6-9 0	Scilly, doz. bunches 2 0-4 0
Camellias, white, doz. 2 0-3 0	Orchids:—
— red, per doz. ... 1 0-1 6	Cattleya, 12 blms. 6 0-9 0
Cardinals, per dozen 1 0-3 0	Odontoglossum, 12 blms. 2 0-6 0
Cinerarias, 12 bunches ... 6 0-9 0	— crisped, 12 blms. 2 0-6 0
Dafodils, double per dozen bun. 1 6-3 0	Pelargoniums, scarlet, per 12 bun. 4 0-6 0
— single ... 2 0-4 0	— 12 sprays ... 8 0-10 0
— various ... 6 0-8 0	Primroses, per doz. bun. 0 6-1 0
Eucharis, per dozen 3 0-6 0	Primula, sing., 12 bun. 4 0-6 0
Freemias, doz. bun. 2 0-4 0	Roses, Tea, per dozen 0 8-2 0
Gardenias, per dozen 2 0-4 0	— colored, doz. 2 0-6 0
Heliotrope, 12 sprays 0 8-9 0	— yellow (Maréchal), per doz. 1 6-4 0
Hyacinths, 12 sprays 2 0-4 0	— red, per dozen ... 2 0-4 0
— Dutch, p. box 1 0-4 0	Spiræas, 12 bunches ... 1 0-2 0
— French, bunch 0 9-1 0	Tuberose, 12 blms. 1 0-2 0
Jonquils, dozen bun. 1 0-3 0	Tulips, p. doz. bun. 4 0-9 0
Lilac white (French), per bunch ... 4 6-5 0	Violets, Parme, per bunch ... 2 0-3 0
Lilium, crist., doz. 2 6-4 0	— English, 12 bun. 1 0-1 6
Lily of the Valley, per doz. sprays ... 0 6-10 0	Wallflowers, French, per dozen bunches 2 0-4 0
Maiden Hair Fern, 12 bunches ... 6 0-8 0	

ORCHID-BLOOM in variety.

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.	s. d. s. d.
Artichokes, Globe, each ... 0 4-6 0	Lettuces, per doz. ... 1 6-2 0
Bans, French lb. 2-6 3	Mushrooms, punnet 2 0-—
Beet, red, per dozen 2 0-10 0	Mustard and Cress, per doz. ... 4 0-—
Carrots, per bunch ... 0 4-6 0	— Parsley, per bunch ... 0 3-0 6
Cauliflowers, each ... 0 3-0 6	Seakale, p. basket ... 2 0-3 0
Celery, per bundle ... 1 0-3 0	Shallots, per lb. ... 0 6-—
Cucumbers, each ... 0 9-1 3	Spinach, per bushel 3 6-—
Endive, per dozen ... 2 0-3 0	Tomatoes, per lb. ... 1 0-1 6
Grapes, new, per lb. 3 6-4 6	Turnips, per bunch ... 0 4-0 6
Herbs, per bunch ... 0 9-1 0	

POTATOES.

NEW POTATOES.—Supplies are gradually increasing in amount. Prices are fairly firm at late quotations. *5s. 6d.* Kidneys, 16s. to 18s.; small, 9s. to 12s.; *Rounds*, 12s. to 14s.; *Canary Kidneys*, 12s. to 18s.; small, 8s. to 10s.

OLD POTATOES.—Colder weather, with prospects of late sowing of the new crop, has caused a tendency to raise prices. Current stocks recently on hand have been reduced by 20 per cent. *J. B. Thomas.*

SEEDS.

LONDON, April 27.—Messrs. John Shaw & Sons, Seed Merchants, of Great Mark Lane, London, S.E., write that the meagre supplies of Clover seeds, &c., which now remain unsold, are being further rapidly reduced by a stream of retail orders coming to hand. Prices generally continue at the moderate level previously noted. For choice *Trefoil*, *Alsike*, and *White*, higher rates are asked. *Sainfoin* is as nearly as possible exhausted. *Spring Tares* move off freely on the foregoing terms now accepted. *Canary seed* keeps strong; stocks, however, surprisingly small. *Hemp seed* is firmer. For *Mustard* and *Rape seed* full values are quoted. *Scarlet Runner Beans* continue remarkably cheap.

FRUITS AND VEGETABLES.

SPITALFIELDS, April 26.—Quotations.—English Apples, 2s. 6d. to 5s. per bushel; American do., 10s. to 20s. per barrel; foreign Tomatoes, 1s. to 2s. 6d. per box; forced *Rhubarb*, 1s. 3d. to 1s. 6d.; natural do., 2s. to 3s. per dozen bunches; *Seakale*, 1s. to 1s. 6d. per punnet; *Cabbages*, 5s. to 10s.; *Cauliflowers*, 4s. to 12s. 6d. per tally; *Greens*, 3s. 6d. to 5s. 6d.; *Carrots*, 2s. to 2s. 6d.; *Spring Onions*, 6s. to 8s. per dozen bunches; *Turnip-tops*, 1s. 6d. to 2s. 6d.; *Swede-tops*, 1s. 6d. to 2s. 6d.; *Sprouting Broccoli*, 1s. 6d. to 2s. 6d. per sack; *Endive*, 1s. 6d. to 1s. 9d.; *French Cos*, 1s. 6d. to 1s. 9d.; *Brussels Sprouts*, 1s. 6d. to 1s. 9d.; *Leeks*, 3s. to 4s.; *Beetroot*, 3d. to 4d. per dozen; *Mustard and Cress*, 1s. 6d. to 2s. per dozen baskets; *English Onions*, 7s. to 7s. 6d. per cwt.; *Belgian Onions*, 5s. 6d. to 6s. 6d. per cwt.; *Carrots*, 1s. to 1s. 6d. per bag of 110 lb.; *Celery*, 4d. to 1s.; *Horseradish*, 1s. to 1s. 1d. per bundle.

BOROUGH, April 26.—Quotations.—*Broccoli*, 7s. 6d. to 12s. 6d. per tally; *Sprouting do.*, 1s. 6d. to 2s.; *Turnip-tops*, 1s. 6d. to 2s. per bag; *Spinach*, 3s. 6d. to 4s. 6d. per bushel; *Greens*, 2s. to 2s. 6d.; *Carrots*, 1s. to 1s. 6d.; *Spring Onions*, 4s. per dozen bunches; *Egyptian do.*, 7s. per cwt.; *Apples*, 2s. 6d. to 5s. per bushel; *Canadian do.*, 12s. to 20s.; *Newtown Pippins*, 12s. to 20s. per barrel.

STRAITFORD, April 26.—The supply at this market during the past week has been so good, that a brisk trade was done at the undermentioned quotations:—*Cabbages*, 4s. to 5s. per tally; *Greens*, 3s. to 4s. per bag; *Cauliflowers*, 3s. to 3s. 6d. per dozen; *ditto*, 11s. to 16s. per tally; *Broccoli*, 2s. to 3s. per sieve; *ditto*, 3s. 6d. to 4s. 6d. per bag; *Cucumbers*, 3s. to 4s. per dozen; *Horseradish*, 1s. to 1s. 6d. per bundle; *Carrots*, household, 2s. 6d. to 3s. per punnet; *ditto*, cutting, 2s. 6d. to 3s. 6d.; *Mangels*, 17s. to 20s. *ditto*; *Swedes*, 20s. to 25s. *d.*; *Onions*, 5s. 6d. to 7s. per dozen bunches; *Egyptian*, 140s. to 160s. per ton; *Dutch*, 4s. 6d. to 5s. 6d. per bag; *Lisbon*, 6s. to 8s. 6d. per case; *Apples*, English, 3s. to 5s. 6d. per bushel; *American*, 15s. to 20s. per barrel.

CORN.

Averages.—Official statement of the average prices of corn, Imperial measure, for the week ending April 23, and for the corresponding period last year:—1892: Wheat, 30s. 8d.; Barley, 25s. 11d.; Oats, 20s. 7d. 1891: Wheat, 40s. 1d.; Barley, 27s. 11d.; Oats, 20s. 6d.

POTATOS.

BOROUGH: April 27.—Quotations:—Bruce Magnums, 80s. to 90s.; Dunbar do., 80s. to 90s.; Fenland do., 50s. to 55s. per ton.

SPIRALFIELDS: April 26.—Quotations:—Magnums, 50s. to 70s.; Imperators, 45s. to 55s.; Bruce Magnums, 55s. to 70s.; Main Crop, 65s. to 85s.; Snowdrops, 80s. to 70s.; Sutton's Abundance, 60s. to 70s. per ton.

STRATFORD: April 28.—Quotations:—Magnums, 52s. to 70s.; Imperators, 70s. to 90s.; Hebrons, 60s. to 85s.; Bruce Magnums, 60s. to 70s.; Scotch Maincrop, 70s. to 110s.; do., Magnums, 65s. to 85s. per ton.

THE WEATHER.

(By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.)

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.		
	Above (+) or below (—) the Mean for the week ending April 23.	ACCUMULATED.				More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 1, 1892.	Total Fall since Jan. 1, 1892.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 1, 1892.
		Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 1, 1892.	Below 42° difference from Mean Jan. 1, 1892.					
0	3	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Ineh.				
1	1	20	31	+	14	+ 197	3	74	12.4	38
2	1	39	21	—	9	+ 217	4	53	5.8	59
3	1	36	15	—	11	+ 176	3	57	4.7	45
4	2	45	18	—	23	+ 197	2	57	4.8	42
5	2	47	20	+	11	+ 223	2	50	4.8	41
6	2	42	13	—	17	+ 122	2	42	4.3	38
7	2	33	16	—	7	+ 181	1	56	8.7	41
8	2	34	15	—	10	+ 169	aver	56	7.2	46
9	3	36	14	+	13	+ 104	1	55	7.3	45
10	3	36	14	+	11	+ 120	1	59	6.8	34
	2	44	10	—	28	+ 127	4	53	8.1	40
* 3	—	32	2	—	16	+ 43	1	62	8.5	37

The districts indicated by number in the first column are the following:

Principal Wheat-producing Districts:—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S. Principal Grazing, &c., Districts:—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending April 23, is furnished from the Meteorological Office:—

"The weather continued cold and changeable, with showers of snow or sleet during the earlier part of the period, but gradually improved as the week progressed, and finally became fine, warm, and dry generally, although showers of rain were experienced in the extreme north and north-west.

"The temperature was below the mean in all districts, the deficiency ranging from 1° to 3°. The highest of the maxima were recorded on the 22nd, when the thermometer rose to 70° in 'England, E.' to 69° in 'England, S.' and to about 64° in several other English districts, and in 'Ireland, S.' In 'Scotland, N.' and the 'Channel Islands,' however, the maximum was no higher than 57°. The lowest of the minima were registered during the earlier days of the week, and ranged from 12° to 19° in Scotland, 20° to 22° in Ireland, and 20° to 27° in England. In the Channel Islands the thermometer did not fall below 31°.

"The rainfall was rather more than the mean in 'Scotland, N.' and 'England, S.W.' and equal to it in 'England, N.W.' In all other districts, however, there was again a deficit.

"The bright sunshine, though very considerable, was not so prevalent generally as during the few preceding weeks; it still exceeded the mean value, however, in nearly all districts. The percentage of the possible amount of duration ranged from 59 in 'Scotland, E.' to 38 in 'England, S.' and 'Scotland, N.' 37 in the 'Channel Islands,' and 34 in 'Ireland, N.'"

NOTICES TO CORRESPONDENTS.

ASPARAGUS MANURE: *G. H.* The most lasting and best manure for this plant is that which contains much nitrogenous matter, and is already decomposed when applied, or one that will soon become in that condition after it has been dug into the land, such as nightsoil, stable manure, animal remains, &c. Part of this nitrogen passes into ammonia, or a nitrate of some kind. Therefore, if you would use an artificial manure, it should be either ammoniac sulphate, potassic nitrate, or sodic nitrate, as all of these contain nitrogen amongst their constituents. The French growers use a little sea salt, plaster, marl, and lime rubbish if the soil is deficient in these ingredients.

BOOKS: *B. C. The Handy Book of the Flower Garden*, by D. Thomson (Blackwood & Sons, Edinburgh and London). Fourth edition, price 5s.—*C. C.* We know of no books that would afford you the analyses you seek.

CATTLEYA INTERMEDIA: *J. D. & Sons.* Many thanks. The appearances are due to the union of three flowers, "synanth.".

CHRYSANTHEMUMS GNAWED BY INSECTS: *R. M., Paisley.* The injury has been caused by weevils, which work at night, when you are least likely to observe them. We have frequently explained how they should be caught.

CORRECTION.—See *Gardeners' Chronicle*, p. 523, in eighth line from bottom, in col. c, for *Dendrobium Phalenopsis Schillerianum* read *D. P. Schroderianum*, *D.*

CUCUMBER: *W. F. S.* There is no trace of eelworms on the roots sent; but, the soil can scarcely be called a healthy medium for the roots of any kind of plant, consisting as it does mainly of partially decayed vegetable matters, and therefore liable to breed under-ground fungus, detrimental to plants. We should advise you not to use any more of it until it is laid some years longer, and then only after aeration, by turning it over in heaps frequently, and exposing it a year or more to sun and air. It should be passed through a fine sieve before making use of it.

CUCUMBER FLOWERS: *W. H. I.* The hairs on the flower are greatly dilated at the base. We will endeavour to give you a fuller answer next week.

EUPHORBIA JACQUINIFLORA: *J. Gray.* Take your cuttings from the young shoots about 3 inches long, and put them in small pots (three or four in a pot) in a warm propagating-frame, and keep them close until rooted. Do not take cuttings until the end of May or beginning of June. *Desmodium gyrans*, apply to Mr. Wm. Bull, Chelsea.

HORTICULTURAL VALUER: *W. S.* We should suppose it to be a business to be learned in the old-fashioned way—that is, by being apprenticed to it. We know of no book giving the information required. Enquire of Mr. L. Upcott Gill, 170, Strand, London, W.C.

INSECTS: *T. T., Ladbroke.* Your Gooseberry bushes were so shrivelled up by dryness that we found no red-spiders, but we met with two minute black Nitidulids, crawling about, which feed on young bloom-buds.—*E. M.* Your young Larch trees are attacked by the Aphidium, *Chermes Laricis*, which has distorted the growth of the young buds, and caused an unnatural growth—water well with soap-suds and tar-water. We found no insects.—*W. M., Oakwood.* Your bulbs of *Dendrobium Phalenopsis* bought at an auction, are attacked by a very minute Tomioid-like beetle new to us. Please send some more specimens to Professor Westwood, Oxford. *I. O. W.*

LAWN WEED: *Anxious Enquirer.* What you send is a field Rush, *Luzula campestris*. It is an indication that your soil is poor. A good dressing of manure with a little sulphate of ammonia added would encourage the Grass at the expense of the weeds.

NAMES OF PLANTS: *Gardener.* 1, *Mercurialis perennis*; 2, *Erysimum Alliaria*; 3, *Lamium purpureum*.—The sender of three plants, whose address is mislaid. 1, *Ornithogalum caudatum*; 2, *O. umbellatum*; 3, *Fritillaria contorta*.—*Japonica.* 1, *Retinospora plumosa aurea*; 2, *Thunia nutkanensis*; 3, *Retinospora pisifera*; 4, *Juniperus communis*; 5, *Ephedra alba*; 6, *Thunia plicata*; 7, *Phyllirea angustifolia*; 8, *Salix caprea*; 9, *Myrdalis solida*.—*Boston.* *Tacsonia manicata* (igneae of

gardens).—*B. H.* *Bifrenaria* (Lycaste) *Harrisonia*.—*J. B.* *Oncidium maculata*.—*L. A. W.* *Veltheimia glauca*: we cannot name varieties of *Colera*.—*J. C.* *Dendrobium chrysotoxum*. *Hurst & Son.* *Cypripedium Boxalli*, *Narcissus mont.* *Dendrobium chrysotoxum*, *Lastraea acra*.—*E. D. L.* 1, *Salix repens*; 2, *Olearia dentata*; 3, *Cestrum* (*Habrothamnus*) *Newelli*; 4, *Malva miniata*; 5, *Begonia foliosa*; 6, *Gemeria elongata*: it is not right of you to expect us to name plants without sending flowers.—*L. J. A.* 1, *Veronica chamadrya*; 2, *Ranunculus repens*; 3, *Sherardia arvensis*; 4, *Adoxa moschatellina*; 5, *Potentilla tomentella*.—*T. R.* *Aristolochia scaccata*.

PARIS INTERNATIONAL HORTICULTURAL CONGRESS OF 1889: *A. Chevalier.* No report of the congress was given in these columns.

PLANTING FRUIT FOR MARKET: *Spes.* If we give an answer to your third question, you will then obtain a better reply than we can possibly give you in the limits of our space. The best manuals on the subject are *Fruit Farming for Profit*, by G. Bunyard, Maidstone, and *Fruit Culture*, by J. Cheal (G. Bell & Sons, York Street, Covent Garden). The latter costs 2s. 6d., the other, we believe, is cheaper.

THE WEATHER PLANT: *Acrostis.* This bubble has burst sometime since, and it would be waste of time to go into the matter again. The name of the plant is *Abrus precatorius*. You will find an illustration of a like phenomenon in the Rain Tree, figured at p. 557; but no one has, as yet, been silly enough to suppose that it can be used to foretell the weather days in advance, or to write an acrostic about it.

VINE DISEASE: *A. G.* Your Vines are evidently attacked by a Sphaeria-like fungus, on which we will report later on.—*G. W. D.* Your Vine leaves are affected with the common Vine mildew. Dust them freely with sulphur, and use sulphur on the hot-water pipes, and mixed with water, and placed in saucers under the Vines.

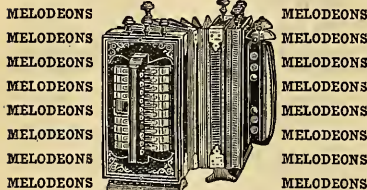
VINE IN COOL-HOUSE: *Non-bearing.* The cool-house that the Vine is in should enable you to gather fruit in October. We are supposing that the Vine has been pruned already on either the close pruned single stem or stems, or the long rod methods, and is established; but, if the Vine is not pruned, you must disbud the shoots instead, for this season. When the bunches show, reserve one on a shoot, and by preference that nearest to the old wood, or in the case of long rods, that which is nearest last year's wood. Twenty bunches would be an ample crop. Pinch out the point of the shoot one leaf or joint beyond the bunch, or if there is ample space for leaf growth two joints beyond it, rubbing off all shoots not wanted for filling the space or for fruiting next season. If the rods are not likely to break well, unfasten them, and bend the uppermost point of each stem till it is as low down as the lowest bud on the stem, and so keep it till all have fairly broken. Keep the vinery moist, syringing the Vines morning and afternoon; the temperature being kept at about 50° to 55° by day; the night temperature must take care of itself in some measure, but if it can be held at 45° for a fortnight by means of covering on the roof, the checking of growth by cold will be avoided. You had better buy a manual on Grape growing—a good one by E. Moyleux is sold for 1s. by L. Upcott Gill, 170, Strand, W.C.

VINE LEAVES AND SHOOTS: *C. E. S.* No fungus; the white appearance is the unusually vigorous growth of the tomentum; and we believe that it is wholly connected with the cultivation of the Vines, of which fuller particulars would be of interest.

VINES: *C. E. S.* Good strong canes may carry twenty to twenty-five bunches, but they must be assisted with manure during the season; that which you mention in your note will be safe and efficient if you dilute it with three times its bulk of water—and the drainage is good. Unless the foliage is strong, thick, and plentiful, and the young shoots vigorous, one dozen bunches per rod would be a safer maximum for this season.—*E. D.* The leaves sent are greatly injured by red-spider, and were in consequence so thin that they were readily injured by strong sunlight and heat.

COMMUNICATIONS RECEIVED.—I. W. W. T.—Leigolter Gardeners Verein.—C. H. B.—L. Pafford Oliver—Mungo Temple.—G. P.—J. O'B.—G. B.—D. T.—F.—J. B. W.—R. A. R.—N. E. Brown.—W. A. C.—A. P.—A.—D.—J. L.—W. E. B.—J. S.—W. H.—W. W.—Bernard Cowan, J. Rust.—W. K.—F. W.—J. B.—J. E.—W. W. Good.

CHEERFUL WINTER EVENINGS.

CAMPBELL'S BROAD REED MELODEONS
(Patent). GRAND NEW MODELS.

NO HOME SHOULD BE WITHOUT ONE. CAMPBELL'S world-famed MELODEONS have Organ and Celestial tone and Charming Bell Accompaniments. The Solemn Psalm, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming Instruments. No knowledge of Music is required by the Player.

GOOD NEWS! CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER. To readers of the *Gardeners' Chronicle*. OUR GRAND PRIZE MEDAL "GEM" MELODEON. 6s. 6d. With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 6s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER. To readers of the *Gardeners' Chronicle*. OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON. 10s. With Two Sets of Broad Reeds, Organ and Celestial Tone, and the Charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS. Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales:—"Campbell's Patent Melodeons are the finest instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready. 100,000 of those valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS, 116, TRONGATE, GLASGOW. ESTABLISHED 60 YEARS.

STOCK	SIZES
Inches.	Inches.
14x12	20x15
16x12	20x16
18x12	22x16
18x12	24x16
18x14	20x18
18x14	22x18
20x14	24x18

21-in. and 15-in. Foreign, of above sizes, in boxes of 100 feet and 200 feet super. English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINED OIL PUTTY." GEORGE FARMILOE & SONS, LEAD, GLASS, OIL, and COLOUR MERCHANTS, 34, St. John Street, West Smithfield, London, E.C. Stock Lists and Prices on application. Please quote *Chronicle*

GREENHOUSES FOR THE MILLION. Cheapest Depot for any kind of Glass Erections in the Country. Note the following:—100 feet by 20 feet, £100; 100 feet by 12 feet, £50; 60 feet by 12 feet, £30; 30 feet by 10 feet, £20. Several excellent second-hand Houses marvelously Cheap. Hawkins' "Perfection" System of Glazing is the best, and defies competition. Estimates Free. Do not buy without first having price from HAWKINS, Horticultural Builder, Ashford, Middlesex. Established 1871.

CARSON'S PAINT

Patronised by 30,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c. 1 Cwt., and Oil Mixtures, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W. 15, VICTORIA STREET, WESTMINSTER, S.W. 1, and BAILEY'S WALK, DUBLIN.—Discount for Cash.

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent Carriage Paid to any Station in England, on receipt of P.O. for 5s. Extract from 18th Annual Collection of Reports:—"NATIVE GUANO, from POTATOS, VEGETABLES, &c. H. BRINKWORTH, Potato Grower, Reading, used for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Stillingbourne:—"Used for Potatoes, Celery, and other Market Garden Crops, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, for FRUIT, ROSES, TOMATOS, &c. J. FEEB & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. FINCH, Orrell Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market." Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

If you try It Now You will Order later on. The Gardens, Chatsworth, January 14, 1891. "I have tried your Manure on soft-wooded plants, and am much pleased with it. It may be used with perfect safety by the most inexperienced. (Signed), O. THOMAS, Gardener to the Duke of Devonshire. Mr. O. Thomas has, also, expressing this opinion, been appointed Head Gardener at Windsor to Her Majesty the Queen. Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ½ ton; £7 per ton.

THE PATENT SILICATE MANURE CO., THE CHEMICAL WORKS, HEMEL HEMPSTEAD, HERTS.

BENTLEY'S—BENTLEY'S

WEED DESTROYER Has paved the way for many imitators, but maintains its position of superiority, and acknowledges no equal. Has the largest sale, and the confidence of the leading gardeners. 3 gallons, 5s. 6d.; 6 gallons, 10s.; 12 gallons, 18s.; 18 gallons, 27s. 6d.; 40 gallons, 5s. Carriage paid.

SOLE INVENTOR—JOSEPH BENTLEY, CHEMICAL WORKS, BARROW-ON-HUMBER, HULL.

For all INSECT PESTS in Greenhouses and Frames, nothing has proved equal to the

LETHORION (VAPOUR CONE), (PATENT).



They are now universally admitted to be thoroughly uniform in strength, and safe for any Plant or Flower, even if four times the quantity are used.

Scale and Mealy Bug may be completely eradicated by using the Cones double strength.

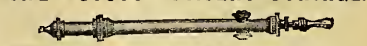
PRICES.—For Frames, &c., of 50 cubic feet, 8d.; 100 ft., 9d.; 500 feet, 1s.; 1,000 feet, 1s. 6d.; 4,000 feet, 5s. each. THE HOUSES SHOULD BE WELL SECURED.

CORRY & CO., Ltd., 16, Finsbury Street, LONDON, E.C.

SLUGICIDE (REGISTERED).—Certain death to Slugs, fertilises the soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners ever invented. 1s. 6d. per box, of all Seedsmen. Trade terms. "THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

THE "STOTT" PATENT SYRINGE.



With Patent "Sprayer" and Insecticide Chamber attached. 21s. complete.

THE "STOTT" PATENT SPRAYER.



GIVING A MIST-LIKE SPRAY. CANNOT CHOKE. 4s. to 5s. complete.

INSECTICIDE 'KILLMRIGHT.'

CERTAIN PREVENTIVE OF MILDEN. DEATH TO CATERPILLARS, and all INSECT PESTS on Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and other Plants. NON-POISONOUS. 2-lb. Tins, 1s. 9d.; 14-lb. Tins, 9s.; 56-lb. Kegs, 34s.

FERTILIZER 'FEEDMRIGHT.'

Most Invaluable for Roses, Chrysanthemums, Greenhouse, & Stove Plants 2-lb. Tins, 1s.; 14-lb. Bags, 6d.; 56-lb. Bags, 15s. PRICE LISTS and TESTIMONIALS on Application. 2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE AND RETAIL FROM THE "STOTT" FERTILIZER & INSECTICIDE Distributor Co., Ltd., MANCHESTER. Retail from all Ironmongers, Seedsmen, &c.



FOR DESTROYING WEEDS, MOSS, &c. ON CARRIAGE DRIVES, GARDEN WALKS, ROADS, STABLE-YARDS, WALLS, STONWORK, &c.

Saves more than twice its cost in Labour. No Smell. One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. Head, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every confidence in recommending it."

Mr. R. B. Ingham, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy." Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included); in 5-gallon Tins, 1s. 6d. per gallon. 10, 15, and 20 gallons, 1s. 4d. per gallon. Special quotation for larger quantities. Carriage paid on 10 gals. and upwards.

Used in the proportion of one gallon to twenty-five gallons of water.

THE ACME SUMMER SHADING, White and Green.

For SHADING GREENHOUSES, CONSERVATORIES, &c. Does not wash off with the rain. Can be used WARM or COLD. 1 lb. makes 1 gill. In Tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 6d.

For particulars of ANTI-GRIP POWDER for Tomato Disease, Mould and Mildew on Roses, Vines, &c.; KENTISH PLANT MANURE, SOLUBLE MANURE, ZINC LABELS, NEW METALLIC INK, &c., apply to the Sole Proprietors and Manufacturers,

THE "ACME" CHEMICAL CO., Limtd., Tunbridge, Kent; and Carlton Street, Bolton, Lancashire.

RELIANCE FERTILISER.

A highly concentrated Plant Food, cleanly to use, for Greenhouse and Garden. The least possible waste, and most efficient. 7 lb., 1s. 9d.; 14 lb., 3s.; 28 lb., 5s. 6d.; 56 lb., 10s.; 112 lb., 18s.; and—

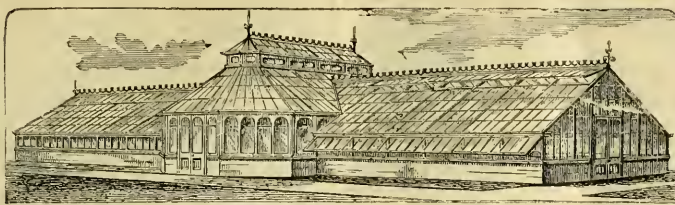
NITROLAINE.

A cheap and excellent "all-round" manure for Fruit, Flowers, Vegetables, Grass. A genuine Plant Food, rich and lasting. 56 lb., 3s.; 1 cwt., 5s. 6d.; 5 cwt., 25s.; 20 lbs. of Manures carriage paid to any railway station 100 miles or on C.P. & Co.'s rounds. Guano, Nitrate, Ammonia, Phosphates, Bone Manures, &c.

LEAF-MOULD, PEAT MOULD, FIBROUS LOAM, and POTTING COMPOST 3s. per 4 bushel sack; 1s. per bushel. Best Brown Peat, 5s. per sack; 1s. 6d. per bushel. Cocoa-nut Fibre, 1s. 8d. per sack; 5 for 6s. Silver Sand (coarse or fine), 1s. 6d. per bushel. Charcoal (nuts or fire), 2s. per bushel.

Price Lists free. The Trade supplied on liberal terms. "PLANT FOODS and HOW TO APPLY THEM," a Descriptive List, with Directions for Use, post-free, 1d. HORTICULTURAL SUPPLY CO., Old Shot Tower Wharf, London, S.E.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that the VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Saashes, Hotbed Boxes, &c., always in stock.

Plans, Estimates and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

WORKS FOR THE POSSESSORS OF GARDENS.

MRS. LOUDON'S LADIES' COMPANION TO THE FLOWER GARDEN. A Guide to the Management and Adornment of Gardens of every size. A New Edition. Fcap. cloth, price 7s.

HIGH-CLASS KITCHEN GARDENING. A Handy Manual for the Improved Cultivation of all Vegetables. By WILLIAM EARLEY, Author of "How to Grow Mushrooms," "How to Grow Asparagus," &c., &c. Crown 8vo, with Coloured Frontispiece, price 4s. 6d.

HOW TO GROW MUSHROOMS. By WILLIAM EARLEY. Price 1s. stitched.

THE ART OF GROWING ROSES OUT-OF-DOORS. By Rev. O. FISHER. Fourth Edition, revised and enlarged. Price 1s.

HOW TO GROW ASPARAGUS. A popular Explanation of the best Method of Culture. By WILLIAM EARLEY. Price 1s. stitched.

LINDLEY'S SCHOOL BOTANY. A Complete Manual of Rudimentary Botany for Students &c. With 400 Illustrations 8vo, cloth, price 5s. 6d.

BOTANY FOR BEGINNERS. An Introduction to the Study of Plants. By MAXWELL T. MASTERS, M.D., F.R.S., late Lecturer on Botany at St. George's Hospital. With upwards of 100 Illustrations. Price 3s. 6d.

London: BRADBURY, AGNEW, & CO. (Limited), Bouverie Street, E.C.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 1s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack; 5 for 18s.; and 3s. per sack; 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

RICHARDS' NOTED ORCHID PEATS,

Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco-Paper, Insecticide, Weed-Killer, and all Garden Sundries, at the Shortest Notice. Special Railway Rates to all parts. The Horticultural Stores, 1, Belvedere Crescent Lambeth, London, S.E. Chief Peat Depot and Grounds—Ringwood, Hants. Samples and Price List post-free.

EPPS'S PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do, Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only, Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter. The Original Peat Depot, RINGWOOD, HANTS.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., ironbar across and very strong, 4s. 6d. each, 50s. doz., £10 for 5) lights, free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 ft. by 12 ft. house, lights, door, &c. Put on rail in London. Low price. Send for detailed specification, to

W. DUNCAN TUCKER,
HORTICULTURAL WORKS, TOTTENHAM.

THE DOUBLE-POINTED NAIL.

The best Fence Nail ever used. This Nail renders any wooden fence perfectly undimble. It is a complete protection against trespassers and cats. In use at Hurst Park and Hull Racecourse, Lord's Cricket-ground, and hundreds of other places.

A—HAMMER HEAD. B—CHISEL EDGE.
Price of Fence Nails in Malleable Iron—1½, 2, 2½, 3, 4, 5, and 6-in. 7-lb. Bags, 3s. 6d.; per cwt., 5s. 1½-in. Steel Nails, for thin palings, 1s. per gross. MACHINE-CUT NAILS, for dwelling joinery, wood block flooring, &c., ¾, 1, & 1½-in.; 1d. per gross. Sample boxes, assorted sizes, 6d.; by post, 5s. CAPPING for BRICK WALLS, complete, from 3½d. per foot, in 6 feet lengths.

DURRAN'S PATENT NAIL SYNDICATE, Limited, 43 & 44, UPPER BAKER STREET, LONDON, N.W.

POOLEY'S WORM DESTROYER.—For

eradicating every kind of Worm from the roots of large Specimen Plants, Pots, Lawns, &c. It is easily and cheaply applied, and will not harm the most delicate Plant. In Bottles, 1s., 2s. 6d., 7s., and 12s. 6d. each. CORRY and CO., Ltd., 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

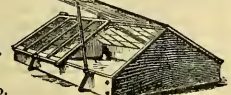
WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.
GARDEN FRAMES in great VARIETY.



No. 60.
PORTABLE PLANT
PRESERVER.
CASH PRICES.
CARRIAGE PAID.

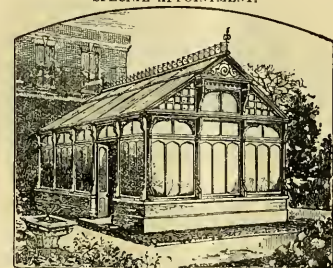
6 ft. by 3 ft. ... £2 0 0 | 6 ft. by 4 ft. ... £2 5 0
12 ft. by 3 ft. ... 3 2 0 | 12 ft. by 4 ft. ... 3 15 0

No. 73.
NEW SPAN-ROOF
GARDEN FRAME.



CASH PRICES.
CARRIAGE PAID.
4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 14 0
8 ft. by 6 ft. ... 4 4 0 | 16 ft. by 6 ft. ... 7 4 0
All Frames made of Selected Red Deal, painted three times, and Lights glazed with 21-oz. sheet glass.
Carriage paid on Orders of 40s. value.

Surveys made in any part of the Country.
LADIES AND GENTLEMEN WAITED UPON BY
SPECIAL APPOINTMENT.

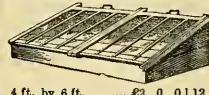


BOILERS of ALL MAKES and SIZES.

GARDEN FRAMES in great VARIETY.

No. 74.
THREE-QUARTER
SPAN
GARDEN FRAME.
CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 | 12 ft. by 6 ft. ... £5 17 0
8 ft. by 6 ft. ... 4 5 6 | 16 ft. by 6 ft. ... 7 8 6



No. 75.
MELON AND
CUCUMBER FRAME.
CASH PRICES.
CARRIAGE PAID.

4 ft. by 6 ft. ... £2 0 0 | 12 ft. by 6 ft. ... £4 3 0
8 ft. by 6 ft. ... 3 0 0 | 16 ft. by 6 ft. ... 5 6 0

CUCUMBER-FRAME LIGHTS.

6 feet by 4 feet, painted and glazed ... 13s. 0d. each.
6 feet by 4 feet, unpainted and unglazed ... 5s. 6d. each.
Catalogues of all our Manufactures, post-free on application.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 "	" 0 3 6	16 "	" 0 9 0
6 "	" 0 4 0	17 "	" 0 9 6
7 "	" 0 4 6	18 "	" 0 10 0
8 "	" 0 5 0	19 "	" 0 10 6
9 "	" 0 5 6	20 "	" 0 11 0
10 "	" 0 6 0	21 "	" 0 11 6
11 "	" 0 6 6	22 "	" 0 12 0
12 "	" 0 7 0	23 "	" 0 12 6
13 "	" 0 7 6	24 "	" 0 13 0
14 "	" 0 8 0	25 "	" 0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.

If set across three Columns the lowest charge will be 30s.

Page, 2s; Half Page, 4s 10s.; Column, 2s.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months; Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN TREE GUARD, "The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire,

"Dec. 24, 1887.

"DEAR SIR,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 50 more as before. I enclose cheque for your account.

Yours truly,
RICH'D. GREEN.
Messrs. Hill & Smith.

FAWKES' SLOW-COMBUSTION HEATING APPARATUS.

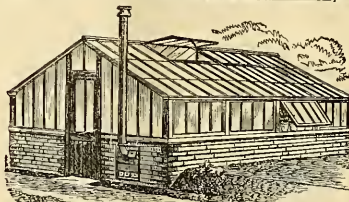
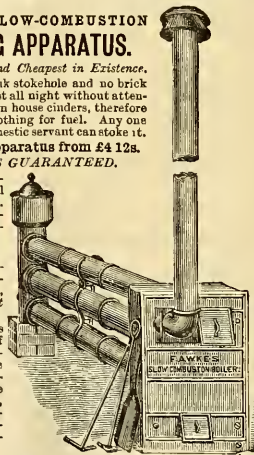
Most Efficient and Cheapest in Existence.
Requires no sunk stockhole and no brick setting. Will last all night without attention. Will burn house cinders, therefore costs next to nothing for fuel. Any one can fix it. A domestic servant can stoke it.

Complete Apparatus from £4 12s.
SUCCESS GUARANTEED.

Enormous numbers in use all over the country. Only slow combustion Apparatus of the kind.

CAUTION.
Beware of inefficient incomplete Apparatus, which will not last all night.

Full particulars and Prices of every sized Apparatus, and see numerous Testimonials for the last five seasons, showing enormous success, post-free on application.



BEST CONSTRUCTED AND CHEAPEST

Greenhouses, Forcing-houses, Pits, Frames, Plant Protectors, Potting Sheds, Tool-houses, &c.

Illustrated Priced Catalogue post-free from

CROMPTON & FAWKES,
CHELMSFORD.

GARDEN REQUISITES, as supplied to the Royal Gardens.—COCOA-NUT FIBRE REFUSE, 1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton sack, 30s., free on rail near works. FINE ORCHID PEAT, 6s. 6d. per sack. BROWN FIBROUS do. 5s. per sack, 5 for 22s. 6d. BLACK do. 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. COARSE SILVER SAND, 1s. 6d. per bushel, 14s. 10s. 25s. per ton. CHARCOAL, 8s. per sack. SPHAGNUM, 7s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 10s. 6d. to 19s. per dozen. RAFFIA, VIRGIN CORN, STAKES, &c. BONES, 4-inch, 11s. per cwt. Pure BONE DUST, 11s. 6d. TOBACCO-PAPER, Special, 10d. per lb., 28 lb. for 21s. CLOTH, 1s. per lb., 28 lb. for 28s. Price List, free. W. HERBERT and CO.,
Hog Exchange Warehouses, Southwark Street, London, S.E.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blights, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-tree trunks, in lather from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of—WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

HORTICULTURAL SHADINGS and NETTINGS, TIFFANY, COTTON WOOLS, and WADDINGS. Supplied Wholesale by—JOSEPH COOKSON, 21, New Cannon Street, Manchester.

TO HORTICULTURISTS.—GREENHOUSE GAS COKE and SMITH'S COKE delivered in Trucks loaded to any Station in England and Wales.—Address, G. J. EVISON, 26, Corporation Street, Birmingham.

EXTRA STOUT strong-tanned NET, 2 yards wide, 1 1/2 yd. yard; 4 yards wide, 3d. yard; or 2 yards wide, 10s. per 100; 4 yards wide, 20s. per 100 yards. NEW TWINE NETTING, 1 yard wide, 1 1/2 yd. yard; 2 yards wide, 3d. yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. COTTON NET, nine meshes to square inch, 1 1/2 yards wide, 7d. yard run. W. CULLINGFORD, 24, Eastern Road, Plaistow, E.

SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 8s. Stamp size, 24 for 1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—FRANCIS and CO., 29, Ludgate Hill, London.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Store and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER and CO., Farnborough, Hants.

BOOKS ON ROSES, by WM. PAUL, F.L.S. THE ROSE GARDEN, 9th edition, 4to, 350 pages, fifteen coloured plates, numerous engravings, 17s. 6d. net; the same, 8vo, without plates, 8s. 6d. net. ROSES IN POTS, 7th edition, illustrated, post-free, 2s. ROSES and ROSE CULTURE, 6th edition, illustrated, post-free, 1s. The Journal of Horticulture, says: "The best Works on Roses are those by Mr. Wm. Paul."

WM. PAUL and SON, Nurseries, Welham Cross, Herts.

This Day is Published
THE HORTICULTURAL EXHIBITORS' HANDBOOK.

A Treatise on Cultivating, Exhibiting, and Judging Plants, Flowers, Fruits, and Vegetables. By W. WILLIAMSON, Gardener; Revised by MAXIM DUNN, Gardener to His Grace the Duke of Buccleuch and Queensberry, Dalkeith Park, Crown St., 2s. 6d.

WILLIAM BLACKWOOD and SONS, Edinburgh & London

AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

AMERICAN GARDENING,

WHICH INCLUDES:—

THE AMERICAN GARDEN .....	...
THE GARDENERS' MONTHLY and HORTICULTURIST .....	...
THE FLORAL CABINET .....	...
POPULAR GARDENING .....	...

United
in
ONE.

Making the Largest, Best, Oldest, Liveable, Handsomest Gardening Magazine in America.

THE LEADING AMERICAN JOURNAL FOR HORTICULTURAL ADVERTISEMENTS.

Subscription Price for England and Countries in the Universal Postal Union, 6s. Subscriptions must commence from Jan. 1.

E. H. LIBBY, Publisher, Times Building, New York, U.S.A.

Agents for Great Britain and Ireland:—

STEEL and JONES, 4, Spring Gardens, Charing Cross, London, S.W., to whom Orders for Advertisements and Subscriptions may be sent. A Specimen Copy post-free for 10d. (stamps).

BOILING WATER OR MILK.
E P P S'S
GRATEFUL-COMFORTING.
C O C O A
BREAKFAST-SUPPER.

AMERICAN FLORIST CO.,
CHICAGO, U.S.A.

LIFE ASSURANCE AT COST
ABOUT HALF THE USUAL RATES.

MUTUAL RESERVE FUND
LIFE ASSOCIATION
OF NEW YORK.

E. B. HARPER, PRESIDENT.
PURELY MUTUAL.
ABSOLUTE SECURITY. STRICT ECONOMY.
 The most successful Life Assurance Company in the World.
 Total amount of Insurance in force, 1891 ... £24,190,535
 New Business, 1891 ... £10,270,968
 New Business accepted, 1891 ... £9,100,403
 Total Death Claims paid ... £2,484,065
 Saving to Members by its System, about ... £6,000,000
 Chief Office for Great Britain :
90, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

THE RAILWAY PASSENGERS'
ASSURANCE CO.

Pay over £2,700 weekly
 as **COMPENSATION** for
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN, }

THE
AMERICAN FLORIST CO.'S
DIRECTORY

OF
FLORISTS,
NURSERYMEN,
and SEEDSMEN
of the
UNITED STATES and CANADA
for 1892,
IS NOW READY,
Price 8s., post-paid.

REMIT BY INTERNATIONAL MONEY ORDER, PAYABLE TO
G. L. GRANT, Secretary,
Belgian.

BULLETIN d'ARBORICULTURE,
de FLORICULTURE, et de CULTURE MARAICHERE. A monthly horticultural work, with superb Coloured Plates and Illustrations. Published since 1865 by F. BURVENICH, F. PAYMART, E. RODIGAS, and H. J. VAN HULLE, Professors at the Horticultural School of the Belgian Government at Ghent. Post-paid, 10s. per annum.
H. J. VAN HULLE, Botanical Gardens, Ghent, Belgium.

CATALOGUES RECEIVED.

WILFRED A. BROTHERTON, Rochester, U.S.A., Michigan—Wild Flowers, price list.
ELLWANGER & BARRY, Mount Hope Nurseries, Rochester, N.Y.—General Catalogue.
JONKINDT, CONING & VAN DER ELST, W. CLIBRAN & SON, Altricham, Cheshire, and elsewhere—Greenhouse and Stove Plants, Ferns, Alpines, Heriaceous, &c.
WM. PAUL & SONS, Waltham Cross Nurseries, Herts—Roses, Dahlias, and Florist's Flowers.
THE YOKOHAMA GARDENERS' ASSOCIATION—Several novelties are offered.
OSCAR TUFENTHAL, Wandsbeck, Germany—Lilies, Greenhouse, Stove and Hardy Plants.

"One of the most winning and delightful, as well as the most accurate and scientific of teachers."—*N. Y. Tribune.*

Garden & Forest

1892—Fifth Year.

Is acknowledged throughout the world to be the leading American authority in the field of Horticulture, Landscape Art, and Forestry. Its contents are original throughout, of the highest literary character, and its writers are the foremost European and American authorities. It is invaluable to the Owners of Country and Suburban Homes, Landscape Gardeners, Botanists, Horticulturists, Lovers of Nature, and to all who would cultivate a correct taste in matters pertaining to the disposition and management of gardens and grounds, whether public or private. The illustrations are original and artistic.

Permeated with a spirit of knowledge and refinement.—*Gardeners' Chronicle, London.*

The foremost journal of its class, keeping in touch with every advance in the scientific, artistic, and practical phases of horticulture and arboriculture.—*Boston Herald.*

Holds one of the very first places in periodical horticultural literature.—*Revue Horticole, Paris, France.*

Its arrival is the coming of a wise and intelligent and entertaining friend, who enables us to live more happily because more harmoniously with Nature.—*Harper's Weekly.*

Its character is at once dignified and pleasing, and its contents are scholarly and scientific in the exact sense.—*Chicago Evening Journal.*

No new book on horticulture can for a moment be compared in value to the bound volume of *Garden and Forest*. It is a compendium of new information.—*N. Y. Herald.*

Published weekly. 21s. a year.

A specimen copy may be had free on application to Messrs. **SAMPSON, LOW & CO., St. Dunstan's House, Fetter Lane, Fleet Street, London, England**, to whom orders for subscriptions may be forwarded.

GARDEN AND FOREST,

TRIBUNE BUILDING,
NEW YORK, U.S.A.

GARDENING APPOINTMENTS.

MR. WILLIAM GOODLIFE, as Gardener to Mrs. **WALTER FISHER,** Abingdon Hall, Tamworth.
MR. A. ALLAN, of Trendham Gardens, as Gardener to Lord **HILLINGDON,** Hillingdon Court, Uxbridge.
MR. H. R. GIBBENS, General Foreman at Tubney House, Abingdon, as Head Gardener to G. F. TWIST, Esq., Mount House, Keresley, Coventry.
MR. THOS. JONES, for thirteen years Head Gardener to Miss **WRIGLEY,** Timberbury, Bury, has been appointed Head Gardener to Colonel **GAMBLE,** Windlehurst, St. Helen's, Lancashire.
MR. GEORGE HUTT, until recently Foreman in The Gardens, Manderston, Duns, N.B., as Head Gardener to Lord **ORMATEWAITE,** Eywood, Tilly, Herefordshire.
MR. S. H. DODDY, until recently at Glossop Hall, Derbyshire, as Gardener to James **SIDDEBOTTOM,** Esq., J.F., Millbrook, Hollingworth, Cheshire.
MR. NEWTON SUTTON, as Head Gardener to **COWLEY LAMBERT,** Esq., M.P., Little Tangle, Guildford, Surrey.

Board of Works for the St. Giles' District. APPOINTMENT OF GARDENER.

THE BOARD are prepared to receive application from persons willing to fill the post of **GARDENER and CARETAKER of the BURIAL GROUND,** adjoining the Church of St. Giles-in-the-Fields within the District, at a salary of 24s. per week. The Garden will be open from 5 o'clock in the morning until 30 minutes after sunset every day including Sundays. Applications, in Candidate's own handwriting, stating qualifications and age, which must not be less than 24 or more than 40 years, accompanied by recent testimonials, are to be addressed to me at the office of the Board not later than the 7th of May. The engagement will be subject to a month's notice on either side. Personal canvassing of the Members is strictly prohibited, and no written application will be received.
HENRY C. JONES, Clerk to the Board,
 Offices, 197, High Holborn, W.C., April 27, 1892.

Traveller.—Seed Trade.

WANTED, a competent, steady, reliable **MAN.**—Address, stating age, experience, salary expected, and all particulars, to **THE EDITOR, Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.**

WANTED in Lancashire, a **HEAD WORKING GARDENER,** where another man is kept, from 35 to 40 years of age, and married. Must have experience in Vines, Peaches, Fruit, Flowers, and general Kitchen Gardening, and the keeping of Lawns in good order, and be of unexceptional character.—Address, Box 16, Post Office, St. Helen's, stating experience, wages required, and copies of testimonials.

WANTED IMMEDIATELY, to take charge of Business, a thoroughly capable **MAN,** experienced in Growing Mushrooms for Market. None need apply whose character for sobriety and thorough business capacities will not bear the strictest investigation.—Apply by letter to X. K., 117, Chancery Lane.

WANTED, for Clapton Nursery (3 miles from Clevedon), a **MAN** to take the Management of Despatching Orders, where a Parcel Post business is done. Wages about 18s., with small cottage (four rooms) and garden. Permanent situation to a trust-worthy man.—**H. ENGLISH,** Clevedon and Clapton Nurseries, Clevedon.

WANTED, a **GARDENER** (to live on Premises), to undertake the Management of Hot-houses, Vinery, and Garden generally. Must be thoroughly competent, trustworthy, and of good character.—Apply to J. CROYLE, Esq., Ember Grove, Esher.

WANTED, a **GARDENER,** sole charge.—Must have been trained in a Gentleman's garden. Wages about 16s., and good cottage.—Apply, **W. SMYTH, Esq., Edwin's Hall, Woodham Ferris, Chelmsford.**

WANTED, a thorough all-round **GARDENER,** specially good with Grapes, Peaches, Tomatoes, Roses, Gardenias, Azaleas, cool Orchids. Eight glass-houses, Kitchen and Flower gardens; three men, and a boy. Only active, thorough workman need apply, stating full particulars, services, and wages.—**GLYN, Seagrove, near Ryde.**

WANTED, GARDENERS.—Must be experienced as Window-Boxers, and used to Furnishing. Good references required.—Apply, personally, to **THE CRICHTON FLORAL CO., 37, Sloane Street, S.W.**

WANTED, AT ONCE, an UNDER GARDENER, to work in the Houses and Kitchen Garden.—Age, about 22, single. Wages 18s. per week, with milk and vegetables.—**J. WHITE, Scotswood, Sunningdale, Berks.**

WANTED, a KITCHEN GARDENER.—Head Gardener kept; well acquainted with the general routine of the Kitchen Garden, and accustomed to forcing Fruits, Vegetables, &c., in season; good references required. Apply, own handwriting, to J. W. E., Walton Oaks, Walton-on-the-Hill, near Epsom.

WANTED, an experienced Soft-wooded **PROPAGATOR.**—State age, wages expected, and experience, to **PROPAGATOR, Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.**

WANTED, an experienced **MAN** to grow Hardy Flowers for Market, and to make himself generally useful. Wages, 22s. 6d. per week.—**R. BATH, Osborne Farm, Wisbech, Cambs.**

WANTED, A WORKING FOREMAN for General Nursery and Florist Trade. Permanency to an energetic and competent man. State experience, age, and wages required.—1 Oak's Hill, Almondsbury, Huddersfield.

WANTED AT ONCE, a good practical Man, used to a Market Nursery, where Cucumbers, Tomatoes, Palms, &c., are grown.—Apply to D. HARTMAN, Perry Garden Nursery, Poole, Dorset.

WANTED, a few quick GRAPE THINNERS, and a few good PLANT TYERS.—LADDS' NURSERY, Swanley Junction, Kent.

WANTED, a young MAN, for a Small Conservatory, with Palms and Foliage Plants. Must thoroughly understand his work, and make himself generally useful.—Apply by letter, stating wages required, to J. A., 38, Gloucester Road, South Kensington.

WANTED, IMMEDIATELY, for a Nursery, where Flowers are grown for the Market, a steady, active, industrious MAN, who thoroughly understands Vines, Forcing, Stove, &c.—Apply, stating wages, and full particulars, to E. B., Rose Bank, Marden Park, Caterham Valley.

WANTED, a young MARRIED COUPLE, to live in the Lodge. The man for Flower Garden, and accustomed to Horse and Hand-mowing Machines; also a good Schemer. The wife to attend Lodge Gate. Wages, £1 per week.—Apply to G. KING, Canons Park Gardens, Edgware.

WANTED, for two or three months. SEVERAL MEN experienced at Thinning Grasses.—JOHN ROCHFORD, Turkey Street, Waltham Cross. Nearest station, Forty Hill, G. E. R.

WANTED, active JOBBING HANDS, young fellows preferred.—J. W. WIMSETT AND SON, Ashburnham Park Nursery, Chelsea, S.W.

WANTED, a young MAN, for Jobbing, and the usual work of a Market Nursery. State age and wages.—Address or apply to J. B., Upton Nursery, Upton Lane, Forest Gate, E.

WANTED, a young MAN, quick at Potting and Tying, and Watering Plants; must understand Ferns and Soft-wooded Stuff.—Apply personally to T. BALDWIN AND SON, Edith Nursery, Burchall Road, Leyton.

WANTED, a young MAN, who has a knowledge of Grapes and Tomatoes, Growing for Market.—W. A. CURTIS, The Vineries, Histon, Norfolk.

WANTED, a young MAN, quick at Tying and Potting. Wages 20s.—MALLER, Florist, Church Road, Bexley Heath.

WANTED, a respectable young MAN, for general work; must use the scythe well.—Apply, F. WILLIAMS, The Nurseries, Hereford Road, Bayswater, W.

WANTED, an Indoor MAN, one used to general Soft-wooded Stuff. Must be a successful Propagator. Wages about 18s. State particulars.—H. ENGLISH, Clapton Nursery, near Clevedon, Somerset.

WANTED, an outdoor MAN; must be a good workman and quick builder. Wages, £1 per week.—FERKINS AND SONS, Warwick Road Nurseries, Coventry.

WANTED, AT ONCE, TWO smart young MEN, for the Houses in a Market Nursery.—T. KNIGHT, Moss Side Nurseries, Ashton-under-Lyne.

WANTED, an active young MAN, quick at potting, watering, &c., in Market Nursery. Wages, 18s. per week, and overtime when required. Also a young MAN accustomed to pack for Parcel Post, and to fill up his time in the Houses. Wages, 18s. per week, and overtime.—Apply, E. F. SUGG, The Nursery, Maidenhead.

WANTED, a strong energetic YOUTH, of good character, for the Houses, one who has had some experience. Age about 17. Wages 10s. 6d. Body, &c.—Apply, J. HOWARD, Benham Gardens, Newbury.

WANTED, a young man, as IMPROVER (about 19), inside, under experienced Gardener. Bothy, and vegetables free. State wages.—F. H. WILKINSON, Ladbroke, Nottingham.

WANTED, an IMPROVER; one who has been in Market Nursery preferred.—Apply, STROUD BROS., 181, Green Lanes, N.

WANTED, PACKER in a Florist's Nursery—an active experienced MAN as above. Spare time at general Nursery Cleaning. Wages, 22s. per week. Apply, with full particulars of training, age, &c., to STORRIE AND STORRIE, Florist, Dundee, N.B.

WANTED IMMEDIATELY, a young LADY as FLORIST.—Must be a first-class hand in all branches of the Trade, and a good Saleswoman.—T. J. GODFREY & CO., Florists, The Arcade, Bournemouth.

TO FLORISTS.—YOUNG LADIES REQUIRED, used to Decorative Work, Bouquet Making, &c.—Apply this day (Saturday), between 12 and 2, to MANAGERESS, Valois et Cie., International Horticultural Exhibition, Earl's Court, S.W.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should write for Prospectus to the Scientific Dress Cutting Association, 274, Regent Street, London, W. Situations found for all pupils at good salaries. No Lady's education is complete without a knowledge of Dressmaking.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

Head Gardeners.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BALIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

To Noblemen and Gentlemen requiring Land Agents, STEWARDERS, BALIFFS, or GARDENERS. **JAMES CARTER AND CO.** have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

Gardeners, Farm-Baliffs, Foresters, &c. **DICKSON'S (Limited),** Royal Nurseries, Chelsea, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—DICKSONS, CHEASE.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

SANDERS, ST. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS

STEPHEN CASTLE, F.R.H.S., CONSULTING HORTICULTURIST, &c., Ashford Newyard, Fordingbridge, Salisbury, has now several PRACTICAL MEN with high qualifications and good references, to RECOMMEND as HEAD GARDENERS. Full particulars on application.—N.B. Also a practical WORKING MANAGER for a large place.

TO GENTLEMEN with large Gardens.—The Advertiser, a Gardener of great experience, and a well-known skillful Horticulturist, will be open to an engagement early in May, or would tend a large Garden or Superintend on Commission.—OMEGA, 99, Kennington Road, London, S.E.

TO FLORISTS, &c.—A Gentleman (age 21), wishing to learn Flower-growing Business, will be glad to hear from anyone who will DESIRE TO TAKE A PUPIL.—Address, stating terms, H. S. E., 105, Cromwell Road, London, S.W.

GARDENER (HEAD).—Age 30, Mr. A. HOSCAR, Glyndyffod, Carnarvon, can with confidence recommend his former Work. Full particulars on application.

GARDENER (HEAD).—Age 35, married; has had twenty years' experience in branches. Can be well recommended.—Apply to J. CHEAL AND SONS, The Nurseries, Crawley, Sussex.

GARDENER (HEAD); age 33, married.—Mr. WHILLANS, Blenheim Palace, Woodstock, wishes to recommend John Coles to any Lady or Gentleman requiring an efficient and competent Gardener, who thoroughly understands the management of a large Establishment; for the last seven years Principal Foreman at Blenheim.

GARDENER (HEAD); age 30, married, one boy.—Advertiser is open to an engagement where a good, all-round, practical gardener is required, with several under, and where a real interest in his duties could be taken. Excellent testimonials.—W. S., 306, High Street, Acton, W.

GARDENER (HEAD).—Age 28; good all-round practical knowledge of Gardening. Good character.—F. B., Clare Cottage, Page Street, Mill Hill, N.W.

GARDENER (HEAD); age 32, married, no family.—W. R. INNES HOPKINS, Esq., Wilton Tower, via Darrington, can with confidence recommend Thos. Singleton, his present Head Gardener, to any Lady or Gentleman requiring the services of a thorough practical man, highly conversant in all branches of his profession, and the requirements of a good garden. Eighteen years' experience.

GARDENER (HEAD).—Thorough knowledge of the profession in all its branches. Excellent character.—G. BEGG, Wyldcot Road, Reading.

GARDENER (HEAD), where three or four are kept.—Single; twelve years' experience. Good references.—H. D., Beech House, Sherwood Rise, Nottingham.

GARDENER (HEAD).—Mr. EMERTON, Gardener to the Right Hon. Earl Brownlow, Belton House, Grantham, Lincolnshire, wishes to recommend George Lilley to any Lady or Gentleman in want of a good practical man. Sixteen years' experience.

GARDENER (HEAD).—Middle-aged, married, no income; fifteen months' present situation, twelve years' in previous where economy was enforced, and all surplus produce sold. Land and Stock, or Caretaker, if required. Excellent character through life.—S. O., The Lodge, Otlands, Horley, Surrey.

GARDENER (HEAD), where several are kept.—Age 44; life experience in all branches; thirteen years Head in last place, five in previous.—WILES, Edith Road, Oxford.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 20, married, one child; thoroughly experienced. Good character.—X. Y. Z., 77, Danbrook Road, South Streatham, London.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 27; twelve years' practical experience. A Gentleman wishes to strongly recommend a man as above. Southern Counties preferred.—W. OWEN, Auriga Terrace, Market Harborough.

GARDENER (HEAD WORKING).—Age 35, twenty years' practical experience in all branches. Wife thorough cook if required occasionally. Excellent testimonials.—POLLARD, Garsener, Chalfont St. Giles, Bucks.

GARDENER (HEAD WORKING).—Age 33, married, two children; thoroughly experienced in the Cultivation of Orchids, Plants, Grapes, Peaches, Melons, Vegetables, &c. Excellent testimonials for trustworthiness and ability.—FIELD, 9, West Grove Villas, Walton-on-Thames.

GARDENER (HEAD WORKING).—Middle-aged, married, two in family; thorough knowledge in all branches of the profession. Leaving through breaking-up of establishment. Characteristic, intelligent investigation.—GARDENER, Avenue House, Belsize Park Gardens, N.W.

GARDENER (HEAD WORKING).—Age 36, married; over twenty years' practical experience in all branches; last situation.—J. M. J., 6, St. Alban's Cottages, Nursery Road, Southgate, N.

GARDENER (HEAD WORKING), where two are kept.—Age 27.—J. ANDERSON, Charman Dean, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD WORKING), Land and Woods, if required.—Age 42, married; life experience in the profession. Upwards of twenty years as Head in good establishments; excellent references.—GARDENER, Messrs. Williams and Nicholson, Land Agents, Oswestry.

GARDENER (HEAD WORKING), where one or more are kept.—Age 28, single at present. Thirteen years' experience in large establishments. Good references.—G. W., East Orington Lodge, Pembroke.

GARDENER (HEAD WORKING).—Single; a trustworthy, intelligent, and possessed of an excellent knowledge of his business. Abstemious. High testimonials. Home counties preferred.—J. H., 63, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING).—Age 37, married; twenty years' experience in the Growing of Grapes, Peaches, Melons, Tomatoes, Cucumbers, Orchids, Stoves and Greenhouse Plants, Flower and Kitchen Garden. Ten years' good character. Abstainer.—W. Sengier, Broadway, Crouch End, N.

GARDENER (HEAD WORKING), where one or two are kept.—Vines, Peaches, Melons, Cucumbers, Mushrooms, &c.; Stove and Greenhouse Plants, Flower and Kitchen Gardens. Good character. Leaving for no fault.—A. BOOKER, Grange Gardens, Acton Lane, Willesden, N.W.

GARDENER (HEAD WORKING); age 34, married.—WILLIAM ROBINSON, Hyth Hall Gardens, Rotherham, Notts, seeks re-engagement in Noblemen's or Gentlemen's gardens. Thoroughly practical in all branches of his business. Good character. Including Orchids. Ten years' excellent character given.

GARDENER (HEAD WORKING).—J. BURNKOWS (age 30), until recently Foreman in a good Establishment, is open for an engagement with any Lady or Gentleman requiring the services of an all-round gardener. Can be well recommended from last and all previous situation.—THE BOX, Minchinhampton, Gloucestershire.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, married; thoroughly experienced in all branches. Excellent references from previous employers.—E. WILLS, Nurseryman, Winchester Road, Shirley, Southampton.

GARDENER (HEAD, or SINGLE-HANDED).—Thoroughly experienced. Early and Late Forcing, Vines, Peaches, Melons, Tomatoes, Flowers and Kitchen Gardens. Two boys.—GARDENER, Wick Lodge, Brighton.

GARDENER (SINGLE-HANDED, or where help is given).—Age 27, single; good experience in Glass, Fruit, and Kitchen Garden, &c. Two years' good character. Last situation; leaving through establishment breaking up.—W. HARRISON, 33, Alma Place, Thornton Heath, Surrey.

GARDENER (SINGLE-HANDED, or where help is given).—Age 30; fifteen years' practical experience in good places.—A. B., 4, Picette Road, Guernsey.

GARDENER (SINGLE-HANDED), or where help is given.—Age 30, married, no family; sixteen years' experience in Vines, Melons, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Gardens; also Land and Stock. Good character from previous employers.—A. W. MEECH, Beddington Lane, Mitcham.

GARDENER (SINGLE-HANDED, or where help is given).—Age 26; abstainer. Seven years' good character.—A. FEAN, 11, Grove Road, Brentford.

GARDENER (WORKING).—Single; thoroughly understands Vines, Flower and Kitchen Gardens. Had to leave through death. Sixteen years' good character.—G. W. KEIGHTLEY, Thrumpton, Derby.

GARDENER, where help is given, or SINGLE-HANDED.—Age 27, married when suited, total abstainer; understands Greenhouse Plants, Cucumbers, Tomatoes, and general routine of Gardening.—H. WAYLING, Cold Harbour, Waddon, Croydon, Surrey.

GARDENER; age 26.—W. STACEY, Gardener to Drury Fortum, Esq., Stanmore, Middlesex, wishes to recommend his Second Man to any Gardener requiring a good man. Inside and Out preferred, where three or more are kept.

GOOD OLD GARDENER.—Sober and trustworthy. Well up in all Horticultural work; can Repair in wood, glass, pipes, and paint.—GARDENER, 77, High Street, Fulham, S.W.

ROSE GROWER.—Well up; first-class and very successful exhibitor. First-class references.—C. H. Gardeners' Chronicle Office, 41, Wellington Street, Strand, London, W.C.

GARDENER (SECOND), where three or four are kept.—Age 26, single; Inside and Out preferred.—J. DREDGE, 42, Boreham, Warrminster, Wilts.

GARDENER (SECOND).—Age 22; used to In and Outdoor Work. Good reference from present employer.—R. H. S., 124, Chatham Road, Wandsworth Common, S.W.

GARDENER (SECOND), where three or four are kept.—Age 21, single; four years in last place, Inside and Out. Good character.—A. C. Chippen's Cottage, Hever, Edebridge, Kent.

GARDENER (SECOND, or THIRD) in good establishment, Inside preferred. Young man. Seven years' good character from present situation.—L. HALLETT, Charlton Gardens, Ludwell, Salisbury.

GARDENER (SECOND), in good place, near London preferred.—Age 26, single; experienced under good Gardeners, Inside and Out, and can be well recommended. Total abstainer. No objection to Kitchen and Flower Garden Work.—GARDENER, 2, Isington Street, Brixton, S.W.

GARDENER (UNDER).—Age 22, single; good character. Has been used to Pleasure Grounds.—T. RALPH, Lincoln Lodge, Baynards.

GARDENER (UNDER), Inside and Out.—Age 21; three years' good character. Near London preferred.—E. W., Arbonfield, Reading, Berks.

GARDENER (UNDER).—Age 19; two years' experience, Inside and Out; good character. London or suburbs preferred.—F. TAYLOR, Willoughby, Alford, Lincs.

GARDENER (UNDER).—A GENTLEMAN wishes to recommend as above a lad of 20, who has had five years' all-round experience in his service.—W. L. WIGAN, Esq., Larkfield, Maidstone.

GARDENER (UNDER).—Age 24, where six or seven are kept.—W. YARD, Castle Malvern Gardens, Boscath B. S. O. South Wales, can with confidence recommend F. Hill, to any one requiring a steady, trustworthy Under Gardener, as above. Abstainer, bothy preferred.

GARDENER (UNDER).—Age 25, single; Inside and Out. Ten years' experience; good references.—ALBERT SWABY, Albury, near Tring, Herts.

GARDENER (UNDER); age 23.—J. MADDOX can very highly recommend a strong, steady, and reliable man as above. Only cause of leaving death of Gentleman.—Glantraen House Gardens, Pontypool.

GARDENER (UNDER), or JOURNEYMAN, in the Houses, or Inside and Out, in a Private Establishment.—Age 22; tall. Disengaged.—G. REID, Little Eaton, near Derby.

GARDENER (UNDER), Inside and Out.—Age 24; four years' good character from present situation.—H. BAXTON, 19, Queen Street, Crook Place, Norwich.

GARDENER (UNDER), Inside, or Inside and Out.—Age 19; can be well recommended; two years in present situation.—F. J. SMITH, Queen's Road, Newick, Lewes.

GARDENER (UNDER).—Age 21; three years' experience, Inside and Out. Good character.—T. CORK, Newton St. Cyres, near Exeter.

GARDENER (UNDER).—Age 21; four years' good character from last situation.—H. A., 1, Church Path, Almerstone, near Gosport.

GARDENER, age 20, to learn under (Glass, or first-class establishment).—Experience in Kitchen Garden; abstainer; excellent references; premium if required.—W. BURT, Cambridge Asylum, Kingston, Surrey.

To Florists.
MANAGER of a first-class business of Paris wishes to find re-engagement as **MANAGER** or **FIRST HAND** fifteen years' experience; three years in London (West End). Well qualified in every branch of the business; several First Prizes. Undeniable references.—WILLIAM, 38, Faubourg St. Honoré, Paris.

PROPAGATOR (ASSISTANT), or FOREMAN (UNDER), Inside.—Seven years in the Trade, last three with Messrs. Paul & Son, of Chesham, who will be happy to answer any inquiries.—W. GROVE, Chesham Street, Chesham, S.

FOREMAN.—Age 24; thoroughly experienced in Stove and Greenhouse Plants; also Fruit-culture, &c. First-class references.—W. SIMMONDS, 4, Princes Road, Ealing, Dea.

FOREMAN, in a good establishment.—Age 27; good experience in Plant and Fruit culture. Three years in present situation, four and a-half previous; can be well recommended.—A. UPWARD, The Gardens, Cherkley Court, Leatherhead.

FOREMAN, or JOURNEYMAN (FIRST).—In the Houses, in a good establishment; age 24, nine years' practical experience, excellent references.—T. RIDGE, The Grove, Totteridge, Herts.

FOREMAN, in the Houses.—Age 26; experience at Elvaston Castle, Powderham Castle, and Hancobes; three years last place. Twelve years' experience. Good references.—S. T., 10, Charlotte Street, Crediton, Devon.

FOREMAN, in a first-class place.—Excellent references; tenor singer.—H. W. HARPER, Netherdown, Rugeley.

FOREMAN, in a good establishment.—Age 29, single; general experience in all branches; good reference as above from good establishments.—F. Mrs. S. PARSONS, Pampisford, Cambs.

FOREMAN; age 29.—Advertiser requires as above; four years' experience in English and on the Continent. Abstainer. One year in last situation as General Foreman.—CXMRO, 82, Amity Grove, Wimbledon.

FOREMAN, or SECOND, in a good Garden.—Age 25; eleven years' experience. Well up in Fruit and Plants. Excellent references.—T. ATIWOOD, Packington, Ashby-de-la-Zouch.

FOREMAN, in the Houses, in a Private Establishment.—Age 26; nine years' practical experience. Total abstainer.—NOTTLEY, 11, Canterbury Terrace, Maid Vale, London, N.W.

FOREMAN, in the Houses, in good establishment.—Age 25. Mr. J. W. REED, Broadwater, Otford Park, Weybridge, can thoroughly recommend his present Foreman as above, who has been with him over two years.

To Nurserymen.
FOREMAN (INDOORS), or MANAGER.—Age 29, single; fourteen years' experience in all branches. Good references. Could take journey.—W., 108, Markland Hill, Bolton, Lancs.

JOURNEYMAN (FIRST), in the Houses.—Age 23; seven years' experience. Well recommended. Total abstainer.—J. CARTER, 11, Canterbury Terrace, Maid Vale, London, W.

JOURNEYMAN (FIRST), in a good establishment.—Age 26; excellent references; two years in last situation. State particulars in first instance, to GEORGE GROVES, Temple House Gardens, Great Marlow, Bucks.

JOURNEYMAN, in the Houses, under a Foreman.—Mr. W. CANN, St. George's Hills, wishes to recommend a young man as above (age 22).—WILKINS, St. George's Hills, Hydest, Surrey.

JOURNEYMAN, in the Houses.—Age 22; good experience in Stove and Greenhouse Plants, Chrysanthemums, Vines, &c. Good references. Bothy preferred.—H. ASHDOWN, The Weald, Sevenoaks.

JOURNEYMAN, Inside, or Inside and Out.—Age 24; nine years' experience in all branches. Good character from last and previous situation.—W. B., 38, Richmond Grove, Surbiton, Surrey.

JOURNEYMAN, in the Houses in a good Establishment; or SECOND, where five or six are kept.—Two and a-half years' character. Bothy preferred.—W. A., Little Linford, Newport Pagnell, Bucks.

JOURNEYMAN (INSIDE), under a Foreman.—Age 22; used to Table Decoration. Five years' experience, Inside and Out. Bothy preferred.—F. F., The Gardens, West Stoke, Chichester.

JOURNEYMAN, in the Houses, in a good Establishment, under a Foreman.—Age 24. Bothy preferred; two and a-half years' character.—W. A., Little Linford, Newport Pagnell, Bucks.

JOURNEYMAN, in the Houses, where three or four are kept.—Age 23; two years' good character from last place.—F. PIKE, Iping, Midhurst, Sussex.

JOURNEYMAN, Inside.—Age 25; ten years' experience Inside and Out; good character.—A. F., The Gardens, Milfield, near Cobham, Surrey.

IMPROVER, Inside, in a good establishment.—Age 18; strong and active. Two years' good character from present situation.—G. GROVES, Temple House Gardens, Great Marlow, Bucks.

IMPROVER, in the Houses.—Age 21; four years' experience Inside and Out. Leaving through a death. Abstainer. Excellent character.—A. H., 9, Dulais Road, Battersea Rise, S.W.

IMPROVER, age 20, can be well recommended. Would not object to a small premium.—J. TAYLOR, Chester Cottages, Ash, near Albershot.

IMPROVER.—Age 19; willing to pay £5 for two years' instruction in a good private place; been six years in a nursery.—H. COUPLAND, Hull Road, Hesse, Hull.

TO HEAD GARDENERS.—R. WELER, Glenstal Castle Gardens, Limerick, can confidently recommend a strong, active young man to take the lead in Kitchen and Flower Gardens. Nine years' experience. Irish, Catholic, age 24, &c. Terms.

TO GARDENERS, &c.—A young Man, age 23, seeks permanent situation in Private or Nursery. Six years' experience in Soft-wooded Growing. Success preferred.—Apply, stating wages, to X. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO GARDENERS.—Situation wanted in Gentleman's Garden by strong active willing youth (age 17). One year's experience, abstainer, can be highly recommended. JACKSON, Clayton Park, Winslow, Bucks.

TO GARDENERS, &c.—Situation wanted, Outside, in a garden or nursery, by a young man (age 19), tall and strong. Four years' experience; good character.—H. COOPER, Gleditsy Glen Gardens, Swaffham, Norfolk.

TO GARDENERS, &c.—Age 25; 12 years' experience; Palms, Ferns, Carnations, Cyclamens, Roses, Vines, and General Planting and Fruit Growing for Market. Potting, Tying, Bunching, Grape Thinning, &c.—PETERS, Gardeners' Chronicle Office, 41, Wellington St., Strand, W.C.

TO GARDENERS, &c.—Situation wanted by an experienced MAN, age 38, married; well up in growing Plants, Out Flowers, Tomatoes, Cucumbers, &c.—G. N. MUTT, Mr. Frost, Cambridge Nursery, Child's Hall, Hendon.

TO GARDENERS.—Situation wanted by a young Man (age 23), under Glas. Eight years' experience. Two years in last situation, with excellent character.—H. M., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

TO NURSERYMEN.—A thorough London and provincial experienced man (age 35), quick and successful Propagator and Grower of Six years' experience in Bedding Staff, isopen for engagement.—HANSON, 2, Stonepit Cottages, Netham Road, Lincoln.

TO NURSERYMEN.—Wanted, by a young man, well experienced in the general routine of Market Nurseries, a situation where Palms, Ficus, Ferns, Grapes, Tomatoes, &c., are largely grown. Good personal references from previous employers.—MATTAGE, 1, St. George's Cottages, Newland Road, Worthing.

TO SEEDSMEN, &c.—Situation wanted as CLERK Seven years' experience. Age 21.—T. W., 35, Belfast Street, Hove, Sussex.

Orchids.
TRAVELLER or COLLECTOR.—Age 24. Situation wanted, for September or later, as above. Good experience in everything connected with Orchids; good health; used to fatigues; speaks fluently English and German, also a little French. Not much salary required to start with.—H. WALTER, Hefendamm 19, Fienberg, Germany.

CLERK.—A young Man (Dutch) wants a situation as above. Age 21. Knowledge of English, German, and some Book-keeping. Six years' experience in Florists' offices; excellent references.—M. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

COWMAN.—Age 26, married; understands all kinds of Stock and Poultry.—W. FORD, 45, Northway Road, Cambria Road, Longborough Junction, S.E.

TO FLORISTS & FRUITERS.—A young Lady (age 25) seeks re-engagement. Thoroughly experienced in both Businesses. First-class at Posies, Wreaths, Crosses, &c. Highest references.—DAVIS, Hollies, Bishopstoke.

TO FLORISTS.—Re-engagement wanted, by a young Lady, as ASSISTANT. Can Mount Wreaths, Button-holes, &c. Used to serving Indoors or Out. Good references.—G., 14, England Lane, Haverstock Hill.

Consumption and Asthma in all its stages instantly relieved by

DR. LOCOCK'S PULMONIC WAFERS, which taste pleasantly, and give instant relief and a rapid cure to Asthma, Bronchitis, Consumption, Cough, Whooping Cough, Phlegm, and all Disorders of the Throat, Lungs, and Larynx. In Rheumatism and Nervous Pains "they act like a charm." Price 1s. 12d., 2s. 6d., 4s. 6d., and 11s. per box, of all Druggists.

HOLLOWAY'S OINTMENT AND PILLS.—Consists of the Delicate.—Those to whom seasons of changeable temperatures are protracted periods of trial, should seek the earliest opportunity of removing all obstacles to good health. This cooling Ointment, perseveringly rubbed upon the skin, is the most reliable remedy for overcoming all diseases of the throat and chest. Quinsy, relaxed tonsils, sore throat, swollen glands, ordinary catarrh, and bronchitis, usually prevailing at this season, may be arrested as soon as discovered, and every symptom banished by Holloway's simple and effective treatment. The Ointment and Pills are highly commended for the facility with which they successfully conquer influenza; they allay, in an incredibly short time, the distressing fever and teasing cough.



CADBURY'S COCOA.

"The Typical Cocoa of English Manufacture."

'Absolutely Pure.'—*The Analyst*.

NO CHEMICALS USED

(As in the so-called Pure Foreign Cocoas.)

FREEHOLD NURSERY for SALE, as
Going Concern, 10 miles from Covent Garden, $6\frac{1}{2}$ Acres
in extent, 24 well-built Greenhouses. Residence and Stabling
A portion of the money can remain.—Apply to **ALFRED**
BOWYER, Auctioneer, Enfield Town.

TUESDAY, MAY 24.

CYPRIPEDIUM SPICERIANUM MAGNIFICUM

MESSRS. CHARLESWORTH, SHUTTLEWORTH, & CO.

HEATON, BRADFORD; AND 213, PARK ROAD, CLAPHAM, S.W.,

HAVE INSTRUCTED

MESSRS. PROTHEROE & MORRIS TO SELL BY AUCTION,

AT THEIR

CENTRAL SALE ROOMS, 67 & 68, CHEAPSIDE, LONDON, E.C., on TUESDAY, MAY 24, at 12.30 o'CLOCK,

A SPLENDID CONSIGNMENT OF

CYPRIPEDIUM SPICERIANUM MAGNIFICUM.

DRIED FLOWERS WILL BE ON VIEW AT TIME OF SALE.

DENDROBIUM CAMBRIDGEANUM,

A NEW CYMBIDIUM, CATTLEYA LABIATA, AND MANY VALUABLE ORCHIDS.

ON VIEW MORNING OF SALE, AND CATALOGUES HAD.

NURSERY FOR SALE.—3½ vergées (or 1½ acres), subject to a Ground Rent of £24 per annum currency. Gardeners' Cottage, 5 rooms, 2 attics (new); Forcing-house, 150 feet long by 25 feet wide, three-quarter span, cropped with Tomatoes expected to market in May; also Fig Trees and young Vines (Black Alicante), one year inside. Vinery, 200 feet long by 25 feet wide, three-quarter span, planted with Tomatoes expected to market in June; Vines throughout (Black Alicante), one year inside. Fitted with Hot-water Apparatus.

Asparagus beds, one 300 feet by 12 feet, three years old in full bearing; one ditto, 150 feet by 12 feet, one year old; one vergée of bulbs (Narcissi, Gladioli, Ixias), commencing to market at end of April; 30 perch Potatoes, to market July and later; 1000 young Vines (White Muscat, Black Alicante, and Hamburgh), 50 young Fig Trees, 20 Apple Trees, 20 perch Onions, Parsnips, &c.

Three wells on estate. Land in first-class condition, well-drained and kept. Two sides frontage on good road. Enclosed by good wall (new) and dwarf hedge. The estate is subject to no other charges than ground-rent before mentioned. Possession can be had immediately. Anticipated returned value of crops this season, say, £200 net. The land is prepared and levelled, so that other glass can be immediately erected at simple cost of greenhouses only—that is, no cost would be incurred for levelling, trenching, or drainage. Rental offered for estate as it stands, £100 per annum for term of years. Selling price, £1000 currency.

Further particulars of Mr. C. J. WATTS, 13, Saumarez Street, Guernsey.

To Florists, Nurserymen, &c.

FREEHOLD LAND FOR SALE, or TO LET on long lease of 99 years from Covent Garden, remarkably well adapted for Glass, &c., near Hampton Station, L. & S.W. Ry.

Apply at once to Mr. JOHN EMBLETON, Suffolk House, Hampton Hill.

LONDON, S.E.—TO BE SOLD, a compact NURSERY and FLORIST'S BUSINESS, ½ miles from Covent Garden, comprising 5 Greenhouses, and nearly ¼ Acre of Land. Rent £10 per annum. Also House and Shop in main road, close to railway station. Good reasons for disposal. Lease, Goolwill, Stock, &c., £350.—H. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

MOST FAVOURABLE OPPORTUNITY for any one commencing Business. Proprietor leaving England. A NURSERY (4 miles from Covent Garden), for DISPOSAL, containing 10,000 feet super. of Glass in good repair and condition, splendidly heated with 3350 feet run of 6-inch Hot-water Pipes, Valves, &c. It is stocked with many thousands of Palms and Decorative Plants, and the whole would be sold either as a Going Concern, or the Nursery would be let to a responsible tenant on Lease. Stock could be taken or not at option of incoming tenant.

For particulars, address, FURNISHES, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR ORCHIDS, and GARDENERS To Grow Them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE and MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Etmere, so faithfully illustrated in this journal of November 21, executed by PULHAM and SON, 50, Finsbury Square, London, E.C., and Boxbourne, Herts. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

FOWLER'S MEALY BUG DESTROYER, For the eradication of this most troublesome pest. It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s., 6d., 1s., and 10s.; half gallon, 21s.; one gallon, 42s. each. CORRY and CO., Limited, 13, 15, 16, Finsbury Street, E.C. Sold by all Seedsmen.

150,000.—Special Offer of Kentias.

WICETON has a large quantity of the above to offer, very reasonable, at from 27 10s. per 1000. Thunbs, well-established, £10 per 1000; in 60's, well established, at £30 per 1000.

W. WICETON, Putney, S.W.

L'HORTICULTURE INTERNATIONALE (Orchid Emporium), Leopold Park, Brussels. THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

AMERICAN BELL BIND, a lovely and very hardy Perennial Climber; strings of large pink flowers; increases rapidly. Three strong roots, with instructions, 1s., carriage paid.—M., 31, Heathland Road, Stoke Newington, N.

EXHIBITIONS.

MOSELEY BOTANIC GARDENS and COLLEGE GROUNDS, BIRMINGHAM. GREAT ROSE SHOW, JULY 19 and 20, 1892. ONE HUNDRED POUNDS in PRIZES for ROSES. Also LIBERAL PRIZES for GROUPS of PLANTS and BOUQUETS.

Schedules on application to the SECRETARY.

TRENTHAM and HANDFORD HORTICULTURAL SOCIETY will hold their FIFTH ANNUAL SHOW in Trentham Gardens, JULY 21, 1892. PRIZES to the amount of £350 will be given. GROUP OF PLANTS, 1st, £25; 2nd, £16; 3rd, £12; 4th, £9. 48 ROSES, 1st, £20, and Special Value, £5 10s.; 2nd, £5; 3rd, £3. 36 ROSES, 1st, £5, and National Rose Society's Gold Medal; 2nd, £3; 3rd, £2. COLLECTION OF FRUIT (9 Dishes), 1st, £10; 2nd, £8; 3rd, £3. 4 BUNCHES OF GRAPES, 1st, £5; 2nd, £3; 3rd, £2. Schedules on application to—

JOHN TAYLOR, Hon. Sec., Trentham.

WILTS HORTICULTURAL SOCIETY'S SHOW at Salisbury, on August 10, 1892. PRIZES to value of ONE HUNDRED and FIFTY-FIVE POUNDS are offered. Schedules may be obtained of—

W. H. WILLIAMS, Hon. Secretary, The Nurseries, Salisbury.

SEAKALE SETS, now ready for planting; 200 bushels for Sale. For particulars, &c., apply to—J. FANNING, Cranford Gardens, Bath Road, near Hounslow.

Now is the Time to Plant PYRETHRUMS, DELPHINIUMS, and GAILLARDIAS—three of the showiest of all Hardy, Easily-grown Perennial Plants. For Priced Lists, see **KELWAY'S SEED and PLANT MANUAL** for 1892, 1s., post-free (deducted from first order), to those unknown to us. **KELWAY'S GLADIOLI**—Now is the time to plant. Priced Descriptive List, free. **KELWAY and SON,** Langport, Somerset.

London Central Markets, Smithfield. THE FRUIT, VEGETABLE, and FLOWER SECTION, with Railway Accommodation beneath, will be SHORTLY OPENED.

This Market Completes the Series of Central Markets erected under Act of Parliament by the Corporation of the City of London.

APPLICATIONS FOR SPACE may be at once sent in, addressed to—

"THE TOWN CLERK, Guildhall, E.C."

"Markets Department."

The Market may be inspected, and all particulars obtained, on personal application to the Clerk and Superintendent of the London Central Markets, Smithfield. MONCKTON, Guildhall, April, 1892.

"L'HORTICULTURE INTERNATIONALE."

DIRECTORS—

MESSRS. J. LINDEN & LUCIEN LINDEN,
LEOPOLD PARK,
BRUSSELS, BELGIUM.

MESSRS. LINDEN

Have very much pleasure in offering the following

New Orchids,

OF

DIRECT IMPORTATION from BRAZIL:

CATTLEYA ALEXANDRÆ

(LINDEN AND ROLFE).

PRICE ON APPLICATION.

CATTLEYA VICTORIA REGINA,
Very fine plant 10/- & 21/-

ONCIDIUM GRAVESIANUM,
Very fine plant 5/- & 10/-

EPIDENDRUM CAPARTIANUM
(Syn. E. GODSEFFIANUM), very
fine plant 5/- & 10/-

EPIDENDRUM WATSONIANUM,
Very fine plant 5/- & 10/-


EPIDENDRUM CLAESIANUM,
Very fine plant 21/-

RODRIGUEZIA LINDENIANA,
Very fine plant 10/- & 21/-

CATASETUM CLAESIANUM,
Very fine plant 5/- & 10/-

MILTONIA ILLUSTRIS
(Syn. M. MORELLIANA ATRO-
RUBENS), very fine plant .. 10/- & 21/-

CATTLEYA DU BUYSSONIANA,
Very fine plant 21/- & 42/-

 All the Plants above Offered
are in the most Magnificent Condition,
and Semi-Established.

An importation of several thousands of—

CATTLEYA MENDELI

will shortly come to hand. We are informed by our Collectors that they have been collected in the MATANZA DISTRICTS, from whence it is well-known all the grandest forms have been imported. The plants have been shipped in grand condition, and we have every reason and confidence they will reach Europe the same.

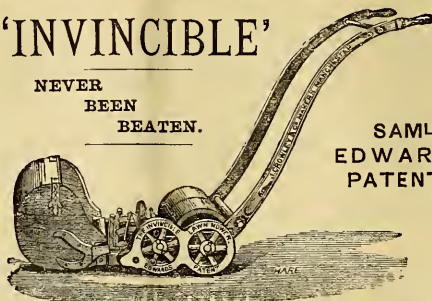
Special Low Offers to the Trade.

GOLD MEDAL LAWN MOWERS 'INVINCIBLE' 'VICTOR'

NEVER
BEEN
BEATEN.

EASY
TO
WORK.

SAML.
EDWARDS'
PATENTS.



TWO HANDLES, same price.
Light in Construction.
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE

"HERCULES" BRAND (Regtd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



"Are you not afraid those children will injure the Hose or stop the water?"
"Oh, no! This SPHINCTER GRIP ARMoured HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of."

CONTRACTORS to all DEPARTMENTS of HER MAJESTY'S GOVERNMENT and the
HORTICULTURAL and AGRICULTURAL SOCIETIES.

HUNDREDS OF UNSOLICITED TESTIMONIALS.

 BEWARE OF WORTHLESS IMITATIONS, and send for ILLUSTRATED and
DESCRIPTIVE CATALOGUE (post free on application) of HOSE and GARDEN WATERING APPLIANCES
and FITTINGS of every kind.

MR. JOHN KNIGHT, Rose of Kent Nurseries, Dartford, writes, April 26, 1892, ordering a supply of our "A Quality" Hose:—"I had no end of trouble with another firm's make of Garden Hose last year; it wore clean out in less than three months—went into hundreds of holes in this time—so that I do not want anything of the sort again."

HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891.
No Exhibition Medal or Award has ever been secured by any other firm for Armoured Hose.

OFFICES and
SHOW ROOMS— 9, MOORFIELDS, LONDON, E.C. Works—LONDON and
NORTHAMPTON.

ODONTOGLOSSUM CRISPUM ALEXANDRÆ,

FROM THE PACHO DISTRICT.

HUGH LOW AND CO. have recently received very large importations of the above in selected pieces, and in the very best possible condition, and respectfully solicit an inspection of the plants by Gentlemen interested in Orchid Culture.

PRICES AND SAMPLES ON APPLICATION.

CLAPTON NURSERY, LONDON, N.E.

HORTICULTURAL BUILDER.

Every description of GREENHOUSES, LIGHTS, &c.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. 6d. each, 50s. doz., £10 for 50 lights, (free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 feet by 12 feet house, lights, door, &c. Put on rail in London. Price, £9 10s. Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.

 Send for Illustrated Catalogue, just issued.

SANKEY'S famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.



AWARDED TEN GOLD AND SILVER MEDALS.

REGISTERED NO. 13,125.

PRICES OF 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
ARMoured.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices—
 1-in. dia., best quality ... 36/3 1-in. dia., ex. stout qual. 52/0
 .. ex. stout quality 43/7 .. best quality ... 52/0
 .. best quality ... 45/0 .. ex. stout qual. 60/7

All Hose Carriage Paid and despatched same day as order is received.

Also Maker of Hose for Delivery, Steam, Fire, Suction, and Liquid Manures, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING, ROOFING FELTS, SACKING, &c., Post Free. MAKER TO HER MAJESTY THE QUEEN.

ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

PLAIN.—Unkinkable Smooth-Surface Hose, will not crack. Is made of pure rubber and canvas. Quality guaranteed.
 1-in. dia., specially cheap 19/3 1-in. dia., best quality ... 28/0
 .. best quality ... 21/5 .. ex. stout qual. 33/0
 .. ex. stout qual. 27/5 .. best quality ... 33/0
 1 1/2-inch diameter, ex. stout quality ... 40/10

Oldest and most reliable House in the Trade.

Williams' NEW PLANTS

For 1892,

Now Offered for the First Time.

B. S. W. & Son have much pleasure in announcing that the following will be ready for distribution in May:—

ALLAMANDA WILLIAMSII	... 21/-
ANTHURIUM LONDINENSE	... 42/-
AMARYLLIS "BARON PALLES"	63/-
AMARYLLIS DAZZLE	... 63/-
CYPRIPEDIUM PITCHERIANUM	
(Williams' variety), price on application.	
DRACÆNA MALLETTI	... 21/-

For descriptions see ILLUSTRATED NEW PLANT CATALOGUE for 1892, Gratis and Post Free on application.

B.S. Williams & Son.
 UPPER HOLLOWAY.
 LONDON. N.

TRADE OFFER OF PALMS.

COCOS Weddelliana, in thumbs	... at 20s. per 100.
" " " " " "	in 50's, ... at 155s. per 100.
KENTIA Fosteriana and Belmoreana, in thumbs	at 20s. per 100.
" " " " " "	in 80's, ... at 180s. per 100.
" " " " " "	in 45's, ... at 24s. per doz.
SEAFORTHIA Elegans, in 60's	in 32's, ... at 48s. per doz.
" " " " " "	in 48's, ... at 32s. per 100.
" " " " " "	" " " " " " at 25 per 100.

W. Icton has a fine Stock of Asparagus plumosus nanus in 45's and 60's; Pandanus Veitchii, Dracena Lindenii, and Ficus elastica.—W. ICTON, Putney, S.W.

THE "BEST" LAWN SEEDS.

New Circular, Post-free, on application.

DICKSONS Seed Merchants & Nursermen **CHESTER**
 (LIMITED)

IF YOU WANT

BEGONIAS,

H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E.

GUARANTEES to supply BEGONIAS, first-class Quality, at one-third the usual price, as follows:—

12 Good Single Mixed ...	3s.	12 Mixed Double	6s.
12 Extra Good to Colour	6s.	12 Very Fine, to Colour,	12s.
12 Very Finest, equal to named varieties at 5s. ea.	12s.	12 Extra Fine Double,	18s.

I could give a large number of Testimonials, but the following, I think, will be sufficient to prove the excellence of my Begonias:— Hogg House, Buxted, Uckfield, Aug. 26, 1891.

DEAR SIR,—You will be glad to learn that the Begonias I had from you in the summer have turned out remarkably well. The pinks and terra-cotta are specially fine, some of the blooms measuring near 6 inches across. The flowers are of fine form, and good substance in the petals; plants dwarf in habit, and free-flowering; foliage robust. I shall have much pleasure in recommending them to my friends. Yours truly—

H. C. PRINSEP, Gardener to Viscountess Portman.

To Mr. H. J. Jones.

RYECROFT NURSERY, HITHER GREEN, S.E.

The best April Broccoli in the World

HARTLAND'S APRIL QUEEN,

per packet, 1s., post free. It may be tried for purity of stock, flavour, and quality against any sort in Europe.

WILLIAM BAYLOR HARTLAND, F.R.H.S., Seedsman, &c., 24, Patrick Street, Cork.

DAHLIAS.

10,000 DAHLIAS.—The cream of all sections. New ready, Snow, Fancy, Pom-pom, Cactus, and Single varieties, well-rooted, and true to name, price, 6 for 2s.; 12 for 3s.; 2 doz., 5s. 6d.; 20s. for 100; our selection. Carriage paid. Descriptive List of all the best new and scarce varieties in cultivation, with price of purchaser's selection, free.

Send for a sample dozen, and give us a trial order.

10,000 LOBELIA EMPEROR WILLIAM. The best blue variety. Strong, well-rooted plants, from cuttings, 4s. per 100.

TEA ROSES in pots.—Thousands of good plants in all the best varieties, such as Niphetos, Climbing Niphetos, Catherine Mermet, The Bride, William Allen Richardson, Perle des Jardins, Sunset, &c., 6s. per doz., and 9s. per dozen. Selected plants, 1s., 1s. 6d., 2s. 6d. each. Suitable for planting in the Conservatory, Greenhouse, outside planting, or growing in pots.

GIANT PANSIES, finest blotched varieties. No plus Ultra, 2s. per dozen; 12s. 6d. per 100.

NOW is the best time to buy and to secure the finest plants, all packing free. Trade supplied. Catalogues gratis.

A. J. and C. ALLEN, Florists and Rose Growers, HEIGHAM, NORWICH, NORFOLK.

HUGH LOW & CO.

HAVE NOW IN FLOWER,
in excellent condition, at their

**BUSH HILL PARK NURSERIES,
SEVERAL HOUSES OF ERICAS
AND
PELARGONIUMS,**

The latter comprising over one hundred of the finest varieties.

CLAPTON NURSERY, N.E.

BARR'S SEEDS, BULBS AND PLANTS.

VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

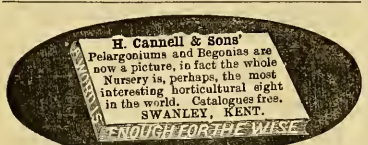
BULBS.—Gladoli, Lilies, Aemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. Lists on APPLICATION.

PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Paeonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.

BARR and SON, 12, King Street, Covent Garden, London.

H. Cannell & Sons' Pelargoniums and Begonias are now a picture, in fact the whole Nursery is, perhaps, the most interesting horticultural sight in the world. Catalogues free. SWANLEY, KENT.

ENOUGH FOR THE WISE



FRUITS! FRUITS!

FIRST-RATE DESSERT APPLES and PEARS, PEACHES, APRICOTS, and GRAPES.

Growers of above Fruits, who are disposed to contract for delivery of same during the whole season, please address, stating full particulars and terms, to No. 6008, care of J. de Zeeuw, Bookseller, Dordrecht (Holland). Only the offers of Fruit Growers will be considered.

ROMAN HYACINTHS, And other Forcing and Early BULBS.

We are prepared to make most favourable offers. Our friends will do well to wait our quotations, as usual.

Special prices on application.

HURST & SON,
Seed Merchants, 152, HOUNDSDITCH, LONDON, E.

ARTHUR FLINSCH,



LOSCHWITZ, near DRESDEN.

LARGE PEACH GROWER

In Hothouses and Open Air.
Export of Fruit to all Parts.

PELARGONIUMS, SHOW, SPOTTED, and FANCY.

Good strong sturdy stuff, in 4s's, 50s., 75s., 100s. per 100. Very fine, strong, autumn-struck HENRY JACOBY GERANIUMS, in 60's, 75s. per 100; turned out of pots, 12s. per 100. Delivered free on rail. Cash with order.

N. LAWRENCE and SON,
BURNSFIELD NURSERIES, CHATTERIS, CAMBS.

CLEMATIS for Bedding.

Three and four years old, my selection, to include finest varieties, 100 for 50s.

CHARLES NOBLE, BAGSHOT.

Seed Potatoes.

H. and F. SHARPE having a Surplus Stock of the following varieties of SEED POTATOS, are prepared to offer them at VERY REDUCED prices, to clear out, viz.:

Veitch's Improved Ashleaf Kidney,
Myatt's Prolific Ashleaf Kidney,
Rivers' Royal Ashleaf Kidney,
Gloucestershire Early Kidney,
Sutton's Abundance,
Clark's Main Crop Kidney,
White Elephant.

Also several other varieties.

The above have been grown expressly for Seed purposes.
SEED GROWING ESTABLISHMENT, WISBECH.

**SHOWY,
HARDY
FLOWERS,
for
BORDERS.**

The Garden
always gay.

CHOICE GARNATIONS of good kinds.

An immense Stock. Well-grown Plants,
Free-flowering varieties.
Some of the best in cultivation. Price
most moderate throughout.
Our selection, in good sorts, at from
7s. 6d. per dozen.

Also Anriculas, Pansies,
Pentstemous, Phloxes, Primulas
Pinks, and Pyrethrums.

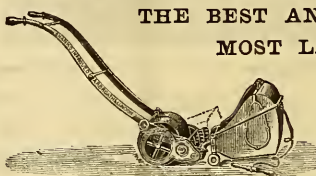
DICKSONS NURSERIES CHESTER
(LIMITED) (500 Acres)

SHANKS'S LAWN MOWERS

THE BEST AND
MOST LASTING

MACHINES.

Give Universal
Satisfaction.



THE STANDARD MACHINE.

FOR LISTS, ADDRESS—

ALEX. R. SHANKS & SON,

DENS IRONWORKS, ARBRATH, N.E.

AND
110, CANNON STREET, LONDON, E.C.

THE BEST SIDE-WHEEL
MACHINE EVER MADE.



"BRITANNIA" MOWER

LONDON WAREHOUSE:—
5, OLD SWAN LANE, UPPER THAMES STREET, E.C.
WHERE REPAIRS ARE ALSO EXECUTED.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

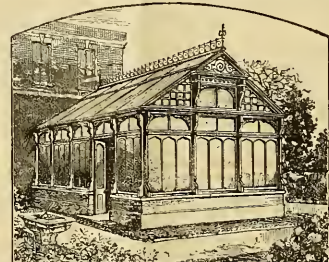
WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

GARDEN FRAMES in great VARIETY.

No. 60.
PORTABLE PLANT PRESERVER.
CASH PRICES.
CARRIAGE PAID.
6 ft. by 3 ft. ... £2 0 0 6 ft. by 4 ft. ... £2 5 0
12 ft. by 3 ft. ... 3 2 0 12 ft. by 4 ft. ... 3 15 0

No. 73.
NEW SPAN-ROOF GARDEN FRAME.
CASH PRICES.
CARRIAGE PAID.
4 ft. by 6 ft. ... £2 14 0 12 ft. by 6 ft. ... £5 14 0
8 ft. by 6 ft. ... 4 4 0 16 ft. by 6 ft. ... 7 4 0
All Frames made of Selected Red Deal, painted three times, and Lights glazed with 21-in. sheet glass.
Carriage paid on Orders of 40s. value.

Surveys made in any part of the Country.
LADIES and GENTLEMEN WAITED UPON BY
SPECIAL APPOINTMENT.



BOILERS of ALL MAKES and SIZES.

GARDEN FRAMES in great VARIETY.

No. 74.
THREE-QUARTER SPAN GARDEN FRAME.
CASH PRICES.
CARRIAGE PAID.
4 ft. by 6 ft. ... £2 14 0 12 ft. by 6 ft. ... £5 17 0
8 ft. by 6 ft. ... 4 5 6 16 ft. by 6 ft. ... 7 8 6

No. 75.
MELON AND CUCUMBER FRAME.
CASH PRICES.
CARRIAGE PAID.
4 ft. by 6 ft. ... £2 0 0 12 ft. by 6 ft. ... £4 3 0
8 ft. by 6 ft. ... 3 0 0 16 ft. by 6 ft. ... 5 8 0
CUCUMBER-FRAME LIGHTS.
6 feet by 4 feet, painted and glazed ... 14s. 0d. each.
6 feet by 4 feet, unpainted and unglazed ... 8s. 6d. each.
Catalogues of all our Manufactures, post-free on application.

NOW (and when the plants have commenced to grow) is an excellent **TIME TO PLANT** **HOLLIES, CONIFERS, YEWs,** AND ALMOST ALL **EVERGREEN SHRUBS.**

CLEMATIS may be planted in May.

DESCRIPTIVE LISTS of the above, and following, free:—
CREEPERS FOR WALLS.
ROSES IN POTS.—Best New and Old English and Foreign Sorts.

RICHARD SMITH & CO.,
NURSEYMEN AND SEED MERCHANTS,
WORCESTER.

MEXICAN PLANTS.
AGAVES, CACTI, FERNS, YUCCAS, ZAMIA.
Carriage Paid—doz. 100. Carriage Paid—doz. 100.
Resurrection Plants 3s. 15s. Echinocactus Sherri 7s. 40s.
Tillandsias (air plants) 5s. 20s. " texensis ... 7s. 40s.
Mammillaria pusilla 3s. 15s. " lophotheta ... 7s. 40s.
" echinata ... 3s. 15s. Mammillaria Lascia ... 5s. 30s.
" pectinata ... 3s. 15s. " cantha ... 5s. 30s.
" monclava ... 3s. 15s. " meicantha ... 5s. 30s.
" applanata ... 4s. 20s. " micromeria ... 5s. 30s.
Echinocereus coccineus ... 5s. 25s. " pusilla texana ... 5s. 30s.
" cantha ... 5s. 25s. Cereus grandiflorus (cutting) ... 8s. 50s.
" berlandieri ... 5s. 25s.
" pectinatus ... 5s. 25s.
Special Prices to the Trade for larger quantities.
Extra fine plants collected for Public and Private Gardens.
Correspondence solicited. Remittances should be made in drafts on London, New York, or Mexico. Small amounts may be remitted to Messrs. WATSON & SCULL, 90, Lower Thames St., E.C.
McDOWELL, GUJARDO HNOS,
MONTREXX, MEXICO.
Via New York and Laredo.

CHEALS' DAHLIAS.

25,000 Plants in all the Sections ready for distribution, including many valuable NOVELTIES.

NEW DESCRIPTIVE CATALOGUES now ready, Post Free.

J. CHEAL & SONS,
CRAWLEY, SUSSEX.

ORCHIDS.
CLEAN, HEALTHY PLANTS at LOW PRICES.
Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

FERNS
If you wish to have
**CHOICE VARIED & BEAUTIFUL
COLLECTION OF FERNS**
different from those commonly seen
you can obtain such from
W & J. BIRKENHEAD.
FERN NURSERIES SALE, MANCHESTER
Who have 1400 DIFFERENT KINDS TO
SELECT FROM CATALOGUE ON APPLICATION.

FERNS!—FERNS!—FERNS!

A first-class lot of **PTERIS TREMULA** to offer.
Packed and put on rail, free in London, 12s. per box of two dozen. Cash.
H. TITE, Covent Garden, W.C.

CINERARIA, DIXON'S SUPERB GIANT.
The Choicest Strain in the Country.
In Sealed Packets, 1s. 6d., 2s. 6d., and 5s. each.
Price to the Trade on Application.
For full Description and Illustration, see *Gardeners' Chronicle*, January 2, 1892.

E. P. DIXON & SONS, HULL.

SPECIAL OFFER OF VINES.
STRONG GRAPE VINES in variety.
Specially Large Stocks of the following kinds:—
BUCKLAND SWEETWATER,
DUKE OF BUCKLEIGH,
ALICANTE,
GROS COLMAR,
GROS MAROC.
Special Prices upon application.

DICKSONS NURSERIES CHESTER
(LIMITED)
(400 Acres)

DANIELS BROS.,
TOWN CLOSE NURSERIES, NORWICH.

BEG to offer the following from their splendid collection of choice named Florists' Flowers, &c., all in sturdy young stuff, mostly from single pots, guaranteed true to name, and sent Post or Carriage Free on receipt of Cheque or Post-office Order.

Abutilons. Very choice sorts ... Per doz.—s. d.
Coleus. All the most beautiful sorts ... 6 for 2s. 6d. 4 6
Chrysanthemums. Japanese and Incurved. Choice sorts from our splendid collection—
per 100, 15s.; 6 for 1s. 6d. 2 6
" **"W. A. Manda,"** the new Golden Yellow Ostrich Plume, splendid ... 6 for 1s. 6d. 4 6
" Six superb new varieties, including "Gloire du Rocher," "Florence Davis," and "Vivand Morel" ... 7s. 6d.
Carnations and Picotees. A very choice collection, including all the newest and finest sorts, 5s., 9s., & 12 0
" Six very choice sorts, including "Germania" ... 5s.
Dahlias. Show and Fancy, a magnificent collection, including all the finest varieties, ... 6 for 2s. 6d. 4 6
" Show and Fancy, new and very choice sorts, 6 for 5s. 9 0
" Cactus-flowered. A superb collection, including the best of recent introduction ... 4 for 2s. 6d. 4 6
" Cactus-flowered. New and very choice sorts ... 6 for 5s. 9 0
" Cactus-flowered. Six grand new varieties, including "Beauty of Arras" ... 8 6
" Single-flowered. A charming collection, including the newest ... 6 for 2s. 6d. 4 6
" Single-flowered. Six new and very select sorts, 5s. 9 0
" Pompon or Bouquet. A very choice assortment, 6 for 2s. 6d. 4 6
" New Marguerite. Single, pure white, very pretty, each, 2s. 6d.; 3 for 6s. 6 0
" New "Tom Thumb." Single, very pretty, only 1 foot high, 3 for 2s. 6d., 6 for 4s. 6d.
Fuchsias. Single and double flowered. All the most beautiful varieties ... 6 for 2s. 3 6
" New and extra choice ... 6 for 3s. 6d. 6 0
" Six superb new varieties, including "Mrs. Charles Daniels" ... 4s. 6d.
Heliotrops, "White Lady." Fine for pot culture, deliciously scented ... 6 for 2s. 3 6
Musk. New double-flowered ... each 9d., 3 for 2s. 2 6
" Harrison's Giant. Splendid variety ... 6 for 1s. 6d. 4 6
Marguerites or Parisian Daisies. Yellow or white ... 6 for 1s. 6d. 2 6
Pelargoniums. New Zonal. All Autumn struck—
" Single-flowered. From our grand collection; splendid for pot culture ... 6 for 2s. 6d. 4 6
" Six new varieties of 1891 (Pearson's) 7s. 6d.
" Double-flowered. Zonal. Grand varieties; fine for pots ... 6 for 2s. 6d. 4 6
" New double-flowered Ivy leaved. Magnificent varieties for pots or hanging baskets, vases, &c., very choice sorts ... 3 for 2s., 6 for 3s. 6d. 6 0
" Gold and silver tricolors. The most beautiful sorts ... 6 for 2s. 6d. 5 0
Streptosolen Jamesoni. Beautiful plant for the greenhouse ... each 9d., 3 for 2s.
Tropaeolum "Comet." Brilliant scarlet, splendid for pots ... each 6d., 3 for 1s. 6d.
Begonias. Tuberous-rooted hybrids. Magnificent single-flowered varieties. Immense blooms of the most beautiful colours. Strong flowering tubers, very choice mixed ... per 100, 30s.; 6 for 2s. 6d. 4 6
" Extra choice sorts, for pot culture ... 6 for 5s. 9 0
" Double-flowered, very fine mixed ... 9s. and 12 0

DANIELS BROS.,
TOWN CLOSE NURSERIES, NORWICH.

NEW, WHITE, SHOW DAHLIA
"JOHN WALKER."

THE FINEST WHITE EVER OFFERED.
EIGHT FIRST-CLASS CERTIFICATE LAST SEASON.
Plants in May, 10s. 6d. each.

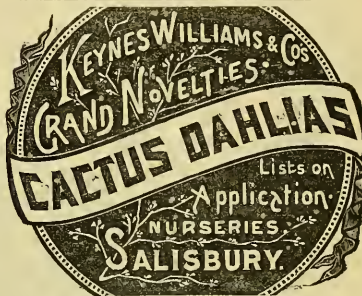
DAHLIAS.
Choicest sorts, extra fine roots,
4s. to 9s. per dozen.
CATALOGUES FREE.

JOHN WALKER, Nurseryman,
THAME, OXON.

ORCHIDS A SPECIALTY.
Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants.
W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

To the Trade.
MANGEL WURZEL and TURNIP SEEDS.
H. AND F. SHARPE have very fine Stocks of the above-named Seeds of 1891 growth, and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advantageous prices.
The quality is very fine and the growth strong.
Samples and prices on application.
SEED GROWING ESTABLISHMENT, WISBECH.

CLEARANCE SALE OF BULBS for Summer and Autumn Flowering. Price LIST on application.
Splendid mixed Gladioli, 2s. 3d. per doz.; Anemone fulgens, scarlet, 5s. 6d. per 100; Anemone Glory of the South, large scarlet, 5s. 6d. per 100; double-tasseled Anemone fulgens, 3s. 6d. per 100; large white, tiger-spotted flower, 2s. 6d. per doz. Mixed Turbano Ranunculus, from named sorts, 3s. per 100.
BARK AND SON, King Street, Covent Garden, W.C.



ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.
(JOHN COWAN), Limited,

Have just received
LARGE AND SPLENDID IMPORTATIONS
of the following and other

ORCHIDS.

ODONTOGLOSSUM CRISPUM
(FINEST PACHO TYPE).

DENDROBIUMS,
In grand masses, and in great variety.

MEXICAN ORCHIDS, in great variety.

CATLEYA AUREA.

LELIA ANCEPS, White.

ODONTOGLOSSUM INSLEAYI, BARKERIAS, &c.

ORCHIDS from GUATEMALA
And other Countries.

Prices and Full Particulars sent post-free on application.

THE VINEYARD AND NURSERIES,
GARSTON, NEAR LIVERPOOL.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by—
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS,
The Late EMPEROR OF THE FRENCH, THE EMPEROR OF RUSSIA,
And most of the Nobility, Clergy, and Gentry of the United Kingdom.



Royal Horticultural Society's Show, South Kensington, London, June 3 to 7, 1881. The "Journal of Horticulture," of June 9, says:—"MOWING MACHINES.—After a critical examination, the Silver Medal was granted to the old firm of world-wide fame, Messrs. T. GREEN & SON, of Leeds and London. As the Machines are known in all lands where good lawns are cherished, it is quite unnecessary to give any description of them."

Upwards of 170,000 of these Machines have been sold since they were first introduced in the year 1856, and thousands of unsolicited testimonials have been received, testifying to their superiority over all others.

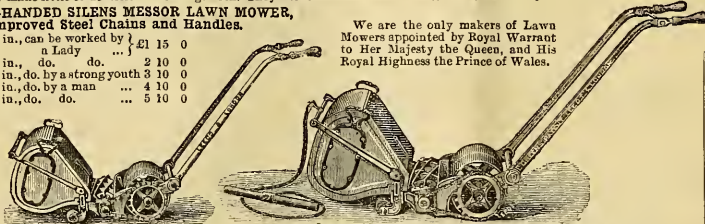
They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER, With Improved Steel Chains and Handles.

To cut 6 in., can be worked by a Lady	£1 15 0
To cut 8 in., do. do. ...	2 10 0
To cut 10 in., do. by a strong youth	3 10 0
To cut 12 in., do. by a man	4 10 0
To cut 14 in., do. do. ...	5 10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

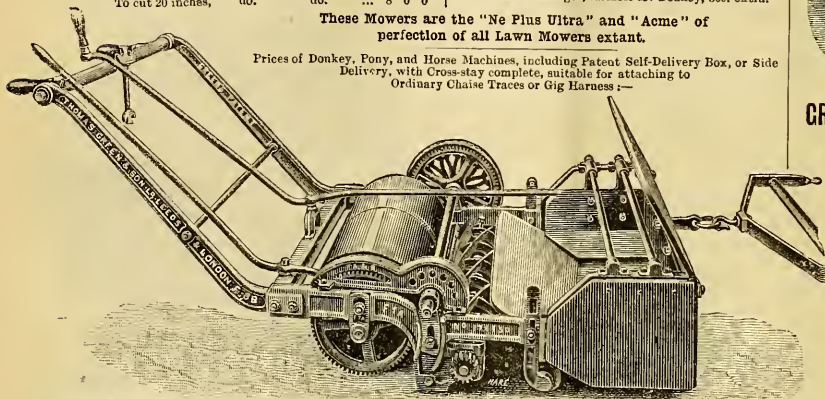


DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man on even lawn	£6 10 0	To cut 22 inches, can be worked by two men	£8 10 0
To cut 18 inches, do. man and boy	7 10 0	To cut 24 inches, do. do.	9 0 0
To cut 20 inches, do. do.	8 0 0		

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross-slay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness.—



DONKEY AND PONY MACHINES.

To cut 26 inches	£14 0 0
To cut 28 inches	16 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

HORSE MACHINES.

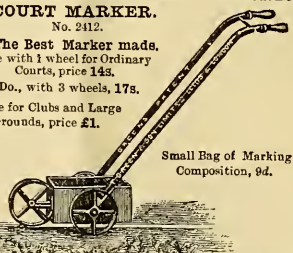
To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
To cut 48 inches	34 0 0
Leather Boots for Horse	1 8 0

GREEN'S PATENT LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made. Size with 1 wheel for Ordinary Courts, price 14s. Do., with 3 wheels, 17s.

Size for Clubs and Large Grounds, price £1.



Small Bag of Marking Composition, 9d.

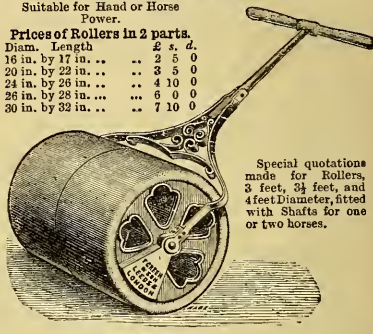
REDUCED PRICES OF GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam.	Length	2 s. d.
16 in. by 17 in.	..	2 5 0
20 in. by 22 in.	..	3 5 0
24 in. by 26 in.	..	4 10 0
28 in. by 28 in.	..	5 0 0
30 in. by 32 in.	..	7 10 0



Special quotations made for Rollers, 3 feet, 3½ feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 ins. diam., £1 16s. Packing Case, 3s.

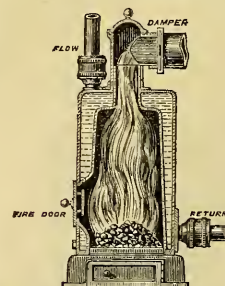
Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and to do away with the tedious operation of cutting with shears.

A very useful and serviceable Machine.



MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

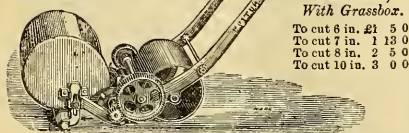
HOT-WATER BOILERS



AND OTHERS WITH SHELVES, AND HOLLOW OR ORDINARY CAST-IRON GRATE BARS. VERTICAL SADDLE BOILERS, &c.

GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.



PRICES, With Grassbox.

To cut 6 in.	£1 5 0
To cut 7 in.	1 13 0
To cut 8 in.	2 5 0
To cut 10 in.	3 0 0

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland. The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser. N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places. HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c. Descriptive Illustrated PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON; or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

THE QUEEN'S CATTLEYA.

CATTLEYA VICTORIA REGINA, SANDER.

MESSRS. PROTHEROE & MORRIS

Have received instructions from Mr. F. Sander, to **SELL** by **AUCTION**, at the Central Sale Rooms, 67 and 68, Cheapside, London, E.C.,

On **FRIDAY, May 13, 1892,**

125 FINE PLANTS

OF

CATTLEYA VICTORIA REGINA (SANDER).

THE NOBLEST OF THE NOBLE,

the gem of the Genus. We are proud of the honour of such a magnificent introduction, worthy to bear the name of a Royal Lady, the most illustrious and noble of her race.

This new species is from one of my oldest and most experienced exploring collectors. It is a true and abundantly distinct Cattleya, as also a novelty of the first rank and greatest merit, free-growing, free and abundant flowering, lasting in perfection a long time. The flowers are borne in clusters well above the foliage, from eight to twenty on each inflorescence; individually, they are 6 inches across, compact, of faultless shape, and firm lustrous substance.

The sepals and petals are of an exquisite soft rosy-crimson colour, with more or less wavy margins, where the colour is of a deeper shade, the base of the sepals and petals being whitish, and the latter are reticulated with a crimson tracery that is a most charming addition to the magnificence of the blossoms. Over the petals of the flower, when opening, there is a hue of colour resembling new bronze. This is only pronounced when the flowers are in process of development, and sometimes appears as a distinct line in the centre of each sepal and petal; the bronzy glistening hue is sometimes accompanied with spots and blotches of a blood-red crimson and purple, altogether gorgeous and unique. When, however, fully open, the flower loses this colouring.

Of the many grand Cattleyas we have introduced, this is, so far as absolute beauty is concerned, the most beautiful. The grandeur of the spike may be imagined when we can prove by a plant in the sale, that it carries as many as twenty flowers on a spike, and each of these is 6 inches across.

We showed the plant before the meeting of the Royal Horticultural Society on Tuesday last and its beauty was considered such as to gain it the Award of the highest merit as a new species.

It can only be compared to *Lælia elegans* Turnerii, of a lighter colour, with less elongated lip, which, however, is double the width in our new species.

We are indeed pleased to give to such a magnificent novelty, the name of Her Most Gracious Majesty our Queen.

F. SANDER & CO. ST. ALBANS.



THE

Gardeners' Chronicle.

SATURDAY, MAY 7, 1892.

THE WESTERN CAUCASUS AND ITS FLORA.

ABASIA (or Akkhasia) is situated in the western part of the Caucasus, between the shores of the Black Sea and the chief Caucasian mountain range. It extends as far north as 43° 20', and as far south as 42° 20' N. lat. On the north it borders upon the Chelnomorsky Okrug (Black Sea district); on the south, upon Mingrelia; on the south-east, upon Svanetia; and on the east, upon the Kuban district. The greater part of the country consists of a labyrinth of lofty mountains, and only the narrow tract along the seashore is more or less level. At present, only this shore tract (about 15 mile wide) is peopled, but formerly settlements existed everywhere among the mountains. Sheltered from the cold north-east winds by the high wall of the chief Caucasian range, which reaches in these latitudes to a mean height of 9500 feet above the sea, and exposed to the influence of wet and warm south-westerly winds, Abasia enjoys a very mild climate, which may be compared with the south of France or the north of Italy. The mean annual temperature in the low-lying coast part of the country is about 15° C., the mean temperature of the winter months being about 7° C., and that of the summer months about 23° C. Frost below 1° or 2° C. is very rare; the lowest degree registered was 7° C., in 1874. The mean humidity is very considerable, about 60 to 70 per cent. The annual rainfall reaches to about 2000 mm. (about 84 ins.). Such a warm and wet climate gives rise to a luxuriant and very distinct vegetation, an analogy with which we are unacquainted with in Europe. It is true, a considerable percentage of the species forming Abasian woods is made up of common European trees: Beech, Hornbeam, Ash, Chestnut, Elm, &c. But the character of their growth is very different from that of the European species generally. Among the peculiarities of Abasian forests must be noticed, firstly, the extremely high limits of their vertical range, attaining from 7000 to 7500 feet above the sea; secondly, their extraordinary thickness; thirdly, their great variety (the woods are made up of more than 100 different species of trees and shrubs); fourthly, the presence in the lower forest regions of numerous climbing plants; fifthly, a very curious fact of concurrent vegetation, at the same heights and places, of coniferous, deciduous, and evergreen trees, the latter ascending considerable heights, as far as the upper limits of the forests (*Rhododendron ponticum*, *Quercus castanifolia*, *Ilex aquifolium*, *Lauro-cerasus*). In a vertical direction five zones of forest vegetation are to be observed. Their demarcation is rather difficult, all zones gradually passing one into another. The difficulty increases because of the vast limits of the vertical distribution of the chief part of the forest trees, the greater part spreading them-

selves over heights up to 4000 feet above the sea, whilst the vertical distribution of the others is comprised in the widest limits, from the sea-level to the upper boundaries of the woods (for example, common Hazel, Holly, Rhododendron, Azalea).

Along the coast line everywhere in the country grow very thick and almost impenetrable coppices, composed of various spiny and evergreen shrubs, viz., *Barberry*, *Laurus nobilis*, *Ruscus aculeatus*, *Palurus aculeatus*, *Vitex agnus castus*, *Cistus creticus*, &c. This zone presents some analogy with the Maquis of the Mediterranean region.

Then there is the zone of mixed wood, which covers all the coast lowlands and the nearest valleys and hills. This zone is characterised by great variety in the plants it is composed of. The extreme thickness of the woods, and the abundance of various lianas and thorny shrubs are also striking features of this zone. It is very difficult to indicate the prevailing plants peculiar to it, all trees being equally distributed in the wood. Among the most common may be mentioned—Common Oak (*Quercus sessiliflora*), Hornbeam (*Carpinus betulus*), and *Carpinus diuensis*, *Ostrya carpinifolia*, *Ficus Carica*, *Diospyros lotus*, Elm (*Ulmus campestris*), Ash (*Fraxinus excelsior*), *Alnus glutinosa*, *Acer campestre*, *Pterocarya caucasica* (the latter growing exclusively on the marshy river banks). The underwood is represented by various European and oriental shrubs—*Crataegus oxyacantha*, *Rhododendron ponticum*, *Cotoneaster pyracantha*, *Azalea pontica*, *Ruscus hypophyllum*, *Rhus Cotinus*, Holly, *Philadelphus coronarius*, *Cornus mascula*, and *C. sanguinea*, &c. The prevailing lianas are—*Smilax excelsa*, Wild Vine, Ivy (*Hedera colchica*) honeysuckle, Traveller's Joy (*Clematis vitalba*), *Periploca graeca*, *Tamus communis*, *Rubus fruticosus* var. *discolor*, &c.

Among the herbaceous plants growing in these woods must be noticed *Epidemium pinnatum*, *Rhagadiolus stellatus*, *Psoralea bituminosa*, *Argyrololium calycinum*, *Cyclamen Cornu*, *Phytolacca decandra*, *Sambucus Ebulus*, *Hypericum ramosissimum*, great variety of *Orchidaceae*, &c. Ferns are very numerous in this zone. The most frequent is *Pteris aquilina*. This Fern often attains a great height (over 7 feet); it generally covers vast tracts, where formerly settlements existed, and appears, as it were, a sign of decaying culture. *Oncoclea struthiopteris* is also a very common Fern; it grows likewise over large spaces. The other Ferns, such as *Polypodium vulgare*, *Asplenium trichomanes*, *Scelopendrium officinarum*, *Adiantum Capillus-veneris*, *Woodsia fragilis*, *Ceterach*, &c., generally grow on rocks and trunks of trees. In appearance, the forests of the zone we now speak of, can scarcely be called fine ones. It is true that in spring, when the magnificent Azaleas and Rhododendrons are in full flower, and the sweet-scented clusters of honeysuckle hang down everywhere from branches of trees, they are charming. But in summer, when they are full of feverish miasma, the intolerable thorns of *Ruscus*, *Smilax* and *Rubus*, take away all the pleasure of rambling about them.

Much more attractive are the woods of the zone immediately following, which may be called the zone of Beech and Chestnut. These woods do not contain such a variety of plants as those of the preceding zone. They grow much more sparsely, and are generally composed of select timber trees. One may meet here with excellent specimens of Beech and Chestnut, sometimes as much as 20 feet in circumference. The space between the trees is covered with a thick underwood of *Rhododendron ponticum*, *Azalea pontica*, and Caucasian Bilberry (*Vaccinium arctostaphylos*), such woods prevail in belts, while glens are generally overgrown with evergreen forests of Box (*Buxus sempervirens*), and Laurel (*Prunus laurocerasus*), with an admixture of Yew, Beech, Alder, Plane (*Acer pseudoplatanus*), &c. Commencing at the height of 7000 to 7500 feet, extends the zone of coniferous woods. It is made up of fine ship-timber trees of *Abies Nordmanniana*, and *Picea orientalis*, with an admixture of Beech,

Maple (*Acer platanoides*), and Mountain Elm (*Ulmus montana*). The trees grow rather sparsely; between them many plots of various size remain vacant. These plots are thickly covered with various sub-alpine herbs, viz., *Aconitum orientale*, *Campanula lactiflora*, *Cephalaria alpina*, *Teleskia speciosa*, *Lilium monadelphum*, *Symphytum asperum*, *Hieracium pubescens*, which generally attain such gigantic height as entirely to conceal a horseman. The underwood of these forests consists of the same shrubs as in the preceding zone, viz., of Laurel, Rhododendron, Azalea, Holly, and *Vaccinium arctostaphylos*. It is very strange to see these evergreens growing side by side with Fir, Spruce, and other representatives of the cold North. The woods retain this character to the height of 6000 to 6500 feet. At this elevation to the plants just described are added some northern trees and shrubs. Mountain Ash (*Pyrus aucuparia*), *Viburnum laetana*, *Daphne Mezereum*, *D. pontica*, *Ribes petraeum*, *Lonicera orientale*, &c., which form a very characteristic zone at the height of 6000 to 7000 feet. We may call it the liminary zone of woods, for immediately beyond it commences the region of alpine meadows. The upper limits of the woods are generally marked by dwarfish trees, Birch, Hazel, *Acer Trautvetterii*, Mountain Ash, *Sorbus aria*, Laurel, and in many places by *Quercus castanifolia*. We must note as a very curious fact the presence at the utmost limits of Abasian forests both of such southern species as Laurel, *Quercus castanifolia*, Ilex, and of the typical forms of the North, as Birch, Mountain Ash, and *Mezereon*. The alpine meadows of Abasia differ essentially from those of Switzerland. Their herbs grow more luxuriantly, and are generally of a higher stature. Particularly, immediately beyond the boundaries of the woods, does the alpine vegetation of Abasia resemble but very little that of the true alpine meadows, large tracts being overgrown by succulent and tall herbs, as B-I flowers (*Campanula lactiflora*, *C. latifolia*), *Columbaceae* (*Aquilegia olympica*), *Teleskia*, *Monkshood* (*Aconitum orientale*), *Caucasian Lily* (*Lilium monadelphum*), &c.; the greater part of which, as we have seen, occur also in the sub-alpine zone. At higher elevations the herbs grow gradually lower, and at the height of 8000 to 9000 feet the beautiful pastures extend, covered with brilliant flowers, which form a natural carpet of the richest colours.

Among the alpine plants, many are conspicuous for their beauty. In the first place must be mentioned, *Betonica grandiflora*, the queen of Caucasian wild flowers, whose magnificent inflorescence, consisting of great purple blossoms, forms a rich natural bouquet; then a sort of *Geranium* (*G. Renardi*), with velvety, slightly incised leaves, and showy violet flowers; *Colombine* (*Aquilegia olympica*), with its great blossoms of sky-blue; *Hedysarum obscurum*, with magnificent crimson clusters; *Anthemis Rudolphiana*, having fine snowy leaves and golden capitulas, &c. Among the rarer plants are:—*Thalictrum triternatum*, *Daphne sericea*, *Carex tristis* *B. Lasica*, and a series of plants described by me as new ones, viz., *Geum speciosum*, a tall handsome plant, with great cordato-orbicular lyrate leaves and numerous orange flowers; *Ranunculus Helenae* (very curious little plants, with simple oval leaves, having three denticles at their apex, with fleshy roots and a very restricted number of pistils (three to five)); *Delphinium pyramidatum* (fine and shapely plant with large fragrant flowers of pale lilac growing in large panicles); *Scutellaria Helenae* (lovely little alpine plant, with beautiful pink flowers, allied to *S. pontica*, *C. Koch*), &c. The rocks crowning the alpine heights are never bare, but are always thickly overgrown with dwarfish bushes of *Rhododendron caucasicum*, *Empetrum nigrum*, and *Juniperus nana*, or covered by a dense turf of various arctic and alpine plants, viz., *Dryas octopetala*, *Sibbaldia parviflora*, *Saxifraga sibirica*, *S. levis*, *S. exarata*, *Draba imbricata*, *Campanula tridentata*, *Gentiana pyrenaica*, *Potentilla Oweriana*, *Alchemilla sericea*, &c. Among the plants just enumerated, the two latter are the most conspicuous, the first having magnificent snow-white

silvery leaves and roseate flowers, the second being remarkable for its silken leadlets. *N. Alboff*, University, Odessa.

(To be continued.)

NEW OR NOTEWORTHY PLANTS.

CATTLEYA VICTORIA REGINA,* *n. sp.*

This remarkable new species may roughly be said to resemble *Cattleya Leopoldi* in its growth, and has flowers resembling those of a good form of *Laelia elegans* Turneri, but with a more wax-like texture and a more flat arrangement of all the segments. It is remarkable, too, that the pseudobulbs, as seen in the different specimens imported, are all more or less compressed, and in some cases exhibit distinctly the two prominent edges seen in some of the forms of *Laelia elegans*. The flowers, which are borne from six to twenty on a spike, are six inches across, and flatly displayed after the manner approved by lovers of showy Orchids. The sepals and petals are of an exquisite soft rosy-crimson tint, white at the base; the petals exhibiting a delicate tracery of light crimson and some minute crimson spots; they are also waxy at the edges. The base of the labellum is white, pencilled with rose; the broad flat front lobe and tips of side lobes being violet tinted with crimson. In its younger stage there is a rich bronzy hue over the sepals and petals, which passes off into the richer rosy-crimson tint as the flower matures, but the presence of the so-coloured younger flowers, and darker mature ones, on the one inflorescence, must make an admirable combination. It is an unexpected introduction, and one would look for the influence of some gorgeous *Laelia*, as it at first sight appeared to me to be a natural hybrid of bi-genetic origin, but examination of the pollinia of one flower gave indications only a pure *Cattleya*. It was imported by Messrs. F. Sander & Co., who first flowered it, and obtained a First-class Certificate for it at the Royal Horticultural Society, on May 3. From the different appearance of the plants of the importation there is every reason to believe that the variation in the flowers will be considerable, and this, first to flower, beautiful as it is, may be surpassed by those which follow. *James O'Brien*. [We shall give an illustration in an early number. En.]

ODONTOGLOSSUM ANDERSONIANUM PULCHERRIMUM, *n. var.*

Among a wonderful series of natural hybrid *Odonoglossums* of the *O. Andersonianum* section, from R. Brooman White, Esq., Arddarroch, Garelochhead, N.B., is the one which I propose the above name, on account of its extraordinary beauty, and the richness of its colouring, the arrangement of which is indescribable. In colour it more nearly resembles that form called *O. Ruckerianum*, but its segments with their long tendril-like recurved tips, call to mind *O. cirrosum*. The sepals and petals are nearly equal at their bases, and in a band up the middle, one-third their length they are cream-coloured, with three to five bright brownish-red blotches. The remainder or the greater part of the sepals and petals are bright rosy-purple with a well-defined lemon-yellow margin, the reverse of the flower being almost as richly coloured as the front. The long narrow labellum, which is serrated at the edge, is clear yellow, with one irregular brown blotch in the centre. It is wonderfully beautiful and elegant, and it is not easy to satisfy oneself as to its right parentage. *James O'Brien*.

* *Cattleya Victoria Regina*, *n. sp.*—Pseudobulbs 1 to 1½ ft., slightly compressed, and exhibiting often two edges; leaves 2 to 3 on a pseudobulb, hard and fleshy, 3 to 6 ins. long, 2 to 3 ins. broad, often slightly concave; peduncle 3 to 9 ins. long, bearing (as seen on the imported specimens) 6 to 23 flowers; flowers 6 ins. in diameter; sepals, oblong, lanceolate, obtuse; petal similar but broader, and slightly wavy at the edge; lip 3-lobed; side lobes ovate oblong; isthmus short; front lobe broadly reniform; colour, soft rosy crimson, with darker veining on the petals and white base to both sepals and petals. Imported and flowered by Messrs. F. Sander & Co., of St. Albans. *James O'Brien*.

ODONTOGLOSSUM PLATYCHEILUM, n. sp.*

On March 22, a new species of *Odontoglossum* was submitted to the Orchid Committee of the Royal Horticultural Society, and an Award of Merit was recommended, subject to the plant receiving a name. At the time but one flower was expanded, but owing to the kindness of Mr. J. H. Simpkins, gardener to Mr. R. J. Measures, of Cambridge Lodge, Flodden Road, Camberwell, S.E., I have been enabled to see the plant later, when two flowers, as represented in the accompanying cut, were fully expanded. The habit of the plant is stiff in appearance, owing to the leaves standing almost erect from the pseudobulbs; but this character may not be constant.

specific name has been suggested in reference to it. It is of a very soft pink colour, with deep crimson-purple blotches scattered over the surface, and giving a charming effect to the whole flower. At the base of the lip (which from the side view will be seen to be furnished with a long claw), there is a bilobed callus, each lobe being itself bidentate. The column is white and wingless, but somewhat distended on each side of the stigmatic cavity.

Unfortunately, it is impossible to record with accuracy the native country of this species, which is probably Central American or the Cordilleras of Colombia. The name of the introducer, and the

tious; yet we may fairly assume these would still apply. Mr. Mer says the larger roots first start into growth; but it must be observed that none of these start until from ten to fifteen days after growth has commenced in the upper branches of the trees. Growth, he says, starts first in the extremities of these larger roots, and that the whole growth underground follows exactly that of the top, only in a reversed order. Now, I presume to account for these facts on the following reasoning, viz., the ground in winter, at a certain depth, is warmer than at the surface. Consequently, the larger roots being more deeply embedded, and their extremities in a more uniform and warmer temperature, at once respond whenever top growth has fairly commenced.

The medium and smaller roots, which will be found quite near, or immediately under the surface, require still more warmth—a longer season, so to speak—to penetrate the cold surface soil, which at this season may have only been recently released from a frozen condition.

To account for these smaller rootlets finishing their growths first, we may infer that these, from their first start, being so much smaller, require less nourishment; again, this nourishment being so much earlier cut off, through the extreme heat and drought in the soil immediately surrounding them, forces on maturity, or cessation of growth, long before the medium, or, at any rate, the larger roots, these being in a deeper therefore moister medium, give up. We get a capital instance of roots starting earlier or later into growth, in a viney where these are allowed the run of outside and inside borders.

A particular instance bearing on the rise of growth came under my notice some seven years ago, while engaged felling large timber—Larch—of from sixty to eighty years' growth. Felling commenced in the earlier part of January. At this time snow and frost covered the ground, but by the middle of February this had given way, and beautiful weather with bright sunshine supervening, growth was easily discernible in the tops as the trees were cut down. Up to this time, I had not as yet discovered what, in a fortnight, became general, viz., a remarkably strong flow of sap, and this, of course, of a strongly resinous character, which made the work of felling extremely laborious. It was from now forward in every tree cut down, and continued to pour out and over the top of the stump for several days.

Since reading your article on Mr. Mer's experience, this instance of the rise of growth or "sap" at once, and forcibly, occurred to me. That the rise of growth, however, is not dependent upon the rise of sap, according to the ordinary supposition, was here demonstrated quite plainly, because for a fortnight or three weeks previously growth in the tops was quite in evidence by the swelling buds and bursting cones (young). Give us every other week, if you can, such problems as Mr. Mer's—good studies for young gardeners. *Pomum.*



FIG. 84.—ODONTOGLOSSUM PLATYCHEILUM: FLOWERS WHITE, WITH PURPLISH BROWN SPOTS.

Only two flowers were borne on the short scape; the sepals and petals are similar in shape, creamy-white, with chestnut-brown blotches at the base, while the two lower sepals are prominently keeled outside. The lip is very large and beautiful, and the

* *Odontoglossum platycheilum*.—Pseudobulbs ovoid, slightly compressed, acropituous, monophyllous. Leaves oblong lanceolate, 8 to 9 in. long, 1 to 1½ in. broad, becoming narrowed and conduplicate at the base. Scape short, erect, two (or more?) flowered, bracts ovate-acute, pale green, ½ in. long. Flowers 1½ to 2 in. in diameter, pedicels 1 to 2 in. long. Sepals oblong-lanceolate, white, with chestnut-brown blotches at the base, the two lower ones with a prominent median keel behind. Petals similar, but without the median keel behind. Lip clawed, with a broadly cordate reniform blade, slightly undulated, pale rose, with crimson-purple blotches scattered over the surface. Crest bilobed, each lobe being bidentate. Column creamy-white, clavate, widened at each side of the stigmatic cavity, *J. Weathers.*

date of the introduction, are likewise unknown; the only trustworthy information we have regarding its history is, that the plant was purchased by Mr. Measures with an odd lot of Orchids when the Downside collection was sold. It may, therefore, be assumed that the plant has been in cultivation for about five or six years at least, and it is interesting that it should have gone even this number of years without flowering. *John Weathers.*

SPRING GROWTH OF TREES.

(Continued from p. 492.)

ROOT GROWTH.

IN regard to the root growth, as mentioned by Mr. Mer (see p. 330), the question seems to me more difficult to account for upon the same deduc-

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM HALLI CRISTATUM.

A FLOWER of this beautiful variety comes from G. R. le Doux, Esq., Langton House, East Monsey. It is a fine form of *O. H. leucoglossum*, but its chief beauty lies in the well-developed and beautifully-tinted crest at the base of the labellum, and which is of creamy white tinged with orange, and the finer filaments are pencilled with red. With this came the beautiful *O. Andersonianum*, a rich yellow, crimson-spotted *O. excellens*, a fine *Miltonia Roezlii* magnifica, and other Orchids, which bespoke the good quality of the varieties, and the culture pursued at Langton House.

ORCHIDS AT CAMBRIDGE LODGE.

Among the plants noticed in flower on the occasion of a recent visit to Mr. R. J. Measures' garden, was a fine form of *Dendrobium nobile* var. *nobiliss.* with many large flowers, which, although new varieties and hybrids are constantly cropping up, may

still claim to hold its own against them all. Side by side with this was a grand plant of *D. Ainsworthii* roseum, the flowers of which are white, suffused throughout with a deep tint of rose-pink, the lip being of rich crimson. Another fine *Dendrobium* was a magnificent specimen of *D. speciosum* var. *Hilli*, a plant that was pushing up seventeen spikes of flower, and will presently make a noble display.

The collection of *Cypripediums* is perfection itself, scarcely a taint being noticed on any one plant—a fact reflecting great credit on Mr. H. Simpkins. One plant in particular to which my attention was called was a specimen of *C. Charles Canham* ×, which had made seven strong growths simultaneously from an old one. A very good variety of *C. Mrs. Canham* × was observed; it had a large, well-shaped flower, *C. leucorrhodum* × is represented by a large specimen, which was pushing up many strong flower-spikes. There is much beauty and character in this Veitchian hybrid which should recommend it to every cultivator of *Cypripediums*.

The collection is rich in seedlings of *Cypripedium*, many hundreds of these being observed in all stages, and many of the crosses effected are very distinct, and will be much valued when they become known. *Cypripedium Sallierii* Hyeanum, when seen to perfection, has a rich colouring, the segments being of pale greenish-yellow, with very dark markings.

A splendid bank of *Odontoglossum vexillarium* consisting of about 350 plants, all of which may be said to be of the best, are just about to open their flowers, many of which, I was told, are exquisite—one in particular, *O. v. Mesuresianum*, being of pure white, and of good size. *Odontoglossum Alexandræ*, and others of that section, are in a fine healthy condition, and make a goodly show. *Cephalotus follicularis* and *Dionæa muscipula* seem well suited in the *Odontoglossum*-house, and on the former numerous pitchers of good size and colouring were observed. *Odontoglossum grande* is at rest, and is kept totally dry for about three months. The plants seemed to be in sound condition, and one could not fail to notice the large size and great substance of the leaves and pseudobulbs.

Many forms of *Cattleya Trianae*, rich in colouring, are going out of bloom; a special variety, called *C. T. Ernestii*, has a flower with striped petals, and otherwise finely coloured. A large specimen of *Coleogyne Massangeana*, 3 feet across, not now in flower, makes a fine show in its season.

In the *Masdevallia*-house were *M. Mooreana*, with its rich long-tailed flowers, and several good forms of *M. chinensis* and its allied species. *Vanda Parishii* Marriottiana, when once seen, is not soon forgotten, and of this charming plant one was in flower; the colour is rich, and the individual flowers larger than those of *V. tricolor*; and a flower-spike carrying eight flowers cannot fail to excite admiration. *Vanda tricolor*, *suavis*, and some of their varieties, were also found in capital order.

CYMBIDIUM Eburneum.

This is probably one of the most useful of its family, as it is a species easy to cultivate, giving a good number of substantial snow-white flowers, which remain perfect for a long time. At Holly Bank, Hornsey Lane (Mr. Reynolds, gardener), there was recently a very fine specimen full of large showy blossoms, somewhat distinct from the ordinary *C. eburneum*, and which resembles a drawing of *C. eburneum* var. *Dayanum*; this latter variety has a larger labellum, and is rather heavily spotted with crimson. It is a desirable variety, and well worth cultivating.

ORCHIDS AT AVENUE HOUSE, SOUTHEAST.

These at the residence of C. S. Harris, Esq., though only a few miles out of the smoke of London, are quite equal to any spot in Surrey or the other neighbouring counties. During the past year big strides have been made by Mr. Harris in horticulture, and he has, moreover, become interested in Orchid culture in particular. Three houses are set apart for these plants, which, under the careful attention of the gardener, Mr. Trowell, are in a very creditable con-

dition. Among the *Cypripediums* worthy of note was, on the occasion of a recent visit, a splendid variety of *C. Curtisii*, which has been in flower for nearly six months, and at the time of writing, the flower looks strong enough to endure as long again (which of course is not possible). *Cattleyas* receive a large share of attention, and the remaining flowers of many good forms of *C. Trianae* were still making gay the *Cattleya*-house. *C. Schroderae* is represented by several lovely forms, and is a general favourite for its beauty and delicate aroma. Several good forms of *C. Mendellii* were in flower, one a magnificent form with sepals and petals, and a large dark heavily-fringed lip. *Dendrobiums* were in full beauty, although it is late for seeing *D. Wardianum* at its best; but fine forms of *D. Findlayianum*, *D. nobile*, *D. Dalhousianum*, *D. simbristatum* oculatum, made the *Dendrobium*-house very bright looking. Special attention is paid to a collection of *Phalænopsis*, among which were noted some good plants of *P. Schilleriana* and *P. grandiflora*, now out of flower; the firm, clean leaves on which can be seen no blemish whatever, testify to the care and skill with which they are treated. *Odontoglossums* and other cool species are well represented, and are pushing up their flower-spikes.

ORCHIDS AT THE GRANGE, HACKBIDGE.

The lover of Orchids always feels himself well repaid for a visit to the garden of A. H. Smee, Esq., for be it the depth of winter, or the height of summer, there is always a good display of well-grown choice species. The warm summer-like weather of the early part of April did wonders in promoting the flowering of plants, and for this alone—forgetting the hard work caused by the drying up of the plants, and the need for much watering—the gardener should be thankful.

A few of the plants in flower worthy of note consisted of a very fine form of *Cattleya Trianae*, having broad segments, and a deep crimson-coloured lip, with a pure white line running longitudinally through the centre of it. This plant is probably one of Mr. Smee's best forms, and a striking variety; several other good forms of *C. Trianae*, and a splendid *C. Mendellii*, flowering for the first time, deserve notice. *C. Walkeriana* was also flowering nicely. The *Odontoglossums* were looking well; and some forms of *O. Alexandræ* and *O. Pescatorei* were admirable. A plant of the rare *O. triumphans aureum*, with three fine golden-yellow flowers, is a plant that is much prized by its owner. Other *Odontoglossums* in flower were *O. facetum*, allied to *O. lateo-purpureum*, but smaller; *O. navium majus*, pure white flowers, with rich chocolate markings; and several well-flowered plants of *O. cirrhosum*. In the same house as the *Odontoglossums* was observed a number of fine healthy plants of *Lycaste Skinnerii* in full bloom.

In the *Masdevallia*-house I noticed that charming little rarity, *Pleurothallis ornatus*, with a dozen or so flowers of microscopic dimensions. A variety of *Epidendrum evectum* had several large panicles of magenta-coloured flowers, each panicle bearing between forty and fifty flowers. *Ansellia africana nilotica* was just beginning to fade, having opened its flowers in January. *Cyrtopodium St. Legerianum*, of which there is a fine specimen, was making grand growths. Mr. Cummings tells me that this plant last flowering season carried 430 flowers. *P. W.*

THE BULB GARDEN.

EUCHARIS SANDERII.

I RECENTLY noted a grand lot of the above at Oakley Hall, Basingstoke. Mr. Weaver, the gardener informs me that he finds it much freer-flowering than *E. amazonica*, and it certainly there appeared to better advantage, as I saw them growing side by side, the latter not carrying nearly so many spikes as *E. Sanderii*, nor being so gross in the foliage. Mr. Weaver attributes his success to the liberal use of crocks and charcoal, which tend to

keep the soil open, thereby allowing a copious supply of water being afforded in the flowering season. Another point in favour of *E. Sanderii* is its freedom from mealy-bug, none being seen on any part of the foliage. This certainly is a thing to be desired, as undoubtedly a great saving of labour would be effected, and though the blooms are not so large as those of *E. amazonica*, still, they possess great substance, which is a point not to be despised in flowers for cutting. *J. Clayton.*

SPRING BEDDING IN HYDE PARK.

THE flower-beds at the east end of Hyde Park, and close to Park Lane, are now gaily dressed with beautiful plants, and lovers of Hyacinths, Tulips, Narcissus, and other spring-flowering bulbous plants should see them at once, when they will be amply repaid for their visit. The Hyacinths are perhaps most developed, and a very pleasing effect indeed is caused by the judicious combination of the various colours. Most of the varieties appear to be those we are familiar with, which it is evidently difficult to surpass, whilst a few of the newer kinds and colours lend a fresh appearance to the whole. Of the whites *Miradolina* is the best, and another good one is *Madame Van der Hoop*. The blues are particularly strong, and include such well-tried varieties as *Baron Von Twyll*, a very dark one; *Regulus*, King of the Blues, which is later than the rest; and *Charles Dickens*. Lord Derby is an excellent light colour, and *H. Priestly* is a good blue, of medium depth. A good red is *Robert Steiger*; and *Gigantea* is the best of the pinks.

The Tulips will not be at their best for another week, but a very neat and good appearance promises a very wealth of bloom in store. Amongst some excellent varieties, are the following:—*Pottebakker*, a good bright crimson; *Comte de Mirabeau*, *Joost van Vondel*, *Dussart*, *Keizer's Kroon*, *Marillo*, *Proserpine*, a very pretty variety; *Wouverman*, very striking from its violet-purple coloured blooms; *Chrysolora*, a lemon-yellow variety; and *Yellow Prince*.

A very charming effect was produced by a bed of mixed *Narcissus*, which was surrounded by a band of red *Daisies*; and two circular beds of *Narcissus Horsfieldii* were a complete show in themselves, and bore striking evidence of good culture. This is a variety with petals and sepals white, and trumpet a good yellow, large and handsome. A bed each of *N. Orange*, *Phoenix* and *N. rugilobus*, were surfaced with *Scilla sibirica*, which is also in bloom, and a very good effect is produced. Some green surfacing would greatly add to the beauty of the Hyacinth and Tulip beds, which are not improved by the dull brown colour of the Cocoa-nut fibre refuse. Some beds of *Wallflowers*, which are just coming into bloom, help to make this beautiful collection of well-kept plants, a sight not soon to be forgotten.

Passing from here into Kensington Gardens, there is very little spring bedding done, but the flower-walk running from the Albert Memorial is already beginning to look spring-like and interesting. Amongst the hardy herbaceous plants are squares of Tulips, *Primroses*, *Muscarias*, *Hyacinths*, *Wallflowers*, *Triteileia uniflora*, and *Doronicum austriacum*, in full flower; whilst *Magnolia Soulangiana*, *Cydonia japonica*, and the double red-flowering Peach (*Persica vulgaris*), are blooming profusely. In the private grounds adjoining the Palace, there are some beds of Tulips, in varieties similar to those in Hyde Park.

Preparations are rapidly going on in the propagating-houses here to supply plants for the summer bedding, and as an instance of the immense quantities of these plants required, there are about 100,000 *Pelargoniums* alone. The *Fuchsia* plants are extra strong, and promise well for the season's display. Several new and interesting features are being included, which will help to make the summer show in these gardens as bright and as interesting as they ever were.

In addition to the beds near the Park Lane boundary of the Park, there is, near the outfall from the Serpentine, a very charmingly-arranged bank of bulbs, Hyacinths, Tulips, Scillas, Narcissus, &c., together with Belvoir Castle Wallflower, and other spring-flowering subjects. It is a bit of gardening of a kind just fitted for the spot, which is a narrow border, elevated above the walk, and backed by low shrubs, and enjoying a southerly aspect. Country visitors should not fail to see this.

FLORISTS' FLOWERS.

THE AURICULA.

APRIL is the month when we begin to enjoy the results of twelve months' labour. The first flowers open very early in the month, and they pass away

blemish, and in some seasons it is much more apparent than in others. No good Auricula-grower would allow a shaded self of his own raising to be placed in commerce; but it is no fault of his if the shading is produced subsequently by influences over which he can have no control. The alpinists have margins resembling the selfs to some extent; but they, so the fanciers say, ought to be shaded, and if the collection of plants here may afford an indication of what they are in other collections, they do not seem to have suffered anything from the east winds, nor have the flowers been checked in their development by the warmth and dryness of the weather. Some persons have better opportunities than others to moderate the influence of unpropitious weather by shading from very bright sunshine, and artificially warming the house or pit on frosty nights. Some growers have no better accommodation for their plants than a garden frame, and

and shaded from hot sunshine. When the plants are grown in frames, a double mat is necessary to keep the frost out on very cold nights, and much care is necessary in opening the lights when frost-winds are blowing. As soon almost as the plants pass out of bloom, they should be repotted, and now that the Auricula aphid (*Trioxys auriculae*) has become so prevalent, this is a much more tedious process than heretofore, for this troublesome pest clusters round the neck of the plants, they whiten the insides of the pots with their woolly covering, and cluster upon every root that has traversed through an open or loose space in the potting soil, and they will penetrate to the centre of the ball of roots. Now every bit of this aggregation of parasites must be removed, either by getting it out with a bit of pointed stick, or if very numerous, all the soil may have to be removed, and the roots washed with soft-soapy water. Clean, well-drained pots must be used to pot the plants in, and the potting-soil should be in good condition, and mixed with—as a celebrated painter said his colours should be mixed with—brains. Loam, for instance, is not always alike; it ranges from the extreme of unctuous yellow loam to quite sandy material, with but little holding power. Medium yellow loam is best, to this add a fourth part of decayed manure, as much leaf-mould, and some sand if necessary. One of the best growers has nothing better than soil from the Potato plot in the kitchen garden. When the plants are repotted, they should be placed in frames on the north side of a wall or dwelling-house in preference to any other position. Firm potting is best. Offsets and seedlings now require careful attention. The seeds, which ought to have been sown early in the year, or in the month of August last year, have now produced nice little plants, and a season will be lost if they are not grown on in good rich soil rapidly, to be flowered in the spring of the year following. Unless the plants are strong, they do not flower, consequently they have to be grown on another year to prove whether they are likely to be worth retaining at all. The offsets taken off in the autumn, and also in the spring of the present year, have also to be well cared for, else the plants will not grow into a flowering size. They must be repotted as soon as they need it, and by August or early in September they may be shifted into the flower-pots in which they are to flower. *J. Douglas.*



FIG. 85.—BASKET OF LILY OF THE VALLEY.

entirely in six weeks or less. I do not know any plant so sensitive to the influence of the weather as show Auriculas. As regards the opening of the flowers of the green, grey, or white-edged varieties, if the plants experience a chill when the flowers are opening—and this they easily do if the east wind blows continuously—the effect upon the half-opened flowers is to fix them at that point of development. On the other hand, the recent warm weather had undoubtedly the effect of preventing perfect development in the flowers, the corolla expanding too rapidly, and the blossoms were smaller than usual. The effect upon the selfs was, in many instances, to produce shaded edges, which fanciers regard as a serious blemish. By a shaded edge is meant the colour gradually becoming paler from the central white paste towards the margin. This shaded edge in the self show Auricula is considered a very serious

in that case it is not easy to get the plants into flower in an adverse season; but this is better than the old-fashioned Lancashire system of protecting the plants from the inclemency of the weather by using wooden shutters in place of the glass lights. The old growers must have been easily satisfied, for what with wooden shutters to flower them under, the use of 7-inch pots even for small plants, and rich compost in which the roots could not thrive, they made a sorry figure. I visited a garden in Lancashire in which the plants were grown under such a frame and planted in large pots, and none of them were anything like so vigorous as those plants cultivated in 4 and 5-inch pots. Handsome flowering plants can be grown in these small pots. When Auriculas are flowering, the trusses should not be exposed to frost-winds, and when the flowers are expanded, they will last longer if kept rather cool

LILY OF THE VALLEY BASKET.

OUR illustration (fig. 85), taken from a photograph kindly sent to us by Mr. Gough, gardener at The Grove, Heigham, Norwich, indicates a novel mode of utilising the Lily of the Valley. In the absence of any particulars, we should suppose that the crowns—i.e., single flowering buds—are started in heat in the usual manner, and when they have shown bloom they are planted in a wire basket lined with fresh green moss, and filled with a light compost. In planting the basket, the heads of bloom are so arranged that when the leaves appear, little or nothing is seen of the basket itself. Similarly, Achimenes, Tydas, Lachenalias, &c., are planted.

CULTURAL NOTES.

ANTHURIUM SCHERZERIANUM WARDII.

ALL persons consider Anthuriums of the Scherzerianum type to be among the most beautiful of stove plants, and worthy of a place in all gardens where there is a stove. Some growers recommend potting them in the spring, and others after the flowering season is over, which is generally towards the latter part of the summer. I have tried both ways, and am in favour of the latter practice, as the plants are given time to get well established in the new soil before the winter sets in, thereby being in a better condition to support themselves during the flowering season. The potting should be very

carefully performed, the pots well drained, and the greater part of the old ball of soil removed, for if left till another year, it would, in all probability, be in a state very detrimental to the well-being of the plants, owing to the quantity of water they require during the growing season. One important feature in their culture is the keeping of the plants well syringed and shaded from the sun during the time they are in flower. By so doing, the spathe keep a much longer time in perfection. A compost consisting of good lumpy loam, fibrous peat, dried cow-dung, silver-sand, and charcoal form a very suitable one. Liquid-manure from the cow-sheds, if supplied once or twice a week in the proportion of one part to three of water will prove beneficial to them during the growing season. I have now a splendid plant in a 10-inch pot carrying twenty-eight flowers, averaging 6 inches by 4 inches. *G. Parrant, Ashby St. Ledgers Lodge, Rugby.*

THE CROWN IMPERIAL FOR POT CULTURE.

APART from the normal beauty possessed by all the varieties of this stately plant, two of them have very pretty variegated foliage, which makes them objects of attraction wherever these are grown—I refer to *Fritillaria imperialis rubra argentea* and *F. i. r. aurea variegata*.

There are at least twelve distinct varieties, ranging in colour between yellow, deep orange, and red, besides a double-flowered red and yellow respectively; also a peculiar form named *Crown-upon-Crown*, having several whorls of flowers one above the other. Unlike Lilies generally, the leaves grow in confused form around the stalks, somewhat elevated above them. On a space of clear stalk appears the crown of drooping blooms, which are surmounted by a tuft or crown of other leaves. A characteristic of the flowers are the six drops of nectar which persistently hang attached to the base of each petal; these Gerarde likened to "faire Orient Pearles." The same old author called these plants "Corona Imperialis," having failed to identify them with the *Fritillary*. It is worthy of remark, that Gerarde asserts the *Crown-upon-Crown* form (a variety already referred to) is due to the age of the roots. The plant is said to be native of Persia, though for centuries it has been widely distributed throughout Turkey and the East generally.

As pot plants for conservatory decoration, the single-flowered and variegated-leaved varieties are very suitable, the wonder being they are not more generally employed for this purpose. One bulb, in a 6-inch pot, grown on under glass, is ample to produce a stately and pleasing plant of some duration. Little or no forcing is wanted to have it in bloom early in the month of May, though it is essential it should be placed and maintained upon a light airy shelf, otherwise the stalks will be blind and flowerless.

Owing doubtless to the length of time these bulbs have been introduced, sundry examples are to be met with in some old-fashioned gardens here and there throughout the country. Such examples, however, seem to have become veritable fixtures therein, and upon certain given sites from whence they are seldom or never removed. It speaks volumes in favour of their power of endurance, that they so exist. They do not appreciate transplanting too frequently, not often than once in three years. It is desirable, however, that all old stools should be taken up, divided, and planted in new soil. They should be planted 3 inches deep, and may, without injury, be planted at a depth of 6 inches. The plant is worthy the attention of hybridists, and, like Lilies, the peduncles, which bend down when the plant is in flower, become erect as the seeds mature.

THE CHEQUERED FRITILLARY.

This plant is very distinct from the above in appearance, being more dwarf, and also narrower in the leaf. *Fritillaria meleagris* is a British plant. These were named by old authorities, "Chequered Daffodils," or "Ginny-hen" flowers. Probably as

many as two dozen distinct species exist, inhabiting countries as wide apart as America, Britain, Siberia, throughout the Caucasus and Persia. Dr. Tristram, not only found *F. persica*, upon the plains in Palestine, but notes a probable new form among the snows of Hermon and Lebanon. The aforesaid *F. persica*, is, by the way, the native or "Persian Lily."

The total number of species in the hands of the trade at this time is probably not more than a dozen, even if we include such large bulb growers as those of Overveen and elsewhere on the Continent. Of these species, the Persian, obtained from Mount Ararat, is the most plentiful and cheapest. The Grecian form, with black flowers, is quaint; and Lusitanica, a soft yellow, is a very desirable plant. But commend me to the lovely, velvety, large, white, drooping bells of the European *F. præcox*, however much it departs from the chequer-like characteristics of the family as a whole.

As do the stately Crown Imperials, so these dwarf species, flower admirably in pots, if four or five bulbs be placed in a 5-inch pot in the month of October, in a light rich compost, and potting them somewhat firmly. The potted bulbs should be plunged beneath a bed of fine coal-ashes, giving, in addition, some slight protection during severe weather; this is all that is necessary; and here they may remain till they grow through the surface of the ash-bed, and as soon as the flowers show, the pots should be removed to the greenhouse. *William Earley.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

VINES.—The borders, especially such as are shallow or ovelie gravel, or are entirely indoors, when the bunches begin to colour, should have a dressing of Vice Manure and a good watering. A slight mulch of spent Mushroom manure may subsequently be spread on the border, thus retaining the moisture afforded, and keeping the air of theinery drier than was the case whilst the Vines were in their flush of growth. At this stage, strict attention should be given to ventilation, in order that the sudden rises in the temperature before a sufficient volume of air is admitted from without, to avert the sweating of the fruits. As a safeguard against mishap of this kind, it is prudent to afford a slight amount of air day and night, for should black Grapes "sweat" after they begin to colour, they rarely take on a desirable finish. When air is thus afforded, a warmth of 60° should be maintained until the fruit is ripe. If red-spider should show itself on the Vines, the leaves should be sponged with water in which flowers-of-sulphur are mixed, but in cases where all the Vines in a house are infested, a more expeditious means of destroying it will be found in syringing the foliage with the mixture. When this measure for eradicating spider is contemplated, it will be necessary to wrap the bunches in fairly strong paper sufficiently large so as to well overlap them, and allow a good margin at both ends. Tie the paper tight round the footstalk of the bunch to prevent the sulphur getting into it, and gather it loosely together, and also tie it at the bottom. Water containing sufficient sulphur to render it no thicker than can be readily applied through a single jet of a syringe may then be evenly distributed over the Vines, wetting both sides of the leaves, continually stirring the mixture the while. This work should be performed after sun-down, and the papers allowed to remain on the bunches until the following morning, at which time the foliage will be dry, if a gentle warmth has been kept up in the heating apparatus. If this work be done between the thinning of the berries, and their commencement to colour, it will not have any bad influence on their finishing. A few grains of sulphur (when dry) will probably fall on the bunches, but these can be blown off before being sent to table.

SUCCESSION VINERIES.—Vines now swelling their fruit should be liberally afforded some kind of manure, and have all the superfluous growth kept removed. Thin the berries of all free-setting varieties when of the size of Peas, but allow a little more time to elapse about which a doubt may be entertained

as to their swelling properly. At this period of growth the temperature should be gradually lowered to 60° at night, with a corresponding reduction in the day. Vines coming into bloom may be given a minimum temperature of 65°, the atmosphere of the house being kept dry at this time. In bright weather the borders, however, may be damped down once or twice during the day, if the external air be dry. Tie down the lateral shoots in late houses, and when circumstances favour the horizontal training of the same, get them gradually into that position. In such positions they are not likely to lose the leaves nearest to the point of junction with the stem; but lateral shoots of robust Vines, when trained in a slanting direction towards the top of theinery, generally lose the first leaves, which unfold prematurely.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

FRENCH RUNNER BEANS.—If seed of the first-named be sown about this date, the produce will succeed without any interval that from the seed sown in the last fortnight in last month. The present time is indeed early enough for the first sowing in cold land and districts. For a first crop in the open I would advise, where produce is required early, to sow in pots, and plant out when large enough, protecting the plants at night. One of the best Beans to sow at this season is *Ne Plus Ultra*, a very dwarf and productive variety, whose pods remain tender for a longer period than others. Mohawk is another early Kidney Bean, but its season is soon over. To follow *Ne Plus Ultra*, a good breadth of Canadian Wonder should be sown in about ten days, which will continue the supply of Beans till the Scarlet Runners come in, when by some persons the Kidney Beans are thought but little of. Runner Beans require a warm open position, and in heavy land it is good practice to dig out a trench and fill in with burnt garden refuse and light soil, placing some rotted manure at the bottom, and incorporating the light materials with some of the staple. The trench, if left partially unfilled, affords protection to the plants, and retains water when watering must be done in a dry season, and which is often required in dry soils, or much of the blossom will fall. The crop is one that requires plenty of space—8 to 10 feet is none too much between the rows; if this amount cannot be afforded, the plants must be topped at 6 feet. I prefer to plant my rows 20 feet apart, and crop between them with low-growing vegetables. Market growers plant much closer than this, and top the rows when the plants are 1 foot high, and using no stakes; but this plan is not so profitable as the other, and the pods get dirty from laying on the ground. The Giant White-flowered, and Veitch's Mammoth Scarlet-flowered, are good varieties to sow at the present time.

PEAS.—The ground between the rows must be stirred with the hoe, and the earth afterwards drawn close up to the plants on either side of the rows, sticks being afforded them when they get about 6 inches high. Seed for succession should be sown in deep drills on richly-manured land, and previous Calendrical instructions carried out.

BROAD BEANS for late use should be sown on a border facing north or east, the variety being the Broad Windsor—that is, if good colour in the Beans is required, and a moderate crop not objected to.

CARROTS.—The middle of April sowing will require to have the hoe passed between the lines, the earlier varieties may be thinned as soon as they are large enough to handle; the Short Horn section of Carrots need less thinning than the main crop varieties, and may be thinned when drawn for use. The main crop of Carrots will require at least two thinnings. If main crop Carrots are required for use before they are fully grown, some rows should be set apart for that purpose, and not severely thinned out.

SPINACH.—When warm dry weather sets in Spinach soon runs to seed, and it is advisable to sow small breadths at frequent intervals, and in spots not fully exposed to the sun at midday; sowing the seed thinly.

CARDOONS.—Seeds may be sown in trenches, dug out and manured similarly to those for Celery, dropping a few seeds at intervals of 2 feet down the centre of the rows, covering the seeds about half an inch, and thinning out the weaker plants when a few inches high. Cardoons may be sown in pots

kept in frames till planted out in the third week in the present month. It is a vegetable that requires liberal cultivation, so as to secure large fleshy stalks, and abundance of water when it is in active growth.

THE ORCHID HOUSES.

By H. A. BURBERRY, *Orchid Grower, Highbury, Birmingham.*

REMARKS ON VENTILATION, HEAT, ETC.—Much time will now be taken up in attending to the various heats of the different houses, and the general requirements of the plants. The houses will require to be well damped as regards bare surfaces three times a day at least, and the inmates examined each day, and watered only if they are in a condition to need water. It is not good practice to keep an Orchid plant in a soddened condition, and so to do is generally to shorten its life. At this season, slightly spraying overhead may be resorted to in some of the houses, which should be done when the quantity of air has been reduced in volume, and the blinds rolled up when the sun's warmth is declining. After a bright day the Mexican plants may be well syringed, as they seem to like the wetting, and besides, it saves labour in watering, as these plants, which have but little or no shading put over them, get dry very quickly, and it helps to keep injurious insects in check. By reducing the volume of air admitted while the sun has still some power, an amount of warmth is stored up in the intermediate and the other warm-house which will last till late in the evening, when artificial heat will become necessary while the nights keep as cold as at present. The Cattleyas may be gently sprayed at this season on fine days, thereby imparting health and vigour to them, and also many other species of Orchids. When there is no danger of the plants damping off, our Phalenopsis are dewed over at intervals during the day, the atmosphere being kept warm. Masdevallias are just now making a good show with their brilliant colours and wonderful shapes. It is not safe to syringe Masdevallias overhead, as there are generally young growths amongst which the water will lodge and cause to rot. I have frequently heard it said that Masdevallias require much water, because they have no pseudobulbs to serve as a store of nutriment; but this is, I think, a mistake—they should be watered moderately, and with liquid manure sometimes, as I have previously advised. The cool-house must be well shaded and kept very moist, and top ventilation afforded cautiously whilst cold winds prevail, or the weather is very dry.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Castle, Swansea.*

RICHARDIA (CALLA) ÆTHIOPICA.—Plants which have done blooming, and are not potted, should be hardened off previous to planting them out in the open air. When planting them pull the roots into good-sized pieces, with one or two buds, and plant about 18 inches apart each way in the soil, to which some good loam, leaf soil, or rotted manure has been added, and make a shallow basin round each. Should the leaf-stalks have become drawn whilst under glass, put a stake to each plant, and fasten them to it by broad bands of bast. The old foliage will die down, and new crowns will form. In dry weather, when the plants are in full growth, afford water abundantly, and occasionally supply manure water.

CYTISUS ATLEANUS AND C. RACEMOSUS.—Plants which were cut back somewhat after blooming and are now making new growth, should be shifted into larger pots, unless they have reached a desirable size, when repotting into the same pots after removing the upper crust as well as some of the roots at the sides may be adopted. Young plants may be shifted into pots two sizes larger than those they were previously growing in, matted roots being loosened and the balls properly moistened before re-potting them. For potting soil use a good fibrous loam, with a small quantity of manure and sharp sand, in quantity sufficient to keep the soil sweet, and be sure that the drainage is good. Do not keep the ball too high in the pot, but leave sufficient space for ample supplies of water, the plant requiring much moisture whilst growing. After repotting the plants, keep them close for a time, and syringe them twice each day to encourage growth; and when established, and the growth of the shoots is finished, gradually harden them off, subsequently placing them in a sunny and sheltered position out-of-doors. The same culture is suited to *Coronilla glauca*, *Acacia diffusa*, *A. affinis*, *A. armata*, *A.*

Drummondii, *A. Riceana*, *A. platyptera*, &c., the last-named a dwarf-growing variety, which flowers in the autumn—a very desirable species.

CHRYSANTHEMUMS.—Late struck cuttings should be potted off into 48's, keeping them close for a few days afterwards, when they will have become established. These plants make very useful stuff for placing on greenhouse and conservatory benches as front-row plants. Plants in 4 or 5-inch pots, and whose roots touch the sides of the pots, should be shifted into 6 or 7-inch pots, according to size, and afforded a rich compost and firm potting, to encourage sturdy short growth of shoots. Frames or cold pits are still good for them for a few weeks longer, but taking off the lights during the day in fine weather, and also at night when frost does not threaten. Plants intended to be grown for affording cut blooms only should have a neat stick placed to each, to prevent damage by wind; and others, to be grown as bushes, must have the points of the leading shoots pinched out. Pay particular attention to the watering of the plants at all times, lack of moisture at the root causing loss of foliage and other evils.

ABUTILONS may be propagated either from seed or cuttings, and in taking the latter, young shoots from 3 to 4 inches in length should be chosen, and after taking off the lower leaves, and cutting them through at a joint, insert four or five cuttings in a sandy compost around the edge of a 4-inch pot, placing the pots under a hand-glass in heat after watering them and letting the leaves get dry. Shade the cuttings from bright sun, and pot them off singly when rooted, growing them in a warm pit or frame. Be careful not to afford much water before the roots have taken to the soil, stop the leading shoots as growth proceeds, and shift them into larger pots as soon as the soil becomes full of roots.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, *Gardener, Mere worth Castle, Maidstone.*

PEACHES AND OTHER WALL FRUITS.—If the trees are well protected with nets and heavy shading materials, these must be raised by day, so that the trees may have the benefit of sunlight, or the growing shoots will be rendered weak, and the leaves pale in colour. But for the present, and until the third week of the month, it will be unsafe to remove nets, &c., as up to that time sharp frosts may be experienced, and protected trees are more tender than unprotected ones. Where the fruits have set thickly, remove only a few at the present time, and thin them at intervals of ten days or more, according to progress made. Disbudding also should not be severe for a while, for ungenial weather and weak root action may bring on blister, rendering the loss of many leaves inevitable, as the blistered ones must be pulled off and burned. Insects will soon put in an appearance, and should be destroyed without delay, red-spider being dislodged with the syringe or garden engine and clear water, washing the trees from both sides on the mornings of bright days. Green and black aphids, especially the latter, become very troublesome pests, if not checked in time, crippling the shoots to such a degree that they make but slow progress. Dusting the infested parts with Pooley's tobacco powder is the safest method of destroying both during the early stages of tree growth, and this should be thoroughly done, syringing it off the following morning. By this means the trees may be kept fairly clean until it is time to syringe them with an insecticide. Weak diluted tobacco water is safe and efficient, as is a decoction of Quassia chips, which I have used with good results for several years, and find it both safe and effectual. The chips should be tied up in a cloth, and boiled in soft water, a small quantity of soft soap being added before using it on the trees. If it be made of the strength of from two to four ounces of chips to one gallon of water, the trees will soon be freed of aphids, and if a handful of flowers-of-sulphur be mixed with it, it will check the spread of red-spider. For mildew, dust the foliage with flowers-of-sulphur when it is damp from rain or dew. I would remark that in borders which are well-drained, and are kept moderately moist, the trees seldom become attacked with mildew. If old trees, wanting in vigour, ever become badly affected with it, the sooner they are grubbed up and the soil removed, the better.

PLUMS.—The blooms of these, notwithstanding that they are harder than those of Peaches, Nectarines, and Sweet Cherries, are damaged by the

frosts we have experienced in this part, and it is doubtful if many have escaped destruction that were open when these took place. Those which were not then expanded look promising.

Fan-training of Plum trees should be adopted, for although the tree does fruit readily on spurs, there is more certainty of a good crop if the current year's shoots are laid in after the manner of Peaches. The fruit is also finer on these shoots than on spurs. The young shoots should be laid in when they are about 6 inches long; small shoots may be pinched to four or five buds, so that they may form spurs. If aphids be present on the shoots—and it is generally at the tips of the same that these abound—dip these in tobacco or quassia-water; also dig up any suckers that may have come up from the roots. There is still time to graft Plums, provided the scions have been buried in soil on a north aspect, or where the bark has been preserved in a plump state. For the Plum orchard, Rivers' Prolific, The Czar, and Victoria are good varieties and regular bearers. Pond's seedling and several of the larger-growing varieties fruit better with the protection of a wall. Rivers' Monarch, as a late Plum, is highly spoken of by some, and I have planted several trees of it this season.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

BEDDING-OUT ARRANGEMENTS.—Where the arrangements for filling the flower-beds and borders have not been decided upon, no time should be lost in so doing, so as to provide everything needful with all possible despatch during the few weeks that remain before the work begins. This applies to *Verbenas*, *Calceolarias*, *Pelargoniums* (of all sections), *Ageratums*, *Lobelias*, *Petunias*, *Salvia* patens, and the like plants. Cuttings of the above, excepting *Calceolarias*, should be inserted in sandy soil, watered, and then put into forcing-houses, forcing-pits, or hotbeds, to be struck, the cuttings rooting freely in the close, warm air of these places. The late-struck plants are best employed as the outside rows in the beds and borders that are filled with one colour only. In the case of *Alternantheras* and *Mesembryanthemums*, they may be propagated in thousands within the next four or five weeks in this manner, merely putting the cuttings into shallow boxes filled with light soil, and surfaced with sand, and watering through a fine rose, and syringing the cuttings overhead when syringing the houses, &c., in the morning and afternoon.

MIXED BEDS.—Due consideration should also be afforded the subject of mixed beds, that is, beds filled with light or dark *Fuchsias*, *Lilies*, *Acacia lophantha*, variegated *Maize*, *Balsams*, *Madame Croisse Pelargoniums*, and Eckford's Sweet Peas, the last two supported by a few short *Pea-sticks*; *Salvia patens*, *Ageratum mexicanum*, *Calceolaria alexandrina*, &c. These may be planted on a ground-work of some blue or yellow-flowered *Violas*, or on *Mignonette*, and edged with a good broad band of *Pelargonium Manglesi variegatum*, which may also be effectively used as a groundwork, and *Coleus Verschaffeltii* as an edging plant. Beds thus planted form a pleasing contrast to the masses of colour which generally surround them.

WALL-FLOWERS.—This is the time to raise plants for putting into beds and borders next October, and for growing in pots, these latter being good for forcing at the new year. Carter's variety, *Old Gold*, and Harbinger, a dark-coloured variety, are excellent. The seed should be sown in shallow boxes of light sifted soil, and placed in a cold frame, kept close until the seedlings appear, when plenty of air should be afforded to insure sturdy growth. When the seedlings make a few true leaves, prick them off about 6 inches apart, in a sunny and open spot, gently water them, and after a slight shade till they take root. They will grow and lift better if a layer 2 inches thick of short dung be placed on a hard bottom, and covered with a like thickness of sifted loam.

GENERAL WORK consists in mowing, cutting the grass, fringing the walks, sweeping, watering the plants of which consist the groundwork, and divisional lines and panels in carpet-beds; also the recently-planted trees and shrubs, annuals, &c., all of which should be kept uniformly moist at the roots. The same remark applies to all kinds of bedding plants, those growing in heat as well as those in process of hardening.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY, MAY 11 { Royal Botanic Society's Musical Promenade.

SATURDAY, MAY 14—Royal Botanic Society.

SALES.

TUESDAY, MAY 10 { Orchids, from various owners, at Protheroe & Morris' Rooms.

WEDNESDAY, MAY 11 { Ferns, Gladiolus, Roses, Cape Bulbs, &c., at Protheroe & Morris' Rooms.

FRIDAY, MAY 13 { Great quantity of Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—53°·4.

The source whence leguminous plants derive their nitrogen is a subject which is now receiving great attention, and, indeed, is a matter of great importance to cultivators. We need no excuse, then, for again drawing the notice of our readers to it, and continuing from p. 433 our summary of the results obtained at Rothamsted; and foremost comes the question, "How is the Fixation of Nitrogen to be Explained?" Reviewing the whole of the results which have been brought forward, Messrs. LAWES & GILBERT say there can be no doubt that the fact of the fixation of free nitrogen in the growth of Leguminosae under the influence of suitable microbe infection of the soil, and of the resulting nodule-formation on the roots, may be considered as fully established. How the fact is to be explained is a more difficult matter, as there is yet much to learn before a satisfactory answer can be given; for the authors admit that we must know more of the nature and mode of life of the organisms which, in symbiosis with the leguminous plant, bring about the fixation of free nitrogen before the true nature of the action can be understood.

It is a point of importance that it should be established, as it appears to be, that in the development of the parasite, the cortex of the root of the host is penetrated, and so an intimate connection between the two—indeed, a "symbiosis," as it is expressed—is set up. There is abundant evidence that the nodules are very rich in nitrogen, and in certain stages of their development may contain a much higher percentage of nitrogen than that of any part of the growing plant itself, and in some cases, even higher than in that of the highly nitrogenous leguminous seed. Whence, then, comes this nitrogen? Various explanations have been put forth. For instance, it has been assumed that the bacteria acquire their nutriment, including their nitrogen, from the cell-contents of the higher plant, and that the contents of the bacteroid cells are resorbed. But it is obvious that, so far as the nitrogen of the bacteria is derived

from the plant itself, the latter is not a gainer in a quantitative sense by its resorption.

Further, it has been stated, that the activity of the process depends on the quantity of the nitrogenous compounds at the disposal of the roots, the tubercles developing unhindered, and becoming large and typical, in a soil rich in nitrogen, but attaining no great size in poorer soils. The source of the nitrogen of the bacteria is here supposed to be combined nitrogen in the soil. The experiments at Rothamsted clearly show, however, that the nodules may develop very plentifully in a nitrogen-free soil, and that there may, under such conditions, be great gain of nitrogen if only the soil be suitably infected.

Another assumption is, that the organisms become distributed in the soil, both during the life of the host and afterwards, and that the fixation takes place under the agency within the soil itself, rather than in the course of the development of the bacteria in symbiosis with the higher plant.

But, whether or not it may eventually be established that nitrogen is fixed, to any material extent, by microbes within the soil, independently of leguminous growth, there is evidence that in soils and subsoils containing organic nitrogen, lower organisms may serve the higher plants by taking up and bringing into a more readily available condition combined nitrogen not otherwise, or only very slowly, available for the higher plants. For example, it is probable that fungi generally derive nitrogen from organic nitrogen; and in the case of those of fairy rings, there can be little doubt that they take up from the soil organic nitrogen which is not available to the meadow plants, and that on their decay their nitrogen becomes available to the associated herbage. Then in the case of the fungus-mantle, observed by Professor FRANK and others on the roots of certain trees, it may be supposed that the fungus takes up organic nitrogen, and so becomes the medium of the supply of the soil nitrogen to the plant. More pertinent still is the action of the nitrifying organisms in rendering the organic nitrogen of the soil and subsoil available to the higher plants.

It may well be supposed, therefore, that there may be other cases in which lower organisms may serve the higher, bringing into a more available condition the combined nitrogen already existing, but in a comparatively inert state, in soils and subsoils.

Of what importance to practical cultivation is the newly-recognised source of nitrogen to leguminous crops? In reference to this matter the authors aptly ask—"What is the practical importance of the newly-recognised source of nitrogen to the Leguminosae, considered in its bearing on the known facts of agricultural production, and especially on the question of the sources of the nitrogen, not only of leguminous crops themselves, but of crops generally?"

The balance of experimental evidence is against the supposition that the higher plants themselves assimilate free nitrogen. But it is now established that, at any rate, in the case of some leguminous plants, they gain nitrogen coincidentally with the development on their roots of tubercular bodies containing bacteria or other fungoid germs; and the evidence points to the conclusion that it is the lower organisms, and not the higher plants, that fix the free nitrogen.

At Rothamsted, characteristic nodules have been found on the roots of various leguminous plants growing among the mixed herbage of grass-land, and also on those of others growing

on arable land, in the ordinary course of agriculture.

There can be little doubt that, when such plants are growing in soil and subsoil containing an abundance of combined nitrogen, they will obtain some of their nitrogen from nitrates, or other ready-formed compounds of nitrogen.

Assuming, however, it to be established that a greater or less proportion of the nitrogen of our leguminous crops will be due to fixation under the conditions mentioned, it is obvious that such a fact not only serves to explain the source of the hitherto unaccounted-for amount of the nitrogen of those crops themselves, but that it also affords an explanation of the source of the increased amount of nitrogen which other crops acquire when they are grown in association, or in alternation, with Leguminosae.

The fact that, at any rate, many leguminous plants, including papilionaceous shrubs and trees, are susceptible to the symbiosis, and under its influence may gain much nitrogen, serves to explain the source of some, at least, of the large amount of combined nitrogen accumulated through ages in our soils and subsoils, and also the comparatively slow exhaustion of their stores of it, by cropping, drainage, and in other ways.

In conclusion, the authors refer to some of the more directly practical aspects of the subject. In Germany, SCHULTZ, of Lupitz, has for some years devoted a considerable area of poor gravelly and sandy soil to the growth of leguminous crops—various Clovers, Lupins, Serradella (*Ornithopus sativus*) &c.—by means of kainit and phosphatic manures, and he has found the land thereby very much enriched for future cereal and other crops. He finds, however, that it is necessary to vary the description of leguminous crops grown. In various parts of Germany, too, the system is gradually extending of growing leguminous crops, especially on poor sandy soils, with a view to their enrichment in nitrogen; and on a large estate in Hungary it was found that the results of the recent investigations indicating the fixation of free nitrogen in the course of the development of leguminous crops were being carefully studied, with a view to practical application.

In our own country, Mr. MASON, of Eynsham Hall, Oxfordshire, commenced, in 1889, some experiments with various Leguminosae on small plots; and in 1890, a considerable series in specially-built pits, in which he has grown various leguminous agricultural plants, as well as some leguminous shrubs, with a view to the study of their root and nodule development, and the connection of these with luxuriance of growth, and gain of nitrogen. He has also devoted about 200 acres to the practical application of the recently-acquired knowledge in regard to nitrogen fixation. Stated in a few words, this idea is to reduce his area under roots, and to grow instead mixed crops of Leguminosae—Beans, various Clovers, &c.—liberally manured with basic slag and kainit, and to convert the produce in the first year into silage, and in the second into hay. The land is thus occupied for two years, and the assumption is, that in this way highly nitrogenous crops will be obtained with mineral, but without the highly expensive nitrogenous manure, and that the land will be left in high condition, so far as nitrogen is concerned, for the growth of saleable crops, such as Potatoes or grain, which require nitrogenous manuring. In other words, the plan is, just to grow nitrogen-accumulating crops for home consumption, and afterwards nitrogen-consuming crops for sale.

DATURA (BRUGMANSIA) SUAVEOLENS.—The plant illustrated at fig. 86, is an old inhabitant of our gardens, which once was perhaps more commonly grown than is now the case. *D. suaveolens* is a sweet-scented, white-flowered species, with elliptic-oblong, entire leaves, glabrous above, and slightly downy beneath; and it will grow to a height of 15 or 20 feet. It is a handsome plant, and is grown at the present day more commonly than any other of the genus. The plant, like *D. sanguinea*, when it becomes large, forms an effective object either indoors or out, and is well worthy of a warm sheltered nook if it be placed out-of-doors. It serves admirably as a central plant in a bed of subtropicals,

ANGRÆCUM LEONIS.—Messrs. BACKHOUSE send us a raceme of this extraordinary species with five flowers, and at the same time a flower of *Cattleya intermedia* with a dimerous arrangement of the parts of the flower—a common malformation in Orchids. Whether we are to conclude that ancestral Orchids were two-parted or no, is a question too abstruse for discussion here.

TACSONIAS.—We have received flowers of the following species and varieties from Mr. W. SMYTHE, Basing Park, Alton, Hampshire, with the following notes:—

Tacsonia exoniensis x. —This is the most free bloomer

if it begins to grow too freely. It will grow in any good light soil, but the other kinds will do much better.

T. Van Volxemii *superba*.—This seedling is an improvement on the old one. It flowers all through the winter in the same house, and under the same treatment, as does *T. exoniensis*. It blooms freely on a south wall, and the flowers are grand and handsome. It is a plant which ought to be found in every conservatory, as there are no climbers to equal the Tacsonias for beauty and hardiness, besides being very clean, and easy of management.

T. mollissima.—This has a pink flower, possessing a long tube, and is a free bloomer, but does not



FIG. 86.—*DATURA (BRUGMANSIA) SUAVEOLENS*: FLOWERS, WHITE.

or grown as a standard to place amongst Camellias and other evergreens in the conservatory. The plants require a loamy soil of a light character, or heavy loam mixed with a good proportion of peat and burnt earth, and sand or broken sandstone; and the potting should be firmly done, plenty of space being left over the ball for water. Manure is best afforded in the form of a liquid. The plant requires but little water in winter, provided it be kept in a cool part of the conservatory. It flowers in July and August. The photograph from which our engraving was taken was kindly sent by Mr. QUINTIN CHALMERS, gardener at Viewfield, Arbroath, Forfarshire, who stated that it flowered with him from summer till December.

of any bearing blossoms all the year round, and in a lower temperature than any variety yet raised will succeed. It has the handsomest flowers, but the leaves are large and heavy. It is grown here in a conservatory, where on many occasions it was impossible to keep the temperature higher than 34° Fahr., and in the morning it has often stood at 32°. It will do well on a south wall, planted out or in a large pot, if it be taken inside during the winter.

T. manicata.—I had a plant of this from Messrs. J. VEITCH & SONS fourteen years ago. It flowers freely in summer in the conservatory under the same treatment as the other kinds, and it will do well outside if put in a pot, and placed near a south wall. I keep it rather dry at the root

flower here during winter under the same treatment. It grows freely.

ARD-RIGH DAFFODIL BULBS.—A chemical analysis of a clump has been made for Mr. WM. BAYLOR HARTLAND, Ard-Cairn, Cork, and kindly sent by him to us for publication, shows Potash, 12.4 per cent. (low); phosphoric acid, P_2O_5 , 9.6 per cent. (average); soda, 4.7 per cent. (average); sulphuric acid, SO_3 , 7.0 per cent. (high); magnesia, 4.2 per cent. (average); silica, SiO_2 , 3.2 per cent. (very low); iron-oxide, 4.0 per cent. (very high); lime, 28.7 per cent. (very high). The mineral requirements of this plant are, therefore:—Lime, sulphuric acid, and iron, in large proportions; phosphoric

acid, magnesia, potash, and soda, in moderate amounts. Kainit will supply potash, sulphuric acid, and some soda. Gypsum will supply lime, sulphuric acid, and, perhaps, magnesia. Mineral phosphate will supply lime, phosphoric acid, iron, and magnesia. Superphosphate will supply lime, phosphoric acid, sulphuric acid, and probably iron and magnesia. A combination of mineral phosphate, kainit, and bone-superphosphate, ought to supply all its requirements, with the addition of mild lime, when the soil is not a limestone one. *Thos. Farrington M.A., F.C.S., F.I.C., 4, Waterloo Place, Cork.*

GARDENERS' ORPHAN FUND.—The usual meeting of the Committee took place on the 20th ult. Mr. B. WYNNE in the chair, in the unavoidable absence of Mr. W. MARSHALL. The following special receipts were announced:—Mr. J. B. STEVENSON, Bournemouth, proceeds of a dramatic entertainment, £10; young men at Broomhall Gardens, Holmwood, £1 13s.; Mr. J. KIPLING, Knebworth Gardens, fees from skating, £1 10s.; Mr. Alderman B. WATSON, Wakefield, £10; Mr. A. DEAN, proceeds of a concert at Kingston, £10. The annual dinner takes place at the Hôtel Métropole on the 17th inst., Sir JAMES WHITEHEAD, Bart., in the chair, and the Hon. Secretary reports there is every reason to believe a great success will result.

ORPHAN FUND CONCERT.—The concert in aid of the Gardeners' Orphan Fund, given at Kingston, on the 20th ult., resulted in the handing over to the Fund of the handsome sum of eleven guineas. The weather, unfortunately, proved to be wet, or the result would, doubtless, have been much larger. During the evening, handsome bouquets of *Dafodils*, kindly sent for the purpose by Messrs. Barr & Sons, from their grounds at Long Ditton, were presented to the Mayor of Kingston for the Mayoress, both of whom were present, and also to Mrs. G. C. Sherrare, wife of the President of the Kingston Chrysanthemum Society, by the Hon. Secretary, Mr. A. Dean.

CINERARIAS AT FARNHAM ROYAL.—A correspondent, who has seen these plants recently, is in raptures with their beauty, and the enormous numbers which Messrs. JAMES & SONS have in bloom at the present time. Two houses, 110 feet long, are filled with plants in blocks of assorted colours, such as white, blue, crimson, purple, &c., two coloured flowers, cerise, carnation, reds, deep violet, and other tints, besides stumpy and edged flowers in variety. The plants are tiered, 1 foot high, and 20 inches in diameter of crown of flowers, and consists chiefly of stools or side-pieces.

THE SWEET CHESTNUT.—An official document relating to the cultivation of the Chestnut in various parts of Southern Europe has been issued by the India Office. The report has been prepared in order to facilitate the cultivation of this useful tree in those parts of Northern India suitable for it. Those who know how large a part this noble tree plays in supplying the food resources of Italy will earnestly hope that a like boon may be bestowed on India. Sir GEORGE BIRDWOOD has written a characteristically exhaustive historical note, which is so interesting, that we shall venture to transcribe portions of it when our space permits.

PARCELS TARIFF FROM BELGIUM TO LONDON.—The Belgian State Railway now undertakes to forward from any station in Belgium to London forced Grapes and other produce at the following rates, including delivery, viz., 150 francs per 10 kilogrammes, or, say, fourteen pence for 22 lb. Compare this with our Parcel Post at 3d. per lb.!

"ICONES PLANTARUM."—The last part of this publication contains illustrations and descriptions of a large number of plants, mostly of purely botanical interest. *Fritillaria lophophora*, t. 2219, a species of West Szechuen and the Tibetan flora, should be looked after by our collectors. The plant has large yellow flowers, 2 to 4 inches across, and is stated to be intermediate between *Fritillaria* and *Lilium*.

RIO JANEIRO.—Under the title *Plantas Novas Cultivadas, no Jardim Botânico do Rio de Janeiro*, Senor J. BARBOSA RODRIGUES, the Director of the garden, has described and figured two new species of *Passiflora*, which seem to be varieties of *P. edulis*, sundry new *Palms*, and a new *Cattleya*, *C. aquinii*, from Rio Grande do Sul.

PROSPECT HOUSE, WOODFORD GREEN.—The large *Climanthus magnifica* trained to the roof of the conservatory here, previously noticed in these columns, is now at its best; and is very showy with its many bright red clustered blossoms. The double white *Clematis Madame Lemoine* is in bloom by the side, and is a good thing. We also noticed some pretty *Azalea mollis* with large flowers, said to have been raised from seed by Messrs. W. PAUL & SONS. A *Magnolia fuscata*, about 3 feet high, was covered with buds, two of which only partly expanded, were nearly enough to fill the house with their strong Melon-like scent. Among the Orchids and other plants fully or partly in bloom were very fine *Cattleya Mendellii* alba and *Cypripedium bellatulum*, and *Anthuriums*. Amongst an interesting lot of foliage plants, *Tillandsia hieroglyphica* and *Dasyliroton serratifolium* with its tasseled ends, were especially noticeable.

A GOOSEBERRY WITHOUT SPINES.—The *Revue Horticole* of April 16 gives a coloured illustration and a description of a Gooseberry devoid of spines. M. BILLARD, and after him, M. LÉFORT, have, it appears, raised several of these spineless bushes. We are disposed to think that such a discovery may act as a premium to the predatory!

THE EDINBURGH SUMMER SCHOOL OF ART AND SCIENCE.—In connection with this scheme, the following lectures on botany will be given by Mr. R. TURNBULL, B.Sc., Lecturer on Botany, Aberdeen County Council, and Mr. ANDREW HERBERTSON, Demonstrator of Vegetable Physiology, Dundee, assisted by Mr. P. C. WAITE and Mr. T. R. MARR. The course will begin with a survey of the flora of the district, and pass to the practical study of the leading families of flowering plants, with visits to the botanic garden, and other collections. Classification will be treated in reference to the arrangement of type botanic gardens for schools. A series of experimental demonstrations in vegetable physiology will also be given. While special attention is thus given to the needs of the teacher of botany, the course, like that of zoology, is also intended to illustrate the lectures on general biology.

CHISLEHURST GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—A successful social gathering of the members of the above took place on Tuesday evening, May 3, about 150 members and friends sitting down to an excellent repast. The Secretary (Mr. F. BUSHBY), in his account of the progress of the Association, stated that it numbered seventy-five members, and that twenty-two papers had been read at its meeting since October last, when it was started.

THE HESSELE AND HOWDENSHIRE HORTICULTURAL SOCIETY, which is an entirely new organisation, will hold its first exhibition in the grounds of Tranby Lodge, Hessel, on July 27. Handsome prizes are offered for groups of plants, stove and greenhouse plants, Roses, &c. Among them are the Medals of the Royal Horticultural Society. There is every promise of this becoming a very important exhibition in the north-eastern district.

PINUS CLAUSSA.—A recent number of *Garden and Forest* (p. 160) contains an interesting article, accompanied by illustrations, of the Florida Pine (*Pinus clausa*). This was at one time considered to be a form of *P. inops*, but the specimens collected by Mr. DYERS in Florida, and kindly communicated to us, induced us to consider it a distinct species, as also does Mr. G. SONNENKAMP, in the article above alluded to. This Pine belongs to a group in which the cones persist on the branches for eight to ten (or even

many more) years without opening to liberate the seeds. The Florida Pine, we are told, retains its cones so long, that the branches actually grow over and around them, so that the cones become to some extent actually embedded in the branch that bears them. The vitality of the seed is prolonged in this way for several years, although we are told that some of the cones loosen their scales and liberate the seeds, while the majority of the cones on the same tree remain closed. The present species grows on the sandy wastes of the coast of Florida, and rarely attains a height of more than 30 or 40 feet, but inland on stiffer soil, where it gets firmer root-hold, it reaches a height of 70 feet. The timber is not of special value; nevertheless, a tree that will exist in sand hills under similar circumstances to those in Florida is of great value.

DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—At the meeting held on Wednesday, April 13, the Floral Committee awarded First-class Certificates to the following plants:—To Messrs. De Graaff Bros., at Leiden, for *Narcissus tridymus*, E. H. Krelage (*polyanthus* \times *Ajax minor*), new plant. To Messrs. E. H. Krelage & Son, at Haarlem, for *Fritillaria Sewerzowii*, Regel, var. bicolor, new plant; *Fritillaria latifolia*, Willd., Koning van Zweden, new plant; *Fritillaria latifolia*, G. G., new plant. To Mr. C. G. Vao Tubergen, Jun., at Haarlem, for *Fritillaria Sewerzowii*, Regel, var. bicolor, new plant; *Erythronium Hartwegii*, S. Watson, new plant; *Lachenalia* var. Ruby (*tricolor* \times *superba*), new plant; *Marica* hybr. nova (*gracilis* \times *Northiana*), new plant. To Messrs. Anton Roozen & Son, at Overveen, for *Clivia miniata*, L., var. H. Tort, new plant. Botanical Certificates were awarded to Mr. H. J. van Heijst, at Wijk bij Duurstede, for *Boronia megastigma*, insufficiently-known plant; *Lachenalia pustulata*, insufficiently-known plant; *Orchis tridentata*, insufficiently-known plant. To Messrs. E. H. Krelage & Son, at Haarlem, for *Chionodoxa Tmoliasii*, new plant; *Fritillaria armena*, var. new plant. To Mr. H. D. Willink van Collen, at Breukelen, for *Ophrys apifera*, insufficiently-known plant (!)

SUGAR BEETS.—Experiments, made at the Agricultural station of Purdue University, Lafayette, Indiana, show that very large Beets, such as make a show on the exhibition table, are not those which contain the largest percentage of sugar. Hence, it is recommended that the Beets be planted thickly in rows, the most desirable weight being about 1 lb.

THE ORIGIN OF RYE.—It was stated by ASCHERSON, in the *Flora of Brandenburg*, that the Sicilian *Secale montanum* is the source of the Rye actually cultivated, the *S. cereale*. An important difference between the two plants, however, lay in the fact that whilst the former is perennial, the *S. cereale* is an annual plant. This objection has now been removed by Professor BATALIN, a Russian scientist, who has observed in the country of the Don Cossacks the Rye plant growing during several consecutive years without re-sowing either natural or artificial. *Revue des Sciences Naturelles* for April.

DOCKS.—The third annual Report of the Missouri Botanical Garden contains an account by Prof. TRELEASK of the Docks of North America, accompanied by illustrations.

CYTISUS SCOPARIUS VAR. **ANDREANUS.**—Mr. W. WATSON, in *Garden and Forest*, says at Kew there are now in flower some beautiful examples of *Cytisus scoparius* var. *Andreas*. They are standards, having been grafted upon the ordinary *Laburnum*, and each plant has a head 1 foot through, formed of many long branches, which are clothed for their whole length with beautiful yellow and rich madder-brown flowers. Among the many flowers at Kew at the present time these plants of *Andreas* Broom are, I believe, the most admired by visitors. They are grown in pots all the year, plunged in the soil outside during summer, then

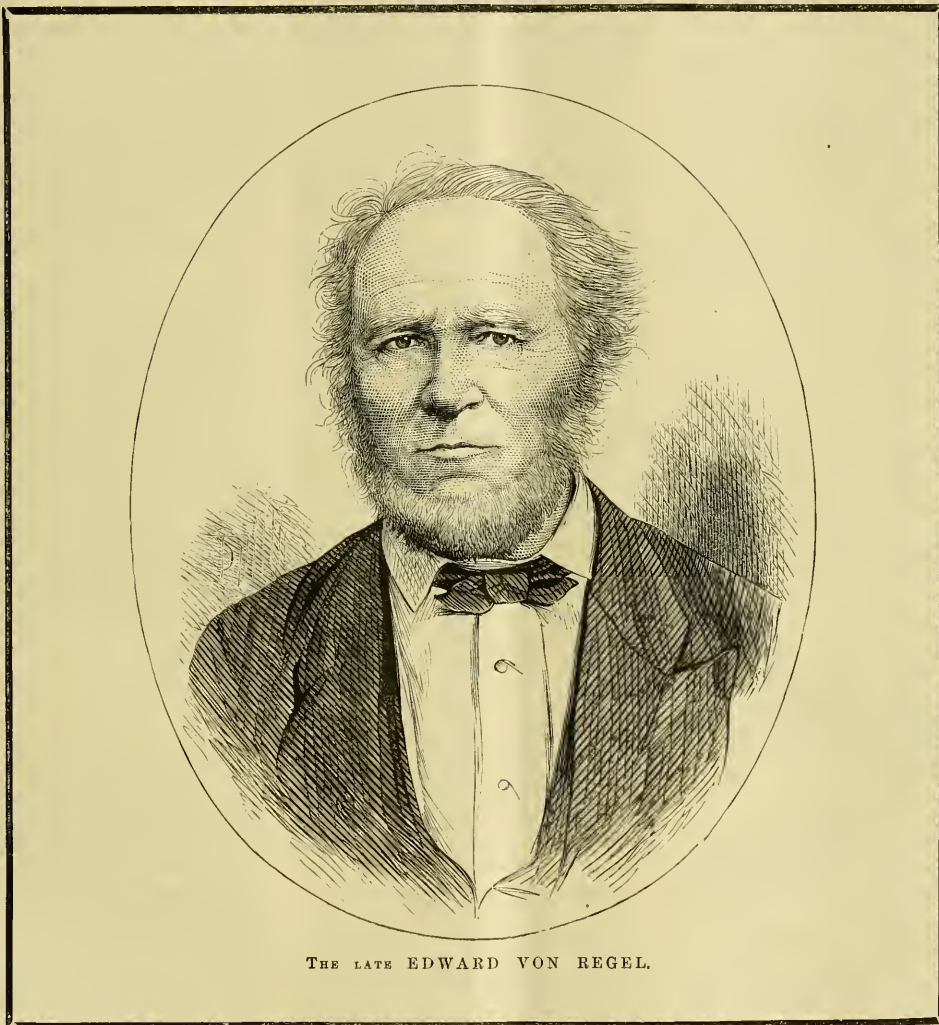
placed in a cold frame for the winter, and forced into flower in March by the application of a little heat.

MR. MALCOLM COOKE'S ORCHIDS.—We learn that Mr. MALCOLM COOKE has recently disposed of his excellent collection of Orchids at Kingston Hill to Mr. MACKUSICK, of Lyttel Hall,

Exhibition, Earl's Court, a Williams Memorial Medal and £5 to the winner of the 1st prize in class 23 in the show to be held on May 27 and 28.

EDWARD VON REGEL.—We deeply regret to announce the death at St. Petersburg, on the 27th ult., of EDWARD VON REGEL, the Director of the Imperial Botanic Garden, St. Petersburg. Dr.

wrote on many subjects connected with physiology and practical horticulture. He was the founder and, for many years, the editor of the *Gartenflora*, now published under the direction of Professor Wittmack. He was the leading spirit in the great International Horticultural Exhibition at St. Petersburg, in 1869. A voluminous writer, he occasionally found time to contribute to our columns, and was at all times a



THE LATE EDWARD VON REGEL.

Redhill, Surrey, and they have, during the week, been removed to their new home. Mr. COOKE's gardener, Mr. CULLIMORE, has been engaged to take charge of the collection.

WILLIAMS' MEMORIAL MEDALS.—The Williams' Memorial Trustees have decided to offer the following Medals this year:—Temple Show, a large Williams' Memorial Silver Medal for best group of Orchids (amateurs).—International Horticultural

REGEL was a most industrious botanist, and his services to horticulture have been numerous and weighty. According to the *Gartenflora*, he was born at Gotha on August 13, 1815. He early proceeded to Zurich, and thence to St. Petersburg. In that capital he devoted great attention to the botany of garden plants, and to the description of the numerous specimens collected by Russian travellers in various parts of the huge Muscovite empire. He did not confine himself exclusively to systematic botany, but

valued and trustworthy correspondent, and most liberal in distributing his treasures among his horticultural colleagues. Our woodcut was taken from a photograph some few years ago.

NATIONAL AURICULA SOCIETY: NORTHERN SECTION.—The annual exhibition was held in the New Town Hall, Manchester, on April 26. Considering the late cold spring the flowers were good, both in quality and quantity. Throughout the

season there had been very few such days as Auriculas expect and delight in, and many of the flowers exhibited were hardly at their best. The date was too early for cold hill districts, such as Tordmorden and Halifax. Both in London and Manchester these flowers suffer greatly in effect from the dull and dreary vastness of the exhibition place, and it is not easy to say which of the two deadens them the more. When, as we have known it, the gas has had to be turned on over Auriculas—in Manchester—the ruinous effect is complete.

FRUIT FROM THE CAPE.—The steamship "Tartar" arrived at Southampton on May 1 from the Cape, and has brought a variety of Grapes and Pears consigned to Messrs. DRAPE & SON, and others.

BOTANICAL MAGAZINE.—The plants figured in the May number are:—

Lilium Lowii, t. 7232.—A species introduced from Burma by Messrs. Hogg Low & Co., and at first considered as identical with *L. nepalense*. The leaves are linear lanceolate, the flowers pendulous, 3 or 4 inches long, funnel-shaped; segments oblong, recurved, greenish-yellow, thickly spotted with red at the base.

Restrepia striata, t. 7233.—A botanical curiosity, with yellowish flowers, the segments of which are marked with red stripes. It is a native of New Granada, and is described in our volume for 1891, p. 137, and in the *Journal of Horticulture*, 1892, p. 275, fig. 45.

Lilium Grayi, t. 7234, a native of the mountains of Virginia and Carolina, with verticillate ovate-lanceolate leaves, and scarlet funnel-shaped flowers, each about 2 to 3 inches long; segments oblong, apiculate, spotted on the inner surface, not recurved at the tips.

Pilocarpus pinnatifolius, t. 7235, a Brazilian Rutaceous shrub, with shortly-stalked, oblong, glabrous leaves, and long cylindrical racemes, bearing numerous stellate flowers, each about a quarter of an inch across, pale purple in colour. The chief interest of the plant consists in the fact that it is the source of the drug known as Jaborandi, and which is used as a sialogogue and diaphoretic. It has long been in cultivation, but it is only comparatively recently that it has been known to furnish the drug.

Didymopanax lacunosa, t. 7236.—A "lovely" little Gesneraceous plant, with intensely violet-blue nodding flowers, introduced from Penang by Messrs. VEITCH. The leaves form a tuft, and are shortly stalked, cordate, ovate, pitted, tomentose. The flowers are borne in a cluster at the apex of a slender leafless flower-stalk. Each flower is about 1½ inch long, tubular, funnel-shaped, obliquely distended in the middle, narrowed at the throat, and with a short-spreading 5-lobed limb.

PLANT PORTRAITS.

ACER CARPINIFOLIUM, *Gartenflora*, April, p. 175.
APPLE SUPRÊME DE PERCE.—A handsome, mid-sized globular Apple, raised in Brabant, and of excellent quality. *Bulletin d'Arboriculture*, 36, March.

BRASSAVOLA OLAUCA, *Gartenflora*, April, p. 177.
CATTLEYA WARDOCHIANA, LIND., *Revue de l'Horticulture Belge*, May 1.

CYPRIPEDIUM GODSEFFIANUM ×.—Ground colour greenish-yellow, richly beset with purple spots. Raised by Mr. Norman Cookson between *C. Boxalli* and *C. hirsutissimum*.

CYPRIPEDIUM NOBE, *Orchidophile*, March.—A hybrid out of *Spicerianum* by Fairreanum, raised by Messrs. Veitch. Flowers intermediate between those of the parent forms.

ELEGANS PARVIFOLIA, *Garden*, April 16.—A specimen figured with small red berries.

HOULETTIA ODOBATISSIMA, *Lindley*, t. 324.

ODONTOGLOSSUM PRÆSTANS, *Lindley*, t. 322.—A Peruvian species, with star-like flowers, segments lanceolate, yellow, spotted red, lip ovate lanceolate, very acute brown.

ORNITHOGALUM PYRAMIDALE, *Garden*, April 23.
PANCRACTUM FRAGRANS, *Revue de l'Horticulture Belge*, April.

PAULOWNIA IMPERIALIS, *Garden*, April 2.

PEAR LEOPONT, *Bulletin d'Arboriculture*, 36, p. 97.

RHODODENDRON "HEXE," *Wiener Illustrierte Garten Zeitung*, April, 1892.

ROSA TRIGINTEPETALA, *Westnik*, April, 1892.

SELENIPEDIUM CAUDATUM VAR. UROPEDIUM LINDLEY, t. 321.—Under this name, Mr. Rolfe designates the curious peloric variety of *S. caudatum* Wallis, commonly called Uropedium.

SOLANUM MACROCARPUM, *Revue Horticole*, April 15.
SPIRÆA MULTIFLORA ARGUTA, *Revue de l'Horticulture Belge*, May.

VRIESIA OBLIQUA ×, *Gartenflora*, t. 1369.—A hybrid raised by Mr. Quintus, of Groningen, from uncertain parentage. Leaves oblong entire, strap-shaped, spike erect, flat, with two rows of closely-crowded oblong bracts, crimson at the base, green at the tips.

ZYGOPETALUM CERINUM, *Lindley*, t. 323.

BOOK NOTICE.

THE OAK: A POPULAR INTRODUCTION TO FOREST BOTANY. By H. Marshall Ward, M.A., F.R.S. (Kegan Paul, Trench, Trübner & Co.)

In this little book, Professor Ward follows the seedling Oak in its career from the Acorn to the full-grown tree. He describes its successive changes in appearance, and the modifications it undergoes in its internal structure. Within its limitations, the work is so thoroughly well done that it may be taken as an excellent introduction to the study of the botany of flowering plants generally. We may feel disposed to think, not that the minute anatomy has too much space given to it, but that the amount is disproportionate. We should not care to have it curtailed, for we do not know any popular book in English in which the subject is so well treated, nor do we know of any book in our language which summarises, as this does, the observations of Hartig on the different manners in which fungi affect timber, so that by mere inspection of the timber itself, it is quite easy for the expert to say which particular fungus has been the culprit. We note that Professor Ward says that it is impossible to distinguish between the wood of *Quercus pedunculata* and that of *Q. sessiliflora*; but this is a point upon which we expect experts would be found to differ in opinion. In the chapter on the relationship of the Oaks, we have a too brief account of the occurrence of Oaks in former stages of the world's history, and of their distribution at the present time; but we miss what surely is a very important matter—any account of the relationships between the Oaks, the Chestnuts, the Beeches, the Hazels, and other close allies. The book before us is the work of a master-hand, and is refreshing in these days of untrustworthy compilations and crams. We can well afford to excuse a certain want of proportion in the face of so much that is trustworthy and excellent.

NURSERY NOTES.

DAFFODILS AT HAM COMMON.

TRULY it is a remarkable change at Ham, to see ground which formerly grew only ordinary farm crops, now converted into a gigantic bulb garden, for Mr. Walker who is at once one of the largest and best growers of Daffodils, has some 25 acres full of those flowers, and they have been at times literal sheets of colour. The cold and somewhat dull weather has assisted to keep the blooms fresh and bright for a lengthened period, hence there has long been a special treat to lovers of Daffodils who have visited Ham. Nowhere else could be seen all blooming at once, and presenting masses of snowy whiteness, some 10 acres of the fine poetical ornatus, truly a remarkable sight; then such varieties as Stella, Dean Herbert, Barri conspicua, Princess Mary of Cambridge, John Stephens, Lorenzo, rugulosus, Mianie Hume, albicans, Emperor, Empress, Horsfield, with the rich-coloured orange Phoenix, In-

comparabilis plenus, poeticus plenus, and many others are grown in more or less extensive breadths, presenting masses of bloom which, if gathered, would literally be wagonloads, and keep myriads of nimble fingers employed picking and bunching for several weeks. Mr. Walker is a stout believer in the practice of lifting Daffodil bulbs, sorting and drying them thoroughly, and of course giving them a change of soil. In that way the finest of bulbs and flowers are produced. The Ham soil is of a deep retentive but sandy nature, and seems to be admirably fitted for bulb culture. That fact is also made very evident in the Tulips, grown in great quantities, the vivid colours of these beautiful flowers presenting long lines of wondrous richness and beauty. These Tulips have been grown here and annually lifted for several years, and are not excelled by the products of Dutch gardens. Of early varieties, Tournesol, Duchesse de Parma, Thomas Moore, La Maculata, Rosamunda, Rose, Gris de Lin, Artus, intense crimson, Canary Bird, and Keizer's Kroon are in great force; whilst there are numerous late forms to follow. Ham Common Bulb Farm is still worth a visit, and during the past month has been seen by hundreds of visitors.

FOREIGN CORRESPONDENCE.

RHODODENDRON EXIMIUM.

Two plants of this rare flowering shrub are now in flower in my nursery at St. Denis-Westrem, Ghent, Belgium, and each bears two clusters of flowers. The plants are eight years old, and they are grafted on *Rhododendron ponticum*. I never cut them back, and they have remained all this time in pots, those which they occupy now being 8 inches in diameter—an extremely small size for the bulk of the plants, and to this fact I attribute the early flowering of the shrub. One of the plants flowered two years ago—that is, at six years old, and it may be said that plants which have once flowered will flower more freely afterwards. A situation in the open air, somewhat shaded, and protected from wind during the summer months, is quite necessary to prevent the destruction of their leaves, which are very ornamental, especially when the young downy shoots appear. To be able to get them outside safely at this time of year, they must be hardened by being kept cool during the winter months. *L. Eeckhaute*, St. Denis-Westrem, Belgium.

HOME CORRESPONDENCE.

VINE AND PLANT MANURE.—In the interesting descriptive notice which appears in the *Gardeners' Chronicle*, of the Royal Gardens, at Laeken, by M. Ch. De Bosschère, he incidentally refers to our Vine and Plant Manure, and says that it is "composed of the refuse of the slaughter-house dried and ground." This is a mistake; no portion of it comes from the slaughter-house. *W. Thomson & Sons*, Clovenfords.

THE FRUIT-ROOM: MAY 1.—Glancing around the nearly-empty shelves at this date, I find a few varieties of Apples still in good order, and one only of Pears, some Catilacs. Generally, Apples have shrivelled more than usual; the following are, however, always plump to the last:—Wellington, Calville Rouge, Calville Malingre, Rambour d'Hiver, Marfitt's Seedling, and Northern Greening. Bismarck is yet well represented, and now is quite a fair table fruit; Belle de Pontoise, firm, and in fine condition; Lane's Prince Albert, fresh as when gathered; Smart's Prince Arthur, sound and heavy; Newton Wonder, very firm and good—this will prove a valuable addition to late keepers; it is as well a sturdy grower. High Canons is still sound and heavy. In desert fruits, Sturmer and Allen's Everlasting are the only good ones left, but Duke of Devonshire keeps its fine flavour to the last. Dutch Mignonne and other usually good lates did not fully mature, and are not good this season. *G. Bunyard*, Maidstone.

NEWTOWN PIPPIN APPLE.—A recent note in your columns calls for a reply. Even in this *Hortus Hortorum* [Kent] we never get a decent fruit, and under

glass it succeeds no better. The tree evidently does not find some element necessary to its proper development, and it should not be planted in this locality. *G. Buryard.*

THE CARROT GRUB.—I quite agree with all that your correspondent, "H. W. W.," suggests, p. 564, as a means of prevention in the case of the Carrot grub, and I would like to add for the further information of your readers who may be troubled with the grub, not to sow for the maincrop of Carrots too early. My practice for years has been to bastard-trench the ground intended for Carrots, if possible, in October, without affording any manure, and to sow about the 8th or 10th of the month of May. When the Carrots are nicely up, I dust them once or twice a week with a mixture of soot and dry wood ashes; and since adopting the above practice the Carrot grub has never once put in an appearance. *Thomas Shingles, Tortworth.*

ORNITHOLOGY IN RELATION TO HORTICULTURE.—A series of papers appeared in the *Gardeners' Chronicle* last year on this subject. The writer on the bullfinch gave it, I think, much too good a character. I think every gardener in this neighbourhood will bear me out when I say that it is an unmitigated nuisance, and one of our worst enemies, and if it were not watched with care, it would speedily destroy all hopes of a fruit crop. Surrounded, as we are, by woods (their home), the bullfinches come in scores, and denude the more forward trees of their fruit buds. To give some idea of their numbers, I have often shot during February as many as eighteen in a walk round the orchard. Happily, their audacity is unique, for on being disturbed, they alight on Laurel hedges in close proximity, thereby affording one an opportunity of settling them, nor does the report of a gun alarm any of them that are at a distance. Some of your correspondents have found lime applied to fruit bushes when moist a preventive; others, black thorns, forming a network through the branches. Both have proved utter failures here, and we find it necessary to cover all fruit bushes with netting, care being taken that the nets are sound, for if a single mesh be broken, the birds will effect an entrance. Mr. Low, gardener at Picards Rough, close by, covers all his fruit trees annually with fine netting, in order to protect them, which entails a good deal of extra labour. The law steps in after February, and prevents any further destruction of the pests, but previous to this, they always receive my best attention. It seems a pity to destroy this, the smartest and most handsome of the finch family, but on account of their destructiveness, they must be kept under. *W. H. Aggett.*

NORTHERN SPY APPLE.—For twenty years we never had a fruit on our nursery trees, though they grew splendidly, and only in rare instances have decent fruit been obtained; hence, this kind stands condemned. *G. B.*

APPLE NORFOLK BEAUFIN.—My experience with regard to the sale of the above, differs entirely from that stated by your correspondent "D. T. F." Grown as a standard on the Crab in Mounmouthshire, the tree with me is all that could be wished for, in never failing to bear a good crop; and the fruit has colour, size and good flavour. After the glut of American Apples was over, it was readily bought up by the dealers at 2d. to 2½d. per lb. according to quality, their customers thinking very highly of it. The dealers would be glad to get a regular supply of the variety in preference to others. It is a much better flavoured Apple in the Western counties, then in the Eastern. It is one of the best late culinary Apples, and deserves to be extensively planted, and especially in strong soils. It does not seem to be so well known as the remarks of "D. T. F." seemed to show, as he says, "None kept it or knew anything about it." *John Chinnery.*

PRONUNCIATION OF PLANT NAMES.—Many estimable persons, and well-educated to boot, yet show themselves capable on occasions of perpetrating shocking atrocities. Take, for instance, that very popular plant—the Dahlia. It was called Dahlia to perpetuate the memory of a Swedish botanist and doctor by the name of Dahl, a pupil of the illustrious Linnæus; yet in spite of this, in spite of the spelling, in spite, indeed, of every good reason, many good people will persist in miscalling a Dahlia a Dalea. Now there happens to be a plant rightly called, as it is also spelled, Dalea. This, however, is something very different to the popular garden flower, the Dahlia. Dalea was so called after Dr. Samuel Dale, an English botanist of the last cen-

tury, and it belongs to the natural order Leguminosæ, while the Dahlia is one of the Compositæ. In miscalling Dahlia Dalea, not only is a gross error in pronunciation made, but a slight is offered to the memory of a Swedish botanist, and a wrong done to that of an English one. [A foreigner would pronounce Dalea as Dahlia, so that the balance is redressed.] There may be excuse for miscalling Cle'matis Clemat'is and Wistaria Wisteria, but none for making Camellia Camilla. Will not the horticultural press make another effort to establish a pronunciation of at least these few popular plant names? *J. E. Ewing.*

PLANT PESTS.—I think it will generally be found that Carrot and other grubs haunt sandy or naturally light loose soils more abundantly than they do stiff soils. On the other hand, very stiff soils are not adapted to the culture of Carrots, and just where the maggot is the most troublesome, so there is the best soil for root production. The point, therefore, is how to assist in solidifying these light soils as to give them some of the imperviousness of clay without altering its texture. I well remember in the South of England that gardeners of half-a-century ago used to correct too light soils for Onions by rolling it very firm indeed, after having been duly prepared, then not drawing drills, but literally beating them out by the aid of stout bent sticks. Perhaps this latter item was of needless trouble, as shallow drills drawn with a hoe would have rendered the surface soil more fitted to receive seed evenly, and to cover it up effectively. In those days gardeners grew a firm, even, well-matured stock of bulbs for use only and not for show, but I do not know that the Onion maggot gave much trouble then. When the farmer finds a piece of young Corn exhibiting evidence of the attacks of wire-worm, he sends the crusher or presser over to it to make the soil as hard as possible. It is about the best course he can adopt. Very likely we should find the use of the roller on soil which lies light and open to be the best remedy against grub attacks. It would seem as if we had insisted a little too much upon the need for deep or high cultivation of soil, and not enough upon the need for its being well solidified, so as to check the action of root pests. Then, presumably, the Carrot and Onion grub-fly deposits their eggs on the plants or in the soil in the spring or early summer. If that be so, is it not possible to saturate the young plants and soil with a solution of soft-soap, quassia chips, soot, lime, or similar noxious ingredients, so as to render the surroundings repulsive to the fly. Without doubt, the turning-up of soil two or three times during the winter so as to allow birds to get free access to it, is excellent practice, and also to scatter over it any old refuse Turnip or Cabbage seed, to encourage the birds to scratch and thus find the insect larvae. *A. D.*

THE ONION-FLY.—Can anyone suggest an effectual remedy for preventing the ravages of the Onion-fly (*Anthomyia ceparum*)? I know of several instances in which the crop was greatly injured, if not completely destroyed, last season, by the action of the fly. Some of us know its method of operation too well. The maggots, on emerging from the eggs, bore through the outer leaf, and descend between the leaves into the bulbs, which they feed upon, and soon destroy. It appears to be much more destructive on light than on heavy land. Is that the general experience? Many remedies have been suggested, such as pulling up the bulbs after the leaves have turned yellow and faded, and pouring lime-water into the holes, which is very much like a recommendation to lock the stable after the horse has been stolen. The sowing of soot or powdered charcoal about the roots is mentioned by some; also saturating the beds with strong soap-suds; the application of soot to the soil before the seeds are sown; deep trenching, and the alternation of crops. I was recently in a part of Berkshire where the land grows the Scotch Fir and Heather, and where the surface is shallow and peaty, and therefore light, and in this district some find it very difficult indeed to grow Onions, owing to the maggot; and when one is asked to suggest remedies, and names those I have just set down, the sorrowful intelligence is conveyed that they have been tried, with results practically nil. Some writers on the culture of the Onion make no mention of the insect pests to which the Onion is liable. I have seen it stated that salt applied to the ground before sowing will prevent the injurious effects of the maggot, giving the soil a good raking, to evenly distribute the salt before sowing. The salt can be applied even if the seed be sown, or the young plants have made their appearance. A thoroughly hard

bottom is recommended by some, but in the district to which I have referred, the soil is stamped down quite hard before the seeds are sown, but the maggot still rules, and works great mischief. I have known on an allotment-garden at Ealing some patches that would not grow Onions owing to the prevalence of the maggot; and yet close by, on other patches of soil of the same character, there would be excellent crops, and many attempts to eradicate it from the former failed almost entirely. In speaking to country audiences on vegetable culture, the matter of the harm done by the maggot is frequently mentioned, and I am quite certain if an effectual remedy against its ravages can be mentioned, the intelligence will be thankfully received by many vegetable cultivators. *R. Dean.*

THE FROSTS OF THE PAST WINTER.—Now that winter is over, we are able to ascertain the amount of damage done by frosts. Taking a few of the most notable instances of the same, we have first extensive havoc amongst the Tea Roses, although these were protected with mulching 4 to 6 inches thick, and with few exceptions are cut down to within 1 and 2 inches of the ground level. The H.P.s are not so badly injured, being the hardier race. Berberis Darwini is much injured. Ligustrum ovalifolium is defoliated everywhere, whereas it and B. Darwini in the previous winter escaped injury. Thuja Lobbi has suffered severely in several places. Cupressus Lawsoniana and the many kinds of Holly are uninjured, so is also the Thuja tatarica, a beautiful plant for hedges and solitary specimens. Cedrus Deodara is badly mutilated. *J. Lovell, F.R.Met.Soc.*

SOCIETIES.

ROYAL HORTICULTURAL.

MAY 3.—The Drill Hall was gay with Narcissus shown in competition, Alpines, Roses as plants, Amaryllis, and some very choice Orchids from various growers, private and other. The visitors were also able to see what kinds of fruits and vegetables go to the Queen's table from Frogmore in the month of May. Mr. Owen Thomas sending an excellent lot of exhibits. The cool weather has kept Narcissus fresh for a much longer period than usual, and the different exhibits of these favourite flowers were fresh and of fine colour.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Laing, H. Herbst, R. Dean, F. Ross, C. F. Baue, T. W. Girdlestone, W. C. Leach, R. B. Lowe, R. Owen, W. Furze, W. Bain, B. Wynne, C. E. Pearson, G. Phippen, H. H. Dombain, C. Noble, J. Fraser, G. Paul, H. Turner, and N. Davis.

A Silver Banksian Medal was awarded to C. F. Still, Esq., Lismore, Wimbledon Park, for a group of seedling Auriculas, comprising some very good specimens of varieties possessing considerable merit. The same exhibitor had a group of seedling Amaryllis, also of much merit; and two plants of *Arisæma fimbriata*, Mast., in bloom (for fig., see *Gardeners' Chronicle*, p. 689, ii., vol. 1884).

W. Furze, Esq., Roseneath, Teddington, exhibited three cut blooms of the hybrid Tea Rose Waban, a pretty well-shaped bloom, of a deep pink colour.

From Mr. R. Dean, seed-grower, Ealing, came a group of "Giant Fancy Polyanthus," showing great variation of colour, and fine distinct blooms. This group was awarded a Silver Banksian Medal. Also a basket of Primroses possessing shades varying from pure white to dark crimson.

Mr. O. T. Hodges, Lachine, Chislehurst, was awarded 1st prize for a neat and good collection of twelve alpines, viz., Saxifraga muscoides, Kanauculus amplexicaulis, Primula Auricula, P. venusta, P. viscosa var. P. Gabelii, Adonis vernalis, Gentiana firma, Androsace sarmentosa, Hacquetia epipactis, Saxifraga globosa, and Anemone apennina.

Sprays of bloom of *Syraca (Jonesia)* Seedling, Macleania insignis, and Brownæ arhiza, came from the Royal Botanic Gardens, Glasnevin, for which a vote of thanks was accorded.

Messrs. H. Lane and Son, The Nurseries, Berkhamstead, exhibited four baskets of pot Roses, R. polyantha Perle d'Or, with flowers a buff colour; R. polyantha Little Dot, with bluish-pink flowers; Gloire de Polyantha, a rose-coloured var.; and R. polyantha Marie de Montravel. A Silver Medal.

Messrs. B. S. Williams & Sons sent three Amaryllis, *Dracæna Coulingii*, a cross between D.

Mooreana and *D. terminalis alba*, a variegated form, possessing good decorative qualities, and adjudged worthy of a First-class Certificate. This form sent also plants of *Asparagus medius* and *Pandanus* considens.

Sir Trevor Lawrence sent a spathe of *Anthurium Rothschildianum* var. maximum, a very fine one, measuring some 3 to 4 inches in width and 6 inches long; also a grand plant, in bloom, of *Lotus peliorhynchus*, which obtained a First-class Certificate. A box of large, well-coloured *Calceolaria* blooms came from Mr. W. Kapley, Hillington Heath, and received a vote of thanks. We had rather seen the plants.

A pretty, dwarf, variegated-leaved plant—*Aglaonema costatum*—was shown by Messrs. J. Veitch & Sons, in which the short, semi-erect, dark green leaves, are spotted and blotched with white, the midrib also being white. (A First-class Certificate.)

They also exhibited *Caladium Souvenir de Paro*, a plant resembling in a certain degree the older *C. bicolor*, but more dwarf than that species; the margin of the leaf is green, mottled with white. (A First-class Certificate.) From the same nursery came *Tilandsia Massangeana superba*, a fine thing, with channelled light green leaves, 1½ inch wide, and slightly recurved and marbled in broad bands of darkest brown. (A First-class Certificate.) *T. Mossii* was another fine foliage plant, coming also from the Royal Exotic Nursery. It has broad-channelled leaves, finely reticulated on the upper side, and slightly recurving. (A First-class Certificate.) Along with these came the Veitchian crosses of *Streptocarpus* in many-varied colours, a pretty lot of blooms, nicely set off by being stuck into some amongst tips of Maidenhair Fern.

Messrs. William Paul & Son, Waltham Cross, had a group of new Roses in pots, including some very fine varieties, viz., *Corunna* (Tea), bright pink; *White Lady* (Hybrid Tea) almost pure white, were granted Awards of Merit.

A very good collection of Ferns came from Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmon-ton, and included *Asplenium*, *Davallia*, *Adiantum*, *Anemia collina*, *Gymnogramma sciophylla* expansa, the beautiful *Pteris serrulata* undens, and *Pteris cretica nobilis*; also a group of *Ficus elastica* alvariegata. All a very good colour.

Some cut blooms of the new Tree Carnation, Mrs. A. Hemsley, from the same exhibitor, were excellent; the colour is crimson, and form and size good.

Orchid Committee.

Present: Dr. M. T. Masters, F.R.S., in the chair; and Messrs. J. O'Brien, S. Courtatou, J. Douglas, T. B. Haywood, Norman C. Cookson, Rev. E. Handley, F. Sander, H. Williams, and W. H. White.

Messrs. F. Sander & Co., St. Albans, exhibited their magnificent new *Cattleya Victoria Regina* (see p. 559), which, although the true *Cattleya*, may be likened to *Laelia elegans*. *Blenheimensis* taken at its best; but all the segments are more waxlike in texture, and not crumpled or recurved. The flowers are over 6 inches across; warm, rosy-lilac, and the lip purplish-crimson. The plants of the same species exhibited, but not in flower, bore evidence of having had twenty flowers on one spike. It is a grand acquisition. Another remarkable plant sent by Messrs. F. Sander & Co. was *Phajus Sanderii*, with flowers more than 6 inches in diameter, the sepals and petals coppery-red, lip yellow at the base, crimson in the middle, this colour running down the middle of the large, abruptly-turned-down, white front lobe of the lip, which is of extraordinary length, and peculiar. Messrs. Sander also showed a fine form of the beautiful *Ocidioid Larkianum*, a supposed natural hybrid of *O. Marshallianum*, but larger and still more handsome than that species; *Cynorchis flexuosa*, and several forms of *Dendrobium Phalaenopsis Schroderianum*.

Norman C. Cookson, Esq., Wylam-on-Tyne (gr. Mr. Murray), exhibited a grand new hybrid—*Laelia-Cattleya Phoebe* (C. *Mossii* × L. *cinnabarinæ*), (the reverse cross to the L. *C. Hippolyta* × of Messrs. Veitch). The flowers were of a rich Indian-yellow colour, the middle lobe of the lip intense purplish-crimson. The record attached to the plant stated that the seeds were sown in 1886. Mr. Cookson also showed a spike of *Cypripedium Rothschildianum*, bearing five flowers; and one of *Odontoglossum Andersonianum*. Messrs. Charlesworth, Shuttleworth & Co., of Heaton, Bradford, and Park Road, Clapham, staged the rare and pretty *Eriopsis biloba*, *Laelia grandis tenebrosa*, and the true *Stanhopea insignis*, Frost, which, although it was the species in which the genus was founded, is still rare. W. E. B. Farnham, Esq.

Quorndon House, Loughborough (gr. Mr. G. Cook), exhibited a noble specimen, with many flowers, of a superb white form of *Cattleya Mendellii*, named "Quorndon House variety." The only colour was a shade of yellow in the lip, and some delicate purplish veining at its base; also a group of light coloured varieties of *Dendrobium phalaenopsis Schroderianum*, of great merit.

The Rev. Ed. Handley, Bath, showed cut spikes of two noble white-petalled forms of *Laelia purpurata*, and one of *Vanda teres*.

Messrs. James Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, showed their charming new hybrid *Laelia Latona* × (*cinnabarinæ* ♀, *purpurata* ♂), in growth like a miniature *L. purpurata*, but with flowers having sepals and petals of a rich deep yellow colour, and the labellum mostly dark crimson. Messrs. Veitch also sent *Cattleya Philo-albiflora* × (*iricolor* ♂, *Mossii* ♀), the white-petalled form of that exhibited at the last meeting, and still more beautiful.

F. A. Gledastanes, Esq., Manor House, Gunnersbury (gr. Mr. H. Denison), sent a fine cut spike of *Cypripedium punctatum*; Walter C. Walker, Esq., Percy Lodge, Winchmore Hill (gr. Mr. G. Cragg), sent *Laelia Boethiana*, and a spike of *Gongora truncata*.

E. C. Wrigley, Esq., Victoria House, Duxfield, Cheshire (gr. Mr. C. Harris), sent a dark form of *Dendrobium nobile*, and four plants of *Dendrobium Phalaenopsis Schroderianum*.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, showed *Odontoglossum citrinum album*, a variety with remarkably fine flowers, of a pure white; and C. J. Lucas, Esq., Warnham Court, Horsham, sent *Epidendrum umbellatum*.

List of Awards.

ORCHID COMMITTEE.

First-class Certificates.

To *Cattleya Victoria Regina*, from Messrs. F. Sander & Co.

To *Cattleya Mendellii*, (Quorndon House var., from W. E. B. Farnham, Esq.)

To *Laelia-Cattleya Phoebe* ×, from Norman C. Cookson, Esq.

To *Laelia Latona* ×, from Messrs. Jas. Veitch & Son.

Awards of Merit.

To *Phajus Sanderii*, from Messrs. F. Sander & Co.

To *Cattleya philo-albiflora* ×, from Messrs. Jas. Veitch & Son.

Botanical Certificates.

To *Cynorchis flexuosa*, from Messrs. F. Sander & Co.

To *Eriopsis biloba*, from Messrs. Charlesworth, Shuttleworth & Co.

Fruit Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. John Lee, R. Hogg, R. D. Blackmore, T. F. Rivers, G. Bunyard, J. Cheal, G. Norman, G. Taber, G. Reynolds, W. Warren, J. Wright, A. Dean, J. Willard, J. A. Laing, G. Wythes, F. Q. Lane, J. Hudson, and H. Balderson.

The exhibits brought to the notice of this committee were more numerous than on any previous occasion this spring. From the Royal Gardens, Frogmore, came an excellent collection of vegetables, consisting of the following twelve varieties:—*Argentuil Asparagus*, *Ellam's Early Cabbage*, sown July 23, 1891, and possessing firm little hearts fit for cutting; *Broccoli Model*, planted in the middle of July, in undug soil, after Strawberries, and Mr. Owen Thomas says that 70 per cent. have survived the past winter; *Veitch's Improved Ashleaf Potato*, *French Beans*, *Major Clarke's Celery*, *Ayton Castle Leek*, *Cottagers' Kale*, *Seakale* which had been moulded up with soil in the open ground, and a dish of *Mushrooms*. Also a box of large well-coloured fruits of *La Grosse Sucrée Strawberry*. Mr. Thomas was awarded a Silver Medal.

Lord Foley, Ruxley Lodge, Esher (gr. Mr. J. Miller), showed three dishes of excellent *Mushrooms*, which had been grown on ridges outside, and received a well-earned Cultural Commendation. He received also a Cultural Commendation for a dish of *Laxton's Noble Strawberry*, the fruit large and of a high colour. A vote of thanks was awarded to the same exhibitor for six Cucumbers, *Gilbert's King*, resembling *Rollins's Telegraph*; and for fourteen dishes of *Apples* which were badly bruised in transit. The varieties included *Wellington*, *Beauty of Kent*, *Norfolk Beaufin*, *New Hawthorn*, *den*, *Ribston Pippin*, *Alfriston*, *Ashmead Kernel*, and a variety called *Eve*.

Mr. Wythes, gr. to the Duke of Northumberland, Syon, showed two dozen *Brown Turkey Figs*, more or less ripe, and received a Cultural Commendation. Some *Lettuce* (*Veitch's Perfect Gem*), came from Mr. W. C. Leach, gr. Albury Park, Surrey, which were grown from seeds sown on February 14, and were

ready for table towards the middle of last month. H. Berkeley James, Esq., gr. Mr. J. Gibson, received a 1st prize for thirty fruits of *Vicomtesse Hélicar de Thury Strawberry*. There was no competition, and it appeared not generally to be known that such a competition was to take place. A new seedling Cucumber obtained from Prizewinner × *Lockie's Perfection*, came from Mr. W. H. Castle, The Gardens, Castlemans, Twyford. A dish of *Plums* was exhibited, remarkable as having been brought from Sydney.

Daffodil Committee.

In a competition for medals offered by Messrs. Barr & Son, Covent Garden, for a collection of *Narcissus* (*Polyanthus* excluded), the 1st prize, a silver medal, was awarded to H. J. Adams, Esq., Roseneath, Enfield (gr. Mr. C. May), who staged 65 varieties, a very strong collection, including most of the best varieties, and staged in boxes which were surfaced with moss, offering a striking contrast to the not very elegant blacking-bottles that one usually sees used for the purpose at these fortnightly shows. The 2nd prize (Barr's small silver medal) was obtained by the Rev. G. P. Haydon, Hatfield Vicarage, Doncaster, and the 3rd prize (Barr's bronze medal) fell to H. Berkeley James, Esq., The Oaks, Carshalton (gr. Mr. J. Gibson).

Mr. Thos. S. Ware, Hale Farm Nursery, Tottenham, exhibited numerous cut blooms of a new dwarf double Daffodil (*Narcissus Talamonius plenus*); it is very handsome, of a fairly deep yellow, but the petals and sepals somewhat paler.

A large and varied collection, comprising excellent specimens of most of the late kinds of *Narcissus*, was exhibited by Messrs. Barr & Son, Covent Garden, who included with their exhibits some miscellaneous hardy flowers, such as *Tulips*, *Anemones*, &c. A Silver Banksian Medal was awarded.

Lecture by Professor Foster, on "Bulbous Irises."

The lecturer said that he proposed to give the facts most interesting to the gardener concerning the bulbous section of the genus *Iris*, and then alluded to several of the species in detail. *Iris asyriacum* was one of the oldest and most wide-spread, and related to the bulbous Irises of South Africa. It is characterised by the bulb being wrapped in a kind of network; it has two narrow leaves, from between which the flower-spike ascends. The flowers open about mid-day, and close about 4 o'clock, three or four slightly fragrant flowers being borne upon each spike. It is not a great acquisition to the gardener, and rather difficult to grow in England. It requires a very hot summer, and severe baking. Professor Foster advised that the bulbs should be taken up and well dried each season.

Iris reticulata has a bulb very similar to the foregoing, but the leaves are linear, and having four sides. The one generally regarded as the type has violet flowers, but the lecturer said that this form is very rare, and he has never yet seen it come with imported bulbs of this species.

Iris reticulata Krelagei is a purple form. The segments are smaller and broader, and it has not the odour possessed by the other. As this is very much more common, he would regard it as the typical form, more especially because, if crosses are obtained between the generally-accepted type and *Krelagei*, the seedlings will chiefly follow the characteristics of the latter.

Iris reticulata purpurea is more handsome than *Krelagei*, and there is another small variety of this group called *cyanea*. *Iris sophomensis*, an early flowering species, *I. Danfordiae*, with which *I. Bornmülleri* is synonymous, were also mentioned as allied to *I. reticulata*, as also *I. Vartani*, an *Iris* growing in the neighbourhood of Nazareth, and flowering in October and November. *Iris histrio*, generally accepted as a different species, is regarded as merely a variety of *reticulata*. The flowers are not of a uniform colour, but are blotched with lilac on a paler ground. The lecturer said that a variety called *histrionides*, although differing in several respects from *histrio*, was certainly of the same species as that variety, while there could be no doubt about it being a member of *reticulata* group also. An *Iris* very like *reticulata*, with similar bulb, and the leaves somewhat the same, is *I. Bakeriana*. The flowers of all these are very beautiful. The plants require plenty of sun, and a good loamy soil, which should be rather stiff. They are liable to the attacks of a fungus, that will—if left in the ground—cause the bulbs gradually to decay. If lifted each year, the fungus

is greatly checked. *Iris Kolpakowskyana* is closely allied to *reticulata*, has bulbs with netted coats, but the leaves are not similar; it has a very beautiful flower, and is difficult to cultivate. *I. Winkleri*, with blue flowers, is very similar to the above; the leaves are more or less linear, and the bulb is covered with membranes. It has a somewhat limited distribution in Europe.

I. xiphioides has blue, purple and white flowers in different varieties, but in none of them can any yellow be seen. It is sometimes called the Pyrenean *Iris*. *Iris xiphioides* (the English *Iris*), requires a more damp situation than the Spanish form. Both are thoroughly hardy, and can be left to themselves to a great extent. The name (English *Iris*) originated through it being first brought to Bristol, and afterwards distributed to the different parts of Europe from the West of England. *Iris filifolia*, is an exceptionally handsome flower—a rich strong purple limb, and orange signal. It is slightly allied to the Spanish *Iris*. It requires a thorough baking, and would be benefited by a little pinching in summer through want of rich soil. *Iris Tingitana*, the lecturer described as a large one, and growing in the neighbourhood of Tangiers. It has a resemblance to the English *Iris*, but is exceedingly difficult to grow. It should be in bloom at this date, but that it requires a very warm spring, and to be dried up in summer. After making a remark upon *Iris tuberosa*, the lecturer went on to describe the Juno group, which differed from the rest in that the ripe bulbs possessed a number of fleshy roots and broad leaves. These roots disappear annually, but if the bulb does not produce a flower, they sometimes remain, because the nutriment contained therein was not drawn upon.

I. alata, or *I. scorpioides*, is a form of this group having broad leaves. The outer segments of the flower have an ear-like projection in each side, and it has a well-formed crest. The bulb is covered with several coats. It may be grown in the open south of London, perhaps, but the lecturer said that it requires the shelter of a greenhouse in the Midland Counties. It has large flowers with various markings, exceedingly fine and fragrant. *Iris persica*, the Professor observed, was a very beautiful little plant, with flowers possessing very characteristic markings. There are many varieties of this lately introduced. They will stand frost, but require well roasting in summer. He would advise that they be lifted each year, and thoroughly dried.

Professor Foster thought that *Iris caucasica*, with its greenish-yellow flowers, was not a great acquisition in the garden, but there are several varieties that excelled it. One of these deserved the specific name of *Orchioides*, a variety that differed in many respects from the type.

Iris rosenbachiana, also belonging to the Juno group, characterised by the fall of the outer segment, its beautiful rich markings at the bottom of the fall, and possessing an exquisite signal. It blooms in February or March, before sending forth any leaves, and sometimes amongst the snow. The lecturer said it looked like a summer flower, its surroundings not being suitable to its rich colour and refinement. In the different plants the colour is exceedingly variable, but the form is fairly constant. Another, belonging to the same group, is *I. fosteriana*, with foliage not so broad, and having less fleshy roots. It comes from Afghanistan. A handsome contrast is presented between the golden-yellow upright part of the flower and the purple fall; it does not take kindly to the English climate.

Iris Sindjarensis is fairly hardy, and grows as well in our gardens as any of this group; a very beautiful and fragrant species. The lecturer concluded by saying that some of the bulbous *Iris*es are not strong to their struggles for life, and he advised would-be growers to grow them by themselves, and to treat them with great care, for if left to themselves to fight their way among other plants, the result would be disastrous. Professor Foster's lecture, which will be reported in full in the *Journal of the Society*, was exceedingly interesting, and was illustrated by living specimens of many of the species, and also by drawings lent from the Royal Gardens, Kew.

lain, M.P., Highbury, Birmingham. He was taken suddenly ill at 4 o'clock in the morning, and died in a few minutes before medical aid could be obtained. His sudden death is deeply regretted by a very large circle of friends. Mrs. Cooper, who had been an invalid for a long time, and for some time had completely lost her voice, regained it on the occasion of the shock produced by the sudden death of her husband.

Mr. WILLIAM DAVIES, the oldest and one of the most respected gardeners in Glamorgan, passed away quietly after a few days' illness, on the 2nd inst., in his seventy-ninth year. Mr. Davies held the situation of Head Gardener under the late Thomas Booker, Esq., and family at Velendra, near Cardiff, for the long period of forty-seven years. He was a good all-round gardener, and an enthusiastic Pine-apple grower up till the time of his death.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 49° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.— (+ Above 49° or below 49° the Mean for the week ending April 30, 1892.)	TEMPERATURE.		RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.					
	Above 49° for the Week.	Below 49° for the Week.	Above 49° for the Week.	Below 49° for the Week.	Above 49° for the Week.	Below 49° for the Week.
0	5	1	21	3	1	21
1	3	1	21	3	1	21
2	4	1	21	3	1	21
3	4	1	21	3	1	21
4	5	1	21	3	1	21
5	4	1	21	3	1	21
6	3	1	21	3	1	21
7	4	1	21	3	1	21
8	4	1	21	3	1	21
9	4	1	21	3	1	21
10	3	1	21	3	1	21
* 3	3	1	21	3	1	21

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending April 30, is furnished from the Meteorological Office:—

"The weather during this period was cold and changeable, with frequent falls of cold rain or hail; but considerable intervals of sunshine. Thunder and lightning occurred in the east and south-east of England on the 25th, and at night a brilliant display of aurora was observed.

"The temperature continued below the mean, the deficit amounting to 3° in 'Scotland, E. and W.', 'England, S.W.', 'Ireland, S.', and the 'Channel Islands,' to 4° in most other districts, and to as much as 5° in 'Scotland, N.' and the 'Midland Counties.' The highest of the maxima, which were recorded on the 24th, ranged from 66° in 'England, S.', and 64° in 'England, E.', to 55° in the 'Channel Islands,' and to 52° in 'Scotland, N.' The lowest of the minima were recorded on the 29th and 30th, when the thermometer fell to 24° in 'England, S.W.', to between 25° and 27° in most other districts. In the 'Channel Islands,' however, the minimum was no lower than 37°.

"The rainfall slightly exceeded the mean in 'Scotland, N. and E.' and 'England, N.E. and W.'; but, elsewhere it either equalled or was a little less than the normal value.

"The bright sunshine was fairly abundant, and exceeded the normal in all districts. The percentage of the possible duration ranged from 33 in 'Scotland, N.', and 36 in 'Scotland, E.', to between 45 and 50 in most other parts of the Kingdom, to 55 in 'England, S.W.', and to 59 in 'Scotland, W.'"

MARKETS.

COVEANT GARDEN, May 5.

[We cannot accept any editorial responsibility for the above reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but also several times in one day, &c.]

BUSINESS very dull again. Prices of household goods lower all round. James Webber, Wholesale Apple Market.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Genistas, per dozen.	6 0 10 0
Arum, per dozen	6 0-9 0	Ivy Geraniums, doz.	6 0-9 0
Aspidistra, per doz.	18 0-63 0	Lilium Harrisii, 12	18 0-39 0
Azaleas, per doz.	24 0-36 0	Myrtles of the Valley, pot	1 6-2 0
Begonias, per doz.	6 0-12 0	Marguerites, per doz.	6 0-12 0
Cinerarias, per doz.	4 0-12 0	Mignonette, doz. pots	6 0-12 0
Cyclamen, per doz.	9 0-15 0	Palms, various, each	2 0-10 0
Cypripedium, per dozen	4 0-10 0	Pinks, various, each	6 0-10 0
Dracaena, each	1 0-5 0	Pelargoniums, p.doz.	9 0-15 0
Echeveria pyramidata	18 0-24 0	— scarlet, p. doz.	3 0-6 0
— per doz.	12 0-24 0	Primulas sinensis, doz.	4 0-6 0
Roses, various, doz.	12 0-18 0	Roses, E. of the Valley, 12	6 0-10 0
Ferns, various, doz.	4 0-9 0	— vars., per doz.	12 0-24 0
— per 100	8 0-15 0	Spiraeas, per doz.	6 0-12 0
Ficus elastica, each	1 6-7 6		

Bedding plants, various, in boxes, 1s. to 3s.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Canadian and Nova Scotia, per barrel	10 0-25 0	Grapes, new, per lb.	3 6-5 0
Apples, 1-sieve	1 0-4 0	Lemons, per case	8 0-14 0
Apples, Tasmanian, per case	7 0-14 0	Pine-apples, St. Michael, each	2 0-8 0
		Strawberries, per lb.	1 6-5 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Acacia, or Mimosa, French, per bunch	1 6-2 0	Marguerites, per doz.	3 0-4 0
Anemone, 12 bunches	1 6-3 0	Mignonette, 12 bun.	4 0-6 0
Arum, per doz. lb.	2 0-4 0	Myosotis, or Forget-me-nots, 12 bunches	2 0-4 0
Azalea, p. doz. sprays	0 6-1 0	Narcissus (various), scilly, doz. bunches	2 0-4 0
Bluebells, 12 bunches	1 0-16 0	Orchids—	
Camellias, white, doz.	2 0-3 0	— Cattleya, 12 blms.	6 0-9 0
— red, per doz.	1 0-16 0	— Odontoglossum crispum, 12 blms.	2 0-6 0
Carnations, 12 blms.	1 0-16 0	Pelargoniums, scarlet, per 12 bunch.	4 0-6 0
Cinerarias, 12 bunches	6 0-9 0	— 12 sprays	0 9-1 0
Cowslips, 12 bunches	1 0-16 0	Polyanthus, 12 bunches	1 6-3 0
Daffodils, double per dozen	1 6-3 0	Primroses, doz. bun.	6 0-1 0
— single	2 0-4 0	Primula, sing. 12 bunch.	4 0-6 0
— various	0 8-0 8	Roses, Te. per dozen	0 9-2 0
Eucharis, per dozen	3 0-6 0	— coloured, dozen	1 0-3 0
Freesia, dozen, bun.	2 0-4 0	— yellow (Maréchal), per doz.	1 6-4 0
Gardenias, per dozen	2 0-4 0	— red, per dozen	2 0-4 0
Heliotropes, 12 sprays	6 0-9 0	— yellow (Maréchal), per doz.	1 6-4 0
Hyalosin, 12 bunches	2 0-4 0	— red, per dozen	2 0-4 0
— Dutch, p. box	1 0-4 0	— yellow (Maréchal), per doz.	1 6-4 0
— French, bunches	0 9-1 6	— red, per dozen	2 0-4 0
Jonquils, dozen bun.	1 0-3 0	Spiraeas, 12 bunches	4 0-6 0
Lilac white (French), per bunch	4 0-6 0	Tuberose, 12 blms.	10 0-2 0
Lilium Harrisii, doz.	2 6-4 0	— Dutch, p. box	4 0-6 0
Lily of the Valley, doz. sprays	0 6-0 10	Violets, Parme, per bunch	2 0-3 0
Maiden Hair Fern, 12 bunches	6 0-8 0	— English, 12 bun.	10 0-1 6
		Wallflowers, French, per dozen	2 0-4 0

ORCHID-BLOOM in variety.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes Globe, each	0 4-0 6	Lettuces, per doz.	1 6-2 0
Beans, French, lb.	2 6-3 0	Mushrooms, punnet	2 0-...
Beet, red, per dozen	2 0-3 0	Mustard and Cress, punnet	0 4-...
Carrots, per bunch	0 4-0 6	Parsley, per bunch	0 3-0 6
Cauliflowers, each	0 3-0 6	Seakale, p. basket	1 6-2 0
Celery, per bundle	1 0-3 0	Shallots, per lb.	0 8-...
Cucumbers, each	0 8-1 3	Spinach, per basket	3 6-...
Endive, per bundle	2 0-3 0	Tomatoes, per lb.	1 6-2 0
Herbs, per bunch	0 9-1 0	Turnips, per bunch	0 4-0 6

POTATOS.

NEW POTATOS.—The demand during the week has been brisk, and supplies not equal to expectations, consequently prices advanced. Malta Kidneys, 16s. to 23s.; Rounds, 12s. 6d. to 14s. 6d.; Canary Kidneys, 12s. to 22s. per cwt.

OLD POTATOS.—The indication of last week's tone of the market is confirmed by a rise of 6s. to 10s. per ton. Tendency still upward. J. B. Thomas.

Obituary.

EDWARD COOPER.—We regret to announce the death, on the morning of the 2nd inst., of Mr. Edward Cooper, who for seventeen years filled the situation of head gardener to the Right Hon. Joseph Chamber-

FRUITS AND VEGETABLES.

BROCCOLI, May 3.—Quotations:—Broccoli, 7s. 6d. to 10s. per tally; Sprouting do., 1s. 6d. to 2s. per bag; Spinach, 3s. to 6s. per bushel; Greens, 2s. to 3s. 6d. to 3s.; Carrots, 1s. 3d. to 1s. 9d.; Spring Onions, 4s. per dozen bunches; Egyptian do., 5s. 6d. to 6s. per cwt.; Apples, 2s. 6d. to 6s. per bushel; Canadian do., 12s. to 20s.; and Newtown Pippins, 15s. to 30s. per barrel.

SPRATFIELDS, May 3.—Quotations:—Cabbages, 7s. to 10s.; Cauliflowers, 6s. to 12s. 6d. per tally; Greens, 4s. 6d. to 5s. 6d.; Carrots, 2s. to 2s. 6d.; Spring Onions, 4s. to 5s. 6d.; Parsnips, 3s. to 4s. 6d. per dozen bunches; Spinach, 2s. to 3s. per bushel; Sprouting Broccoli, 2s. to 3s. 9d. per sack; do., 1s. to 1s. 9d. per sieve; Parsnips, 3d. to 9d. per score; Endive, 9s. to 15s. 6d.; French Cos Lettuce, 2s. 6d. to 5s.; Cabbage, do., 9d. to 1s. 6d.; Leeks, 2s. 6d. to 4s.; frame Cucumbers, 2s. 6d. to 3s. per dozen; French Radishes, 1s. to 1s. 3d.; English do., 3d. to 4d. per dozen bunches; Horseradish, 1s. to 1s. 1d.; Celery, 4d. to 1s. per bundle; English Onions, 6s. 6d. to 7s. per cwt.; Egyptian do., 3s. 3d. to 5s. 9d. per cwt.; English Apples, 2s. 6d. to 5s. per bushel; American do., 12s. 6d. to 22s. 6d. per barrel; Tasmanian do., 6s. to 8s. per bushel; foreign Tomatoes, 1s. to 2s. per box; forced Rhubarb, 1s. 3d. to 1s. 9d.; natural do., 2s. to 3s. per dozen bunches; Seakale, 1s. to 1s. 6d. per punnet.

STAFFORD, May 3.—The market has been well supplied with all kinds of produce during the past week, and an excellent trade was done at the undermentioned quotations:—Greens, 3s. to 4s. per bag; Cauliflowers, 1s. 6d. to 2s. per dozen; ditto, 8s. to 12s. 6d. per tally; Spring Cabbages, 4s. 6d. to 6s. per tally; Broccoli, sprouting, 2s. to 3s. 6d. per bag; Turnip-tops, 2s. to 3s. ditto; Rhubarb, 1s. 6d. to 2s. 6d. per dozen bunches; Carrots, household, 3s. to 40s. per ton; ditto, cattle-feeding, 20s. to 30s. do.; Mangels, 16s. to 20s. ditto; Swedes, 20s. to 25s. ditto; Onions, Egyptian, 120s. to 140s. per ton; Lisbon, 6s. to 6s. 6d. per case; Apples, English, 4s. to 6s. per bushel; American ditto, 12s. to 20s. per barrel.

NOTICES TO CORRESPONDENTS.

ADDER'S TONGUE FERN: *G. W. E.* The plant is obtainable in small quantities, but to use it in attempting to cure cancer, would only raise false hopes, it being utterly useless for the purpose.

BOOKS: *Flora.* Cucumbers and Melons. Any manual would supply the useful information about these plants, say, *The Forcing Garden*, by S. Wood (Crosby Lockwood and Co., Stationers' Hall Court, London). *The Tomato.* *The Tomato, and its Culture*, by W. Igoulden, published at 171, Fleet Street, London, E.C.—Roses. *T. River's Rose Amateur's Guide* (Longman, Green, & Co., London).—Ferns. *Select Ferns and Lycopods* (B. S. Williams, at the Victoria and Paradise Nurseries, Upper Holloway, London, N.).—Carnations and Picotees. *Florists' Flowers*, by Jas. Douglas. We do not know the publisher, but you might write to the author, at Great Gearies, Ilford, concerning that point.—*R. M. M. Fowkes* on *Horticultural Buildings* will supply your needs.—*A. O. W.* The only other book upon the subject we can think of, is one by F. W. Burbridge, entitled *Domestic Floriculture*, published by Wm. Blackwood & Sons. We are not sure if this is now in print.

CARNATIONS AND DAHLIAS: *J. Adams.* Really, our space is too valuable, and our time too much occupied, to allow of our giving you the names of 25 varieties of show Carnations, and 50 of Dahlias. You had better consult the list of a dealer of these flowers for this kind of information.

CUCUMBER FLOWERS: *W. H. Y.* The Cucumber flowers exhibit no fungi whatever, and we cannot account for the unusual development of the base of the hairs.

EUCARIS MITE: *Eucarhis.* Well wash the bulbs, remove the outer scales, and grow on the plants as well as you can; under these circumstances it is not always necessary to destroy the plants, but watch carefully.

FIGS: *An Anonymous One.* We think that the Figs you sent us are suffering from the effect of draught or in perfect ventilation. They may also be suffering from the attack of a fungus; if we find this so, we will report again.

FRENCH BEAN WITH SPECKLED LEAVES: *Cheltenham.* It is a case of variegation injury, and there is no disease to cause injury.

GAS AND VINES: *G. T. C.* If the fumes can be kept with certainty out of the viney, there is no reason

why gas should not be applied to the heating of the same. We would remind you that the maintaining of a high night temperature is not conducive to the health of the Vines; 60° to 65° is quite high enough, even for early forcing.

HORTICULTURAL SCHOOL: *Enquirer.* At present we only know of the Horticultural College at Swanley, but arrangements are, we believe, in progress for the extension of horticultural education at Chiswick.

INSECTS: *J. T. (Woodhall).* Your Apricot shoots are badly infested with the small flesh-coloured caterpillars of a minute moth allied to the species which attacks and rolls up the leaves of Apples and Pears (*Diitula angustiorana*), which we will try to rear, as it is not a common species. Wash abundantly with lime-water and soap-suds, and pick off rolled leaves in which the larvae are lodged; also wash with strong lime-water or with soft-soap and sulphur alone. *I. O. W.*

LAPAGERIA: *Chickster.* A Chilean twining plant introduced in 1847. Its thick leaves enable it to resist smoke and deleterious vapours better than most plants, hence it grows in the neighbourhood of copper smelting works in Chile, where scarcely anything else will grow. It does well in London greenhouses, and will bear shade. It is all but hardy, but does best in a cool greenhouse. Give plenty of water in the growing season, and keep the plants free from insects and slugs.

LAWN SAND: *Anxious Enquirer.* The substance would appear to be a manure very suitable for grasses, which, when dressed with it, grow at a great pace, smothering, and eventually destroying, other plants existing in the turf.

LETHORION CONES: *Anxious Enquirer.* We cannot say if the fumes will destroy red-spider on Vines without injury to the young Grapes, but we would not advise you to run the risk—better to sponge the under-sides of affected leaves with soapy water, carefully doing so, without touching the bunches.

NAMES OF PLANTS: *T. F. R. Lencuon* (*Acia*) trichophyllum, a native of Portugal.—*W. T. H.* A variety of *Rhododendron ponticum*, and a poor one.—*E. D. H.* *Primula acutis*, double lilac variety.—*H. E. P.* *Cactula articulata*, a candle plant.—*E. P. L.* *Sherardia arvensis*, 2, looks like a scrap of *Veronica hederifolia*; 3, *Cerastium*—send better specimens.—*A. F.* *Juniperus virginiana*, so far as we can tell from such a scrap, also known as red Cedar.—*G. H.* 1, *Adiantum gracilimum*; 2, *A. cuneatum*; 3, *A. formosum*; 4, *Mesembryanthemum cordifolium variegatum*; 5, *Sedum Sieboldii*; 6, *Elagnus pungens variegata*.—*N. M.* *Dendrobium aduncum*.—*S. R.* *Adiantum cardiophyllum*.—*E. D. L.* 1, *Doodia media*; 2, *Aspidium falcinellum*; 3 and 7, forms of *Asplenium premorsum*; 4, *Aspidium capense*; 5, *Aspidium pungens*; 6, *Asplenium Henrici* (*palmatum*).—*G. H.* 1, *Bifrenaria* (*Lycaste*) *Harrisonia*; 2, specimen not sufficient.—*A. F. F.* 1, *Eranthemum sanguinolentum*; 2, *Ruellia Devaiana*; 3, next week; 4, *Acalypha Macteeana*; 5, *Polypodium aureum*; 6, *Begonia incana*.—*L. J. A.* 1, *Erysimum Alliaria*; 2, *Lamium purpureum*; 3, *Cerastium vulgatum*; 4, *Saxifraga muscosa*; 5, *Orobanchis verus*; 6, *Arenaria rubra*; 7, *Cardamine hirsuta*.—*D. S. & Sons.* *Abies* *Pindrow*.

PODOCARPUS PECTINATA: *W. T. T. D. Paucher MSS.* not *Pancker*. Many thanks, next week.

SPRAYING APPLE TREES: *J. W.* As soon as the fruits are of the size of Filberts, and a fortnight later.

VINES: *J. F. Thoday.* There is no mycelium in the Vine roots, and no trace of fungi, except superficial. It looks to us much like what we have seen when the soil is water-logged, and the roots are in stagnant water.—*G. Stokes.* Your Vine leaves have been injured either by fumes from the stove used in heating, or from want of sufficient air during bright sunshine.

COMMUNICATIONS RECEIVED.—*M. M. Vilmorin*, Andrieux, et Cie.—*T. Durant*, Lachen.—*R. G. W. R.*—*I. J. B.*—*W. D. J.*—*D. S. Dowse*.—*A. L.*—*C. B.*—*E. B.*—*V.*—*W. T. D.*—*W. E. H.*—*D. S. & Co.*—*W. E.*—*G. J. G.*—*W. G. S. C.*—*de B.*—*W. & N. W. C.*—*N. Jersey*.—*J. S.*—*W. J. G.*—*F. Clipperton*.—*R. D. H.*—*Chas. Webster*.—*W. J. S.*—*J. E. J.*—*G. G. G.*—*M. W. C.*—*F. T.*—*A. P.*—*W. B. H.*—*E. H.*—*H. W.*—*W. C. de B.*—*J. J. W.*—*D. T. F.*—*J. E.*—*Rev. H. W. H. D.*—*An old subscriber*.—*A. D.*

SPECIMENS RECEIVED WITH THANKS.—Messrs. Backhouse.—*Mr. Synthe*.—*F. Clark* (next week).

PHOTOGRAPHS RECEIVED WITH THANKS.—*C. T. W.*—*W. B. Hardlad*.—*W. M. Bexley*.

GRAPE VINES.—100 young "Lady Downe" and "Forster's Seedling" for SALE, or EXCHANGE for ORCHIDS or others.—Apply GARDENER, Oakleigh, Edgware.

FRUITING VINES.—50 extra strong fruiting canes at 10s. 6d. each. Planting canes at 5s. each. *H. LANE AND SON*, The Nurseries, Berkhamsted, Herts.

WANTED, OFFERS for GREENHOUSE RHODODENDRON FALCONERI. Head 4 ft. through, on 4 ft. stem, 18 flower buds, opening.—*W. FORRESTER*, The Knoll, Shipley, Yorks.

STRONG-ROOTED CUTTINGS.—*F. V.* *Raspall Geranium*, 43 per 1000; *7s.* per 1000. *Elsine Chrysanthemum strong-rooted Cuttings*, 43 per 1000; *7s.* per 1000.—*P. BOULTON*, Beeches Nursery, Swanley, Kent.

Actinota Helianthi Labull, or *Flannel Flower*.

W. THOMPSON, SEEMAN, Ipswich, having received a small parcel of new seed of this curious and interesting Australian Plant, begs to offer small packets at 1s. each. Freepayment.

\$1000 PRIZE TOMATO, PONDEROSA.—The largest ever raised in the United States of America. Fruit, 2 to 3 lb., good form and flavour. Three strong plants, 2s. 6d. each. *ROEL OWEN*, Florist, Maidenhead.

GILBERT'S DOUBLE PRIMULAS, Lord Beaconsfield and Marchioness of Exeter. They make unique and beautiful plants, Cuttings, 1s. 6d. to 2s. 6d. and good plants, for potting on, well rooted; the former, 3s. per dozen, and the latter, 30s. No charge for Packing and Package.—*W. GILBERT*, High Park, Stamford.

Many Acres of Lilies of the Valley!

T. J. ANNOCH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for plant. Time of seedling out, November 1 to May 1. Prices and terms on application.

T. J. ANNOCH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

FERNS! FERNS!—Trade.—Greenhouse and Stove, 2s. saleable sorts, 12s. per 100; out of pots, 10s. Large *Adiantum cuneatum*, *Aralias*, *Cyperus*, all in 48's, 6s. per doz. *Ferns*, and *Ficus*, 1s. each. Large *Ferns*, 10 best sorts, 6s. per doz.; in 48's, 6s. per doz. *Adiantum*, *Genistas*, *Rhodanth* in bloom, 8s. per dozen, in 48's. *Adiantum cuneatum* and *P. tremula*, extra size, in 24-inch pots, 16s. and 20s. per 100. Packed free, Cash with Order. *J. SMITH*, London Fern Nurseries, Longhore' Junction, S.W.

LOBELIA *Emperor William*, 2s. per 100; 18s. per 1000. *Harrisonia*, 4s. per 100. *Calceolaria Golden Gem*, 4s. per 100. Good strong plants from cuttings. Terms cash.

1. *SOLOMON* and *SON*, Winchmore Hill, and 22, 23, and 372, Finsbury Market, Covent Garden Market, W.C.

Seeds for Present Sowing.

DICKSON AND ROBINSON'S Superb strains of the following are unsurpassed:—*CALCEOLARIA*, *CINERARIA*, and *PRIMULA*. Red, White, and Mixed Colours, each 1s. 6d. and 2s. 6d. per packet, post-free.

EXHIBITION DWARF EVERGREEN PALM GRASS, 1s. 6d. 1s. post-free, 2s. 6d. per cwt., 100s., carriage paid. Descriptive Priced CATALOGUE, post-free on application.

Seed Warehouse, 12, Old Millgate, Manchester.

Geraniums—Verbena—Fuchsias.

WILLIAM BADMAN offers, in well-rooted stuff fit for present potting-up, GERANIUMS, *Vesuvius*, *Hy. Jacoby*, *Queen of Belgians*, *Master Christine*, *West Brighton Gem*, *F. V. Raspall*, *Madame Vaucher*, all at 10s. per 100; *SILVER*, Flower of Spring, *May Queen*, *Eljow*, 10s. per 100; *Crystal Palace Gem*, *Happy Thoughts*, 10s. per 100; *BRONZE* of sorts, 12s. per 100; *TRICOLORS* of sorts, 18s. per 100; *LOBELIA*, *Brighton*, *Emperor William*, 2s. 6d. per 100; 18s. per 1000; *SNOWBALL*, 3s. 6d. per 100; *VERBENA*, *Purple*, *White*, *Scarlet*, *Crimson*, *Rose*, 6s. per 100; *HECOTROPE*, dark and light, 6s. per 100; *AGERATUM*, *Dwarf Blue*, 5s. per 100; *FUCHSIA*, best sorts, 8s. per 100; *CALCEOLARIA*, *Golden Gem*, 10s. per 100; *CINERARIA*, *Heavenly Hero*, *fiat*, *Crimson*, 5s. per 100; *PETALOGONIS*, *Show and Decorative*, best sorts, 3s. per dozen; *IVY LEAF*, best Doubles, a fine collection, 2s. 6d. per dozen, picking included. Terms, Cash with Order.—*GEMETRY NURSERY*, GRAVESEND.

Carpet Bedding Plants.

WILLIAM BADMAN offers, good rooted cuttings, *COLEUS*, *Veronica*, *IRIS*, *ESSENCE* *Linden*, *ALTERNANTHERA* *amazona*, *spectabilis*, *magnifica*, *major*, *aurea*, *paronychioides*, *ambilis*, all at 6s. per 100; *CENTAUROIDEA* *candissima* Seedlings, 6s. per 100; strong plants, 15s. per 100, picking included. Terms, Cash with Order. *GEMETRY NURSERY*, GRAVESEND.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 cwt., and Oil Mixture, Free all Stations. Liquid Non-Toxic Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W. 15, VICTORIA STREET, WESTMINSTER, S.W. and BACHELOR'S PLACE, DUBLIN.—Discount for Cash.

INTERNATIONAL HORTICULTURAL EXHIBITION,

London, Earl's Court, S.W.

Opening Day, Saturday, May 7.

H. E. MILNER, F.L.S., Assoc. M.Inst.C.E., *Chairman of the Executive.*

MOST MAGNIFICENT DISPLAY of FLOWERS and SHRUBS seen since the GREAT EXHIBITION of 1866. A new departure in Gardening—A LANDSCAPE GARDEN UNDER COVER—exquisite Scenery; a profusion of Palms, Ferns, and Flowering Plants. INSECTIVOROUS HOUSE—one of the greatest curiosities in Nature. Beautiful Walks and Slopes. Floral Maze. Conservatories, Rockeries, and Ferneries. GARDENS of all periods and styles: Egyptian, Roman, Italian, Tudor, Jacobean, Japanese, &c., &c. Indian TEA GARDEN. Representation of PLINY'S VILLA. Temple of the Pharaohs on the bank of the Nile.

THE LONG WALK IN WINDSOR PARK.

Electric Coloured Fountains. Brilliant Illuminations. Switchback Railway.

The BAND of the GRENADIER GUARDS, Conductor, LIEUT. DAN GODFREY.

L'HORTICULTURE INTERNATIONALE (LINDEN), LEOPOLD PARK, BRUSSELS.

SPECIAL EXHIBITION OF ORCHIDS

OF THE ESTABLISHMENT, IN CONNECTION WITH THE

GREAT INTERNATIONAL ORCHID SHOW OF THE "ORCHIDEENNE,"

From the 14th to the 20th of MAY, 1892.

THE INTERNATIONAL EXHIBITION of the ORCHIDEENNE will be held in the spacious Winter Garden of L'Horticulture Internationale. The SPECIAL EXHIBITION of L'HORTICULTURE INTERNATIONALE will be held in the Great Show-houses. *Entrance Free.*

OUR ENGLISH PATRONS are especially invited to visit THESE GRAND EXHIBITIONS; it will afford a most convenient opportunity to those who wish to see Orchids grown to perfection, a reputation which has by now become universal.

IMPORTANT NOTICE.—We offer to each Visitor to our Establishment who purchases to the amount of £50, a discount of £5, which will cover the expenses of the journey to Brussels. N.B.—The journey from London to Brussels, either *via* Dover-Calais, or Dover-Ostend, takes only 8 hours. The most convenient Trains are at 10.15 A.M., and 8.15 P.M. from Charing Cross or Victoria.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c. Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

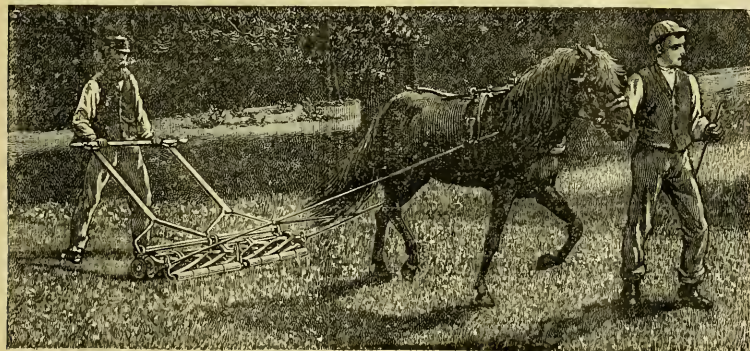
PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, ETC.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London." Telephone, No. 4763.



THE

"NEW EASY" LAWN MOWER.

The **LIGHTEST RUNNING** and **CHEAPEST ROLLER** Machine. **UNEXCELLED DURABILITY.**

Made in all Sizes, from 10 to 24 inches.

The **LARGEST SIZE EASILY WORKED** by ONE MAN.

Illustration shows two 24-in. Machines coupled together, doing the work of a 50-in. Horse Machine, at one-third the initial cost.

SOLE LICENSEES—

SELIG, SONNENTHAL, & CO.,
85, Queen Victoria St., London, E.C.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

If you Try It Now
You will Order later on.

Cambridge, September 12, 1891.
"I have formed a very high opinion of the value of the Patent Silicate Manure, especially for Tomatoes, Grapes, and Peaches."

(Signed) E. HOBDAV.

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO., THE CHEMICAL WORKS, HEMEL HEMPSTEAD, HERTS.

STANDEN'S (PATENT) MANURE.

ACKNOWLEDGED to be unrivalled for Efficiency and Economy, as most satisfactory and lasting results follow the application of the smallest quantity. In new and enlarged Tins, 6d., 1s., 2s., 6d., 5s., 10s., and 15s.; and in Kegs, 25 lb., 105 lb., 6d., 15s., 12s., 11 lb., 32s. each.

Sold by all Nurserymen and Seedsmen.

SOLE MANUFACTURERS:

CORRY & CO. (Limited),

13, 15, & 16, FINSBURY ST., LONDON, E.C.



TRADE MARK.



TRADE MARK.

THESE WELL-KNOWN MANURES

ARE USED BY THE

Leading Growers,
Royal Botanic Society,
Royal Horticultural Society,
Royal Parks,
London County Council,
Throughout the United Kingdom,
And in Every Quarter of the Globe.

Sold by SEEDSMEN, FLORISTS, and NURSERYMEN,
in 6d. and 1s. Packets, and SEALED BAGS:—
7 lb. 14 lb. 28 lb. 56 lb. 112 lb.
2s. 6d. 4s. 6d. 7s. 6d. 12s. 6d. 20s.

Or direct from the Works in 1s. Packets, post free, or Bags of either size, Carriage Paid (all sample), in the United Kingdom, for Cash with order as above.

The respective Trade Mark is printed on every Packet and Bag, and also impressed on the Lead Seal attached to the mouth of each Bag. The only Guarantee of Genuine.

PRICES OF CRUSHED BONES IN VARIOUS SIZES
ON APPLICATION.

CLAY & SON,

Manufacturers and Bone Crushers.

TEMPLE MILL LANE, STRATFORD, LONDON, E.

SLUGICIDE (REGISTERED).—Certain death to Slugs, fertilises the soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners ever invented. 1s. 6d. per box, of all Seedsmen. Trade terms.
"THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

NATIVE GUANO.—BEST AND CHEAPEST

MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., 5s. Sample bag, and Carriage Paid to any Station in England, on receipt of P.O. for 5s. Extracts from 16th Annual Collection of Reports:—
NATIVE GUANO, FOR POTATOS, VEGETABLES, &c.
H. BRIDGEMAN, Potato Grower, Reading, used for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c.
J. PEEB & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory. We use no other. Guano now consider yours preferable to Peruvian."—J. FICHO, Orrell Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market."

Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

D. HERTY'S CHRYSANTHEMUM

MANURE is the only Manure on the market having a definite influence on it, is distinct from all other, and is specially prepared for the cultivation of Chrysanthemums intended for exhibition. It is pronounced by the best judges to be the most perfect fertilizer of the root, not only for Chrysanthemums, but for Pelargoniums, Zonal Geraniums, Fuchsias, Eucharis, Cinnams, and Tomatoes.

Testimonial.—"October 12, 1891. To Mr. A. J. Doherty, 'Dear Sir,—I have tried your new fertilizer upon several varieties of Chrysanthemums with great success; in fact, I think it the best fertilizer I have ever used for Chrysanthemums. It produces large blooms, and quantities of Cuttings, and nourishes the plants during the whole growing season. Kindly send me 1 cwt. more, I am in want of some immediately, and I prefer this to any other.' (Signed), A. J. MANDA, F.N.C.S., F.R.H.S., United States Nurseries, Hextable."

Send in sealed tins, with directions for use. Size No. 1—1 dozen, 4s. 6d.; ½ dozen, 5s.; 1 dozen, 15s. Size No. 2—1 dozen, 9s.; ½ dozen, 16s.; 1 dozen, 30s. The large tins contain three times the quantity of the small ones.

From the Agents—Messrs. LITTLE & BALLANTYNE, Carlisle, Messrs. FITZ & MANDA, Hextable, Swanley, Kent; Mr. JOHN GREEN, F.R.H.S., Norfolk Nurseries, Dereham; or from the Inventor, A. J. D. HERTY, Analytical and Manufacturing Chemist, Burlington Street, Manchester.

RELiance FERTILISER.

A highly concentrated Plant Food, cleanly to use, for Greenhouse and Garden. The least possible waste, with utmost efficiency. 7 lb., 1s. 9d.; 14 lb., 3s.; 28 lb., 5s. 6d.; 56 lb., 10s.; 112 lb., 18s.; and—

NITROLAINE.

A cheap and excellent "all-round" manure for Fruit, Flowers, Vegetables, Grass. A genuine Plant Food, rich and lasting. 56 lb., 3s.; 1 cwt., 4s. 6d.; ½ cwt., 25s.; 10s. worth of Manures carriage paid to any railway station 200 miles, or on C.P. & Co.'s roads. Guano, Nitrate, Ammonia, Phosphates, Bone Manure, &c.

LEAF MOULD, PEAT MOULD, FIBROUS LOAM, and POTTING COMPOST, 3s. per 4 bushel sack; 1s. per bushel. Best Brown Peat, 5s. per sack; 1s. 6d. per bushel. Cocoa-turf Fibre, 1s. 6d. per sack; 5 for 6s. Silver Sand (coarse or fine), 1s. 6d. per bushel. Charcoal (nuts or fine), 2s. per bushel.

PLANT FOODS and HOW TO APPLY THEM, a Descriptive List, with Directions for Use, post-free, 1d. HORTICULTURAL SUPPLY CO., Old Shot Tower Wharf, London, S.E.

IF YOU WISH TO EFFECTUALLY DESTROY
GREEN-FLY, BLACK-FLY, and THRIPS,
FUMIGATE WITH
CAMPBELL'S FUMIGATING INSECTICIDE
A Safe, Reliable Article.

and it is one on which you can thoroughly depend.

Toilet-paper is uncertain in quality, often disappointing and unpleasant to use, whereas



Prices:—

For houses with 1000 cubic ft., No. 3 Roll, 1/- each; Post a canacity of 12000 cubic ft., No. 4 Roll, 1/9 each; 1 Free. LEMON OIL INSECTICIDE. The safest and most effective Liquid Insecticide for spraying or syringing.

PRICES, post-free.—Pints, 1s. 10d.; quarts, 3s. 3d.; half-gallons, 5s. 9d.

CLIBRAN'S EUCARIS MITE KILLER.—A truly valuable remedy, has saved thousands of bulbs.

PRICES, post-free.—Half-pints, 1s. 9d.; pints, 2s. 9d.; quarts, 4s. 9d.; half-gallons, 8s.

OR FROM YOUR SEEDSMAN.

CLIBRAN'S Oldfield Nurseries, ALTRINCHAM.

10 & 12 MARKET STREET, MANCHESTER;

And Principally Nurseries, Llandudno Junction.

COCO-NUT FIBRE REFUSE, newly made, as supplied to the Royal Horticultural Society, truck load of 2 tons, 20s., free on delivery rail 6d. N. G. W., S. W., L. & N. W., and Midland; other lines, 25s.; in bags, 20, 16s.; 40, 30s.—J. STEVENS and CO., Cocoa-nut Fibre Merchants, 155, High Street, Battersea, S.W.

LEWING'S MILDEW COMPOSITION.—The original certain and safe remedy. In bottles, 1s. 6d. and 2s.; per gallon, 12s. 6d. Free on delivery rail 6d. N. G. W., S. W., L. & N. W., and Midland; other lines, 25s.; in bags, 20, 16s.; 40, 30s.—J. STEVENS and CO., Cocoa-nut Fibre Merchants, 155, High Street, Battersea, S.W.

HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

The "STOTT" Patent INSECTICIDE DISTRIBUTOR.



CHEAP, SIMPLE, and EFFECTUAL. 28s. Complete.

INSECTICIDE "KILLMRIGHT."

CERTAIN PREVENTIVE OF MILDEW.

DEATH to CATERPILLARS, and all INSECT PESTS on Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and other Plants. NON-POISONOUS.
2-lb. Tins, 1s. 6d.; 14-lb. Tins, 5s.; 56-lb. Kegs, 34s.

FERTILIZER "FEEDMRIGHT."

Most Invaluable for

Roses, Chrysanthemums, Greenhouse, & Stove Plants.
2-lb. Tins, 1s.; 14-lb. Bags, 4s. 6d.; 56-lb. Bags, 15s.

PRICE LISTS and TESTIMONIALS on Application.
2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE and RETAIL FROM THE

"STOTT" FERTILIZER & INSECTICIDE
Distributor Co., Ltd., MANCHESTER.

Retail from all Ironmongers, Seedsmen, &c.

For Green and Black Fly, American Blight, Camellia Scale, Red Spider, Mealy Bug, Brown and White Scale Worms, Wood Lice, &c.

"PICRENA," THE UNIVERSAL INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.

15, PRINCES STREET, EDINBURGH, July 15, 1887.—"Dear Sir, I have thoroughly tested a sample of a new Insecticide which you were so good to send me. At the rate of 1 oz. to a gallon of water at a temperature of 85°, I find it kills Green Fly immediately. Double this strength, or 2 oz. to a gallon at 120°, seals the fate of Scale of all sorts in a few seconds; while 3 oz. to a gallon at same temperature effectually dissolves Mealy Bug, and so far as I have yet observed, without the slightest injury to leaf or flower, and it is withal a most agreeable compound to work with. All our insect remedies are applied through common syringe, or garden engine, a much severer test of efficiency than when applied by hand-washing or spray—I remain, dear Sir, yours truly. (Signed) A. MACKENZIE," of Messrs. Methven & Sons.

Victoria and Paradise Nurseries, Upper Holloway, London, January 7, 1888. "GENTLEMEN—I have given your Insecticide, 'Picrena,' a good trial in competition with many others. I am pleased to say that I have found it to be more effective in destroying Mealy Bug and other insects than anything we have ever used. It ought to command a good sale. (Signed) B. S. WILLIAMS."

Sold by Chemists, Nurserymen, and Florists, in Bottles at 1s., 6d., 2s., 6d., and 3s., 6d.; in Tins (1 and 2 gallons), 10s., 6d. and 20s., each; in quantities of 5 gallons and upwards, 5s. per gallon.

Prepared only by
DUNCAN, FLOCKHART & CO., Chemists to the Queen
Edinburgh.

May be had from B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, London; and from WILLIAM EDWARDS and SON, 167, Queen Victoria Street, London.

"Nothing Succeeds like Success."

HUGHES' (SOLUBLE) INSECTICIDE FIR TREE OIL

The most reliable and best of all Insecticides for destroying Insects and Vermin on Plants and Fruit Trees, also on Animals, and Birds; and as a Disinfectant & Bleacher in Washing Clothes. Full Directions on the Labels of each Bottle.

Sold by Seedsmen & Chemists, 1/6, 2/6, & 4/6; ½-gallon 7/6, 1-gallon 12/6, or less in larger quantities.

A Treatise on FIR-TREE OIL as an insecticide, its application to Plants and Animals, sent post free on application to the manufacturer, addressed to E. CRIFTHS HUGHES, Victoria-st., Manchester.

WHOLESALE from all the London Seed Merchants and Patent Medicine Houses.

NEW YORK.—A. ROIKER & SONS

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Store and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples free. Prices of WALKER and CO., Farnborough, Hants.

THE PERFECT WEED KILLER
COMPLETELY DESTROYS VEGETATION
on Garden Walks, Carriage Drives, Stonework, etc.
WE GUARANTEE
all Weed Killer bearing our Trade Mark to be thoroughly efficient. Refuse Imitations.
THE GARDENER'S MAGAZINE says:
"The Perfect Weed Killer is at once simple, cheap, and effective. At the Royal Gardens, Kew, the Royal Horticultural Society's Gardens, Chiswick, and other public places the Perfect Weed Killer is trusted for making a clean sweep of the road weeds."
Prices:—1 Gallon, 2s. 5 galls, 1s. 6d. per gall; 10 galls, 1s. 4d. per gall. Carriage paid on 10 galls.

Special Quotations for Larger Quantities.
THE PERFECT SUMMER SHADING
Supercedes all Others
FOR SHADING GLASS ROOFS OF ALL KINDS.
Is applied COLD, yet does not wash off with Rain.
1 lb. makes ½ gallon.
PRICE—1 lb. Tin. 1s.; post free 4½d. extra.
H. and A. CHEMICAL COMPANY,
97, Milton Street, Glasgow.
May be had through Chemists or Seedsmen.

Prices:—In Tins, ½ Pints 1/3, Pints 1/3, Quarts 3/4, ½ Gall. 5/6, 1 Gall. 9/6, 5 & 10 Gall. Drums, 8s. per Gall. Carriage Paid.
THE MYTHE CASTLE GARDENS,
Tewkesbury, Aug. 13th, 1891.
Gentlemen, I have given your "Climax" Insecticide a good trial on tender foliage, Orchids and Ferns for Bug and Scale. In every instance I found the Bug and Scale dead and the foliage bright and clean. I found it most effective for Black Fly on Peach trees. The "Climax" Insecticide ought to be better known, it is the only one I have found to kill Bug on tender plants without injury to the foliage.—I am, yours faithfully,
W. MACKIE.
Prepared Solely by
The Boundary Chemical Co., Ltd.,
LIVERPOOL.

REDUCTION IN PRICE!
ARE IN GREAT DEMAND.
Extirminate all Insect Pests without Injury to Foliage.
No HOT COKES.
Vastly Superior to Tobacco Paper,
And adopted by
Sir Trevor Lawrence, Bt.; Baron Schroder; Rt. Hon. Jos. Chamberlain; Sir Leopold Rothschild, Bart.; Messrs. Veitch, Chelsea; Sutton, Reading; Carter & Co., Highbury; Hugh Low, Clapton; Laing, Forest Hill; Sweet, Whetstone, &c.
Easy, Certain, Safe, and Cheap.
Sheets, 9d. (for 1000 cubic feet in parcels) 1s. 9d. per Dozen of 1 dozen, also ½, 1, and 2 gross, at 13d. to 25d.
McDougalls' Liquid Insecticide.—For Use under Glass.
" Garden and Fruit Tree Wash.—For Outdoor Use.
" Plant Food or Manure.—For Vines, Fruits, & Plants.
[NOTE.—All free from Poison. Patentes and Gold Medals—1864, 1873, 1876, 1883, 1886, 1889, 1891, 1892.]
McDOUGALL BROS.
(London: 10, Mark Lane.
Manchester: 48, Port Street.
Glasgow: 70 to 78, King Street.)
FROM NURSERYMEN AND SEEDSMEN.

McDOUGALL'S SELF-ACTING INSECTICIDE SHEETS.
Easy, Certain, Safe, and Cheap.
Sheets, 9d. (for 1000 cubic feet in parcels) 1s. 9d. per Dozen of 1 dozen, also ½, 1, and 2 gross, at 13d. to 25d.
McDougalls' Liquid Insecticide.—For Use under Glass.
" Garden and Fruit Tree Wash.—For Outdoor Use.
" Plant Food or Manure.—For Vines, Fruits, & Plants.
[NOTE.—All free from Poison. Patentes and Gold Medals—1864, 1873, 1876, 1883, 1886, 1889, 1891, 1892.]
McDOUGALL BROS.
(London: 10, Mark Lane.
Manchester: 48, Port Street.
Glasgow: 70 to 78, King Street.)
FROM NURSERYMEN AND SEEDSMEN.

GISHURSTINE COMPOUND used since 1859 for Red Spider, Millar Thrips, Greenfly and other blights, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-houses, in latter from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.
GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.
GARDEN REQUISITES.
—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of—
WATSON AND SCULL, 90, Lower Thames Street, London, E.C.



FOR DESTROYING WEEDS, MOSS, &c.
ON CARRIAGE DRIVES,
GARDEN WALKS, ROADS, STABLE-YARDS,
WALLS, STONWORK, &c.
Saves more than twice its cost in Labour. No Smell.
One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every confidence in recommending it."
Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy."
Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included); in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20 gallons, 1s. 4d. per gallon. Special quotation for larger quantities. Carriage paid on 10 galls. and upwards.
Used in the proportion of one gallon to twenty-five gallons of water.

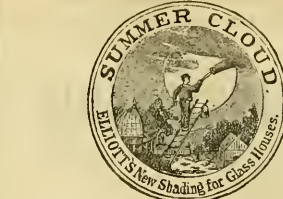
THE ACME SUMMER SHADING, White and Green.
For SHADING GREENHOUSES, CONSERVATORIES, &c.
Does not wash off with the rain. Can be used WARM or COLD.
1 lb. makes ½ gall. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 6d.
For particulars of ANTI-FUNGI POWDER for Tomato Disease, Mould and Mildew, Coarsening, &c.; KENTISH PLANT MANURE, SOLUBLE MANURE, ZINC LABELS, NEW METALLIC INK, &c., apply to the
Sole Proprietors and Manufacturers,
THE "ACME" CHEMICAL CO., Ltd.,
Tunbridge, Kent;
and Carlton Street, Bolton, Lancashire.

SAVE HALF THE COST.
GARSDALE'S SILVER SAND
BEDFORDSHIRE
COARSE AND FINE
Is admitted by the leading Nurserymen to be the Best Quality obtainable in the Trade.
Consumers should Buy Direct from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus save half the ordinary cost. NO TRAVELLERS OR AGENTS.
Apply direct to the Proprietor for Samples and Price free on Rail or Canal. All Orders executed with the utmost promptness and under personal supervision. Special Railway Rates in force for all parts. All kinds of PEAT supplied at lowest possible prices. Sample Bag sent on application to
GEOR. GARSDALE, Junr., F.R.S.E., Leighton Buzzard, Beds.

RICHARDS' NOTED ORCHID PEATS,
Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco Paper, Insecticides, Weed-Killer, and all Garden Sundries, at the shortest Notice. Special Railway Rates to all parts.
The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Chief Pet Dept and Grounds—Rigwood, Hants. Samples and Price List post-free.

EPSS'S Selected PEAT,
For ORCHIDS, STOVE PLANTS,
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 8d. SECOND QUALITY, 6s. per sack; 5 for 29s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack; 5 for 18s.; 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample List.
Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.

ORCHID PEAT.
PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 8d. Second quality, 8s. per sack; 5 for 37s. 8d. SECOND QUALITY, 6s. per sack; 5 for 29s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack; 5 for 18s.; 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.
Send Postal Order for Sample List.
Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.



And for all Glass Structures that require Shading.
Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen.
The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—
CORRY and CO., (Ld.), Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.

The Original and Only Makers of the
GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—
SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside thoroughly (A Most Important Point).
These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.
Every other kind of Boilers, Sock-pots, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,
AND ALL GARDEN SUNDRIES.
SEND FOR A
PRICE LIST
from the Largest Manufacturer in the Trade,
H. C. SMYTH,
21, GOLDSMITH STREET,
DRURY LANE, W.C.

SPHINCTER-GRIP Steel Wire GARDEN HOSE
Bore—½, ¾, 1, 1½, 2, and 1 inch.
Price—7½d., 8½d., 10½d., 1s., and 1s. 2d. per foot.
Carriage Paid, from—
HEATHMAN'S HOSE FACTORY,
2, ENDELL STREET, LONDON, W.C.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment.
HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps.
PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

GARDEN REQUISITES, as supplied to the Royal Gardens—**COCOA-NUT FIBRE REFUSE,** 1s. 3d. per sack, 10 for 12s.; 20 for 20s.; 30 for 28s.; sacks free; 4-ton truck, 30s.; free on rail near works. **THE ORCHID PEAT,** 8s. 6d. per sack. **BROWN FIBROUS DO,** 5s. per sack, 5 for 22s. 6d. **BLACK DO,** 4s. 6d. per sack, 5 for 20s. **FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD,** each 3s. per sack. Coarse **SILVER SAND,** 1s. 6d. per bushel, 1s. 10d. per ton. **CHARCOAL,** 8s. per sack. **SPHAGNUM,** 1s. 6d. per sack; all sacks and bags 2d. each. **RUSSIA MATS,** 10s. 6d. to 18s. per dozen. **RAFFIA, VIRGIN CORN STALKS, &c.** **BOXES, &c.** **ROSES, &c.** **DUST,** 11s. 6d. **TOBACCO-PAPER, Specialité,** 10d. per lb., 28 lb. for 21s. **CLOTH,** 1s. per lb., 28 lb. for 26s. Price List, free. **W. HERBERT and CO.,**
Hop Exchange Warehouses, South Mark Street, London, S.E.

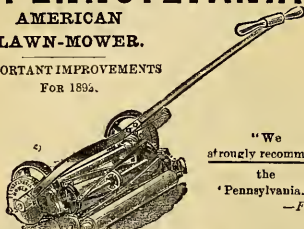
NICOTINE SOAP.—An effective and speedy Radiator of Scale, Thrips, Green Fly, Mealy Bug, Red Spider, American Blight, and 1 Parasites affecting Plants, without injury to Foliage. Price 1s. 6d., 3s., and 5s. 6d.; 14 lb., 15s. 6d.; 28 lb., 25s.—**CORRY and CO., Limited,** 13, 15, and 16, Finsbury Street. To be obtained through all Seedsmen and Florists.

TANNED NETTING.—For Preserving Fruit Trees, Flower Beds, &c., from Frost and Blight. 35 square yards for 1s.; 1 yd. wide net. Carriage paid on all orders over 5s.

HORTICULTURAL SHADINGS and NETTINGS, TIFFANY, COTTON WOOLS, and WADDINGS. Supplied Wholesale by—
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

Paris International Exhibition, 1889.
HIGHEST AWARD, SILVER MEDAL.
NO AWARD WAS GIVEN
to any English or Continental-made Lawn Mowers!
THE PERFECTED
"PENNSYLVANIA"
AMERICAN
LAWN-MOWER.

IMPORTANT IMPROVEMENTS
FOR 1892.



"We
strongly recommend
the
'Pennsylvania,'"
—Field.

PERFECTION OF EASY WORKING AND EFFICIENCY.
The only American Lawn Mower fitted with Six Cutting
Blades. It will mow grass closely and smoothly, and with
half the labour of the best English Machines. All
sizes, up to largest (21 in.), can be worked easily by one man.
ONE MONTHS FREE TRIAL ALLOWED.

Carriage Paid to all Stations.

Gardeners, professional or amateur, who value time and
wish to avoid laborious work, while obtaining the best possible
results in the way of keeping their lawns in perfectly trim
order, should write for Price Lists and Testimonials from—

LLOYD, LAWRENCE & CO.,
34, WORKSHIP STREET, LONDON, E.C.,
and all Ironmongers and Seedsmen.

"FRIGI DOMO" CANVAS.
Registered Trade Mark.
If you fail to obtain this
Valuable Canvas from your local
Seedsman, send a post-card to—
BENJ. EDGINGTON,
(LIMITED),
2, DUKE STREET,
London Bridge, S.E.,
Who will reply by return, with
Samples and full Particulars.
"FRIGI DOMO" CANVAS.

STOCK	SIZES
Inches.	Inches.
14x12	20x15
18x12	20x18
18x12	22x18
20x12	24x18
16x14	20x18
18x14	22x18
20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet
and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered
free and sound in the country, in quantity.

"BEST LINEED OIL PUTTY."

GEORGE FARMILOR & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote Chronicle.

Protect your Gardens from Ravages of Birds.

TANNED NETTING, 35 yards, 1s. Can be
sent any width; carriage paid on orders over 5s. Also
BELL-TOP TENTS, 40 feet in circumference, with pegs,
poles, all complete, from 20s. to 30s. each.

HENRY ROBINSON, Tent and Net Merchant, Rye, Sussex.

EXTRA STOUT strong-tanned NET, 2 yards
wide, 1½d. yard; 4 yards wide, 3d. yard; or 2 yards wide,
10s. per 100; 4 yards wide, 20s. per 100 yards. **NEW TWINE**
NETTING, 1 yard wide, 1½d. yard; 2 yards wide, 3d. yard;
4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. **COTTON**
NET, nine meshes to square inch, 1½ yards wide, 7d. yard run.
W. CULLINGFORD, 24, Eastern Road, Plaistow, E.

RANSOMES'

At the Jubilee Meeting of the R.A.S.E.,
Windsor, HER MAJESTY THE
QUEEN and H.R.H. PRINCESS
VICTORIA of PRUSSIA each pur-
chased a RANSOMES' LAWN MOWER.

All
Mowers
sent on a
Month's
Trial,
Carriage Paid.



LAWN MOWERS,

The Best in the World.

In all sizes to meet every requirement.

"NEW AUTOMATON," the Best Gear Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"ANGLO-PARIS," the Best Small Machine.
"EDGE CUTTER," the only one of real service.
"BANK CUTTER," the Best for Cutting Slopes.
THE BEST PONY and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.

RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN

TREE GUARD,

"The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire,

"Dec. 28, 1887.

"DEAR SIR,—I have now had
an opportunity of trying
your PORCUPINE TREE
GUARDS, and they seem
quite to answer my pur-
pose, so you may send me
50 more as before. I en-
close cheque for your
account.

Yours truly,
RICH. GREEN.
Messrs. Hill & Smith.

JAS. BOYD & SONS,

HORTICULTURAL BUILDERS
and HEATING ENGINEERS,

PAISLEY.

HORTICULTURAL
STRUCTURES

of every description,
in either Wood or Iron,
or both combined.

Wooden Chapels,
Shooting Lodges,
Tennis Courts,
Cottages, &c.

Hot-water Apparatus
for warming
Buildings of every
description.

Illustrated Circulars
Post-free.

Complete Catalogue, 3s.



BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO
THE LONGFORD WIRE CO.

(LIMITED).

WARRINGTON.



W. H. LASCELLES & CO.,

HORTICULTURAL BUILDERS,
121, BUNHILL ROW,
LONDON, E.C.

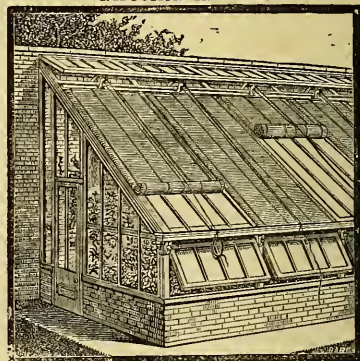


CONSERVATORIES,
GREENHOUSES,
ORCHID HOUSES,
VINERIES,
PEACH HOUSES, &c.

Plans and Estimates Free.

PARISIAN BLINDS.

REDUCTION IN PRICE.



MADE OF WOOD and ZINC ONLY.
AWARDED 40 PRIZE MEDALS.

W. RICHARDSON & CO., Horticultural Works,
DARLINGTON.

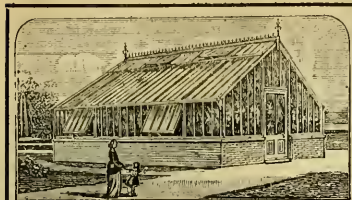
HORTICULTURAL GLASS.

A Large Stock
always on Hand.

Special quotations for quantities.

WHITE LEAD, OILS, AND COLOURS
At lowest possible prices.

NICHOLLS & CLARKE,
6, HIGH STREET, SHOREDITCH,
LONDON, E.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid—1-light frame, 4 x 6, 36s. 6d.; 2-light frame, 6 x 8, 52s.; 3-light frame, 12 x 6, 85s. 6d.

Span-roof Frames, 12 x 4, £17s. 6d.; 9 x 5, £21s. 6d.; 16 x 6, £28 10s.

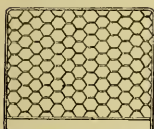
HARDY BRUIIN & CO., Graham Street, LEICESTER

BOULTON & PAUL, MANUFACTURERS, NORWICH.

Improved Pea Trainers. Diamond Wire Trellis.

To be used instead of Pen-sticks.

For Training Plants.



Hurdles 4 ft. long.



Cash Prices.

3 ft. high, 4 ft. high, 6 ft. high, 6 ft. by 3 ft., each ... 2 6
1/3 each, 1/9 each, 2/6 each, 6 ft. by 4 ft. ... 3 6

Galvanized Pea and Seed Guards.

3 ft. long, 6 in. wide.

Two end pieces to the dozen

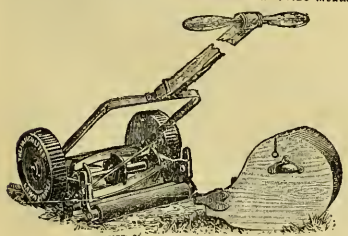
lengths. CASH PRICE, 4/6 per dozen.

ILLUSTRATED CATALOGUE of all our Manufactures, free on application.

BOULTON & PAUL, NORWICH.

TRY THE PATENT "MANCHESTER" LAWN MOWER.

Awarded numerous National & International Prize Medals.



Many thousands of these excellent English made Machines in use, giving unqualified satisfaction. Easy to work on uneven ground, and cut long or short grass, wet or dry, and give the turf a beautiful velvety appearance.

FOLLOWS & BATE LTD., ENGINEERS.

GORTON, MANCHESTER. Patentes and Manufacturers of the Royal "ANGLO-AMERICAN," "TENNIS," and "CLIMAX" LAWN MOWERS.

80,000 SOLD SINCE 1869. To be obtained promptly from all respectable Ironmongers and Seedsmen. PRICE LISTS POST FREE.

Messrs. BELL'S LIST.

NEW VOLUME of BELL'S AGRICULTURAL SERIES. Crown 8vo, 198 pp., Illustrated, 2s. 6d.

PRACTICAL FRUIT CULTURE.

A Treatise on Planting, Growing, Storage, &c., of Hardy Fruits for Market and Private Growers.

By J. CHEAL, F.R.H.S.,

Member of Fruit Committee, Royal Hort. Soc.; Member of Executive Committee, British Fruit Growers' Association; Member of Committee of Experts of the Fruiterers' Company, &c.

"One of the very best agricultural manuals we have seen."—Field.

PART I. NOW READY, Super Royal 8vo, 5s. A NEW SUPPLEMENT TO THE THIRD EDITION OF ENGLISH BOTANY (Sowerby's). With Coloured Plates. This Work, to be completed in eight or nine parts, has been carried as far as Dispace by Mr. N. E. BROWN, of the Royal Herbarium, Kew, and will be completed by Mr. ARTHUR BENNETT. Full Prospectus on application.

Large post 8vo, cloth, 7s. 6d. JOHNSON'S GARDENER'S DICTIONARY. Describing the Plants, Fruits, and Vegetables desirable for the Garden, and explaining the terms and operations employed in their Cultivation. With a Revised Supplement. By N. E. BROWN, of the Royal Herbarium, Kew.

THE BOTANIST'S POCKET BOOK. Containing, in a tabulated form, the Chief Characteristics of British Plants, with the Botanical Names, Soil or Situation, Colour, Growth, and Time of Flowering of every Plant, arranged under its own Order, with a copious Index. By W. R. HAYWARD. Seventh Edition. Fcap. 8vo. Cloth limp, 4s. 6d.

LONDON: GEORGE BELL & SONS. YORK STREET, COVENT GARDEN, W.C.

BOOKS ON ROSES, by WM. PAUL, F.L.S. THE ROSE GARDEN, 9th edition, 4to, 360 pages, fifteen coloured plates, numerous engravings, 17s. 6d. nett; the same, 8vo, without plates, 8s. 9d. nett. ROSES IN POTS, 7th edition, illustrated, post-free, 2s. ROSES AND ROSE CULTURE, 6th edition, illustrated, post-free, 1s. The Journal of Horticulture, says: "The best Works on Roses are those by Mr. Wm. Paul."

WM. PAUL AND SON, Nurseries, Waltham Cross, Herts.

BOILING WATER OR MILK. E P P S'S GRATEFUL-COMFORTING. C O C O A BREAKFAST-SUPPER.

LIFE ASSURANCE AT COST ABOUT HALF THE USUAL RATES. MUTUAL RESERVE FUND LIFE ASSOCIATION

OF NEW YORK. E. B. HARPER, PRESIDENT. PURELY MUTUAL. ABSOLUTE SECURITY. STRICT ECONOMY. The most successful Life Assurance Company in the World. Total amount of Insurance in force, 1891 ... £45,190,635 New Business, 1891 ... £10,270,965 New Business accepted, 1891 ... £9,100,403 Total Death Claims paid ... £2,464,065 Saving to Members by its System, about ... £6,000,000

90, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

THE RAILWAY PASSENGERS' ASSURANCE CO. Pay over £2,700 weekly as COMPENSATION for ACCIDENTS OF ALL KINDS. 64, CORNHILL, LONDON.

W. D. MASSY, Secs. A. VIAN,

FARMS, ESTATES, RESIDENCES.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "Midland Counties Herald Office, Birmingham." The Midland Counties Herald always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to Let.

REVUE DE L'HORTICULTURE BELGE et ÉTRANGÈRE (Belgian and Foreign Horticultural Review)—14th year.—Among the principal Contributors are:—A. Allard, E. André, C. Ballet, F. Burvenich, F. Crépin, O. de Kerchove de Dentergem, P. E. de Puydt, A. M. C. Jongkindt Coninck, J. Kieck, T. Moore, C. Naudin, B. Oliveira, H. Orties, E. Pynaert, E. Rillig, G. Thomé, A. van Geert Son, H. J. van Hulle, J. van Volxem, H. J. Veitch, A. Westmael, and P. Wolkenstein. This illustrated Journal appears on the 1st of every month, in parts of 24 pages, 8vo, with two coloured Plates and numerous Engravings. Terms of Subscription for the United Kingdom:—One year, 14s. payable in advance. Publishing Office: 134, Rue de Bruxelles, Ghent, Belgium. Post-office Orders to be made payable to M. E. PYNART, Ghent.

SIX CABINET PORTRAITS, 3s.; three for 1s. 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargements, 3s.; three for 6s. Stamp size, 24 for 1s. 6d.; 100 for 3s. 3d. Send Cards or Cabinet and Postal Order, and in about ten days you will receive eight glossy, hand-coloured, with Original.—FRANCIS AND CO., 29, Ludgate Hill, London.

GARDENING APPOINTMENTS.

MR. J. BENDOW, formerly Gardener at Villa Champ, Fleure, Cannes, France, as Head Gardener to the EARL OF ILCHESTER, Aldeburgh, Basset, Dorchester. MR. H. CHANTLEY, as Head Gardener to MOUTON LAMARDE, Esq., Beckenham Lodge, Sevenoaks, Kent, having succeeded CHAS. PARROT, who has taken a business at Staines. MR. E. DUMPER, for seven years Gardener at Summerville, Limerick, Ireland, as Gardener to the Hon. II. D. RYDER, High Ashurst, Dorking, Surrey. MR. E. STONE, recently of the Royal Gardens, Windsor, as Head Gardener to W. H. VILLATS, Esq., Heathfield, Ascot, Berks.

CATALOGUES RECEIVED.

W. MORLE, 243, Regent Street, London, W.—Window Boxes, Window Conservatories, Wire Goals, Cork, and Cork.

WANTED, a thoroughly reliable WORKING MANAGER (married), for Scotland. Must have good practical experience in Growing for Market, under Glass, early Fruits, Cut Flowers, Plants, Vegetables, &c.; also Outside Fruits and Kitchen Garden. Must be a good Manager, punctual, and well up to his work in all matters relating to the garden. Must be strictest investigation. Good wages to competent, trustworthy man. Full particulars as to character, ability, &c., with references, to S. W., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, for the Seed Business (Retail), a thoroughly practical MAN, as MANAGER. Must be well up in all branches of the Trade. Apply, stating age, experience, and salary required, to A. Z., Gardeners' Chronicle Office, 41, Wellington Street, Covent Garden, London, W.C.

WANTED, GARDENERS.—Must be experienced as Window-Boxers, and used to Furnishing Good references required.—Apply, personally, to THE CROFTON FLORAL CO., 37, Sloane Street, S.W.

WANTED, in a Gentleman's Private Garden, a young Man, as SECOND GARDENER, Inside and Out. Wages, 17s. per week.—Apply through HIRD and VALLANCE, American Nurseries, Dowham, Norfolk.

WANTED, as SECOND GARDENER, a young Man for Inside and Out, with good knowledge of Plants and Fruit. No botany.—State age, wages, and reference, to J. BAMFORD, Reaseheath Hall Gardens, Nantwich, Cheshire.

Gardener and Landscaper. WANTED, a MARRIED COUPLE (without family preferred) as GARDENER and LANDSCAPER. Must be thoroughly competent and highly recommended. Lad kept to assist in Garden. Good wages. Apply, stating experience and giving full particulars, to P. E. S., East Sheen, London, S.W.

WANTED, a GARDENER and his WIFE, ages 35 to 40, without children, to live in the house in an eastern suburb of London; man to attend to small garden and greenhouse, and to make himself useful; wife to cook and do housework, and to assist in the garden. Apply to T. M., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, a Respectable MARRIED COUPLE, without family, about 35 years of age. Man to Assist in Gardens, and Woman to look after a Furnished Room. Wages, 18s. a week, house and coals.—E. GIBBS, Elythorpe, Aylesbury.

WANTED, a FOREMAN (Inside). Must understand, Grapes, Peaches, Melons, Store and Greenhouse Plants. Well up in Table and indoor decorations. Good character for sobriety, civility, and industry necessary. Wages, 18s., bothy and vegetables.—Apply, with copies of testimonials, to B. MARKS, The Gardens, Hardwick, Bury St. Edmunds.

WANTED, as FRUIT FOREMAN, a practical Man, who has had experience in the Growing of all kinds of Outdoor Fruit Trees, and is capable of Managing a Staff of Men. Good wages to a competent man.—Apply to J. SMITH and SON, Sison, West Drayton, near Uxbridge.

WANTED, an all-round Outside NURSERY HAND.—State references, full particulars of experience, age, married or single, wages, &c., to E. D. SHUTTLEWORTH and CO., LIND, Albert Nurseries, Fleet, Hants.

WANTED, FOUR active young MEN, in Market Nursery.—Must be used to Cucumbers and Soft-wooded Plant Staff. One from a Market Nursery 18s. per week, and comfortable bothy on place.—GEO. A. WILLIAMSON, Bloomsbury Nursery, Timperley, Manchester.

WANTED, AT ONCE, a young MAN as Grover of Ferns, Palms, Soft Wood, and General Nursery Stock for Market; one with knowledge of Mushroom Growing preferred. Apply, stating age, experience, and wages required, to J. RICHARDS, Woodbine Nursery, Wanstead, Essex.

WANTED, a respectable, active MAN, for Growing Chrysanthemums, and General Work.—HAWKINS and BENNETT, Lily Gardens, Twickenham, Middlesex.

WANTED, for a Nursery, South Coast, SEVERAL MEN; must be thorough good growers of Tomatoes, Cress, Grapes, and Cut blooms. State age, wages expected, and give reference.—Apply, TOMATO, *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED AT ONCE, for a small Nursery, a good all-round MAN, able to Bud and Graft, and Grow Soft-wooded Plant Staff. One from a Market Nursery preferred.—For particulars, &c., ROSES, *Gardener's Chronicle* Office, 41, Wellington Street, Strand, London.

WANTED, a young MAN, for Potting, Tying, and making himself generally useful.—Apply, personally, wages £1 per week.—J. BALDWIN and SON, Edith Nursery, Burchard Road, Leyton.

WANTED, a young MAN, about 20, used to Watering, Potting, and General Work in Nursery. Chrysanthemums, Pelargoniums, and Paeonias, grown largely for the Trade. Stimulation permanent; references required.—Address, H. JONES, Eycott Park Nursery, Hither Green, Lewisham.

WANTED, an active young Man, quick at Potting, Watering, and a knowledge of growing Roses inside; to live in bothy, in a market nursery in the North. State wages and age, with references to P. M., *Gardener's Chronicle* Office, 41, Wellington Street, Strand.

WANTED, a young MAN, used to Raising and Growing Ferns, Palms, &c., in quantity for Market.—Apply, JOHN WARD, Wallwood Nursery, Leytonstone, E.

WANTED, an experienced MAN, to grow Hardy Flowers for Market, and to make himself generally useful. Wages, 22s. 6d. per week.—R. BATH, Osborne Farm, Wisbech, Cambs.

WANTED, an indoor MAN, one used to general Soft-wooded Stuff. Must be a successful Propagator. Wages about 18s. State particulars.—H. ENGLISH, Clapton Nursery, near Clevedon, Somerset.

WANTED, a young MAN, age 18 to 20, quick at Potting, Tying, and Watering.—Apply, with references, to W. A. TONGUE, Nurseries, Shooter's Hill, S.E.

WANTED, AT ONCE, for a Nursery, 10 miles from Liverpool, a young MAN, who has been accustomed to grow Tomatoes, Strawberries, and Chrysanthemums for the Market. Wages, 18s. per week, and bothy.—Address, with references, TURNER BROS., 2, Parker Street, Liverpool.

WANTED, an ASSISTANT PROPAGATOR and GROWER (Inside).—State references, full particulars of experience, age, married or single, wages, &c., to E. D. SHUTTLEWORTH and CO., LIND, Albert Nurseries, Fleet, Hants.

WANTED, an IMPROVER, in a large Garden, under Glass, for two years.—Age at 19, strong, and healthy. Premium £3 per annum. Wages 12s. per week the first 14s. the second year, bothy, milk, &c.—A. EVANS, Llyth Hill, H. Glamere.

WANTED, a respectable energetic youth as an APPRENTICE in good gardens; premium required.—Address, HEAD GARDENER, *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should write for Prospectus of the Scientific Dress Cutting Association, 274, Regent Street, London, W. Situations found for all pupils at good salaries. No Lady's education is complete without a knowledge of Dressmaking.

WANT PLACES.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c. DICKSON'S (Limited), Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address: "DICKSONS, CHESTER."

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

Head Gardeners. JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, or HEAD GARDENERS for desirable Establishments, or Single-headed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E. 4.

SCOTCH GARDENERS.—I have at present several very superior MEN on my Register, whose character and ability will bear the strictest investigation.—JOHN DOWDIE, Seedsman, 144, Princes Street, Edinburgh.

GARDENER (HEAD).—Age 35, married; has had twenty years' experience in all branches. Can be well recommended.—Apply to J. CHEAL and SONS, The Nurseries, Crawley, Sussex.

GARDENER (HEAD); age 33, married.—Mr. WILLIAMS, Blenheim Palace, Woodstock, wishes to recommend John Coles to any Lady or Gentleman requiring steady and competent Gardener, who thoroughly understands the management of a large Establishment; for the last seven years Principal Foreman at Blenheim.

GARDENER (HEAD).—Mr. EMERTON, Gardener to the Right Hon. Earl Brownlow, Belton House, Grantham, Lincolnshire, wishes to recommend George Lilley to any Lady or Gentleman in want of a good practical man. Sixteen years' experience.

£5 will be paid for information that will lead to the Advertiser (age 28) getting a situation as HEAD GARDENER, who three or four are kept. Twelve years' good all-round experience in large Gardens.—*Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD).—Age 30. Mr. A. HOSSACK, Glynlyon, Carmarvon, can with confidence recommend his late Foreman. Full particulars on application.

GARDENER (HEAD).—Age 42; no family. Where several are kept. Life experience.—F. W., 37, Bridge Street, Witney, Oxon.

GARDENER (HEAD); age 32; married, no family.—J. DENIS HOPKINS, Esq., Wilton Tower, via Darlington, can with confidence recommend Tho. Singleton, his present Head Gardener, to any Lady or Gentleman requiring the services of a thorough practical man, highly conversant in all branches of his profession, and the requirements of a good Garden. Eighteen years' experience.

GARDENER (HEAD), where several under are employed.—Age 30, married, one boy 12 years; open to engage with any Lady or Gentleman requiring the services of a good all-round practical Gardener. Excellent testimonials for fourteen years as Head Gardener.—W. S., 24, Grosvenor Road, Chancery, N.

GARDENER (HEAD).—Middle-aged, married, no inebriance; fifteen months' in present situation, twelve years' in previous, where economy was enforced, and all surplus produce sold. Land and Stock, or Caretaker, if required. Excellent character through life.—S. O., The Lodge, Outlands, Bodley, Surrey.

GARDENER (HEAD WORKING).—Age 31, married. Sixteen years' good general experience in all branches; excellent testimonials. Leaving through Gentleman giving up establishment; can be thoroughly recommended by present employer.—J. D., Gardener, Holbrook, Ipswich.

GARDENER (HEAD WORKING); age 28; good all-round experience.—W. BARKER, Gardener to H. C. Stephens, Esq., M.P., Avenue House, Finchley, W., will be pleased to recommend to any Lady or Gentleman requiring the services of a steady, reliable man.

GARDENER (HEAD WORKING), where two or more are kept, married.—The FOREMAN, Tenterden Hall Gardens, Hendon, seeks a situation as above. Fourteen years' practical experience in all branches. Four years' excellent character. Abstainer.

GARDENER (HEAD WORKING).—Age 35, 22 years' practical experience in all branches. Wife though cook, if required occasionally. Excellent testimonials.—FOLLARD, Gardener, Chalfont St. Giles, Bucks.

GARDENER (HEAD WORKING).—Age 30; married, no family.—Mr. CLINGING, Souderton, Croydon, can confidently recommend J. Tucker to any one requiring a thoroughly practical man 18 years' experience.

GARDENER (HEAD WORKING).—Intelligent, and possessed of an excellent knowledge of his business. Single; abstainer. High testimonials. Home counties preferred.—J. H., 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING), where others are kept.—Married, no family; abstainer. Life experience in Early and Late Forcing of all kinds of Flowers, Vegetables, Mushrooms, Also Kitchen and Flower Gardens, Pleasure Grounds. Eight years' good character from late employer, and sixteen years' references.—J. D., Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING); age 29, married.—J. HOSSLEY, Wallingford Castle Gardens, Berks, is open to engage with any Lady or Gentleman requiring a good all-round Gardener. Fourteen years' experience in good establishments. Good character from present and previous situations.

GARDENER (HEAD WORKING, or good SINGLE-HANDED). Married, no family. Good all-round practical experience. Excellent character from thorough life.—GARDENER, 42, Wellfield Road, Streatham, Surrey.

GARDENER (HEAD WORKING), where two are kept, or good SINGLE-HANDED; married, two children, 11 and 13.—Commander DICKEY, R.N., recommends his Gardener as above. Six years' character. Leaving for no fault. Understands all branches. Thoroughly trustworthy, honest, and sober.—T. SMITH, Gardener, North Runcton, King's Lynn.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Goldwynds, near Dorking, wishes to recommend his Foreman, James Fuller, thoroughly practical in all branches, including Orchids, Stove and Greenhouse Plants, Fruit, Hardy Heraceous Plants. Excellent character.

To Noblemen and Gentlemen. GARDENER (HEAD WORKING).—Disengaged when suited, through employer leaving Estate. Skilled Graper, Pine, and other Grower. Has established and grown some of the rarest and most valuable Orchids ever imported. Twenty years' experience and character in large Establishments, where surplus produce was disposed of.—J. HOWARD, 2, Tennant Street, Birmingham.

GARDENER (HEAD WORKING), where one or more are kept.—Age 28, single at present. Thirteen years' experience in large Establishments. Good references.—G. W., East Orleton Lodge, Penbroke.

GARDENER (HEAD WORKING), where two or more are kept.—Married, no family; twenty years' practical experience in the cultivation of Fruit and Plants under Glass, Flower and Kitchen Garden. Eight years' good character.—F. A., 71, Lewisham Road, S.E.

GARDENER (HEAD WORKING).—Age 30, married; thoroughly experienced in Stove and Greenhouse Plants, Forcing, Fruit, Flower, and Kitchen Garden. Sixteen years' practical experience; excellent testimonials; death cause of leaving.—A. CORNING, The Gardens, Shales, Bitternes, Southampton.

GARDENER (HEAD WORKING).—Age 40, married (two boys aged 9 and 7); thoroughly practical in all branches. Good character and references.—23, Queen Street, Mayfair, W.

GARDENER (HEAD WORKING), where two or more are kept; age 27.—J. ANDERSON, Charman Dean, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD WORKING).—Thorough years' good character, and testimonials. Family and Plants under Glass, Flower and Kitchen Garden. Eight years' good character.—W. PEPPER, Adelaide Cottage, Rye Park, Huddesdon, Herts.

GARDENER (HEAD WORKING).—Age 38; good all-round man. Twenty years' experience. Wife could manage Laundry or Poultry. Good character.—HEAD GARDENER, The Bury, near Leamington.

GARDENER (HEAD WORKING), where one or more are kept.—Age 23; fourteen years' experience inside and out; can be well recommended.—D. SANSOME, Station Street, Mansfield, Woodhouse, Notts.

GARDENER (HEAD WORKING), where one or two are kept.—Vines, Melons, Peaches, Cucumbers, Tomatoes, Mushrooms, Stove and Greenhouse Plants, Flower Gardens, Acton Lane, Willesden, N.W.

GARDENER (HEAD WORKING); age 38, married; abstainer. Messrs. WILLS & SEGAR, The Royal Exotic Nursery and Winter Garden, near Kingston, S.W., can with confidence recommend C. Taylor to any Lady or Gentleman requiring an efficient and competent gardener, where a real interest in his duties could be taken, including House and Table Decorations.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, married; fifteen years' experience in all branches. Good character.—E. D., 14, Martindale Road, Balham, S.W.

GARDENER (HEAD or SINGLE-HANDED).—Age 36, married. Thoroughly practical in all branches; understands the management of cows, poultry, bees, land, &c. Seven years' excellent character.—J. DENAGE, Sandford Farm, Hatfield, Bedford, Chelmsford, Essex.

GARDENER.—J. READ, Gardener to the Right Hon. the Earl of Carnarvon, Bletby Park, Burton-on-Trent, would be glad to recommend a first-class man to any Nobleman or Gentleman. Highest references both as to character and ability.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 23, married; thoroughly experienced in all branches. Excellent references from previous and present employers.—W. FLEET, 2, Sherwood Road, Harrow.

GARDENER (good SINGLE-HANDED, or assistance given).—Age 27, married. Twelve years' good experience Inside and Out; nine years' character.—A. KNIGHT, Fern Hill, Wickfield, Berks.

GARDENER (SINGLE-HANDED, or otherwise).—Age 44; experienced with Vines, Flower and Kitchen Garden, Cucumbers, &c. Three years in present service. Wife good Landlady if required.—J. B. GARDNER's Cottage, Westham Road, Well Walk, Hampstead.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 30, married, one child; thoroughly experienced. Good character.—X. Y. Z., 77, Dabcock Road, South Streatham, London.

GARDENER (HEAD or GOOD FOREMAN).—French, speaks English, single at present; has been in large establishments; good references.—A. C. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (SINGLE-HANDED).—Age 26; four years good character; near London preferred.—S. BAKER, Fielding Cottage, Canham Road, South Norwood, S.E.

GARDENER (SINGLE-HANDED, or otherwise).—Age 22; good experience, and can be well recommended.—G. Y. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (SINGLE-HANDED, or UNDER).—Three years' good character.—W. STOCKBRIDGE, Thripplow, near Royston, Cambs.

GARDENER (good SINGLE-HANDED).—Age 24, single; good character.—M., Chestnut House, Balham Hill, S.W.

GARDENER (SINGLE-HANDED, or where help is given).—Age 30; eleven years' experience in all branches. Excellent references. Married when suited.—H. DIFROSE, Ightham, Sevenoaks, Kent.

GARDENER (SINGLE-HANDED, or otherwise).—Age 40, married, no family. Good all-round man. Wife as Gardener, if required. Abstainers, and both can be well recommended.—GARDENER, Hopewell Cottage, Bells Hill, High Barnet, Herts.

GARDENER, where help is given, or SINGLE-HANDED.—Age 29, married when suited. Total abstinence. Understands Greenhouse Plants, Cucumbers, Tomatoes, and general routine of Gardening.—H. WYLLING, Mr. Lilley, 14, Canterbury Terrace, Malton Vale, London, W.

GARDENER.—Single; Vines, Fruits, Flowers, and Vegetables.—McPHERSON, Bowhouse, Perthshire.

GARDENER (SECOND). Inside and Out preferred.—Age 25; experienced. Abstainer. Good character.—H., Albany Road, Herisham, Walton-on-Thames.

GARDENER (SECOND), where three or four are kept.—Age 27, single; four years in last place, Inside and Out. Good character.—A. C., Chippen's Cottage, Heyer, Edenbridge, Kent.

GARDENER (SECOND, or good SINGLE-HANDED).—Age 25, married, no family. Two years' experience.—Mrs. HUMBLE wishes to recommend the above. The Grove, Hertford, Herts.

GARDENER (SECOND), in a small Establishment.—Age 27, married; good references.—F. DOWNES, Anderson's Road, Otlands Park, Weybridge.

GARDENER (SECOND).—Age 25; ten years' experience, Inside and Out. Good character.—F. A., Rowfant, near Crawley, Sussex.

GARDENER (SECOND, or good THIRD).—Age 23, single; London or suburbs preferred. Good references from previous situations. Leaving through death of employer.—E. B., 257, Raitton Road, Herne Hill, S.E.

GARDENER (SINGLE).—Age 22, single. Been used to the Kitchen Garden and Pleasure Grounds. Over two years' good character from last place.—T. R., Staphon Hill, Jais Bro., Sussex.

GARDENER (UNDER).—Age 20. Kitchen Garden or law work. Four years' good character.—J. WELLER, Gardener, Longstock House, Stockbridge, Hants.

GARDENER (UNDER), where three or four are kept preferred.—Age 20; four years' experience. Good character from present employer.—H. S., 128, Chatham Road, New Wandsworth.

GARDENER (UNDER).—Age 21; seeks engagement in a private establishment under Glass. Good reference.—G. WISE, The Heights, Chorley Wood, Herts.

GARDENER (UNDER).—A GENTLEMAN wishes to recommend as above a lad of 20, who has had five years' all-round experience in his service.—W. L. WIGAN, Esq., Larkfield, Maidstone.

GARDENER (UNDER), in the Houses.—Age 19; two years' good character. Bothy preferred.—H. SMITH, The Gardens, Compton Lees, Horsham, Sussex.

NURSERY MANAGER, or FOREMAN (Inside).—Middle-aged. Good Propagator and Grower. Fourteen years in present place. Life experience.—W. GOLBEY, Edgond, Brierfield, Burnley, Lancashire.

FOREMAN (Indoors), **MANAGER, or SALESMAN**.—Age 29, single; fourteen years' experience in all branches. Could take a journey.—I. W., Plummer's Plain, Horsham, Sussex.

FOREMAN; age 20.—Advertiser requires situation as above; fourteen years' experience in England and on the Continent. Abstainer. One year in last situation as General Foreman.—CYMRO, 82, Amity Grove, Wembleton.

FOREMAN, Inside; age 26.—E. HUBBARD, Gardener to G. Hanbury, Esq., Blythwood, Maidenhead, wishes to highly RECOMMEND his late Foreman (present address below) for similar situation. Has been eleven years in this and other good gardens. Thoroughly competent.—ARTHUR WESTON, The Green, Calne, Wilts.

FOREMAN, in a good establishment.—Age 26; eleven years' practical experience Inside and Out. Well recommended. R. not preferred.—C. MURTON, Clermont Gardens, Watton, S.O., Norfolk.

FOREMAN.—Age 25; Inside, or general; eleven years' experience; four years in last place, two as Foreman. Good references.—J. STEVENS, Canou's Park Gardens, Edgware, Middlesex.

FOREMAN, in the Orchard Houses, or could take charge of a small collection.—Good reference. Abstainer.—W. HATCHER, Leywood Gardens, Groombridge, near Tunbridge Wells.

FOREMAN.—Age 27, single; thirteen years' experience in all branches. Fourteen months' character from present employer.—T. WADE, The Gardens, Englemere, Ascot, Berks.

FOREMAN, or SECOND, in a good Garden.—Age 25; eleven years' experience. Well up in Fruits and Plants. Excellent references.—T. ATTWOOD, Puckington, Ashby-de-la-Zouch.

FOREMAN (GENERAL).—A young man (age 20), thoroughly experienced in all branches of the profession, and very highly recommended, desires situation as above.—F. G., 13, Western Road, Tring, Herts.

FOREMAN in a good Establishment.—Age 28; twelve years' experience (Pines included) in good garden, Castle Howard, Stoke Edith Park, also Ireland.—H. BELL, Sewerby, Hull, Yorks.

PROPLAGATOR and GROWER.—Age 27. Thirteen years' experience in Chrysanthemums, Roses, Soft-wooded plants, also fruit; excellent testimonials.—JOHN DODD, Vine Cottage, Sydenham Road, S.E.

GROWER, Soft-wooded, Ferns, &c.—Age 22, nine years' experience. Good references.—A. B. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, age 20.—Mr. G. C. MAYNARD, Cole Orton Hall Gardens, can strongly recommend a young man as above; Plant-houses preferred. Has been here two and a half years.

JOURNEYMAN (FIRST), Inside, in a private establishment, where three or four are kept.—Age 22; seven years' good experience; well up in arranging of Flowers, &c. Good reference; total abstinence.—F. TYRRELL, Bodicote, near Banbury, Oxon.

JOURNEYMAN (FIRST), in the Houses.—Three years in present situation.—A. DUNNAGE, The Botby, Albury Hall, Little Hadham, Herts.

JOURNEYMAN, Inside and Out if required.—Age 23; six years' experience; sixteen months' good character; bothy preferred.—W. NEW, 14, Northfield Road, Ealing Dean, W.

JOURNEYMAN, in the Houses in a good Establishment.—Age 22; seven years' experience. Bothy preferred.—GEORGE SIMMONDS, Mr. Boulwood, 6, High Street, Turnford, near Broxbourne, Herts.

JOURNEYMAN, in the Houses, under a Foreman in a good establishment.—Age 24; bothy preferred.—W. JONES, Mrs. Hollison, Gipton Wood, Roundhay Road, Leeds.

JOURNEYMAN, in the Houses, where three or four are kept.—Age 21; two years' good character from last place.—F. FINE, Iping, Midhurst, Sussex.

JOURNEYMAN (FIRST), in the Houses, in good Establishment.—Age 24; eight years' experience. Good characters.—E. C. LEGG, Upland, Devon.

JOURNEYMAN; age 22.—R. GILBERT, Bursley Gardens, Stamford, Lincs, can highly recommend a young man as above. Seven years' experience.

JOURNEYMAN (FIRST), in the Houses.—Age 23; knowledge of Orchids. Seven years' experience. Well recommended. Total abstinence.—J. CARTER, 11, Canterbury Terrace, Malda Vale, London, W.

IMPROVER, Inside, in a good establishment.—Age 18; strong and active. Two years' good character from present situation.—G. GROVES, Temple House Gardens, Great Marlow, Bucks.

IMPROVER.—A GENTLEMAN wishes to highly recommend a steady respectable Lad of 19, who wishes to get into a large Garden Improver. Bothy preferred. Nearly two years' excellent character.—J. BUTLER, Gladwood, Church Road, Norwood, S.E.

IMPROVER, Inside, or Inside and Out.—Age 18; eighteen months' experience. Good reference.—W. J. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

IMPROVER, Inside, in a good establishment.—Age 19; five years' good character.—G. ATTWOOD, Gustard Wood, Wheathampstead, Herts.

IMPROVER.—Age 19; strong and willing. Four years in situation. Bothy preferred.—W. J. BRIT-TAIN, Britwell Road, Burnham, Bucks.

IMPROVER, Inside and Out.—Age 19.—A Gardener wishes to recommend a young Man as above. Active and willing. Good character. Two years in present situation, three years previous. Bothy preferred.—GARDENER, Chobham House, Woking.

IMPROVER, Inside, in a good Private Establishment.—Age 20; five years' good character from Head Gardener. Bothy preferred.—W. GATFORD, Holtye, Elenbridge, Kent.

TO GARDENERS.—Situation wanted by a young Man (age 19); strong, active, and willing; three years Inside and Out; well recommended.—W. NEVARD, Rythe House, Thames Ditton, Surrey.

TO GARDENERS.—Situation wanted under a good Gardener, or where more are kept; age 21; good characters.—R. NORTON, St. Philips, Bath.

TO GARDENERS.—Situation wanted by an active young Man (age 20) in the Kitchen Garden and Pleasure Ground; good experience; good character.—E. WHITE, Lower Beeding, Horsham.

TO GARDENERS, &c.—A youth (aged 16), wanting to learn Practical Gardening, especially Plant-houses (no experience), would be glad to hear of any one who has the vacancy for same.—Apply, stating terms, &c., to A. Mr. Dean, Newdigate, Dorking.

TO NURSERYMEN.—Situation wanted in Market Nursery; used to Ferns, Roses, Carnations, Bourdais, Palms, Cucumbers, Tomatoes, &c.—J. H. I., Brougham Road, Worthing.

TO NURSERYMEN, &c.—Wanted, a situation by a married man (and, son age 17). Just returned from Sydney, N.S.W. Eighteen years as Manager and Foreman in the two largest Nurseries there. Very smart, and thoroughly practical in all branches. Free trial given as guarantee. Total abstinence. References, &c.—T. LAMARCA, Broom Hall, Holmwood, Surrey.

TO NURSERYMEN.—A young Man (age 22) seeks a situation in a Nursery near London. Has been used to Growing Cucumbers, Tomatoes, and Plants for Market. Willing and obliging. Good character.—F. F., Mrs. W. Slade, High Street, Chesham, N.

TO THE SEED TRADE.—The Advertiser seeks re-engagement as TRAVELLER. Twenty years' experience; higher references. Good appearance and address.—R. N. Y. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO Florists. **MANAGER** of a first-class business of Paris wishes to find re-engagement as **MANAGER** or **FIRST HAND**. Fifteen years' experience; three years in London (West End). Well qualified in every branch of the business; several First Prizes. Liable references.—WILLIAM, 38, Faubourg St. Honoré, Paris.

Nursery, Seed, and Bulb Trade. **TRAVELLER or MANAGER**; age 30.—Engagement wanted by an experienced man. First-class references. Fifteen years' experience. Great Britain, Ireland and Channel Isles. Large annual returns.—H. R., 22, High Street, Lewisham, Kent.

MANAGER or SHOPMAN.—Situation wanted as above. Experienced in all branches; excellent references from West End firms; good Buyer, Maker-up, &c.—W. H., 3/9, Regent's Street, W.

BOUQUETS, WREATHS, and TABLE DECORATOR wants situation in a South-coast town. Well up, too, in Gardening and Forcing.—Apply, stating wages, to B. VISGER, 8 Orchard Street, Chichester.

ASSISTANT, in Seed Warehouse.—A young man, age 22; six years' experience. Good references.—J. T. S., Smith & Simons, Seedsmen, Glasgow.

FLORISTS and FRUITERS.—A young Lady (age 25), thoroughly experienced, seeks re-engagement. First class at Posies, Wreaths, Crosses, Bouquets, &c. London experience. Higher references.—GALE, Holhes, Bishopstoke.

TO FLORISTS.—A Young Lady (age 18) seeks re-engagement in a Florist's Shop. For references, &c., apply to Mrs. BUTCHER, Florist, South Norwood, S.E.

HOLLOWAY'S PILLS.—All our Faculties. —Almost all disorders of the human body are distinctly to be traced to impure blood. The purification of that fluid is the first step towards health. Holloway's Pills recommend themselves to the attention of all sufferers; no injurious consequences can result from their use, no mistake can be made in their administration. In indigestion, confirmed dyspepsia, chronic constipation (the most baneful of all ailments), and in all cases where the blood is impure, the most beneficial effects have been, and always must be, obtained from the wholesome power exerted by these purifying Pills over the digestion. Persons whose lives have been restored to ease, strength, and perfect health by Holloway's Pills, after fruitless trial of the whole pharmacopoeia of Physic, attest this fact.

THE PERFECTION OF LAWN MOWERS



THE PATENT "NEW MODEL."

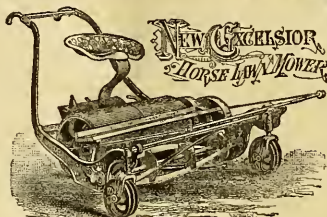
Simple, Light, Strong, and Efficient.
The Best Side-wheel Mower made.
EVERY MACHINE WARRANTED.

PRICES.

6-inch Machine	... £1 5 0	14-inch Machine	... £3 15 0
8-inch "	... 1 15 0	16-inch "	... 4 5 0
10-inch "	... 2 15 0	18-inch "	... 4 15 0
12-inch "	... 3 5 0	20-inch "	... 5 5 0

Collecting Boxes Extra.

For 6-inch, 8-inch, and 10-inch	... price	5s. 0d.
For 12-inch, 14-inch, and 16-inch	... "	7s. 6d.
For 18-inch and 20-inch	... "	10s. 0d.



THE LIGHTEST IN DRAFT AND LOWEST IN CUT.
THE BEST FOR PARKS AND LARGE LAWNS.

25-inch Machine, including Collecting Box	... price	£14 0 0
30-inch "	... "	15 0 0
35-inch "	... "	25 0 0
40-inch "	... "	30 0 0

Shafts, Seat, and Castor Wheels, £1 extra, if required.

THE PATENT "EXCELSIOR."

Cuts very closely and Collects the Grass.
Cuts Long, Short, Wet, or Dry Grass.
THE LARGEST SALE IN THE WORLD.

PRICES.

6-inch Machine	... £1 10 0	14-inch Machine	... £5 2 6
8-inch "	... 2 5 0	16-inch "	... 6 2 6
10-inch "	... 3 5 0	18-inch "	... 7 0 0
12-inch "	... 4 2 6	20-inch "	... 7 10 0

Collecting Boxes Extra.

For 6-inch, 8-inch, and 10-inch	... price	5s. 0d.
For 12-inch, 14-inch, and 16-inch	... "	7s. 6d.
For 18-inch and 20-inch	... "	10s. 0d.

EXCELSIOR

CHIEF ADVANTAGES.

Good Quality of Work.
Lightness of Draft.
Simplicity of Construction.
Easy to Adjust.
FACILITY FOR SHARPENING.
Efficiency in Collecting Grass.
Variety of Work.
The Best Mower for Amateurs.
Nothing to get out of Order.

THE BEST
For the Country Mansion,
For Tennis Courts,
For Large Lawns and Parks,
For Cricket Grounds,
For Professional as well as
For Amateur Gardeners.

SIMPLE. STRONG. EASY TO WORK. EFFICIENT.

A LARGE STOCK OF FITTINGS. ALL KINDS OF LAWN MOWERS REPAIRED.

THE LARGEST MAKERS OF LAWN MOWERS IN THE WORLD.

CHADBORN & COLDWELL, M'F'G. CO., 223, UPPER THAMES STREET, LONDON, E.C.

T. CLARKE, MANAGER.

REGISTERED TELEGRAPHIC ADDRESS: "LAWN MOWERS, LONDON."

Editorial communications should be addressed to the "Editor," Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & CO. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by
ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, May 7, 1892. Agent for Manchester—JOHN HETWOOD.

GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2681.

No. 281.—VOL. XI. {THIRD SERIES}

SATURDAY, MAY 14, 1892.

{Regt. as a Newspaper. PRICE 3d. WITH SUPPLEMENT. POST-FREE, 3½d.}

CONTENTS.

Alsophila crinita	624	Onion-Vint, remedy for the	629
Beet, origin of the culti-	625	Obituary	632
Birmingham Rose show	625	R. Mitchell	632
Books, notices of—		Open spaces in towns	626
Manual of Orchids	628	Orchid notes and glean-	
ous Plants, partiv.		ings	619
Poultry for the Table	628	Disa incarnata	619
and Market	628	Palm, fan, of Australia	619
Chicago Exhibition	625	Plant portraits	623
Colonial notes	626	Rivers and soil, tempera-	
Comus, forest of	617	ture of	627
Eaton Hall gardens	625	Rock garden, the	620
Exhibiting, methods of	630	Roses, Tea, propagation	
Far Palm of Australia	619	of	619
Flowers, period of forma-		Societies—	
tion of	627	Linnean	624
Forget-me-Not, the	630	Royal Horticultural	631
Fruit from Australia	628	Spraying fruit trees	626
Fruit prospects	629	St. Vincent	632
Gardeners, two famous	621	Stock-taking, April	623
Gardening notes	619	Strawberries in pots,	
International Horti-		wintering	630
cal Exhibition	624	Sydney Botanic Gardens	632
Madras Forest Depart-		Temple Show	624
ment	627	Traveller's notes, a	641
Movements of plants,		Wall trees, new method	
photographic repre- of fastening	629	Week's work, the	622
sentation of	628	Flower garden, the	623
New or noteworthy plants	618	Fruits under glass	623
Ocology cupres	619	Hardy fruit garden	622
Phajus hybridus	619	Orchid houses, the	622
Phaenopsis Amphitrite	618	Plants under glass	623
Nursery notes	631	Vegetables	630
Orchids at Messrs.		Wireworms	635
Hugh Low & Co.'s	631		

ILLUSTRATIONS.

Alsophila crinita. (Supplement.)	
Current-bud mite	629
Disa incarnata	618
Milner, Mr. H. E.	620, 621
Rockwork	620, 621

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

"Paxton's Calendar." New Edition, "The Cottagers' Calendar of Garden Operations," Price 3d., post-free, 3½d. 41, Wellington Street, Strand, London, W.C.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

WILL JOHN BARSON, late of Kingston, COMMUNICATE with his BROTHER HENRY, 129, City Road, Derby, IMMEDIATELY. Very important.

LOBELIA Emperor William, 2s. per 100; 12s. per 1000. Snowball, pure white, 2s. per 100; 18s. per 1000. HARRISON'S MUSK, 4s. per 100.

TERMS CASH.
I. SOLOMON AND SON, Winchmore Hill, and 22, 23, and 37, Finsbury Market, Covent Garden Market, W.C.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 9d. per 100.

RICHARD SMITH AND CO., Worcester.

150,000.—Special offer of Kentias.
W. ICKTON has a large quantity of the above to offer, very reasonable, at from 47 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £20 per 1000.

W. ICKTON, Putney, S.W.

SUTTONS' FLORISTS' FLOWERS.

The best strains in existence.

SUTTON'S PRIZE BEGONIA.

5s. and 2s. 6d. per packet.

SUTTON'S PERFECTION CALCEOLARIA.

5s. and 3s. 6d. per packet.

SUTTONS SUPERB CINERARIA.

6s. and 2s. 6d. per packet.

SUTTON'S SEEDS GENUINE ONLY

DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.—All Flower Seeds Post Free.

CLEMATIS COCCINEA, 2s. 6d. each.

CLEMATIS CRISPA, 2s. 6d. each.
Brilliant scarlet, highly perfumed, perfectly hardy.
No Garden should be without these gems.

B. S. WILLIAMS AND SON,
Victoria & Paradise Nurseries, Upper Holloway, London, N.

CHOICE FRUIT!—CHOICE FRUIT!

Highest market prices guaranteed. Prompt cash.
HENRY RIDES, Centre Avenue, Covent Garden, W.C.

W. D. BUNDAY, of Covent Garden Market,

and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPES, &c. Good references.

JOHN COLLINGRIDGE is open to receive

Consignments of Choice CUT FLOWERS for SALE, on COMMISSION. Highest references.
New Flower Market, and 5, Russell Court, Strand, W.C.

MESSERS. SQUELCH AND WOOD, FRUIT

SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS OF GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE.

Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Emptyies and labels supplied. Reference, London and County Bank, Covent Garden Branch.

The Best Present for a Gardener.

VINES and VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.

New Edition.
Price 5s., post-free, 5s. 6d.

A. F. BARRON, Royal Horticultural Society, Chiswick.

To the Trade.

MANGEL WURZEL and TURNIP SEEDS.
H. AND F. SHARPE have very fine Stocks of

the above-named Seeds of 1891 growth, and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advantageous prices.

The quality is very fine and the growth strong.
Samples and prices on application.

SEED GROWING ESTABLISHMENT, WISBECH.

WANTED, choice CUT FLOWERS for

SALE in COVENT GARDEN MARKET; good prices made. No. of Stands, 169 and 170. Cheques weekly.—S. DENSON AND CO., The Nurseries, 22, Maiden Vale, Edgware Road, W.

WANTED, one dozen FRUITING PINES.

State sorts and price to WM. RUMSEY, Joyning's Nurseries, Waltham Cross.

WANTED, RHODODENDRON AUCK-

LANDII, to Purchase. Apply to—
Mrs. GOLDSMITH, Leonardslade, Horsham.

WANTED, Old Stools of ASPIDSTRAS,

FICUS ELASTICA, and CALLAS, in EXCHANGE for strong, healthy plants of OCIOGYNE CRISTATA, equal to the Chatsworth variety; or Cash.

TURNER BROS., Green Hill Nursery, Garston, Liverpool.

WANTED, fifty good sound POINSETTIA

STOOLS of last year's saving. Apply, with price, to P. C. JONES, Post Office, Yateley, Hants.

WANTED, Four good ORANGE TREES,

3 to 4 feet. Price to—
JOHN CHARLTON, 37, Ye Pantiles, Tunbridge Wells.

CARTERS'—THE BEST SEEDS.

CARTERS' HOLBORN PRIZE PRIMULA.
CARTERS' VICTORIA PRIZE CALCEOLARIA.
CARTERS' BRILLIANT PRIZE CINERARIA.

The finest strains in cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN,
237 and 238, HIGH HOLBORN, LONDON, W.C.

FRUITING VINES.—50 extra strong fruiting

cane at 10s. 6d. each. Planting canes at 5s. each.
H. LANE AND SON, The Nurseries, Berkhamsted, Herts.

CHEAP, to CLEAR—CALADIUM ARGY-

RITES, strong tubers; YUCCA ALIFOLIA, strong, in 48's.—JOHNSON AND CO., Hampton-on-Thames.

Many Acres of Lilies of the Valley!

T. JANNICH, Largest Grower of LILIES

OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNICH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Deringham, King's Lynn, Norfolk.

CLEARANCE SALE OF BULBS for Summer

and Autumn Flowering. Price LIST on application. Splendid mixed Gladioli, 2s. 3d. per doz.; Anemone fulgens, scarlet, 5s. 6d. per 100; Anemone Glory of the South, large scarlet, 5s. 6d. per 100; double-tasseled Anemone fulgens, 3s. 6d. per 100; large white, tiger-spotted flower, 2s. 6d. per doz. Mixed Tulip Ranunculus, from named sorts, 3s. per 100.

BARR AND SON, King Street, Covent Garden, W.C.

Seeds for Present Sowing.

DICKSON AND ROBINSON'S
Superb Strains of the following are unsurpassed:—
CALCEOLARIA, CINERARIA, GLOXINIA, and PRIMULA,
Red, White, and Mixed Colours, each 1s. 6d. and 2s. 6d. per packet, post-free.

EXHIBITION DWARF EVERGREEN LAWN GRASS,

per lb. 1s., post-free, 1s. 3d.; per cwt., 100s., carriage paid. Descriptive Priced CATALOGUE, post-free, on application. Seed Warehouse, 12, Old Millgate, Manchester.

FOWLER'S LAWN SAND.—For destroying

weeds and other Weeds on Lawns, &c., at the same time acting as a Fertiliser, and improving the growth and colour of the grass. Price, in tins, 1s., 2s. 6d., and 5s.; kegs, 8s. 6d., 16s., and 30s.

CORRY AND CO., LIND., 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

Boulton & Paul's Outdoor Requisites.

BOULTON AND PAUL,
MANUFACTURERS, NORWICH.

Every Requisite for the Kennel and Poultry Yard, Aviaries, Pigeon Cotes, Pheasantries.

Requisites for the Garden, Park, Pleasure Grounds, Wire Netting for Game and Sheep. Iron and Wire Fencing, Gates, &c.

Send for Illustrated CATALOGUES, post-free, on application

THE CHADBORN AND COLDWELL

MFG. CO.,
Makers of the Patent "EXCELSIOR" LAWN MOWER,
223, UPPER THAMES STREET, LONDON, E.C.

Registered Telegraphic Address: "LAWN MOWERS, LONDON."

WEEKS AND CO., HORTICULTURAL

J. ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Road.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE AND PLANT

MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nurseries and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney.

WM. THOMSON AND SONS, Clovenfords, Galashiels, N.B.

SALES BY AUCTION.

Tuesday Next.—Without Reserve.

THE COLLECTION OF ORCHIDS formed by A. E. STUDD, Esq., of Geyland, Melton, Suffolk, who is giving up their cultivation, comprising *CATTLEYA TRIANE*, specially fine varieties, mostly purchased in flower; C. MAXIMA, C. GASKELLIANA, C. MENDELI, VANDA SANDERIANA, fine plant; DENDROBIUM ATRO-VIOLEACEUM, rare; LELIA ANCEPS, DENDROBIUM DEAREI, and OTHERS.

60 Lots of various ESTABLISHED ORCHIDS (another property), 200 lots of ORCHIDS IN FLOWER AND BUD, from the Continent, ORCHID FEAT, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, May 17, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Wednesday Next.

70 Lots of well-grown Palms for Table Decoration and the Conservatory, in various sizes, from a large grower; 36 STEPHANOTIS plants, showing bloom, 8 to 12 feet; a quantity of Hardy Terrestrial ORCHIDS, including *Dia grandiflora*, *Habenaria*, *Satyrums*, *Cypripediums*; 150 PICOTEES, all named from a well-known English Firm; GLADIOLI, BEGGONIAS, BULBS, GERMAN ASTERS, HERBACEOUS PLANTS, BAMBOO CANES, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by Auction at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on WEDNESDAY NEXT, May 18, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

FRIDAY NEXT.

CYPRIPEDIUM

CHAMBERLAINIANUM.

SECOND, LAST, and UNRESERVED SALE of CHAMBERLAIN'S NEW CYPRIPEDIUM.

A new type, and the most exquisitely beautiful of the genus; purple, blue, fawn, and chocolate-coloured; thirty flowers on a spike.

AWARDED A FIRST-CLASS CERTIFICATE UNANIMOUSLY ON APRIL 12 LAST.

THE IMPORTATION IS IN MAGNIFICENT ORDER. Fine breaks, fine leaves, and no more will be imported.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. F. SANDER to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 20, at half-past 12 o'clock, the above grand lot of this magnificent variety.

There will also be included a new and most remarkable Dendrobium—

DENDROBIUM ERICSSONII,

A most distinct and extraordinary novelty from the Celebes group.

The lovely *PHIOLUS SANDERIANA*, Exhibited before the Royal Horticultural Society, May 3 last.

BULBOPHYLLUM SANDERIANUM,

A new and wonderfully distinct species.

VANDA COERULEA HOBLEYANA,

The pure white variety of *Vanda Coerulea*.

A fine lot of ODONTOGLOSSUM HASTILABRUM, SACCOLARIUM RETUSUM, DENDROBIUM ALBO-SANGUI-NEUM, &c.

On view morning of Sale, and catalogues had.

Enfield, N.

IMPORTANT CLEARANCE SALE.

Six minutes' walk from Enfield Town Station, G.E.R., and ten minutes' from Enfield Station, G.N.E.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Rectory, Enfield, on SATURDAY, May 21, at 12 o'clock, the whole of the valuable STOVE and GREENHOUSE PLANTS, comprising Stephanotis, Gardenias, Eucharis, Bourdaines, 3, 5, 6 Exotic Fines, in choice assortment; 200 Lilies, Azaleas and Camellias, 1,000 tuberous Hoya, Caranthes, Geraniums, and other Bedding Plants, a large quantity of Roses in Pots, 1800 Established Orchids, comprising 1000 cool Odontoglossums, various; Cologues, Cattleyas, Cypripediums, &c. Also 2 span-roof Greenhouses, a 5 feet 6 inches DOUBLE SADDLE BOLLER, equal to new; PIPING, GARDEN POTS and SUNDRIES.

May be viewed day prior and morning of Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Tuesday, May 24.

CYPRIPEDIUM SPECIERANUM MAGNIFICUM.

Messrs. CHARLESWORTH, SHUTTLEWORTH AND CO., Heaton, Bradford, and 213, Park Road, Clapham, S.W., have instructed

MESSRS. PROTHEROE AND MORRIS to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY, May 24, at half-past 12 o'clock, a splendid consignment of

CYPRIPEDIUM SPECIERANUM MAGNIFICUM.

Dried flowers will be on view at time of Sale.

DENDROBIUM CAMBODGIANUM.

A NEW CYPRIPEDIUM, CATTLEYA LABIATA, and many

VALUABLE ORCHIDS.

On view morning of Sale, and Catalogues had.

Friday, May 27.

SPECIAL SALE OF ORCHIDS IN FLOWER.

Being the day following the Great Temple Show.

MESSRS. PROTHEROE AND MORRIS desire to announce that they have fixed the above date for a SPECIAL SALE OF ORCHIDS IN FLOWER, and will be glad to RECEIVE ENTRIES as early as possible.

1,000,000 PALM SEEDS.

Undoubtedly the largest consignment ever submitted to Public Auction. The whole will be offered in one day, and the Consignment includes—

480,000 KENTIA FOSTERIANA,

319,000 ELMODORANA,

95,000 ARECA LUTESCENS,

And large quantities of COCOS, GEONOMAS, MARTINIESIA DISTICHA, CARVOTAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Rooms at an early date.

The Auctioneers will be pleased to execute commissions for Provincial and Foreign Buyers.

The Seeds are being sent by two well-known Firms direct to Messrs. PROTHEROE & MORRIS, and the whole will be sold absolutely without reserve.

Thursday Next.

A good Collection of ESTABLISHED ORCHIDS, mostly in flower.

MR. J. C. STEVENS will include in his SALE by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 19, a good Collection of ESTABLISHED ORCHIDS, mostly in flower, comprising a fine lot of Cypripediums, Dendrobiums, Cattleyas, Mendocinos, C. aurantiacum, Cymbidium giganteum, Masdevallias, Odontoglossums, &c. Also LILUM, species; AMARYLLIS, species; and TUBEROSES from South Africa; BEGONIAS, GLADIOLI, and many other BULBS.

On view morning of Sale, and Catalogues had.

Thursday Next.

JUST RECEIVED DIRECT.

50 Cases containing about 1000 Magnificent Masses of CATTLEYA MENDELI (?), many with 300 to 500 Buds and Leaves, in splendid order, from Barraquagua. Without Reserve.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 19, at half-past 12 o'clock precisely.

On view morning of Sale and Catalogues had.

Thursday Next.

JUST RECEIVED DIRECT.

A SPECTACULAR IMPORTATION OF ORCHIDS FROM BRAZIL, WITHOUT THE LEAST RESERVE, consisting of strong healthy masses of *Lelia elegans*, *L. Perrini*, *L. crispibulbia*, *Cattleya Walkeriana*, *L. guttata*, *L. guttata*, *L. Leopoldina*, *C. lobata*, *C. crispiglossum*, *Orchidium varicosum*, *Rogersi*, *O. scarodes*, *O. Forbesi*, *grandiflora*, *O. crispum*, *grandiflora*, *Miltonia Clowessii*, and several new Oncidium and *Laelias*; also an importation of *Odontoglossum luteopurpureum* in very fine condition.

MR. J. C. STEVENS will include the above in his SALE by AUCTION, at his Great Rooms, 33, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 19.

On view morning of Sale, and Catalogues had.

Tuesday Next, May 17.

MR. THOMAS B. JAMES will SELL by AUCTION, on TUESDAY NEXT, May 17, at 8.30 P.M., at his Sale Rooms, Bull Ring, Birmingham, the GOODWILL, STOCK, and OUTBUILDINGS, of BICKNELL PARK and STATION NURSERY, situated at Acocks Green, near Birmingham.

Further particulars from the Auctioneer.

Thursday Next, May 19.

SPECIAL SALE OF FLOWERING ORCHIDS.

MR. THOMAS B. JAMES will SELL by AUCTION, at his Sale Rooms, Bull Ring, Birmingham, on THURSDAY NEXT, May 19, FIVE HUNDRED LOTS OF ORCHIDS IN FLOWER, from various Collections. Also 100 lots of Imported CATTLEYA LABIATA, from Messrs. Charlesworth, Shuttleworth & Co. Owing to the large number of entries, the Sale will commence at 11.30 A.M.

At Leeds.—Thursday, May 19.

Important Sale of a Very valuable COLLECTION OF ORCHIDS, the property of Captain T. C. HYNCKS, Breckenbrough, near Thirsk, who is changing his residence, and has no convenience for Orchid Culture.

MESSRS. HEPPER AND SONS will SELL by AUCTION, in their Rooms, East Parade, Leeds, on THURSDAY, May 19, commencing at 11 o'clock, Captain HYNCKS' well-known COLLECTION OF CHOICE and RARE ORCHIDS, to be removed to Leeds for convenience of Sale, and comprising the following species—*Masdevallias*, *Dendrobiums*, *Cymbidiums*, *Cattleyas*, *Cypripediums*, *Cologues*, *Laelias*, *Epidendrums*, *Maxillarias*, *Trichopodiums*, *Odontoglossums*, *Phaiusopsis*, &c.

The Collection is well worth the notice of Orchid-growers, and is throughout in excellent condition. It contains many fine plants. Special attention, however, must be drawn to the *Masdevallias*, amongst which will be found the beautiful hybrid *Masdevallia Stella* (raised by Captain HYNCKS, and kept entirely in his own hands, and the whole stock of it will be included in the Sale); *Masdevallia Fraseri*, M. Harryana (Bull's Blood), M. Chelsoni, M. Hincskiana, M. rosea, and M. cucullata; there are also some choice varieties of *Cologyne cristata*, *Cattleya Lawrenceana*, and other well-known and well-selected sorts, from which connoisseurs may enrich their houses.

Catalogues may be had of the Auctioneers, East Parade, Leeds.

View day, Wednesday, May 18, from 10 to 4 o'clock.

WANTED, TO RENT, ON LEASE, about 3 Acres of NURSERY LAND. Send particulars to—J. S. 2, Beach Terrace, Exning, Suffolk.

FOR SALE, a NURSERY, near London.—An extensive, quiet, and healthy site, from Stoke and Fog. Large comfortable Dwelling-house, Garden, and an acre of Land; 20,000 ft. superficial, of Glass-house, modern and well-heated. Apply to A. H. Gardener's Chronicle Office, 41, Wellington Street, London, W.C.

LONDON, S.W.—In main thoroughfare, close to Station. FOR SALE, in consequence of ill-health, the LEASE of a promising PROSPEROUS SHOP, together with the GOODWILL. Good Trade attached. Lease, 60 years. Low rent, £35. Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London.

KENT.—TO BE SOLD, with immediate possession. COMPACT NURSERY near station. Several Greenhouses. Low rent. Any reasonable offer entertained. Apply to PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

FOR SALE, an old-established HORTICULTURAL BUSINESS, in consequence of severe illness of proprietor, or, if desired, would be taken, having capital of at least £2000. The Property comprises about 20 acres of Nursery Grounds, with 40 Glass-houses, Buildings, and 4 Cottages. Long Lease, at low rent; within one mile of Railway Station, and 20 miles from London. A Sacrifice would be made to an immediate purchaser, or Partner admitted upon favourable terms, if able to take active management at once. Apply to—

NORMAN AND SON, Land Agents, Uxbridge, Middlesex.

TO BE SOLD, by Private Contract, 25 acres of FRUIT PLANTATION (adjoining Fruit Bottling Co.) Situated at Poles, Faversham, large and small trees, 1700 to 800 Pear, 2000 Plum, 4000 Cherry, 16,000 Black, 10,000 Red Currants, and 4500 Gooseberry.

DAN AND SONS, Faversham.

To Fruit Growers, Nurserymen, and Others.

GOOD ARABLE and MEADOW LAND to be LET or SOLD. Close to the main road at Ponder's End (9 miles from London). Long Leases granted. Rent, £12 per acre per annum, with option to purchase the Freehold any time during the first year. Several large Market Nurseries are established on the Estate. Full particulars of A. and G. GUIVER, Land Agents, Ponder's End.

To Capitalists and Others.

FOR SALE, as a GOING CONCERN, the large, well-established, and thriving businesses of a NURSERYMAN, SEEDSMAN, and FLORIST, finely and prominently situated in the best suburb of London, and only 8 miles from Covent Garden, and a very large and increasing general business. There is a large Bulb, Seed, Plant, Sundry, and Landscape, and General Business done, with an excellent high-class, wide-spread, and staple connection. The Nursery is a large and well-kept Dwelling House, and well-stocked and fitted double-fronted Shop, 13 well-built modern Glass Houses, some nearly new, 7 of them being the property of the Tenant, all well heated with nearly new boilers, and equipped with a magnificent assortment of many thousands of valuable PALMS and ASPIDISTRAS, STOVE and GREENHOUSE PLANTS, and an immense stock of well-grown BEDDING PLANTS in all kinds to suit both the Retail and Wholesale Trade. About 2 acres of thoroughly well-stocked out-of-door Nursery, well-filled with Coufers, Roses, Fruit and Forest Trees, Shrubs, and Climbers, and a fine Collection of Herbaceous and Alpine Plants, and all worked by a good staff of competent assistants. To Figs, Framers, Vans, Carts, Sheds, and all the necessary Stock-in-Trade.

Also, a very desirable SUBURBAN BRANCH BUSINESS excellently situated, in a new main thoroughfare, and doing a most lucrative trade, and is well-stocked, established, and fitted up.

Also, a WEST-END BRANCH BUSINESS, situated and being one of the first positions in London, comprising magnificent large corner Double-fronted Shop and Offices, and a very high-class, profitable, yearly increasing trade; is well-established, and has an excellent connection. The whole concern doing a large and profitable business, and all worked by a good staff of competent assistants. Separate sets of books are accurately kept, and may be inspected, and every other particular given on application. This is probably one of the finest opportunities for offering for sale, and doing a genuine business. Principals or their Solicitors only deal with.

Apply, in first instance, to HORTUS, 41, Wellington Street, Strand, W.C.

NURSERY FOR SALE.— $\frac{3}{4}$ vergées (or 1 $\frac{1}{2}$ acres), subject to a Ground Rent of £24 per annum currency. Gardeners' Cottage, 5 rooms, 2 attics (new); Forcing-house, 150 feet long by 25 feet wide, three-quarter span, equipped with Double-fronted Shop and Offices; also Fig Tree and young Vines (Black Alicante), one year in fruit. Viery, 200 feet long by 25 feet wide, three-quarter span, planted with Tomatoes expected to market in June; Vines trained on Pergola (Black Alicante), one year in fruit. Fitted with Hot-water Apparatus.

Asparagus beds, one 300 feet by 12 feet, three years old in full bearing; one 400, 150 feet by 12 feet, one year old; one 300, 150 feet by 12 feet, one year old. Gladioli, Lilies, and other plants in flower. Commencing to market end of April; 30 per cent Potatoes, to market July and later; 1000 young Vines (White Muscat, Black Alicante, and Hambrough), 50 young Fig Trees, 20 Apple Trees, 20 per cent Potatoes, &c.

Three wells on estate. Land in first-class condition, well-drained and kept. Two sides frontage on good road. Enclosed by a good wall (new) and a high fence. The land is subject to no other charges than ground-rent before mentioned. Possession can be had immediately. Anticipated returned value of crops this season, say, £200 net. The land is prepared and ready so that other glass can be immediately erected at simple cost of greenhouses only—that is, no cost would be incurred for levelling, trenching, or drainage. Rental offered for estate as it stands, £100 per annum for term of years. Selling price, £1000 currency.

Further particulars of Mr. C. J. WATTS, 13, Saumarez Street, Guernsey.

TO BE SOLD, the LEASE of a compact MARKET NURSERY, with 15,000 feet of good Glass, plenty of Water, good Dwelling House, splendid Stabling, Loft, Van, Shed, and every other sign of a well-kept and profitable business. Good locality for growing. All the houses well-heated by hot-water. To be had a bargain to an immediate purchaser.

Apply to Mr. W. J. IPIKIN, Land Surveyor, 19, Barbot Street, Lower Edmonton.

CLIMBING ROSES.—Gloire de Dijon, Reine Marie Henriette, Marschal Niel, Madame Bernard, and Cheshunt Hybrid, strong, in 7 and 10-inch pots, 30s. to 60s. per dozen.

H. LANE AND SON, The Nurseries, Berkhamsstead, Herts.

Trade Offer of Large Palms.

W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliage Plants. Lowest Prices quoted on application.

W. ICETON, Putney, S.W.

SUPERB STRAINS OF FLORISTS' FLOWERS.

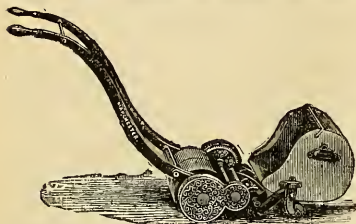
PRIMULAS, Single and Double, CINCERARIAS, CALCEOLARIAS, GLOXINIAS, and all others for present sowing. All saved from the finest strains in existence.

Per packet, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.

DICKSONS NURSERIES CHESTER
(LIMITED) (400 Acres)

TRY THE
"TENNIS" LAWN MOWER.

Awarded numerous National & International Prize Medals.



A beautifully designed, well constructed, highly finished, English made, and almost noiseless Machine. Durable, easy to work, and eminently suitable for the Tennis ground, and also for Ornamental Gardening. It has no equal. Thousands are in use, giving unqualified satisfaction. Every Machine guaranteed.

FOLLOWS & BATE LTD.,
ENGINEERS,
GORTON, MANCHESTER.

Patentees and Manufacturers of the Patent "CLIMAX" "MAN-CHESTER," and Boys' "ANGLO-AMERICAN" LAWN MOWERS.

80,000 SOLD SINCE 1869.

Get to be obtained promptly from all respectable Ironmongers and Saddlers. PRICE LISTS POST FREE.



And for all Glass Structures that require Shading. Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—**CORRY AND CO. (LTD.),** Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 16, Finchbury Street, London, E.C. Sold by all Seedsmen and Florists.

GREENHOUSES FOR THE MILLION.—Cheapest Depot for any kind of Glass Erections in the Country. Note the following:—100 feet by 20 feet, £100; 100 feet by 12 feet, £80; 60 feet by 12 feet, £60; 30 feet by 10 feet, £30. Several excellent Second-hand Houses marvelously Cheap. Hawkin's "Perfection" System of Glazing is the best, and defies competition. Estimates Free. Do not buy without first having price from **HAWKINS, Horticultural Builder, Ashford, Middlesex.** Established 1871.

Protect your Gardens from Ravages of Birds.
TANNED NETTING, 35 yards, 1s. Can be sent any width; carriage paid on orders over 5s. Also **BELL-TOP TENTS,** 40 feet in circumference, with pegs, pole, all complete, from 20s. to 30s. each.
HENRY ROBINSON, Tent and Net Merchant, Rye, Sussex.

HORTICULTURAL BUILDER.

Every description of **GREENHOUSES, LIGHTS, &c.**

PIT LIGHTS.

CUCUMBER HOUSES.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. 6d. each, 50s. doz., 210s. for 50 lights, free on rail in London. Cash or reference with order.

Timber sufficient to build 100 feet by 12 feet house, lights, door, &c. Put on rail in London. Price, £9 10s. Send for detailed specification to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.

Send for Illustrated Catalogue, just issued.

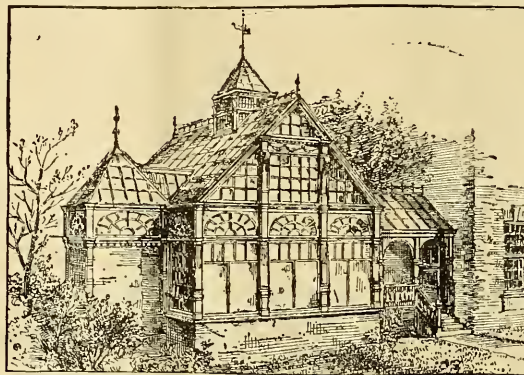
SANKEYS' famous GARDEN POTS
* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.



CROMPTON & FAWKES,
HORTICULTURAL BUILDERS,
CHELMSFORD.

BOOK of Photo-Lithographed Sketches of Winter Gardens, Ranges of Hothouses, Vineries, Architectural Conservatories, &c., of various Designs and Sizes, recently constructed, erected, fitted, and heated complete by us in different parts of the country; with particulars of the most successful Hotwater Heating Apparatus of the century.
Post-free on application.



PRICES of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).

ARMOURD.	PLAIN.
The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices—	Is made of pure rubber and canvas. Quality guaranteed.
1-in. dia., best quality ... 36/3	1-in. dia., specially cheap 15/3
1 1/2-in. dia., ex. stout qual. 52/0	1 1/2-in. dia., best quality ... 28/0
2-in. dia., best quality 43/7	2-in. dia., best quality ... 21/3
2 1/2-in. dia., ex. stout qual. 52/0	2 1/2-in. dia., ex. stout qual. 27/3
3-in. dia., best quality 48/0	3-in. dia., ex. stout qual. 33/0
3 1/2-in. dia., ex. stout qual. 60/7	3 1/2-in. dia., ex. stout qual. 33/0
4-in. dia., ex. stout qual. 60/7	4-in. dia., ex. stout qual. 33/0
4 1/2-in. dia., ex. stout qual. 60/7	4 1/2-in. dia., ex. stout qual. 33/0
5-in. dia., ex. stout qual. 60/7	5-in. dia., ex. stout qual. 33/0

All Hose Carriage Paid and despatched same day as order is received.

Also Maker of Hose for Delivery, Steam, Fire, Suction, and Liquid Manures, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING, ROOFING FELTS, SACKING, &c., Post Free. MAKE TO HER MAJESTY THE QUEEN.

ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

REGISTERED NO. 13,195.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE

"HERCULES" BRAND (Regd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



"Are you not afraid those children will injure the Hose or stop the water?"

"Oh, no! This SPHINCTER GRIP ARMoured HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of."

CONTRACTORS to all DEPARTMENTS of HER MAJESTY'S GOVERNMENT and the HORTICULTURAL and AGRICULTURAL SOCIETIES.

HUNDREDS OF UNSOLICITED TESTIMONIALS.

BEWARE OF WORTHLESS IMITATIONS, and send for ILLUSTRATED and DESCRIPTIVE CATALOGUE (post free on application) of HOSE and GARDEN WATERING APPLIANCES and FITTINGS of every kind.

MR. JOHN KNIGHT, Dose of Kent Nurseries, Dartford, writes, April 26, 1892, ordering a supply of our "A Quality" Hose:—"I had no end of trouble with another firm's make of Garden Hose last year; it wore clean out in less than three months—went into hundreds of holes in this time—so that I do not want anything of the sort again."

HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891.

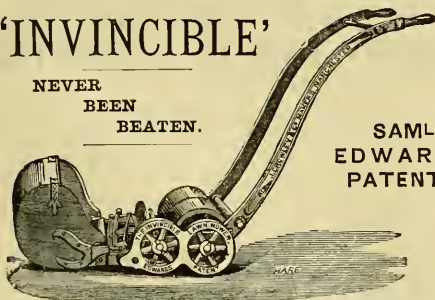
No Exhibition Medal or Award has ever been secured by any other firm for Armoured Hose.

OFFICES and SHOW ROOMS—9, MOORFIELDS, LONDON, E.C. Works—LONDON and NORTHAMPTON.

GOLD MEDAL LAWN MOWERS

'INVINCIBLE'

NEVER
BEEN
BEATEN.



SAML.
EDWARDS'
PATENTS.



EASY
TO
WORK.

TWO HANDLES, same price,
Lawn and Grass, and
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

WE ARE THE ONLY
LAWN MOWERS
BY ROYAL
MAKERS OF
APPOINTED
WARRANT.
MAKERS TO HER MAJESTY THE QUEEN AND HIS
ROYAL HIGHNESS THE PRINCE OF WALES.



GREEN'S PATENT

"SILENS MESSOR"

LAWN MOWING MACHINES

ARE THE

FIRST, FOREMOST,

AND

BEST IN THE WORLD.

ALSO

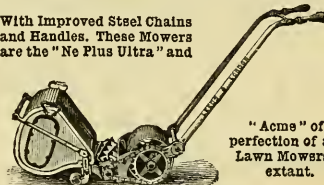
TENNIS COURT MARKERS

AND

GRASS EDGE CLIPPERS.

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains
and Handles. These Mowers
are the "Ne Plus Ultra" and



"Acme" of
perfection of all
Lawn Mowers
extant.

They have stood the test for upwards of thirty years, and have carried off EVERY HIGHEST PRIZE which has been given in all cases of competition.

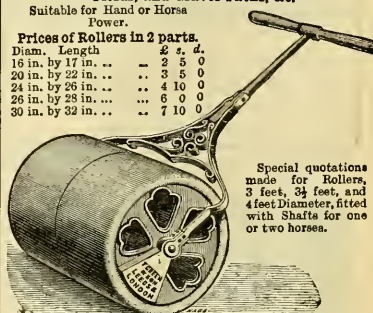
GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket
Fields, and Gravel Paths, &c.

Suitable for Hand or Horse
Power.

Prices of Rollers in 2 parts.

Diam.	Length	2 s.	d.
16 in.	by 17 in.	..	2 5 0
20 in.	by 22 in.	..	3 5 0
24 in.	by 26 in.	..	4 10 0
28 in.	by 28 in.	..	6 0 0
30 in.	by 32 in.	..	7 10 0



Special quotations
made for Rollers,
3 feet, 24 feet, and
4 feet Diameter, fitted
with Shafts for one
or two horses.

Price Lists on Application.

They can also be had of any Ironmonger, Merchant, or Factor,
in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments
for the Trade, as well as Others.

THOMAS GREEN & SON,

LIMITED,

LEEDS AND LONDON,

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

If you try It Now
You will Order later on.

Cambridge, September 12, 1891.
"I have formed a very high opinion of the value of the Patent Silicate Manure, especially for Tomatoes, Grapes, and Peaches."
(Signed) E. HOBDAY.

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO., THE CHEMICAL WORKS, HEMEL HEMPSTEAD, HERTS.

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price £3 10s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent Carriage Paid to any Station in England, on receipt of P.O. for 2s.

NATIVE GUANO, FOR POTATOES, VEGETABLES, &c.
H. BRINKWORTH, Potato Grower, Reading, used for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne:—"Used for Potatoes, Colewry, and other Market Garden Crops, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOES, &c.
J. FRED & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. FINCH, Orrell Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with excellent results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market."
Orders to the Native Guano Co., Ltd., 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

ALBERT'S HIGHLY CONCENTRATED HORTICULTURAL MANURE.

A Chemically Pure Plant Food.
UNPARALLELED FOR ITS RAPID ACTION AND FRUITIFYING PROPERTIES.
BEST AND ONLY RELIABLE COMPLETE FERTILISER for all VEGETABLES, FRUIT TREES, VINES, FLOWERS, LAWNS, &c.
UNPRECEDENTED RESULTS obtained by its use.

For Prices and Descriptive Pamphlet, apply to—

H. & E. ALBERT,
17, GRACECHURCH STREET, LONDON, E.C.
Responsible Agents wanted.

May be had through all Seedsmen and Chemists.



Prices:—1 Gall. 3/- (tins included), 5 Gall. 2/9 per Gall., 10 Gall. 2/6 per Gall., 20 Gall. 2/3 per Gall., 40 Gall. 2/- per Gall. Carriage paid on 5 Gall. and upwards.

Kills all Weeds on Garden Walks, Carriage Drives, &c., &c. Brightens the Gravel. One application will keep the Walks Clear of Weeds for a whole Season.

Prepared Solely by

**The Boundary Chemical Co., Ltd.,
LIVERPOOL.**

PATENT DANDELION, PLANTAIN, DOCK, and DAISY ERADICATOR. By this simple and effective invention, the time and expense usually involved by removal of these noxious weeds is reduced to a minimum. No digging up the turf. A long-felt want supplied.

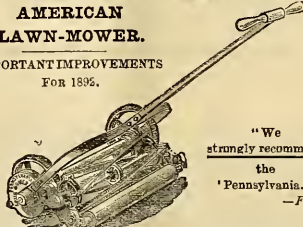
Price, 4s. 6d. Postage and Package 6d. extra.
Of all Ironmongers, Seedmen, and Florists.
WILKES AND SONS, Ironmongers, Salisbury.

Paris International Exhibition, 1889.
HIGHEST AWARD, SILVER MEDAL.
NO AWARD WAS GIVEN
to any English or Continental-made Lawn Mowers!
THE PERFECTED

"PENNSYLVANIA"

AMERICAN
LAWN-MOWER.

IMPORTANT IMPROVEMENTS
FOR 1892.



"We
strongly recommend
the
'Pennsylvania.'
—Field.

PERFECTION OF EASY WORKING AND EFFICIENCY.
The only American Lawn Mower fitted with Six Cutting Blades. It will mow grass closely and smoothly, and with half the labour of the best English Machines. All sizes, up to largest (21 in.), can be worked easily by one man.

ONE MONTH'S FREE TRIAL ALLOWED.

Carriage Paid to all Stations.

Gardeners, professional or amateur, who value time and wish to avoid laborious work, while obtaining the best possible results in the way of keeping their lawns in perfectly trim order, should write for Price Lists and Testimonials from—

LLOYD, LAWRENCE & CO.,
34, WORSHIP STREET, LONDON, E.C.,
and all Ironmongers and Seedsmen.

BARB WIRE.

CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



FORMICACIDE ANT DESTROYER
thoroughly destroys all Ants and Insects in Greenhouses, and other places troubled with Ants. Sold in Bottles, 1s., 1s. 6d., 2s. 6d., and 4s. Full particulars from CORRY and CO., Limited, 16, Finsbury Street, E.C., and to be obtained from all Seedsmen and Florists.

HEATHMAN'S HOSE, ANTIMONIAL RED RUBBER. Is Lightest in Weight, yet Strongest and Most Durable FOR GARDENS.

220 Miles Sold the last Five Years. Price Lists from—
HEATHMAN'S HOSE FACTORY,
2 & 37, ENDELL STREET, LONDON, W.C.

BOULTON & PAUL, NORWICH,



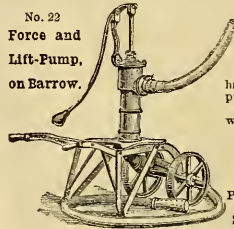
Manufacturers
of
ALL KINDS
of



GARDEN REQUISITES.

Send for Illustrated Catalogue, free on application

No. 22
Force and
Lift-Pump,
on Barrow.

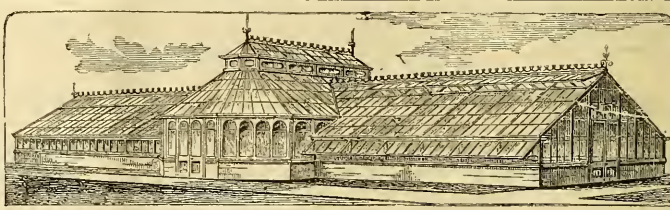


Cash Prices.—Carriage Paid.
With connections and strainer, but without hose, £1 10s.
Suction or delivery hose, carriage paid with pump, 2s. 3d. per foot.
Extreme width, outside wheels, 22 inches.

EVERY REQUISITE
FOR THE
GARDEN, PARK,
AND
PLEASURE GROUNDS.
Send for Catalogue.

BOULTON & PAUL, NORWICH.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO., HOTHOUSE BUILDERS AND HOT-WATER ENGINEERS, ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that the VERY BEST.
Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Sashes, Hotbed Boxes, &c., always in stock.
Plans, Estimates and Catalogues free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM

TO

THE PUBLISHER,

41, Wellington Street, Strand,
LONDON, W.C.

Please send me "THE GARDENERS' CHRONICLE" for _____ 1892.
commencing _____, for which I enclose P.O.

3/- Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 6d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.
May 14, 1892.

ODONTOGLOSSUM CRISPUM ALEXANDRÆ,

FROM THE PACHO DISTRICT.

HUGH LOW AND CO. have recently received very large importations of the above in selected pieces, and in the very best possible condition, and respectfully solicit an inspection of the plants by Gentlemen interested in Orchid Culture.

PRICES AND SAMPLES ON APPLICATION.

CLAPTON NURSERY, LONDON, N.E.

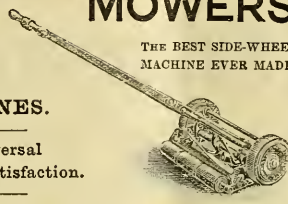
SHANKS'S LAWN MOWERS

THE BEST AND
MOST LASTING

MACHINES.

Give Universal
Satisfaction.

THE BEST SIDE-WHEEL
MACHINE EVER MADE.



THE STANDARD MACHINE.

FOR LISTS, ADDRESS—

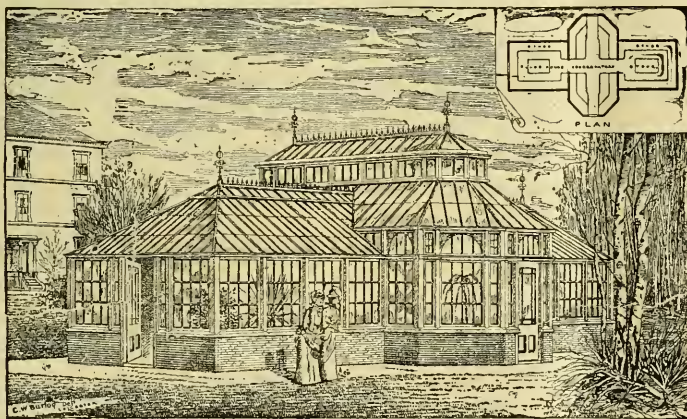
"BRITANNIA" MOWER

ALEXR. SHANKS & SON,

DENS IRONWORKS, ARBROATH, N.B.

110, CANNON STREET, LONDON, E.C.

LONDON WAREHOUSE—
5, OLD SWAN LANE, UPPER THAMES STREET, E.C.
WHERE REPAIRS ARE ALSO EXECUTED.



MESSENGER & CO.'S New CATALOGUE of Greenhouses and Heating Apparatus,

Just issued, will be found the most complete, practical, and reliable guide to all about to build, alter, or heat Greenhouses. Illustrations of every description of Glasshouse, from the largest range of Winter Gardens to the simplest forms of Portable Greenhouses, Plant Protectors, and Garden Frames; also of all the best kind of Boilers, Hot-water Pipes, and all appliances for heating. This Catalogue, possessing hundreds of illustrations of all the latest improvements in greenhouse building and heating, is on a scale never before attempted. It should be in the hands of every one interested in gardening, as it contains many practical hints on the subjects of which it treats, the result of many years' experience. Price, 2s. post-free.

A large number of the illustrations are taken from greenhouses erected by us in various parts of the country; an inspection of this Catalogue shows, therefore, buildings the efficiency of which has been well tested by actual use. The advantages possessed by us enable us to carry out work with the utmost promptness, and in the very best style, at prices which defy competition. Surveys made, and gentlemen waited on in any part of the country. Plans and Estimates free on application.

MESSENGER & COMPANY, LOUGHBOROUGH.

London Office:—163, Palmerston Buildings, Old Broad Street, E.C.

WORKS OF AUTHORITY ON BOTANY.

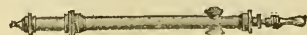
LINDLEY'S ELEMENTS OF BOTANY. With Illustrations. 8vo, cloth, price 9s.

LINDLEY'S MEDICAL AND ECONOMICAL BOTANY. With numerous Illustrations. 8vo, cloth, price 5s.

London: BRADBURY, AGNEW, & CO. (Limited), Bouverie Street, E.C.

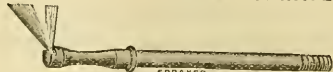
HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

THE "STOTT" PATENT SYRINGE.



With Patent "Sprayer" and Insecticide Chamber attached. 21s. complete.

THE "STOTT" PATENT SPRAYER.



GIVING A MIST-LIKE SPRAY. CANNOT CHOKE.
4s. to 5s. complete.

INSECTICIDE 'KILLMRIGHT.'

CERTAIN PREVENTIVE OF MILDEW.
DEATH to CATERPILLARS, and all INSECT PESTS on Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and other Plants. NON-POISONOUS.
2-lb. Tins, 1s. 6d.; 14-lb. Tins, 9s.; 56-lb. Kegs, 34s.

FERTILIZER 'FEEDMRIGHT.'

Most Invaluable for
Roses, Chrysanthemums, Greenhouse, & Stove Plants,
2-lb. Tins, 1s.; 14-lb. Bags, 4s. 6d.; 56-lb. Bags, 15s.
PRICE LISTS AND TESTIMONIALS on Application.
2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE AND RETAIL FROM THE
"STOTT" FERTILIZER & INSECTICIDE
Distributor Co., Ltd., MANCHESTER.
Retail from all Ironmongers, Seedmen, &c.
See Stand 54, Horticultural Exhibition, Earl's Court.

LETHORION (VAPOUR CONE).



PATENT.
They are now universally admitted to be thoroughly uniform in strength, and safe for any plant or flower, even if four times the quantity are used. Scabs and mealy-bug may be completely eradicated by using the Cones double strength.
PRICES:—For frames of 50 to 100 cubic feet, No. 1 reduced to 6d. each; 500 feet, No. 2, 1s.; 1000 feet, No. 3, 1s. 6d.; 4000 feet, No. 4, 5s.

The house should be well secured.
CORRY & CO., LIMITED.
13, 15, & 16, Finsbury Street, London, E.C.



FOR DESTROYING WEEDS, MOSS, &c.

ON CARRIAGE DRIVES,
GARDEN WALKS, ROADS, STABLE-YARDS,
WALLS, STONWORK, &c.

Saves more than twice its cost in Labour. No Smell. One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every confidence in recommending it."
Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy."

Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included); in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20 gallons, 1s. 4d. per gallon. Special quotation for larger quantities. Carriage paid on 10 gals. and upwards.

Used in the proportion of one gallon to twenty-five gallons of water.

THE ACME SUMMER SHADING, White and Green.

FOR SHADING GREENHOUSES, CONSERVATORIES, &c. Does not wash off with the rain. Can be used WARM or COLD. 1 lb. makes 1/2 gall. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 6d.

For particulars of ANTI-FUNGI POWDER for Tomato Disease, Mould and Mildew on Roses, Vines, &c.; KENTISH PLANT MANURE, SOLUBLE MANURE, ZINC LABELS, NEW METALLIC INK, &c., apply to the

Sole Proprietors and Manufacturers,
THE "ACME" CHEMICAL CO., Limtd.,
Tunbridge, Kent;
and Osilton Street, Bolton, Lancashire.

GRAPE VINES.—Green plants, in small pots.—Hamburgh, Muscat, Madresfield, Colmar, Downes, Alicante, &c.—4s. per doz., 30s. per 100. Good Planting and Fruiting Canes in stock.

WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

ORCHID EXHIBITION.—Now OPEN.

ORCHID EXHIBITION.—Admission Free.

ORCHID EXHIBITION.—One of the most beautiful sights in London.

ORCHID EXHIBITION.—A vision of loveliness unparalleled in Europe.

ORCHIDS.—Must be seen to be realised.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

CHEALS' DAHLIAS.

25,000 Plants in all the Sections ready for distribution, including many valuable NOVELTIES.

NEW DESCRIPTIVE CATALOGUES now ready, Post Free.

J. CHEAL & SONS,
CRAWLEY, SUSSEX.

NOW (and when the plants have commenced to grow) is an excellent TIME TO PLANT HOLLIES, CONIFERS, YEWs, AND ALMOST ALL

EVERGREEN SHRUBS.

CLEMATIS may be planted in May.

DESCRIPTIVE LISTS of the above, and following, free:—

CREEPERS FOR WALLS.

ROSES IN POTS.—Best New and Old English and Foreign Sorts.

RICHARD SMITH & CO.,
NURSERYMEN AND SEED MERCHANTS,
WORCESTER.

DAHLIAS.

10,000 DAHLIAS.—The cream of all sections. Now ready, Show, Fancy, Pom-pone, Cactus, and Single varieties, well-rooted, and true to name, price, 6 for 2s.; 12 for 3s.; 2 doz., 5s. 6d.; 20s. for 100; our selection. Carriage paid. Descriptive List of all the best new and scarce varieties in cultivation, with price of purchaser's selection, free.

Send for a sample dozen, and give us a trial order.

10,000 LOBELIA EMPEROR WILLIAM.
—The best blue variety. Strong, well-rooted plants, from cuttings, 4s. per 100.

TEA ROSES in pots.—Thousands of good plants in all the best varieties, such as Niphetos, Climbing Niphetos, Catherine Mermet, The Bride, William Allen Richardson, Parle des Jardins, Sunset, &c., 6s. per doz., and 9s. per dozen. Selected plants, 1s., 1s. 6d., 2s. 6d. each. Suitable for planting in the Conservatory, Greenhouse, outside planting, or growing in pots.

GIANT PANSIES, finest blotched varieties.
Ne plus Ultra, 2s. per dozen; 12s. 6d. per 100.

NOW is the best time to buy and to secure the finest plants, all packing free. Trade supplied. Catalogues gratis.

A. J. AND C. ALLEN, Florists and Rose Growers, HEIGHAM, NORWICH, NORFOLK.

Williams'

WORLD-RENOUNDED
GOLD MEDAL STRAINS

Primula
Cyclamen

Per Packet, 1/6, 2/6, 3/6, & 5/-

Calceolaria

Per Packet, 1/6, 2/6, 3/6, & 5/-

FLOWER SEEDS POST FREE.

Every Packet of above bears our Registered Trade Mark, without which none are genuine.

ILLUSTRATED SEED CATALOGUE,
comprising everything necessary and requisite for the
Garden, Grating and Post free on application.

B.S. Williams & Son,
UPPER HOLLOWAY,
LONDON, N.

PAUL & SON'S NEW CHESHUNT ROSES, 1892

Ready in Pots, May 20.

H.P. VIOLET QUEEN, a beautiful new colour in Show Roses, shaded violet (not purple), 7s. 6d. each.

HYBRID, FRANCES BLOXAM, the new, salmon-pink, constant-flowering Pillar Rose, 6s. each.

And ready during summer.

SWEET BRIAR, JANET'S PRIDE, with semi-double, shaded with lake flowers. First-class Certificate R.H.S., 8s. each.

"OUR" NEW ROSES of 1891.

BOURBON MRS. PAUL, the most distinct break in light Roses obtained for years, and proving to be a fine pot Rose, 3s. 6d. each, 30s. per dozen.

H.P. BRUCE FINDLAY, the new "free as a China" autumnal Rose, 3s. 6d. each, 30s. per dozen.

The New Giant Indian Single Rose, **ROSA GIGANTEA**, with flowers 5½ inches across, and making in India and the Temperate Zone at Kew shoots of 50 feet, 1s. 6d. each.

New French and English Roses of three previous years, 1s. to 40s. per dozen.

NEW ROSE and SPRING LISTS Post-free, on application.

THE "OLD" NURSERIES, CHESHUNT, N.

FERNS A SPECIALITY
The finest & most interesting Collection in the Trade.
1400 SPECIES & VARIETIES
Stove, Greenhouse, Hardy Exotic & British
EVERY ONE interested in FERNS SHOULD
SEND FOR OUR partially descriptive,
CATALOGUE FREE ON APPLICATION.
also our ILLUSTRATED CATALOGUE N°21.
Price 1/6 post free.

W. J. BIRKENHEAD
FERN NURSERY, SALEM-MANCHESTER

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

DANIELS BROS., TOWN CLOSE NURSERIES, NORWICH.

BEG to offer the following from their splendid collection of choice named Florists' Flowers, &c., all in sturdy young stuff, guaranteed true to name, and sent Post or Carriage Free on receipt of Cheque or Post-office Order.

	Per doz.	s. d.
Chrysanthemums. Japanese and Incurred. Choice sorts from our splendid collection—		
per 100, 15s.; 6 for 1s. 6d.	2	6
"New and very select"	6 for 2s. 6d.	4 6
"W. A. Manda," the new Golden Yellow Ostrich Plume, splendid	each, 5s.	
"Six superb new varieties, including 'Gloire du Rocher,' 'Florence Davis,' and 'Vivand Morel'"	6 for 2s. 6d.	
Dahlias. Show and Fancy, a magnificent collection, including all the finest varieties	6 for 2s. 6d.	4 6
"Show and Fancy, new and very choice sorts, 6 for 5s."	9	0
"Cactus flowered. A superb collection, including the best of recent introduction"	6 for 2s. 6d.	4 6
"Cactus-flowered. New and very choice sorts"	6 for 5s.	9
"Cactus flowered. Six grand new varieties, including 'Beauty of Arundel'"	8	6
"Single flowered. A charming collection, including the newest"	6 for 2s. 6d.	4 6
"Single flowered. Six new and very select sorts, 5s. Pom-pone or Bouquet. A very choice assortment."	6 for 2s. 6d.	4 6
"New Marguerite. Single, pure white, very pretty, each, 2s. 6d.; 3 for 6s."		
"New 'Tom Thumb.' Single, very pretty, only 1 foot high, 2 for 2s. 6d., 6 for 4s. 6d."		
Fuchsias. Single and double flowered. All the most beautiful varieties	6 for 2s. 6d.	3 6
"New and extra choice"	6 for 3s. 6d.	6 0
"Six superb new varieties, including 'Mrs. Charles Daniels'"	4s. 6d.	
Pelargoniums. New Zonal. All Autumn struck—		
"single flowered. From our grand collection; splendid for pot culture"	6 for 2s. 6d.	4 6
"Six new varieties of 1891 (Pearson's)"	7s. 6d.	
"Double flowered. Zonal. Grand varieties; fine for pots"	6 for 2s. 6d.	4 6
"New double flowered Ivy leaved. Magnificent varieties for pots or hanging baskets, vases, &c."	3 for 2s. 6d. for 3s. 6d.	6 0
"Gold and silver tricolors. The most beautiful sorts."	6 for 2s. 6d.	5 0
Begonias. Tuberous-rooted hybrids. Magnificent single flowered varieties. Immense blooms of the most beautiful colours. Strong flowering tubers, very choice mixed	per 100, 30s.; 6 for 2s. 6d.	4 6
"Extra choice sorts, for pot culture"	6 for 5s.	9 0
"Double flowered, very fine mixed"	6s. and 12 0	

BEAUTIFUL HARDY FLOWERS.

A grand collection of Choice Hardy Perennials.

Splendid for Garden Decoration, or for Cut Flowers during the Summer and Autumn.

Strong, established plants for blooming this year, including LYCHNIS, double crimson; ANEMONS PALIDA (the Sulphur Marguerite), PIRETHRUMS, PHLOXES, &c.—all first-class sorts.

Twelve in twelve choice varieties ... 3s. 6d.

Twenty-five in twenty-five choice varieties ... 6s. 6d.

One hundred in fifty choice varieties ... 21s. 0d.

PACKING and CARRIAGE FREE.

IF YOU WANT

BEGONIAS,
H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E.

GUARANTEES to supply BEGONIAS, first-class Quality, at one-third the usual price, as follows:

12 Good Single Mixed ... 3s. 12 Mixed Double ... 6s.
12 Extra Good to Colour ... 6s. 12 Very Fine, to Colour, 12s.
12 Very Finest, equal to named varieties 15s. ea. 12s. 12 Extra Fine Double, 18s.

I could give a large number of Testimonials, but the following, I think, will be sufficient to prove the excellence of my Begonias:—Hogg House, Buxted, Uckfield, Aug. 26, 1891.

DEAR SIR,—You will be glad to learn that the Begonias I had from you in the summer have turned out remarkably well. The plants and terra-cotta are especially fine, some of the blooms measuring near 6 inches across. The flowers are of fine form, and good substance in the petals; plants dwarf in habit, and free-flowering; foliage robust. I shall have much pleasure in recommending them to my friends. Yours truly,

H. C. PRINSEP, Gardener to Viscountess Portman.

To Mr. H. J. Jones.

RYECROFT NURSERY, HITHER GREEN, S.E.

SALE, MAY 20.

SECOND, LAST, AND UNRESERVED SALE

OF

**CHAMBERLAIN'S
NEW CYPRIPIEDUM.**

A NEW TYPE.

The most exquisitely beautiful of the genus—purple-blue, fawn, and chocolate coloured—thirty flowers on a stalk.

OUR SECOND and LAST SALE.

THE IMPORTATION IS IN MOST MAGNIFICENT ORDER.

This glorious Cypripedium was unanimously awarded a Certificate of the First Class by the Orchid Committee of the R.H.S., April 12, 1892.

The *Gardeners' Chronicle* says (April 16, p. 496), "Amid the multitude of objects shown, the one that excited the most interest was a plant of CYPRIPIEDUM CHAMBERLAINIANUM. It justified all that has been said of it, and showed that our figure, p. 241, did no more than justice. It was unanimously awarded a First-class Certificate, AND WAS THE GEM OF THE WHOLE SHOW. There is a quaint beauty about the markings of this plant, and a richness of colouring which is unmatched, and among its other merits is its distinctiveness from those of any other known species."

The *Journal of Horticulture* says, "To CYPRIPIEDUM CHAMBERLAINIANUM special honours were accorded."

The *Gardeners' Magazine* says, "CYPRIPIEDUM CHAMBERLAINIANUM was the most remarkable Orchid shown. Very distinct and beautiful."

The *Times* says, "Among the Orchids the most striking was CYPRIPIEDUM CHAMBERLAINIANUM."

FOR SALE, ON MAY 20,

BY

Messrs. Protheroe & Morris,

AT THEIR

CENTRAL SALE ROOMS,

67 and 68, CHEAPSIDE, LONDON, E.C.

F. SANDER & CO.,

ST. ALBANS.



THE

Gardeners' Chronicle.

SATURDAY, MAY 14, 1892.

THE FOREST OF COMUS.

HAVING visited the Hall of Comus in Ludlow Castle, where in 1634 in the presence of the Earl of Bridgewater, President of Wales, and his family, the beautiful Masque of Comus was performed, you may ascend the keep-tower, and survey the rich landscape, with the Teme winding its course from Downton, past Oaklea Park, and through a fruitful country, till it flows beneath the walls of this castle, and skirts the town of Ludlow, as many an artist has depicted on canvas, filled with scenes from these noted precincts. The primæval forest, where the earl's two sons, Lord Brackley and Sir Thomas Egerton, with their sister, the Lady Alice, lost themselves in coming through the haunts of Comus and his band of revellers to Ludlow, begins near the river side, and extends far over the adjacent hills. The high road to Wigmore runs through the forest, gradually ascending from the river, and along this road I took my way, with all those feelings of delight which the "grene wode" still inspires in one's breast. Few can live in the forests now, and few forests are left to live in, but the love of the "grene wode" thrills our race still, and the sentiment must be primæval, derived from the times when our Teuton forefathers made their home in wild forests two thousand years ago. The earliest ballad-writer of the Robin Hood cycle writes pleasingly on this point in the following simple verses, poetical in language, though old-fashioned in orthography:—

"In somer, wheu the sharves be sheyne,
And leves be large and longe,
Ilit is fulle mery in feyre foreste,
To here the foulis songe,
To se the dere drawe to the dale,
And leve the hilles tree,
And shadow him in the leves grene,
Under the grene wode tre."

I left the road to wander through the wood, passing sometimes across little open glades, and sometimes through surrounding copes of trees and underwood, known by our forefathers as sharves, and still called by that name in some districts. And merrily did the "foulis" sing in the bushes, and sometimes the wild deer, startled by my intrusion, crossed the glades to "shadow" themselves in the "leves grene," like King Arthur's knights, who were accustomed in their wanderings to "bide under the shoue" for the purpose of reconnoitring approaching strangers. It is an Oak wood chiefly, but there are Sycamores and Birches, whose branches were quaintly declared by the herbalist Gerard to be, in time of Elizabeth, of great virtue as a corrective for boys at school, though at present I believe the remedy is not much in fashion. The Mountain Ash is sprinkled over the wood too, and amongst the underwood the Hazel is the most conspicuous. As in Wales, the only specimens of Beech are of comparatively

modern planting, that tree not being native to the country. 'So here the Conifers of the last century, the Larch and Spruce, are only found in one or two spots near the road, where they have been planted recently. Among the humble shrubs of this primeval wood, spreading over it a thick carpet, which Robin Hood and his men might have trodden, is *Vaccinium Myrtillus*, called Bilberry in the midlands, Whimberry in Shropshire, Whortleberry in Surrey, and Blaeberry or Blueberry in Scotland and the North, and by other names in other parts of the country. We used to call these deep purple-coloured, lip-staining berries Whorts in Surrey, as did the old English herbalists, a corruption of the Anglo-Saxon *Heort-hyrige*, or *Heort-byrige*, *Hart's-berry*, a name given to the fruit because it was considered a favourite food of the deer. It is the *Hurtil-berry* of Tusser. Among other edible fruits of this classic wood, besides the Strawberry, Raspberry, and Barberry, are various species of Blackberry, one of which, the *Hart's Bramble* (*Heort-brembel*) of Anglo-Saxon physicians, is known sometimes—to the confusion of nomenclature—as Whortleberry.

At length I reached the edge of this "ominous wood" in which the enchanter *Comus* lived—

"In thick shelter of black shades imbower'd."

At this spot, immediately opposite, looking south-west, is the High Vinnall, the highest point of Vinnall Hill, commanding a magnificent landscape, and between the steep and lofty bank on the top of which we stand and this hill is a deep and narrow valley thickly covered with wood, and having a trout stream in the bottom, bearing the name of Sunny Gutter. In this valley, pleasing by day but terribly obscure at night, the lady met *Comus*. Here in the glade below—

"Fairies at bottom trip

By dimpled brook and fountain trim."

And here the guardian shepherd stood—

"Tending on flocks hard by i' th' hilly crofts

That brow this bottom glade."

On the left the wood is thick, but on the right, towards the head of the valley, masses of trees and bushes are scattered more thinly over a grassy surface abounding in all the wild flowers suited to a Sunny Bank, for that is the name given to the spot. Here Milton may have met "a certain shepherd lad"—

"well skill'd

In every virtuous plant and healing herb

That spreads her verdant leaf to th' morning ray."

Agrimony (*Agrimonia Eupatoria*) is still abundant. It seems to have been the *Hemony* of Milton, named in the following verses:—

"Among the rest, a small, unsightly root,
But of divine effect he cull'd me out;
The leaf was darkish, and had prickles on it,
But in another country, as he said,
Bore a bright golden flower, but not in this soil.

* * * * *

He call'd it *Hemony*, and gave it me,
And bade me keep it, as of sovran use
'Gainst all enchantments, mildew, blast or damp,
Or ghastly furies' apparition."

Early writers on herbs have always mentioned *Agrimony* as a plant of good reputation, not perhaps possessing the qualities ascribed to it by Milton, but of "sovran use" as a remedy for wounds. In the time of the early Anglo-Saxons, it was called *Stic-wyrte*, namely, *Pain-wart*, *stic* being the Anglo-Saxon name for a sharp shooting pain, such as a *stitch* in the side. It was formerly asserted that deer, being wounded, cured themselves by eating *Agrimony*. The pointed shape of the stem of this

plant obtained for it the name of *Garclife*, from *gar*, a spear, and this name continued to be given to it till, in the fifteenth century, it was superseded by the modern name *Agrimony*, conferred on it by the French herbalists. *Stachys Betonica*,



FIG. 88.—*DISA INCARNATA*: BRIGHT CINNABAR ORANGE.
(SEE P. 619.)

for which the Anglo-Saxons had no name of their own, calling it *Betonica*, is common in this wood, as it is in woods and thickets all over Europe and Russian Asia, though rare in Scotland. The plant is allied to *S. germanica*, *Downy Stachys*, or *Woundwort*, which is, I

believe, the same plant, or a near ally of the downy white-leaved *Stachys*, which cottagers long since transferred to their gardens, and which has since been invited, on account of its foliage, to take its place among the "edging plants" of most gardens, taking the name of *S. lanata* from its woolly texture.

According to those fanciful authorities before quoted, *Betonica* is a plant of good repute, "good either for a man's soul or his body," and possessing power to "shield him against nocturnal apparitions, and against frightful visions and dreams." *Pyrola* minor blossoms here through the summer, and retains in winter those glossy-green leaves which, showing cheerfully among the fallen foliage, obtained for it the name of *Winter-green*. *Herb-Paris* is here too, a not very common plant, but local and scattered over several parts of England, where rustic sentiment has given it the name of *Truelove*, from the position of its flowers, which are set among the leaves, as love is placed in the centre of the affections.

Steering across the Sunny Gutter for the High Vinnall, I noticed more kinds of wild flowers than I may here enumerate, with many Ferns—some of them rare—and numerous Mosses and Lichens. From the top there is a glorious outlook over the rich scenery of Herefordshire and Shropshire, with the long line of Bringewood immediately before us, including several high spots and slopes which have been planted with Larch by Mr. Boughton Knight, of Downton Castle. It is a fine country as far as the eye can reach, and the British and Roman camps on two of the neighbouring hills serve to remind us what the rival nations must have thought of these rich and watered vales.

The favoured tract which lies around, and which now produces the famous Hereford cattle, the best and handsomest sort for pastoral districts when the grass is good, had for its hero and stout defender, *Caractacus*. A fair slice of Herefordshire and part of Shropshire are within view, and on a fine day one sees the Malvern Hills in Worcestershire, the Cleve Hills nearer at hand, the Black Mountain in Monmouthshire, the hills of Radnor Forest, and those of Breconshire. I left the Teme at Ludlow, but in following the high road to Leintball—a downhill journey through pleasant farms, pastures, and Apple orchards, I again reached the level of the river within three miles of Downton, where, it is said, the Teme looks its best. H. E.

NEW OR NOTEWORTHY PLANTS.

PHALÆNOPSIS AMPHITRITE, *n. hybrid.*

This pretty new hybrid has been obtained by crossing *P. Stuartiana* × *P. Sanderiana*, the latter being the pollen-plant. These two species ranging among our best hothouse plants, it would be expected that their offspring must become a lovely one. The size of the flower is that of a very good *P. Stuartiana*, or a smaller *P. Sanderiana*. The sepals are narrower than in *P. Sanderiana*, pale mauve, or deep nankeen-yellow, with a white margin, and a purplish hue to the base, the lateral ones spotted with minute purple blotches at the very base; the lateral petals are also in the way of *Sanderiana*, white, with a rose-purple blush at the base; the lip is perhaps still more than the other parts that of *Sanderiana*, in the form as well as in colour. The side-lobes are white, spotted with purplish and yellowish colour on the anterior margin; the blade of the middle lobe is pale rose-coloured, with very numerous spotlets of purple; the tendrils of the lip are the same as in *P. Sanderiana*. *Dr. F. Kränzin*,

PHAJUS HYBRIDUS (ORANDIFOLIUS ♀, WALLICHII ♂).

This cross has been raised by Mr. A. J. Keeling in the gardens of DREWETT O. DREWETT, Esq., Willow Wood, Riding Mill-on-Tyne, and it should be recorded, although I find little difference in it from a good variety of *P. grandifolius*. The petals and sepals have traces of the coppery-yellow tint of *P. Wallichii*, and the spur is rather longer than in *P. grandifolius*, but the keels running down the middle of the lip and its general form are very much as in *P. grandifolius*. *James O'Brien*.

CELOGYNE CUPREA, n. sp.*

This species was imported by Messrs. F. Sander & Co., St. Albans, and flowered at Herrenhausen during the spring of this year. I received a very characteristic drawing, and twice fresh material from Mr. Wendland, at Herrenhausen. The bulb is a very strange-looking thing for a *Celogyne*, as from a globular base there arises a somewhat conical brownish-green stem to a height of about 5 inches, where it bears two leaves, the one inserted a little lower than the other, of a more or less oblong or obovate form. The flower-stalk is longer than the leaves, and bears five to eight bracts from about 1 inch in length, the latter fall away at the flowering time. The flowers are drooping, and measure 1 inch in each direction, resembling a somewhat reduced flower of *C. speciosa* in general appearance, but quite different in colour and on other points. The colour is very peculiar, and I had given the specific name, *saluonicolor*, to this plant, as the flowers are almost of that tint. If Reichenbach had not used this name for a *Celogyne*, a description of which was published in the *Gardeners' Chronicle*, 1883, ii., p. 328, at first sight I should have supposed that I had to deal with the latter species, belonging also to the *Filiferæ* group, viz., those *Celogyne*s which possess narrow thread-like petals, but close examination showed me that the two species were as different as possible. I mention here only the one character by which *Celogyne cuprea* can easily be recognised. The inside of the lip is in *C. cuprea* smooth and hairless, and in *C. saluonicolor* it is hairy, as in *C. speciosa*. It is to be mentioned that all the flowers of the same spike are not developed at once, but open successively at long intervals of time. *Dr. F. Kränlein*.

THE FAN-PALMS OF AUSTRALIA.

In the year 1834 it was demonstrated by myself that the most southern place reached by Palms in continental Australia was near the entrance to the Snowy River, at 37° 30', where *Listivona australis* was found by me to reach a height of 80 feet (see my Official Report to the Victorian Parliament, pp. 5 and 15 of that year). At that time the most eastern part of Gippsland was unsettled, and the last eastern habitation was deserted, as of the two inhabitants, the "hut-keeper" had just before been slain by the cannibals of that region, and the "stock-man" had only saved his life on horseback by jumping the fences of the station. The last part of my journey then had to be effected on foot, as I could not get my horses without help across the Snowy River; yet accompanied by one "old hand," I penetrated, armed, of course, for several miles beyond the locality of the massacre, through the dense "bush," the autochthones getting often near us, and being in possession of fire-arms robbed from the hut. I satisfied myself there and then that the Gippsland Palm was the genuine

Listivona australis of my never-to-be-forgotten friend, Von Martius, this species being well known here in cultivation. Already, then, since that time the same noble Palm has been discovered in two other localities, in jungles not very far from the Snowy River, which watercourse, though bearing so frigid a name as coming from the Australian Alps, where I had just before advanced to the glaciers of its courses, flows in its lowest course really through an always winterless country, teeming with sub-tropical vegetation (*vide* Report, 1854).

When a party of the Victorian Field Naturalists Club, at my suggestion, made a tour, some few years ago, through the whole length of the country, from the Snowy River to the Genoa, Professor Spencer, Mr. C. French, Mr. Frost, Mr. Jackson, and Mr. Searl went to one of the isolated spots, where the *Listivona* grows, and under an umbrella, while it rained heavily, a pencil-sketch of the Palm was made, from which hasty drawing the lithographic illustration was taken which appeared in the *Victorian Naturalist*. That under such unfavourable circumstances some inaccuracies occurred in the delineation, cannot be surprising; but while some leaves were drawn rather pinnately, others are shown as quite fan-shaped. Professor Spencer now points out that the sketch was not correctly lithographed, and that he has since seen the *Listivona australis* in South Queensland without perceiving differences between it and the Gippsland Palm.

As regards the particular Australian Fan-Palm, which was referred to in a recent number of the *Gardeners' Chronicle* as having somewhat cuneate leaves, it is not likely to be an extra tropical species. In the *Census of Australian Plants*, I admitted only three species of *Listivona*, inasmuch as dubious or very imperfectly-known species are omitted in that work, and retained for further consideration till another census can be instituted. Thus, I have recorded there besides *Listivona australis*, only *L. Leichardti* and *L. Marie*, concerning which some notes are contained in the *Fragm. Phytograph Austral.* (in vol. iii., 221 and 283, also in vol. xi., 54 and 55). *F. v. Mueller*.

ORCHID NOTES AND GLEANINGS.

DISA INCARNATA, Lindl.

FOR upwards of half a century this handsome *Disa* has been known to science, and now horticulturists will have an opportunity of making its acquaintance (Fig. 88). Messrs. W. L. Lewis & Co., of Southgate, have submitted to Kew for determination a plant which is none other than the one described by Dr. Lindley in 1838 in his *Genera and Species of Orchidaceous Plants* (p. 348), under the above name. It is bearing three racemes, one of which is fully expanded. The flowers are of a bright cinnabar-orange, with the exception of the dorsal sepal, which is deep yellow, with bright red spots. Several species of this large and interesting genus have recently appeared in cultivation, and the present one will be a welcome addition to their number, especially as their cultivation seems now to be better understood than formerly. Individually the flowers are just under an inch in diameter, and are borne many together in a raceme, their bright colour giving a very pleasing effect. It is a native of Central Madagascar, and was originally collected by Lyall, and recently by Baron, Fox, Deane Cowan, and Rutenberg. [See report of Royal Horticultural meeting on p. 343.] *R. A. Rolfe*.

THE ROSERY.

THE PROPAGATION OF TEA-SCENTED ROSES.

THIS is the best season to propagate Tea-scented Roses from cuttings taken from plants which are fully forced, as these will now be found to have a quantity of young shoots, which will be in good condition for striking. By striking cuttings early

the plants get established before the winter sets in. In making Rose cuttings, cut the shoot just below and close to a joint, removing the lower leaf or not, at the same time taking care not to injure the bud in doing so, and take off the centre leaflet, keeping the cutting the while in a watering can with a little water in it. Have clean well-drained pots filled within 3 of an inch of the rim, with a compost consisting of equal parts of fibrous peat-loam and silver sand, and dibble in from five to six cuttings round the edge of the pots, and make the soil firm. A propagating frame, with a bottom-heat of 75°, is a good place for these, plunging the pots in coal ashes or leaves of trees until rooted, when they should be placed in a less warm place where there is slight ventilation for ten days or a fortnight longer, when they may be potted off singly into small pots, and put into a half-spent hot-bed frame till established, shading them from sunshine, and affording air so long as the sun has power. When fairly rooted repot them into 32's or 48's, according to strength and variety, using a compost of fibrous loam three-quarters, of rotted manure one-quarter, and some sand, and pot firmly. When the plants towards the end of the summer are established, stand them in the open on a bed of coal ashes, and do not let them suffer from dryness at the roots. *R. Milner, Penrice Castle*.

PROFITABLE FRUIT CULTURE.

I HAVE recently been going into figures with regard to the returns which may reasonably and safely be expected from one acre of ground, planted with dwarf fruit trees, say Apples, and find that a very handsome profit indeed can be had therefrom. There has been, from time to time, in these pages considerable discussion as to these profits, and, allowing that figures can be made to prove anything, and also that seasons, insects, and other unforeseen impediments, have to be reckoned with, I can still show a large margin of profit—larger, indeed, than can at present be honestly shown by almost any other industry.

There are, doubtless, many who will not hesitate to condemn the above statement as too rash or misleading, but I respectfully ask them to withhold their judgments if they have nothing stronger as a basis whereon to furnish them than the returns from ordinary orchard and garden culture of hardy fruits, hitherto adopted throughout this country.

In isolated places here and there we find them well done, in a few others excellently so, but then only on a very small scale; is it that they are in any place cultivated—as they admit of, and should be—in a thoroughly systematic manner, involving intelligent selection, and energetic and judicious management. It is to these few points that I should wish to direct the attention of all intending to plant. Upon these will the tide flow to its full, or recede to its lowest ebb, according to good or bad cultivation, selection, and management.

A great deal indeed depends upon selection. We must first select the site and quality of the ground, then we must select the varieties, and, lastly, the trees. The first must be of the best, and, naturally, drained; the varieties must be hardy, healthy, noted free-bearers, and the largest of their class, and be few in number; and the trees must be clean and healthy, and, if two or three years old, they must be of good shape of the class you are selecting, but if we could afford to wait it would be better to select maiden trees, and train them ourselves. It is, or has been, rather, the usual plan to plant trees, and give them fair attention for two or three years, and then to leave them pretty much to themselves. This will never do if a profitable investment is the ultimate aim. Unremitting attention year in and out should be bestowed, more especially upon dwarf trees. It is useless to attempt fruit culture for profit in these days on any other lines. Give this, and success is certain. Some day I should like to give details, &c., with regard to the management of an acre of dwarf trees. Fruit-growing as a profitable investment has not, I think, been given the prominence it certainly

* *Celogyne cuprea*, n. sp.—Sepalis ovato-oblongis acutis apiculatis sepalis dorsali obscuris sepalis lateralibus manifeste carinatis pellucidis; petalis lateralibus angustissimis linearibus æquilongis sub anthesi reflexis; labelli lobis lateralibus semi-ovatis obtusis antice rotundatis, intermedio cordato obtuso submarginato, disco lamellæ, 2 erectis antice abruptis et interpositis brevioribus humilioribus inter laterales absconditis instructis; gynostemio apicem versus manifeste alata totos laterales vix excedente. Totus flos cupreus pallidus sepal. pet. lab. 2-5-3 m. longa, sepal. basi 1 cm. lata, labellam sepalis æquilongum. Flores succedanei.

deserves, or brought before that section of the public which is likely to derive most benefit from it—the smaller farmers and cottagers throughout the country districts.

I do not mean to suggest that sufficient has not already been written, and well written, so far as relates to adopting ways and means towards this laudable end, but rather the contrary. In this and other journals, much useful and instructive matter upon this subject appears weekly; still, outside real garden and nursery establishments, how many of those whose lives are, we might almost say, bound up in the soil, ever see any horticultural journal? Very few, indeed, I am sorry to say.

Nor is this all, for we have also the experiences of practical, scientific, and theoretic experts on this subject in book form, and at reasonable prices, considering the amount and value of the information; nevertheless, in my travels I find that the majority of the country population know next to nothing about them, and far less of that of which they teach. I am not to be understood to say by this that the population of the rural districts have no love for fruit culture; on the contrary, I believe this to be deep and wide-spread. What they lack most is general information upon the proper preparation of

tions where alpine plants are grown. The right place is undoubtedly a well-constructed rockwork, exposed all round to full light and air, and on no account under the shade of trees. This should be so arranged as to provide every aspect, for although most plants require a sunny position, there are several which require a north aspect, while others succeed best in an easterly or westerly position. If the work is properly constructed, even the choicest alpine plants will flourish and soon take care of themselves, giving the gardener no trouble, except that of keeping out weeds and giving, perhaps, an occasional watering. But the composition of such a rockwork requires very much greater care than is usually given to it. A few years ago I visited a gentleman's garden not one hundred miles from Exeter, and was shown by the gardener a new rockwork, which he had just constructed for growing choice alpine plants. A round heap of well-manured garden soil, 'was studded at regular intervals of about 2 feet with large stones, all standing upright, and really good alpine plants planted between (a portion of this mound is shown in fig. 89). 'There, what d'ye think of that?' my friend proudly asked, in tones of self-congratulation. But when a year or two later I visited the same spot

in my opinion, it should be (fig. 90). The fissure should be narrower at the bottom, to allow for the soil setting firmly against the sides of the stones, but it should communicate also with the main body of soil, and with the drainage of stones, which is of great importance in every rockery. In filling such a crevice, do not use manured garden-soil, but a mixture of leaf-mould, peat, and loam, with an abundance of limestone chippings and coarse gravel or gritty sand, unless the crevice should be intended for one of the few varieties which do not thrive so well on limestone, and would prefer granite or flint. If the crevice is intended for a moisture-loving plant, add a little sphagnum moss. After almost every handful of soil ram it with a small stick, and every now and then add broken stones of all sizes, placing them in such a way as not to obstruct the passage of the roots into the soil below, but, at the same time, compelling them to touch the stones on their way down. When the crevice is nearly full insert the plant, surrounding the roots with the same kind of soil, but pressing around them small stones, which will prevent the roots from spreading sideways, and force them to grow downwards, where the soil would be cool and moist. Small stones should also cover the surface of the soil around the plants. This is of the



FIG. 89.—ROCKWORK—THE WRONG WAY.

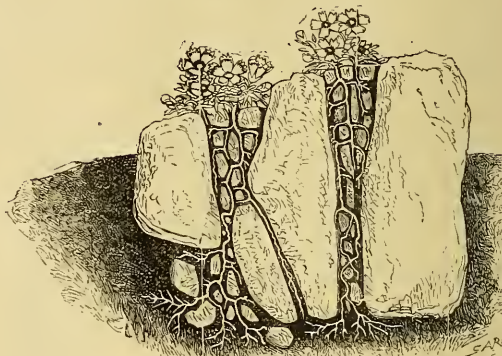


FIG. 90.—ROCKWORK—THE RIGHT WAY.

the ground intended for fruit culture; the great advantage to be derived from thorough draining; the rearing and management of dwarf hardy fruit trees; simple descriptions of injurious insects, with the best and easiest means for their destruction, &c. This to be printed in pamphlet form, and published at the lowest possible price, in order to make it easily attainable. *Pennum.*

THE ROCK GARDEN.

We extract from a report in the *Devon and Exeter Gazette* the following particulars as to the best method of constructing a rockwork. They formed part of an interesting lecture by Mr. F. W. Meyer, landscape gardener to Messrs. Robert Veitch & Sons, on "Alpine Plants," delivered in March last before the Devon and Exeter Gardeners' Association. Mr. Meyer first of all gave his hearers an account of the conditions under which "alpine" plants grow in Nature, and of the peculiarities in organisation and structure which were induced by these conditions. The principal reasons for failure in their cultivation were then pointed out, and the lecturer proceeded:—

"To ensure success, beware of fresh importations, and procure already acclimatised plants, which have been grown in this country. A frequent cause of failure may be found in the posi-

the alpine plants were dead, with the exception of one or two of the very coarsest kinds, and the stones might fittingly have been described as tombstones marking the graves of dead plants. The rockery has now been turned into a shrubbery, as "alpine plants won't grow in that part." Why so many people when making a rockwork content themselves by simply sticking long stones endways into a heap of soil seems difficult to understand. As a matter of fact, nothing could be worse. A few of the coarsest plants, which it would be difficult to kill under any circumstances, might possibly thrive in such a position, but fancy an alpine plant from the higher altitudes in such a position as I have roughly shown on this sketch. The stones impede the free access of light and air, and as they are a foot or more apart the roots of the plants would spread close under the surface of the soil, where the slightest excess of moisture or drought would be quickly felt, and result in speedy death. (See fig. 89.)

"The form of rockeries depends upon taste, and no hard-and-fast rule can be laid down for their shape, except that they should resemble Nature, and, at the same time, furnish the conditions necessary for the growth of alpine plants. That it is possible to do both I have tried to prove in the illustrations now before you, depicting rockworks in various parts of the country. In building a rockery, begin with the stones, and not with the soil. The next sketch before you represents a crevice prepared for choice alpine plants, as,

greatest importance for all plants from the higher altitudes, as the stones not only absorb excessive moisture, but also on dry, sunny days evaporate the same, and surround the plants with the moist atmosphere so essential to their growth. Before the plants are fully established, it may be well to sprinkle the stones with water on the nights and mornings of dry summer days for the purpose of evaporation, more than actual watering of the plants. But, when fully established, they will take care of themselves, no matter what the weather may be in this changeable climate, requiring no other attention than being kept free from weeds and the ravages of slugs and snails. Plants which have their leaves arranged in the shape of rosettes, like *Ramondia pyrenica*, *Androsace sarmentosa*, or *Saxifraga longifolia*, should not be planted upright but sideways, so that water cannot rest in the centre of the rosettes. An arrangement of this sort is shown in figure 91. While speaking of *Ramondia*, I may mention that this beautiful plant requires a moist position and a north aspect. The soil, therefore, should contain plenty of sphagnum moss, and should not be pressed too tight around the plant. Other plants again prefer to have the soil firmly pressed around the roots. The beautiful *Gentiana verna*, for instance, prefers a very firm stony loam; while its companion, *G. hvarica*, loves a moist and spongy soil. Plants with spreading stems should be planted so as to allow the pendent shoots to droop over

the stones, and thus allow them to be seen to their best advantage. Many people object to alpine plants on account of their being small in size, but it is this very circumstance that makes them so valuable for our gardens. What other plants would be so permanent, and require so little attention? Some ten years ago I planted a piece of projecting rock with *Androsaces*, *Silene acaulis*, *Saxifraga juniperina*, and others. Nothing whatever has been done to the plants since, and yet they become more beautiful every year without crowding each other, and are likely to remain for ten or twenty years longer without getting too large for their position. Any of the coarser kinds of plants would have overgrown everything, and required renewing a dozen times within the same period. I do not maintain that every rockwork, without exception, should be planted exclusively with these small alpine, but they should certainly predominate, and where here and there larger plants or creepers are introduced for effect, this should be done in such a way that they can never intrude upon the select part of the rockwork set apart for choice alpine. Beware especially of Ivy, which soon kills all alpine plants, and monopolises the whole rockwork, if allowed to spread."

A TRAVELLER'S NOTES.

(Continued from p. 556.)

BARODA.—Towards the pavilion many of the roads converge, always in straight lines; in fact, the general principle of the park seems to be straight lines, all converging to certain points. The Superintendent's office is a small building very suitable for the purpose, one side of which is entirely covered with *Ipomoea Leari* in flower; whilst a nice, though at present small, row of an interesting Palm—*Hyphæne thebaica*—lines a small path on the right. This Palm is said to be branching. The specimens at present are not much more than 6 to 7 feet high, and there are certainly two or three shoots, but whether these come from the base, as they appear to do, or are in reality branches, is an open point. The leaves are handsome, much resembling a large *Corypha*. A little beyond are two paths, each having an avenue of trees; one is *Gaultheria longifolia*, and the other, *Bignonia suberosa*, more popularly known as *Millingtonia hortensis*. The former is a tree of slow growth; its stem is regular and straight, whilst its pyramidal-shaped head of pale green acuminate entire leaves (not unlike in size and colour to a large Peach or Nectarine leaf) make it a most distinct and pleasing object. The latter—a native of S. America—is undoubtedly the handsomest flowering tree I have yet seen in India; the largest specimen is just outside Mr. Henry's bungalow, and I have been careful to photograph it, but those in the avenue in question are not nearly so tall, but all, having been planted at the same time, are regular and shapely trees. It is now in flower. Its stem is clean and straight, the head tall, yet round and even; the foliage is bipinnate, of a dark glossy-green, but its value as a decorative object lies in the innumerable heads of pure white flowers, with which these trees are covered. The individual flower has five unequal lobes, and is about an inch in diameter, with a tube some 3 to 4 inches long; the old flowers turn yellow, but do not immediately drop, as on falling from the calyx they are caught by the pistil-head (stigma), from which they remain suspended for some days. The leaves droop, as well as all those past flowers, the whole effect being most graceful. The biggest tree must be some 50 feet high, whilst those in the avenue mentioned are probably not more than 25 feet. Many other specimens are scattered about, but always covered on all sides with these great heads of white flower.

A few specimens of a handsome shrub—*Duranta Ellisii*, and its variety *alba*—are scattered about in various parts of the park. The flowers of the type are blue, but its chief beauty is in its small round yellow berries, which remain on the plant for a considerable time, and are produced in quantity. Thick bushes of regular habit form a nice change in a shrubbery.

The plant mostly employed in this part as a screen is well represented in a big bed close to the river, which one again touches at this point—*Bignonia staua*. It grows with surprising rapidity, last year's cuttings being now 6 to 7 feet high, and proportionally bushy; its flowers are of moderate size, of a good clear yellow colour. A most useful shrub, often employed to hide outbuildings, or as a screen from a public road. *Poinciana pulcherrima*, and its variety *flava*, the roots of which are used for various medicinal purposes, are both common, and pretty, as is *Ixora coccinea*, which flowers freely. The Nim tree, *Melia Azadirachta*, is a common object, and represented in the park; it has handsome, somewhat pendulous *Fraxinus*-like foliage, and possesses the peculiarity of being deciduous for one week in the year. Pink and white *Oleanders* are scattered about in beds, and thrive well, though occasionally a little sticky.

Still wending our way towards the band-stand, a row of dwarf bushy Mangos, not more than 10 feet high, attracted my notice. Mr. Henry told me they

plant, such as *Coleus*, *Salvia farinacea*, *S. coccinea*, *Vincas*, *Gaillardias*, &c. In the centre of one of the *Coleus* beds is a nice dwarf shrub, much variegated with ivory white; its name is *Pedilanthus tithymaloides*, with moderate-sized, fleshy leaves borne on a straight stiff stem, valuable for bedding here, but I am doubtful whether it be worthy of space in an European stove.

A bed of *Zinnias* (a favourite plant in this part), growing rather tall and straggling, is in full flower round the band-stand. It is edged with *Goldfussia isophylla*, a very suitable plant for the purpose. Nearly all the other beds are edged with *Alternanthera*. Beds of *Ageratum* are good, but one of *Chrysanthemum Madame Desgrangee* is only fair. *Borassia flabelliformis*, a noble Palm, common in some parts, is well represented near the band-stand; whilst two large specimens, some 70 feet high, of the "people's tree"—*Ficus religiosa*—strikes one's attention on again turning towards the river; silk-worms will feed on its leaves, and it is an object of peculiar veneration to the worshippers of the powerful god Vishnu, the Destroyer, as some suppose he was born amongst its branches. *Jasminum Sambac*, the flowers of which are sacred to the same god, is also used for bedding.

I was much struck with a large tree of a Mango, against which grew a curled, twisted stem of *Pterospermum brachypterum* near this spot. This creeper had grown in, around, and almost entirely over the head of this huge Mango. When it flowers high up all over the Mango, Mr. Henry tell me it is a fine sight. Its main stem is about 10 inches in diameter.

Various *Jasmines* (about nine species are known in the district of Baroda) are scattered about, whilst *Abutilon coccineum*, a pretty little shrub, with small, highly-coloured scarlet flowers, is not uncommon. *Plumeria acuminata* is also not uncommon; it is one of the most noticeable trees of India. Its long, thick leaves, with their curiously regular venation, strike one at once; it does not grow high, and as it loses its older leaves is somewhat sticky. Its flowers are large, white, with a yellow centre, and most powerfully scented; they are about 1½ inch in diameter, borne in large heads, and last well in water. They are frequently offered to gods in the Temple at Kandy. I saw basket upon basket of it. This tree is in some mysterious way supposed by the natives (who call it the "Pagoda Tree") to be connected with the success of Englishmen in the East.

Cryptostegia grandiflora is grand here. The individual flower is pale lilac, the exterior of the corolla being somewhat darker. It will not last in water.

Two or three small lakes (in reality ponds) are scattered about, one being near the pigeon-house, though the principal, filled with *Nelumbium speciosum*, is close to the main bridge leading to the Superintendent's house. The *Nelumbium* also flourishes in the river, and is usually sown by the seeds being enveloped in balls of clay, and thrown into the water. On the banks of one of these lakes a remarkable shrub, some 3 feet high, and bushy, is to be seen. Its racemes, completely enveloped in large overlapping bracts, are about 4 inches long. These bracts are of a bronzy tinge; from beneath them emerge moderate-sized fleshy yellow tubular flowers—nearly two at a time. A sketch of this in my journal will convey to you a more accurate idea of this peculiar raceme. *J. H. Veitch*.

(To be continued.)

TWO FAMOUS GARDENERS, LONDON AND WISE.

(Concluded from p. 332.)

It is what may be termed their "literary" works, London and Wise were successful so far as regards producing books which sold fairly well. These books were not original, neither were they good translations, but they served a distinct purpose. The more important of the two works in which the names of London and Wise conjointly appear as translators, was an English version, greatly abridged, of *Jean de la Quintinie's*



FIG. 91.—PLANTING OF CHINKS IN ROCKERY. (SEE P. 620.)

were grafted pieces; they grow dwarfer, and flower and fruit earlier than those raised from seed. They looked so different from the huge trees with stems several feet in diameter, of which one sees so many. I fear I shall not see the Mango trees in fruit; it is too early.

Cassia samratana, or *siamea*, a common tree in the province of Guzerat, and most certainly in the district of Baroda, is to be seen in perfection in various parts of the park. It is a pretty tree, of graceful habit, and is recommended for its rapidity of growth and general hardiness. Most kinds of succulents do well, many beds are scattered about. *Kigelia pinnata*, a native of Madagascar, is a curious tree; it is now out of flower, but I saw the remains of last year's racemes, 3 to 4 feet long. Mr. Henry tells me they are usually much longer, and often touch the ground; as the trees are 12 to 15 feet high, it must be a curious sight.

Still going from the direction of the pigeon-house, one soon reaches the band-stand, situated in the centre of a large circular plot of grass, surrounded by beds of various simple shapes, and filled usually with one

Le Parfait Jardinier, which was published in the latter part of the seventeenth century; the earliest edition which we have examined is that of Claude Barbin, Paris, 1635. La Quintinie, who was born at Chabanais (Angoumois) in 1626, and died at Versailles in 1683, occupied a unique position in the horticultural world of France during the seventeenth century. Voltaire declared that his precepts were followed by all Europe; the Prince de Condé took lessons from him in the art of agriculture, and Louis XIV., who loaded him with honours and favours, after having given audience to Turenne or Colbert, delighted to entertain himself with this distinguished horticulturist. La Quintinie was appointed director of all the fruit and vegetable gardens of the king. When in England, he visited Evelyn at Saye's Court, whilst James II.—whose motives, perhaps, were not at all disinterested—treated him with great respect, and offered him a considerable pension if he would remain in London.

Le Parfait Jardinier is a heavy folio of nearly 900 pages, which no amount of enthusiasm would induce one to read through. The author was well versed in the art of making a very few facts go a very long way. If we cannot say with Erasmus, when speaking of Thomas Aquinas' *Secunda Secundæ*, that "no man can carry it about, much less get it into his head," we venture to assert that no one has honestly read it through. The minuteness of its details is appalling. Its preliminary matter has an interest infinitely beyond the subject of the book, for it contains a long poem to the author by no less distinguished a person than Perrault, whose *Les Hommes Illustres* (in which, by the way, is La Quintinie's life "au naturel") was suppressed by the censor, and now realises a high figure in the book-market. There is also another poem in Latin, signed "Santolinus Victorinus." A fine portrait of the author is given as a frontispiece, whilst the diagrams and illustrations are for the most part engraved by Picart, and the book was dedicated to Louis XIV.

A fairly full translation of *Le Parfait Jardinier*, by John Evelyn, under the title of *The Complete Gardener*, was issued by the booksellers, Gillyflower & Partridge, in 1693, and is remarkable, because it reflects greater credit on Evelyn's industry than on his discretion. It was dedicated by the publishers to Lord Capell, who had for many years corresponded regularly with La Quintinie. There are over 500 pages folio, whilst the illustrations, and also the author's portrait, were copied from the original by an English engraver, whose name does not appear. The edition must have gone off very slowly, notwithstanding the distinguished man who translated it, and the even more eminent dedicatee.

Six years later—1699—Matthew Gillyflower—whose cognomen seems so appropriate for a publisher of horticultural books—issued in octavo form a translation by London and Wise, of La Quintinie's work, who described their edition as "compendiously abridged, with very considerable improvements." This, the second English version, can hardly be rightly termed a translation, for it is merely the skeleton of *Le Parfait Jardinier*, but that it had a wide popularity is proved by the fact that it was reprinted in 1704, in 1706, in 1710, in 1717, whilst a seventh edition is dated 1719.

The second book of London and Wise is, like the first, derived from the French, but it is made up from two distinct works by two authors, both coming under the generic heading of *The Retir'd Gardener*. The less important of the two—so far at all events as regards size—is *La Jardinier Solitaire*, ou *Dialogues entre un curieux et un jardinier solitaire, contenant la methode de faire et de cultiver un jardin fruitier et potager et plusieurs experiences nouvelles*, which was first published anonymously in Paris in 1704, in duodecimo form, and consisted of 391 pages of text. The author's name was F. Gentil, of whom very little is known, but whose book had an extensive sale on the continent. At least five editions in French appeared between 1704 and 1723, another being dated 1725, and yet

another 1737. It was translated twice into German, one edition, under the title *Le Jardinier Solitaire, oder nützliche Unterredungen und Gespräche eines Gartenhabers und eines Gärtners, &c.*, appearing at Leipzig in 1715, and another, translated by F. C. Weber, *Gründliche Einleitung zum Garten-Bau . . . aus den Französischen Schriften des . . . Hrn. Quintinie und des Jardinier Solitaire*, dating from Hamburg, 1725, the latter being an exceedingly attenuated and vilely-printed catchpenny affair. The name of the author was evidently unknown to either translator, and was a secret when London and Wise issued their version, which, by the way, was based upon the second French edition.

The bulk of *The Retir'd Gardener* was derived from one of the many "ouvrages médiocres mais utiles," written by Louis Liger, namely, *Le Jardinier Fleuriste et historiographe, ou la culture universelle des fleurs, arbres, arbrustes et arbrisseaux*; it appeared in two octavo volumes at Amsterdam in 1706, and was reprinted in one volume at Paris in 1776, and at Avignon in 1811. Liger was born at Auxerre in 1658, and died at Guerchy, near his birthplace, in November, 1717, but of his career very little is known. *Le Jardinier Fleuriste* had a very circumscribed popularity in this country, which may be accounted for by the fact that it was too literal a rendering, that is to say, its translators greatly nullified its utility by ignoring English requirements. It was published in two octavo volumes in 1711, an advertisement of it appearing in *The Spectator* on May 5, and is in many respects a much superior work to *The Complete Gardener*, adapted from La Quintinie. The portion devoted to floriculture is particularly full, and the translators were justified in considering the book as "perhaps better than anything of this nature that has ever yet appeared in public in one entire treatise." To the second volume is added a description and plan of Count Tallard's garden at Nottingham. The book, which bore the imprint of the famous bookseller, Jacob Tonson, contains a large number of designs.

The second edition of *The Retir'd Gardener* was published in one volume in 1717, and was revised by London and Wise's successor, Joseph Carpenter, who wisely omitted the absurd "mythological histories" of the various flowers. For practical purposes, Carpenter's revision is a great improvement upon the original translation, and is very comprehensive, giving directions even for the making of a bowling-green. The twenty designs are reproduced from the two-volume edition, the frontispiece being a design of Laguerre, and having as its legend a line from Virgil's *Georgics*, "Regum aquas opes animas."

These two books of London and Wise have, of course, no horticultural value at the present day, but as desultory reading, it would not be easy to equal them. The cultural directions and botanical information are of the most quaint description, the effect of the whole being much enhanced by the profusion of capital letters in which our forefathers so delighted. *W. Roberts.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By H. A. BURBERRY, Orchid Grower, Highbury, Birmingham.
PROPAGATION.—The propagation, as stated by me in the *Gardeners' Chronicle* for April 30, of some kinds of Orchids is slow, and sometimes it is hardly necessary, healthy and vigorous plants that will be sure to flower the first year, being very cheap; yet it is generally desirable to increase the stock of any good thing one may possess. Free-growing Orchids, when doing well, viz., Calanthes, Pleione, Cypripedium, Thunias, and Masdevallias rapidly increase by themselves without artificial aid; but Cattleyas and Laelias are rather slower in this respect, even when of good vigour. I am not an advocate for severing the rhizomes, although this is a means whereby they can be made to break back, but the resulting growths are generally weak, and several years elapse before they will flower. Cattleyas and Laelias often have double breaks, forming two new

pseudobulbs from an old one; but it frequently happens that the following year one of these new growths will again take the lead, and the other remain dormant, and such pseudobulbs may sometimes be observed which are dormant after many years have elapsed. When it is seen that both of the new pseudobulbs are not going to start into growth at the same time, the one which lacks energy should be severed from the parent plant close to the rhizome, when it will be obliged to start on its own account. I have often noticed, especially among the labiate section of Cattleyas, that when a leading growth at about 1 or 2 inches in length is broken off accidentally or otherwise, the plant will freely break from the old eyes. A plant has just come under my notice which had its only lead accidentally broken off last year, when it instantly broke from three old buds, each of which breaks formed strong pseudobulbs, with a flowering sheath on each. I do not mention this case with any desire of advocating the practice as a means of propagation, as it is one which would take a good amount of courage to carry out; yet some gentlemen may feel disposed to experiment on plants of but little value, and communicate the results to this journal, which would doubtless be very interesting to orchidists.

THE INTERMEDIATE-HOUSE.—Most of the inmates of this structure, if they have been surfaced or repotted, will be in good growing order. *Odonoglossum grande* grows much better in this structure than in the cool-house; ours have had a long rest, and have been kept rather dry during the winter, and judging from the vigorous manner in which they are now pushing forth young growths, it is the right treatment to adopt with this species. A liberal supply of water may now be afforded, and weak liquid manure at intervals, and all the necessary re-potting done at once, and the rest left over till next season. *Leptotes bicolor* is a pretty little plant now in bloom, which should be grown in pans or baskets; no special treatment is required for this plant, but like many other species, it enjoys a long period of rest.

Angulosa are easily grown if placed at the cooler end, and where they will get a good amount of air; if the pseudobulbs are strong, the flowers will appear simultaneously with the young growths. In repotting this species, which may be done directly growth recommences, or just after flowering, it is best to use but little sphagnum moss, but good lumpy peat and sharp sand, and well-drained pots, as they like a liberal supply of water while growing, and weak liquid manure occasionally will be of great assistance. The remarks on the last-named Orchid apply equally to *Lycastes*, with an exception, which is, that the latter cannot endure so much cold; indeed, *L. Harrisoni* may be said to grow and flower best if placed in more heat than this house affords. *Miltonia*—another beautiful species of Orchideæ—are well worth growing. *M. spectabilis* and *M. Moreliana* should be grown in shallow pans, or teak wood baskets, placed near the roof-glass, where plenty of light is to be had. The natural colour of the pseudobulbs and foliage of these two species is golden-yellow, and if this colour is not present in them they do not flower well.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, Gardener, Mereworth Castle, Maidstone.

STRAWBERRY PLANTS are, notwithstanding the rough winter, and some damage to their leaves, throwing up numerous flower spikes, the plants having made good strong growths before the end of the season, owing to the timely attention given them. Before the flowers get too forward, all preparations should be made for strawing the beds down to keep the fruit clean. Grass mowings, or anything that sticks to the fruit, or impairs flavour, is best avoided. Before mulching the beds, well trample the soil about the roots, and then over the mulch lay on some long litter, close up to and around the plants; the rain will wash it clean and sweet before the fruit is ripe, and no time should be lost in putting these matters right, for once the fruit gets splashed with rain it is of little value for dessert. The hoe must be kept going in late-planted beds, and if the plants are weak, pull up any spikes that may appear, unless they are varieties grown for testing them. Those plants which were layered early last year, and transplanted, at 1 foot apart, on a warm border for the production of early fruits, should now be well attended to, by thinning out all the weak fruits, leaving from ten to fifteen berries on a plant, more or less, according

to strength, and thoroughly soaking the beds with water at intervals. By this mode of treatment, the crop will be ready several days earlier than that of older plants. Plants which may have been forced and set aside for planting in beds should, if the ground be at liberty, be planted after having been properly hardened off. Give the ball a good watering if very dry; apply water more than once, or dip them overhead in a tub, remove some of the lower leaves, and dip what remain in a mixture of Gishurst Compound Soap, 2 or 3 oz. to the gallon of water, in which a little flowers-of-sulphur is stirred if red-spider or mildew be present on them. Before planting, reduce the size of the ball somewhat, and disentangle the visible roots, and plant very firmly, and afford water to each plant, watering them again if the weather should prove dry till growth re-commences. If any of the early varieties are put out on warm sheltered borders, and attended to in regard to keeping the plants clean and supplied with water when needful, nice fruits may be gathered in some quantity about the end of the month of August and in September. For this purpose the plants may stand at 9 inches apart. For beds to last two or three years, the ground should be in good heart, and the surface should be cleared of weeds before planting. If the ground be not very firm, stand the Strawberry pots somewhat close together on the north side of a wall or building, watering them abundantly at the roots and overhead, removing the flowers and runners as soon as they can be got hold of, and planting out as soon as the ground can be cleared and dug.

RASPBERRIES should have suckers that are not wanted for increase removed, and some of the latter may be transplanted; they will make good canes the present year. To fruit next season, leave from six to nine of the strongest canes on each stool. New plantations of Raspberry should have the canes cut down to within 3 inches of the soil, and the hoe freely used amongst them. In dry soils, mulch the quarters with good rotted manure, and afford water when necessary.

PLANTATIONS OF MIXED FRUIT.—Be careful to keep the weeds in check, for once these become plentiful, they will be very troublesome for the season, so keep the hoe constantly in use till the land is freed of them. Digging deeply amongst bushes and trees is still much practised, but with what object, I am at a loss to know; it certainly damages and destroys the upper roots, and obliges the others to go down into the subsoil; and fruit-growers would do better if they hoed the ground oftener and mulched the roots with manure. The only kind of digging that needs to be done is the slight pricking over the surface to prevent it cracking, and to form a crumb, so that hoeing may be easily performed.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

THE DAHLIA.—What with the new and improved varieties of the good old double Dahlia, and the many varieties of the Cactus and single-flowered forms, including the miniature "Tom Thumb" race, which have been raised within the last two or three years by Mr. T. W. Girdlestone, and distributed by the Messrs. Cheal and Son, of Crawley, a very good and varied display may be made entirely of Dahlias, the colour having great range, and the forms of all of them are effective and diversified. When Dahlias are planted in rows, it should be at from 5 to 6 feet apart, putting a stake to each plant for support. Large beds might very well be filled with plants of the Cactus and single-flowered varieties producing flowers of the same shade of colour, pegging down the young growths over the beds in due time, and edging the beds with plants of the Tom Thumb varieties, whose flowers agree in colour. Small beds may be filled with "miniature" plants of distinct colours. These last-named range in height from 11 to 22 inches, and the most distinct varieties are Bantam, dark scarlet flowers, height 11 inches; Mignon, bright clear pink flowers, with white ring around disc, height 12 inches; Miniature, clear light yellow flowers, height 15 inches; Miss Grace, light orange, height 14 inches; Pearl, deep mauve flowers, height 15 inches; Tom Tit, clear orange-scarlet, light yellow round disc, and loop-la, rich velvety maroon self, clear yellow ring round disc, height 14 inches. The heights given above include the flower-stems. Of single-flowered varieties (not Tom Thumb), *Alma* simple, pure white; *Defiance*, deep scarlet; *Plavus*, good dwarf yellow; *Hero*, creamy-white, shaded to deep sulphur in the centre;

Paragon, rich dark maroon, with a shade of purple round the edge of each petal; and *Bertha*, purplish-lilac, are six reliable varieties. *Constance*, white; *Juarez*, rich crimson; *Mrs. Douglas*, bright pinkish-salmon; *Mrs. Hawkins*, clear sulphur-yellow, shading to delicate pink; *Panthea*, reddish-salmon, with long graceful petals; and *Robert Mayher*, amber-yellow, are six good representatives of the Cactus species of the Dahlia. Whilst the Pompon section is worthily represented in *Admiration*, *Crimson*, with scarlet band at the edge of each petal; *Archilles*, pale lilac; *Phoebe*, deep golden orange; *Catherine*, yellow; *Dora*, white, shaded with cream; and *Gem*, intense rich scarlet. The above lists of the several kinds of the bedding-out and decorative Dahlia may help those who intend using them in the manner indicated, perhaps for the first time, to make their selection; and, in case the omission from our lists of the show and fancy varieties might be misunderstood by the growers of those flowers, I will give the names of twelve reliable varieties of each. Show: *Alice Emily*, *Clara*, *Crimson King*, *Delight*, *Earl of Radnor*, *H. W. Ward*, *Imperial*, *Miss Barber* (new), *Mrs. Langtry*, *Mrs. Shirley Hibberd*, *Reliance*, and *Walter H. Williams*. Fancy: *A. F. Barron*, *Alderman*, *Comedian*, *Dandy*, *Stanley*, *Duchess of Albany*, *Enchantress*, *Fanny Sturt*, *Flora Wyatt*, *Frank Pearce*, *Frederick Smith*, and *Gaiety*. Dahlias of all sections should be kept well supplied with water at the roots, and have plenty of fresh air admitted to the pits and frames in which they are growing, drawing the sashes off during the heat of the day, and returning them at night. But it will not be safe to plant them out much before the end of the month, as the plants are very susceptible to injury from a degree or two of frost, more so now than in the autumn.

GENERAL WORK.—This will consist of watering recently-planted subjects in the herbaceous border, and annuals, trees and shrubs; cutting out branches of *Yew*, *Laurel*, &c., which have been killed by frosts; transplanting forced plants of *Azalea mollis*, in groups, on either side of walks in certain parts of the grounds; putting peaty soil about the roots, making the same firm about them, and then mulching with a couple of inches thick of leaf-mould, and watering, to settle the soil about them.

PLANTS UNDER GLASS.

By J. MILLNER, *Gardener, Penrice Castle, Swansea.*

SINGLE AND DOUBLE-FLOWERED PETUNIAS.—These make useful pot plants for the conservatory and the greenhouse in summer and autumn, and any young plants which may be in 5 or 6 inch pots may now have a liberal repotting in a good compost, consisting of two parts good loam, one part decayed manure and good leaf soil, with some sharp sand. The pots must be clean and well-drained. As growth proceeds stop the shoots, especially those of the single-flowered varieties, as it is important that a good foundation be formed for the future specimens. If any are to be grown in baskets, they should be of the single-flowered varieties, on account of the larger quantity of flowers produced, and I think that a mixture of colour looks much better than when separate colours are employed, especially when the baskets alternate with others filled with Ferns. After planting in the baskets, place them in a house which is slightly warmer than that previously occupied, but always in a position where they will obtain plenty of direct sunlight.

INDIAN AZALEAS.—As the plants go out of bloom, remove the seed vessels, and if thrips are present on the leaves fumigate the plants two or three times in succession with tobacco or some of its preparations, so as to thoroughly clear them off. Specimens that are out of flower should be placed together in one structure, and kept rather close, syringing them heavily twice a day with tepid water to cause rapid and early growth. Young plants requiring larger pots should have attention in this respect as soon as flowering is over, or even before, if the bloom be not required. If healthy, the plants may be repotted into pots of two sizes larger, and the pots must be clean and well drained—that is, with large crocks at the bottom of the potting, and with gradually diminishing sizes, up to quite fine stuff at the top; this is the more essential, the plants not requiring annual repotting. Only fibrous hard peat of the best quality should be used, and silver sand should form one-twelfth of the whole; before repotting, loosen the fine roots around the ball with a pointed stick, and soak it in water, if it be at all

dry. The ball may be from a quarter to half an inch below the surface of the new soil, which must be placed around it in small quantities, and made firm with the potting-stick. Potting-sticks of two or three sizes, to fit the varying spaces to be filled, should be made use of. When finished, the surface should be level, and enough space left to hold sufficient water to thoroughly moisten the ball. Place the plants in a structure as recommended above, till growth is finished, then remove them to a cooler house. Those which were early forced and have finished their growth, should be placed in a more airy house, syringing them when shutting up in the afternoon to keep down thrips; guard against over-watering any plants that were repotted earlier in the season, as if kept in a too wet state the compost decays, and becomes unwholesome, causing loss of roots and leaves.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Cattle Howard, York.*

TOMATOS.—Where the planting of Tomatos has yet to be done, there should be no further delay, for the earlier the planting the heavier will be the yield of fruit, if the space in the house suffices for the growth of the plants. To have a house entirely devoted to Tomato culture is the exception rather than the rule in most private gardens, and on this account the structures that are at command, although, perhaps, wanting in some points, have to be utilised for Tomato growing. In looking for a suitable place under glass, where a few plants may be grown, the cultivator should keep in view the conditions that are the likeliest to give satisfactory results; these are, a temperature of 60° to 65°, with a dryish atmosphere, and an unrestricted run in a rough, open soil, enriched with superphosphate of lime. From 15 feet to 2 feet is a convenient distance apart for the plants to stand, and if a trellis be not available, a stout stake should be afforded each plant for support. All side growths, whenever they make their appearance on the stems, should be cut off, and the growing points kept secured to the stakes or trellis. Tomatos in bearing should be liberally supplied with manure-water at the roots, but not that from the farmyard tank, as this produces a too sappy and unfruitful growth. Thomson's Vine Manure is, in my opinion, much better. Shake the flowers daily when expanded. As many gardeners and amateurs suppose that the fertilisation of plants is aided by fiddling among them with a camel's-hair pencil, it may not be out of place to say that such efforts are ineffectual, unless the anthers are given asunder, seeing that they are united wholly or through part of their length into a tube (syngonium), and there is no difficulty in securing a good set, where due attention is paid to maintaining a dry, moving atmosphere among them, and tapping the flowers when open. I may add that the pollen is discharged from within the tube-like formation of the anther encircling the pistil, and as the flowers naturally droop, the pollen grains fall on the stigma, which almost fills the aperture at the end of the stamens.

MELONS.—Remove all superfluous shoots from plants in bearing, by cutting them back to the point from which they spring; support the fruits at an early period when an ample set has been obtained. Plants at this stage should be supplied with liquid manure, and with some fresh materials to the borders. All female blooms may be impregnated as they open on later plants, and a good time for doing this is between 10 and 12 o'clock. Later succession plants should have their shoots trained and stopped as growth proceeds. Plants may now be put out in houses or frames, and seed sown for succession. When Melons are grown in hot-bed frames, fresh linings of fermenting manure must be applied fortnightly to keep up the heat of the bed and the air of the frame, and as at this season leaves are apt to be scarce, if short grass and stable-litter be well mixed together, they will afford fairly lasting materials for linings, but need watching in warm weather, to prevent damage by their getting too hot, or the fumes penetrating the frames. The quantity of grass used should not be so large as that of litter.

PLANT PORTRAITS.

BROWNIA MACROCEPHALA, *Illustration Horticole*, t. 14; *Gardener's Chronicle* (1873), fig. 149.

EPIDENDRUM MANTHANUM, *Illustration Horticole*, t. 150. A plant of the *Nanades* section; flowers star-shaped, 3 by 2½ inches; segments lanceolate greenish, covered with small red spots; lip elliptic acuminate, green with purple spots and lines.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, MAY 17 Royal Horticultural Society's Committee, at the Drill Hall, James Street, Westminster.
National Rose Society, Executive Committee, at the Hotel Windsor, Victoria Street, Westminster.
Gardeners' Orphan Fund Bazaar, Whitehall Rooms, Hôtel Métropole.

SHOWS.

WEDNESDAY, MAY 18 Bath Spring Show (two days).
Royal Botanic Society's Show.

SALES.

TUESDAY, MAY 17 Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY, MAY 18 Terrestrial Orchids, Picotee Plants, Palms, &c., at Protheroe & Morris' Rooms.
THURSDAY, MAY 19 A grand importation of Cattleya Seedlings, received direct; Orchids from Brazil, and a Collection of Orchids in Flower, &c., at Stevens' Rooms.
FRIDAY, MAY 20 Orchids from Messrs. F. Sander & Co., St. Albans, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—56°·1.

The first really fine warm day of the season, and the prospect of seeing their Royal Highnesses the Duke and Duchess of CONNAUGHT take part in the first public ceremony at which any member of the Royal family has taken part since the death of Prince VICTOR, were sufficient inducements for a large number of persons to assemble in the main building of the Exhibition at Earl's Court, on May 7. Those assembled however, had to wait some time in expectation; but the Coldstream Guards band, with Lieutenant DAN GODFREY as conductor, helped the time to pass rapidly and pleasantly. When the Duke arrived, the Duchess of CONNAUGHT was not present, having another public engagement in the afternoon. The Duke was met by the principal officials of the exhibition, and conducted by Mr. MILNER, the chairman, to a platform about half-way down the building. We give a portrait of Mr. MILNER, at p. 627. Among those who entered with His Royal Highness were the Bishop of London and Mrs. TEMPLE. Amongst those present then, or later, were a number of well-known horticulturists.

The Duke's speech was spoiled by the crushing round the platform, but the effect of the scene displayed when the curtain was suddenly dropped, disclosing the arrangements of beds of plants in flower, curving paths, and patches of turf, nothing could mar. There were banks and beds of Rhododendrons, Palms, Tree Ferns, Azalea mollis, and Ghent Azaleas, and many others. Doubtless, in a week or two, when the newness has disappeared from the whole, and the turf has begun to grow and get its proper colour, and the beds are still better furnished so as to hide the soil to a greater extent than was perhaps possible on Saturday, this part of the building will be very pretty, especially when seen under the electric light (tempered, we hope, so as not to spoil the colours of the blossoms).

At 1 o'clock some 450 guests were entertained at luncheon by the committee in the Restaurant Français, and the toast of the day, "Prosperity to the Exhibition," was proposed by the Bishop of LONDON, who spoke of the pure delight given by the contemplation of the most beautiful of God's creations, and he added that the object of the exhibition was not merely to give pleasure, but to show and to encourage improvements in horticultural art. Mr. MILNER responded in a speech, calling attention to the great improvements made in horticulture.

To add to the brilliancy of the opening day, many members of the nursery trade had made a beautiful display of flowering plants in the large hall to the left as one enters by the main entrance at Lillie Bridge Road. We noticed tables of plants from Mr. B. S. WILLIAMS, Holloway, consisting of Amaryllis, Cactus, Orchids, Sarraacenas, Dracenas; from Messrs. LAING & SON, Forest Hill, two tables filled with Orchids, Ericas, and fine foliage plants.

Messrs. SHUTTLEWORTH & CO., Peckham Rye, had a large group on the floor of foliage plants, Narcissus, and other flowers in season from out-of-doors, came in large quantities from Messrs. P. BARR & SONS; Messrs. C. LEE & SON, Hammersmith, contributed a welcome mass of rich colour with a group of Azalea mollis and Rhododendrons; and Messrs. J. LANE & SON had a gorgeous lot of Rhododendron bushes in pots.

Mr. R. DEAN had a gay table of Polyanthus and Primrose, which formed a good background to Mr. LIONEL DE ROTHSCHILD's magnificent specimens of pink and white Carnation Souvenir de la Malmaison.

Messrs. J. & J. HAYES, of Edmonton, had a fine lot of Pelargoniums, well-flowered, and showy. Cinerarias came from Messrs. JAMES & SON, Farnham Royal.

Messrs. C. TURNER and J. PEED & SON had well-flowered Azalea indica arranged on tables.

Mr. W. RUMSEY and Messrs. W. PAUL & SON, Waltham Cross, were strong in fine Roses in pots, the latter with two large groups in opposite corners of the hall. Messrs. W. CUTBUSH & SON showed some excellent Narcissus, and Messrs. HUGH LOW had a large table filled with Ericas, Cytisus, Polygala, Pimeleas, Leptospermum, and other hard-wooded plants. The more purely artistic side was seen in a table filled by Mr. G. PHIPPEN of Reading, with handsome bouquets, &c.

The Home of Flowers, Swanley, contributed a table of succulent plants and cut flowers of Begonia and Pelargonium—an interesting exhibit. Of other exhibits of a more permanent character we may speak on another occasion. Granted a continuance of fine weather, this exhibition will form an agreeable lounge for

the Public, and Mr. MILNER may be congratulated not only on the taste he has displayed, but on the skill and energy he has manifested in carrying out so successfully a difficult task.

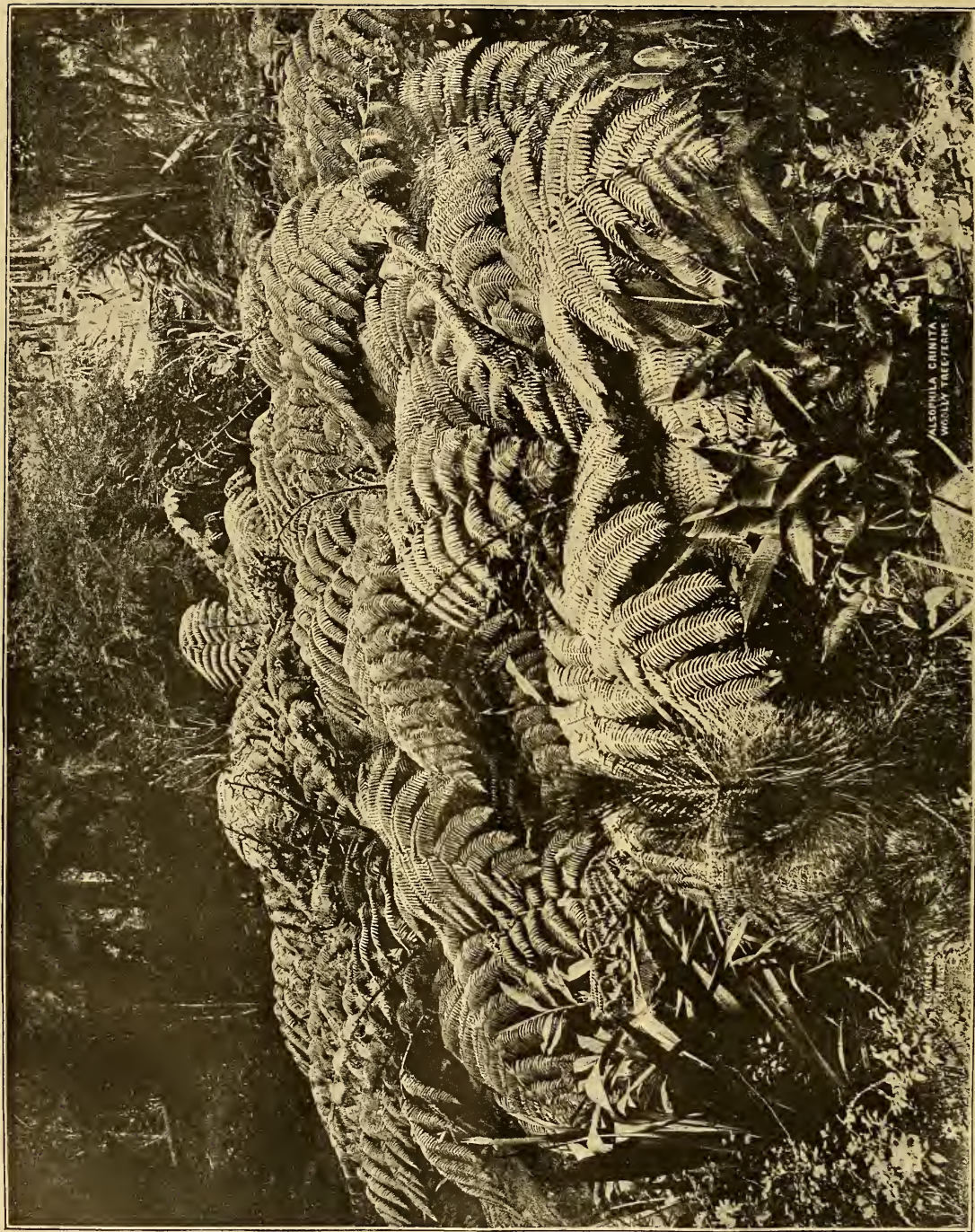
ALSOPIA CRINITA.—The beautiful Tree Fern figured in our Supplement this week is one of which Mr. J. H. VEITCH writes in one of his letters from Ceylon, and of which he kindly furnished us with a photograph. The plant inhabits the central part of the island, at an elevation of 5000 to 7000 feet, the Negliris, Pulneys, and Anamallays. It is one of the handsomest of Tree Ferns, and has dark stipes, slightly pubescent, as are likewise the pinnales, which are slightly recurving at the tips.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society in the Drill Hall, James Street, Victoria Street, Westminster, will take place on Tuesday, May 17, when prizes are offered for competition among amateurs who exhibit Indian and hardy Azaleas, and Pelargoniums (zonals excluded). In the afternoon, at 3 P.M., a paper on "Hardy Climbers and Creepers," will be contributed by Mr. W. C. LEACH.

BRUSSELS.—A special exhibition of Orchids will be held at the Horticulture Internationale of Brussels from the 14th to the 20th May.

GREAT FLOWER SHOW IN THE INNER TEMPLE GARDENS.—We have received the following note concerning the Temple Show from Mr. J. WEATHERS, for publication:—On Wednesday and Thursday, May 25 and 26, by the kind permission of the Treasurer and Masters of the Bench, the Royal Horticultural Society will hold its fifth annual Flower Show in the Gardens of the Inner Temple, situate close to the Temple, Blackfriars, and Ludgate Hill Railway Stations. Last year, over 10,000 people, visited the exhibition, and it may be fairly assumed that the forthcoming show, when the interest in plants, flowers, and fruits, which seems to have taken hold of everyone, is considered, will be in every respect as successful and interesting as those which have preceded it, if the weather be favourable. To enable gardeners (that is, *bona fide* employees in a private garden, nursery, market garden, or seed establishment) who are not already Fellows or Associates of the Society, to visit the show, the Council have decided to allow them to purchase 2s. 6d. tickets for 1s., admitting at 10 A.M. on Thursday, provided that applications for same, accompanied with stamped and directed envelope in addition to the price, be made to the Secretary, 117, Victoria Street, S.W., prior to the opening of the show on May 25. Arrangements have been made with Messrs. J. LYONS & Co., of "Olympia," to supply refreshments of all kinds, and music will be performed each day by the band of Her Majesty's Royal Horse Guards (Blue), under the conductorship of Mr. C. GODFREY. A catalogue of the show will also be presented to every person visiting the exhibition. It will contain a brief history of the Society since its establishment in 1804, by the Rev. W. WILKS, M.A., Secretary; the names and addresses of all the exhibitors, with plants, &c., shown; a programme of the music to be performed by the band; and various other particulars, chiefly relating to the Society's work in regard to horticulture in general.

LINNEAN SOCIETY.—On the occasion of the meeting held on May 5, Professor STEWART, President in the chair, Messrs. ERNEST GALEIN and HENRY GROVES were admitted, and the following were elected:—Messrs. C. A. BARBER, F. ENOCK, C. E. COBBEL, C. F. LITKEN, W. G. FARLOW, K. MÖRINS, and HENRY POWER. Mr. CURTIS showed a photograph of sections of the Silver and Douglas Firs, illustrating the relative rate of growth in trees of the same age, growing in the same soil and under similar conditions in all respects, the diameter of the one (A. Douglasii) being nearly double that of the other. Mr. GEORGE MURRAY exhibited spirit specimens of *Ascomathium intricatum*, an organism



ALSOPHILA CRINITA.—THE WOOLLY TREE-FERN.

described as a siphonous Alga, but ascertained to be identical with an animal, namely, *Zoobotryon pellucidum*, Ehrenberg. He also exhibited two specimens of a Palm, *Thrinax Morrisii*, Wright, peculiar to Anguilla in the Leeward Islands, and made some remarks as to the results of the recent Cryptogamic collections made by Mr. W. R. ELLIOTT for the West India Committee. Mr. HOLMES exhibited and made some observations on an abnormal development of the calyx in a *Primrose*. The President exhibited and explained a collection of Lepidoptera, containing several examples of mimicry between protected forms. On behalf of Dr. J. MÜLLER, Mr. TRISSELTON-DYER communicated a paper, entitled "Lichenea Epiphylli Spruceani." Mr. W. F. KIRBY gave an abstract of a paper on the family Saturniidae, with descriptions of new species in the British Museum. In the absence of the author, Mr. W. PERCY SLADEN read a paper by the Rev. HILDERIC FIENDEL, entitled "Observations on British Earthworms." The President announced that the anniversary meeting of the Society would be held on May 24, at 3 P.M.

GARDENERS' ORPHAN FUND.—Even amid the whirl of the exhibition season about beginning, gardeners and their friends are not likely to forget the claims of the hapless orphans. They have not done so in the past, nor will they do so in the future, but many will be glad to be reminded that the annual dinner will take place at the Hôtel Métropole, on Tuesday next, at 6.30, under the presidency of Sir JAMES WHITEHEAD, Bart. We hope to see a goodly muster and a large subscription list.

EATON HALL GARDENS.—It is announced that Mr. NICHOLAS BARNES, recently foreman in the gardens at Floors Castle, and subsequently occupying a similar position in the Prince of Wales' gardens at Sandringham, has been appointed head gardener to the Duke of Westminster at Eaton Hall, Cheshire. During the six years or so that Mr. BARNES was at Floors, he proved himself a skilful gardener and an admirable manager. When Mr. McKELLAR, the head gardener there, was, some eighteen months ago, appointed to the charge of the gardens at Sandringham, he gladly availed himself of Mr. BARNES' services as his assistant. His estimate of Mr. BARNES' abilities has been justified by events. The post at Eaton Hall is one of the prizes of the profession. The establishment is one of the largest in Great Britain, employing about forty gardeners, and is kept in the most perfect order.

FROST IN MAY.—From several parts of the country we have reports of hard frosts last week, the severest occurring in the home counties on Friday night, May 6, when the thermometer fell at Kew to 22°, or 10° of frost; at Harpenden, in Hertfordshire, to 26° = 6° of frost. Plums and Cherries and bush fruits have suffered heavily, but the Apples but little, owing to the lateness of the bloom this year. The full extent of loss from frost will not be ascertainable for some time longer.

NATIONAL PINK SOCIETY: MIDLAND SECTION.—It is intended to hold a show of Pinks at Wolverhampton on the occasion of the floral fête in the public park of that town on Tuesday, July 12, and the two following days. In the interest of all Pink growers, the committee have arranged two additional classes this year, and hope that the liberal classification now offered will induce lovers of this sweet-scented flower to support them, both by subscribing to the society, and exhibiting at the show.

NATIONAL ROSE SOCIETY.—A meeting of the Executive Committee will be held, by kind permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 17th inst., at 3.30 P.M.

STOCK-TAKING FOR APRIL.—A much more bulky Return than has been issued for months past was issued the other day, representing the imports and exports for the month of April. There is no

doubt that in many cases quantities are represented by less values in both departments—unhappily both show a heavy decline in the exports. As to—

IMPORTS, they this month show a falling-off to the tune of £4,062,265. That is a heavy sum, but then there were only twenty-four working days in the month as against twenty-six in the same month last year, and we have ceased to lend money in certain quarters whence we draw payment in "kind." Cotton, wools, bread-stuffs, did not trouble us so much last month as previously; even tobacco has dropped. Speculators in grain for a rise have had a bad time of it—but let us get to our usual excerpt from the "Summary" of Imports for the past month, as follows:—

IMPORTS.	1891.	1892.	Difference.
Total value for month	£38,982,537	£34,920,272	-4,062,265
§II.—(A.) Articles of food and drink—duty free	13,547,233	11,148,301	-2,398,932
(B.) —do., dutiable	2,033,998	2,415,608	+381,610
§VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)	8,970,138	7,401,977	-1,568,161
§VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials; for paper-making, &c.)	3,120,869	2,942,160	-178,709
§IX.—Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,265,802	1,281,333	—5,269
(B.)—Parcel Post ...	28,951	48,438	+19,487

The "minus" sign is somewhat prominent in the following extracts from the general mass of figures, concerning which, doubtless, both producer and vendor will have enough to say in the current month:—

IMPORTS.	1891.	1892.	Difference.
Fruits:—			
Apples, raw ... bush.	85,656	147,635	+61,979
Plums ... ..	...	5	+5
Pears ... ..	...	1,096	+1,096
Grapes ... ..	...	623	+623
Unenumerated, ..	28,820	19,487	-9,333
Onions ... bush.	409,326	450,738	+41,412
Potatoes ... cwt.	385,054	73,691	-311,363
Vegetables, unenumerated, raw, ... value	£73,357	£69,492	-£3,865

It may be added to these figures that, as they were going through the press there was landed in Liverpool from Florida a large consignment of Strawberries, Tomatoes, and Pine-apples; of all, good accounts have been given in the local press. If it can be made to pay, not much art will be required in forwarding Tomatoes to this country from over the Atlantic—doubtless the demand will increase with the supply. Refrigerator-carried Tomatoes are not always satisfactory, any more than are some Apples, which are apt occasionally to run in the direction of the Turnip—the sweeter the aroma the drier the flesh.

EXPORTS next claim attention. There is a large falling off in the value as well as in the quantity of British and Irish manufactures exported in April as compared with the same period in 1891. Tariffs all round are against us, but not to the advantage of the protectionist countries. There are symptoms, however, of improvement; there will be a less margin of profit, but pluck, cheap freights, cheap raw material, the perpetual stimulus to invention, must force the way—even in Spain, which has set its face recently so determinedly against us. The "finance" world is getting to be more cheerful; the Canadian demand promises to be a good one all round the year. Fruit and meat canners in the United States are

crying out against the prohibition of tin plates; a bill for striking wool out of the McKINLEY Tariff has passed the American House of Representatives, and other producers and vendors are wakening up to the knowledge of having been "sold," the largest iron and steel works in the country has had to close its doors because of the heavy duty on the raw material. Protection in France has contributed something to our "drop" last month of £3,053,190, and in Belgium the iron and steel industry has been so much affected, that it is proposed to shut up some dozen or more ironworks, putting many thousands out of employment, without benefiting the French workman. But in France, merchant, shipper, and workman alike, are loudly asking for information as to where the promised benefits come in. In Bordeaux and its districts, trade and shipping prospects are very bad, and the paralysis is extending. The exports from French ports have sunk most alarmingly during the past few months. In Spain, both exports and imports are tumbling down; the policy pursued there seems to be of a most disastrous character; surely the day cannot be far off when "the greatest good of the greatest number" will be found the best of all policy, and better trade and wages act as a set-off against anarchy. In the meantime, we must perforce curtail the output of many of our manufactures, but there is no reason for despondency—only for more and more thought.

CHICAGO EXHIBITION.—We have received a copy of the "classification and rules," of the Department of Horticulture, from which we extract the following particulars:—"The horticultural hall is the largest ever erected for a horticultural exhibition. It contains about 89,000 square feet, or more floor space than the combined floor areas of the buildings used for a similar purpose at the Centennial, New Orleans and Paris. It is 1000 feet long by an extreme width of 287 feet. The dome is 187 feet in diameter and has an altitude of 113 feet on the inside, thus giving room for the largest Palms, Bamboos, Tree Ferns, giant Cacti, &c. The plan is a central glass dome, connected by front and rear curtains with two end pavilions, forming two interior courts, each 88 by 270 feet. In these courts will be placed bearing Orange trees and other semi-tropical fruits from California and Florida, to illustrate the manner of growing and cultivating the orchards and groves in those States. The front curtains have glass roofs, and are each 270 by 60 feet. They will be used for tender plants. The rear curtains are each 346 by 46 feet, and, while designed to give an abundance of light, are not entirely covered with glass. They will be adapted to fruit and other exhibits that will require a comparatively cool temperature. The first storeys of the pavilions are each 117 by 250 feet, and are intended for the extension of the fruit display, and for installing the viticultural exhibit in one, and horticultural appliances, seeds, &c., in the other. The principal part of the second storey in each will be used for elegant and commodious restaurants; the remainder, in the form of galleries, for garden-seats, vases, preserved fruits, &c. Forming a circle inside the dome, there is a broad promenade gallery from which visitors can look down upon the plant and floral decorations. This gallery is sufficiently extensive to instal many miscellaneous exhibits. In addition to rules applicable to the whole exhibition, there are special rules for the department of horticulture. The exhibits are classed under seven groups and seventy-three classes. The first group is devoted to the Vine and its products; succeeding groups to pomology and preparations of fruit, floriculture (twenty-four classes), culinary vegetables, seeds and seed-testing, arboriculture, and garden constructions and appliances.

BIRMINGHAM ROSE SHOW.—At this exhibition, which will be held in the Moseley Botanical Gardens on July 19 and 20, there are to be several novel and interesting features. No entrance-fees are to be charged, but in order to prevent trouble and disappointment to the committee, a fine of 5s. is to be

deducted from the prize-money of any exhibitor who enters in classes which eventually he does not fill; and no exhibitor will be allowed to take more than one prize in any one class. Exhibitors are requested to give up the flowers they have exhibited (as well as others they may have left after staging) for the purpose of being sold in a tent, the proceeds equally to be divided between the Birmingham Children's Hospital and the Gardeners' Orphan Fund. It is to be hoped that all will unite to make this work of charity a success. The best prizes for cut blooms are offered in the open class for seventy-two dissimilar Roses, viz., 1st, £10; 2nd, £7; 3rd, £5; 4th, £3. For a group of plants, occupying a space of 14 feet, and open to all, prizes of the following amounts are offered: 1st, £10; 2nd, £8; 3rd, £6; 4th, £4.

SPRAYING FRUIT TREES.—We are so slow in this country to adopt any new procedure, that it is specially lamentable when anything arises to render that progress even slower. Nevertheless, it is not wonderful that the free use of powerful arsenical preparations, and of salts-of-copper, should be looked on with suspicious dread. The experiments, however, have now been made on such a gigantic scale both in France and in the United States, as to prove that, when carefully used at the proper season, the danger is practically none. In the United States not a single case of poisoning has been known to occur. As the season for the application of the spray to the Apple is now at hand, we may again invite our readers to test the matter for themselves. The moths lay their eggs in the flower of the Apple, and the caterpillars eat their way into the young fruit. To prevent this, the trees should be sprayed soon after the flowers fall, or when the Apples are of the size of Peas. A second spraying should be given ten days or a fortnight later. In order that our readers may be reassured as to the point of danger, we quote from a Report on Spraying Fruits, with a special consideration of the subject in its relation to public health, published by the authority of the Secretary of Agriculture, and circulated by the United States Department of Agriculture:—

1. It would seem at first glance that the use of an arsenical poison upon a plant like the Cabbage would be very unsafe to recommend, yet Paris Green and London Purple are used upon this crop to kill the several species of leaf-eating worms which are so destructive to it, and an absolute absence of all danger where the application has been properly made has been recently shown by Professor GILLETTE, of the Agricultural Experiment Station of Colorado, by the following *reductio ad absurdum*:—

"Where the green is dusted from a bag in the proportion of 1 oz. of the poison to 100 oz. of flour, and just enough applied to each head to make a slight show of dust on the leaves, say, for twenty-eight heads of Cabbage, 1 oz. of mixture, the worms will all be killed in the course of two or three days, while the average amount of poison on each head will be about one-seventh of a grain. Fully one-half of the powder will fall on the outside leaves and on the ground, and thus an individual will have to eat about twenty-eight heads of Cabbage in order to consume a poisonous dose of arsenic, even if the balance of the poison remained after cooking."

2. In the case of spraying Apple orchards for the codling moth, there is scarcely a possibility of injury to the consumer of the fruit. A mathematical computation will quickly show that where the poison is used in the proportion of 1 lb. to 200 gallons of water (the customary proportion) the arsenic will be so distributed through the water that it will be impossible for a sufficient quantity to collect upon any given Apple to have the slightest injurious effect upon the consumer. In fact, such a computation will indicate beyond all peradventure that it will be necessary for an individual to consume several barrels of Apples at a single meal in order to absorb a fatal dose even should this enormous meal be eaten soon after the spraying, and should the consumer eat the entire fruit.

3. As a matter of fact, careful microscopic examinations have been made of the fruit and foliage of sprayed trees at various intervals after spraying, which indicate that, after the water has evaporated,

the poison soon entirely disappears, either through being blown off by the wind, or washed off by rains, so that after fifteen days hardly the minutest trace can be discovered.

4. In the line of actual experiment, as indicating the very finely divided state of the poison, and the extremely small quantity which is used to each tree, Professor A. J. COOK, of the Michigan Agricultural College, has conducted some striking experiments. A thick paper was placed under an Apple tree, which was thoroughly sprayed on a windy day, so that the dripping was rather excessive. After the dripping had ceased, the paper (covering a space of 72 square feet) was analysed, and four-tenths of a grain of arsenic was found. Another tree was thoroughly sprayed, and subsequently the grass and Clover beneath it was carefully cut, and fed to a horse without the slightest sign of injury.

The whole matter was well summed up by Professor RILEY in a recent lecture before the Lowell Institute, in Boston, in the following words:—

"The latest sensational report of this kind was the rumour, emanating from London, that American Apples were being rejected for fear that their use was unsafe. If we consider for a moment how minute is the quantity of arsenic that can, under the most favourable circumstances, remain in the calyx of an Apple, we shall see at once how absurd this fear is; for, even if the poison that originally killed the worm remained intact, one would have to eat many barrels of Apples at a meal to get a sufficient quantity to poison a human being. Moreover, much of the poison is washed off by rain, and some of it is thrown off by natural growth of the Apple, so that there is, as a rule, nothing left of the poison in the garnered fruit. Add to this the further fact, that few people eat Apples raw without eating away the calyx and stem ends, the only parts where any poison could, under the most favourable circumstances, remain, and that these parts are always cut away in cooking, and we see how utterly groundless are any fears of injury, and how useless any prohibitive measures against American Apples on this score."

Assuming as we do without reserve that the proper application of these poisons in the right proportions and at the right time is practically free from danger, we must, nevertheless, not lose sight of the fact of the carelessness, we may add recklessness, with which these substances are often stored and handled. It is in these directions, not in the careful use of the materials, that danger lurks. As to the risk to the consumer of American Apples, it is clearly infinitesimal. How many scores of thousands of barrels have been consumed without a suspicion even of injury. The consumption is so large and so widespread that some injurious results must have occurred before this.

ROYAL BOTANIC SOCIETY.—The first of a series of six lectures on popular botanical subjects was given in the museum in the Gardens of the Royal Botanic Society, on Friday, May 6, Dr. R. PRIOR in the chair. The lecturer, Professor MARSHALL WARD, took as his subject, "Seeds and Seedlings," and dealt chiefly with the various contrivances by which the seeds of many plants are enabled to distribute themselves over very large areas.

NATIONAL AMATEUR GARDENERS' ASSOCIATION (LIVERPOOL BRANCH).—The monthly meeting of this Association was held on Thursday, May 5, in the Common Hall, Hacking-hey, Professor HARVEY GIBSON, the President, in the chair. Mr. NEALE, head gardener to Major GASKELL, exhibited a collection of show Auriculas, and gave an interesting account of their cultivation. The President read a paper on "A Neglected Aspect of Gardening."

BOURNEMOUTH AND DISTRICT MUTUAL IMPROVEMENT ASSOCIATION.—At a meeting of this association held on April 20, the president (Dr. HITCHCOCK) in the chair, an interesting and exhaustive paper on the "Cultivation of the Melon," by Mr. H. W. WARD, F.R.H.S., Longford Castle Gardens, was read by the secretary, who was instructed to convey the best thanks of the meeting to Mr. WARD for his excellent paper, as well as their regret at his not being present to read the same.

LONGLEAT GARDENS.—We hear that Mr. PRATT, gardener to the Marquis of BATH, at Longleat, is leaving, and will be succeeded by his foreman, Mr.

JOSEPH TROLLOP, who was also with Mr. PRATT's predecessor, TAYLOR, in the same gardens. It is sincerely to be hoped that Mr. PRATT will soon meet with a suitable appointment.

ORIGIN OF THE CULTIVATED BEET.—The following is condensed from *Annales Agronomiques* for April 25:—"Beta maritima, which is indigenous on the borders of the Mediterranean, varies greatly according to its surroundings. It is biennial or perennial, never annual, and in habit also variable, the stems being often flat on the ground, while on the cliffs of Istria, M. FREYEN says that it grows in shrub-like form, with erect stems, bearing hardly any resemblance to our cultivated Beet. But when grown inland, its habit changes, and in a few years annual and biennial plants have been produced quite similar to the cultivated Beet, but readily reverting to their perennial nature. The result is very different when Beta maritima is grown in pots. The plants seed directly, are pyramidal in form, and bear ripe fruit early in September, being altogether much like the Istrian *B. vulgaris* var. *maritima*. Clearly, then, Beta maritima and *B. vulgaris* var. *maritima* are not distinct species, but varieties of the same plant, differing only according to climatic and cultural conditions. When we remember that Chenopods in general, and cultivated Beetroot in particular, are so variable, sometimes seeding in the first year, or, again, not flowering the second, or becoming shrubby and perennial as in California, it seems probable that *B. vulgaris*, our cultivated Beet, is descended as directly from *B. maritima* as from *B. vulgaris* var. *maritima*, two plants which are not specifically distinct. If the influence of the salt be also taken into account, it is evident that *B. maritima* is but a maritime form of *B. vulgaris*.

WIREWORMS.—In *Insect Life* (U. S. Department of Agriculture) for April, the following way of destroying wireworms is recommended:—"Wireworms are the larvae of click-beetles, and by destroying the beetles before they have deposited their eggs, from which the wireworms issue in the spring, the crop of worms will be greatly reduced. . . . A very effectual and practical remedy consists in attracting the beetles to poisoned bait. Some elaborate experiments in this direction have been made by Professor COMSTOCK, and show that the beetles can be easily attracted to baits of Clover which have been poisoned by wetting with one of the arsenicals. These baits consist of small bunches of the freshly-cut plant, about one-fourth pound in weight, distributed throughout the field, and protected and kept moist by being covered with boards. As an indication of the efficiency of this method, it is stated that a series of twelve traps yielded in three days 482 beetles, or an average of more than forty per trap. These traps should be put out during the early summer, and the beetles killed in the majority of cases have not deposited their eggs, and the consequent depredations of their larvae, the wireworms, will be greatly diminished. It frequently happens that the infested areas are rather limited in extent, and do not cover the entire field, and where this is the case, the labour of distributing bait will be greatly lessened. The bait should be renewed once or twice per week during the early part of summer. In place of the Clover, corn-meal dough and sliced Potatoes are used, but Clover has proven itself the most valuable. Where a field has become extensively infested by the worms, there is little which can be done so far as any actual experiment has shown. It has been found that a heavy top-dressing of kainit acts fairly well against the cutworms, and as this is a valuable fertiliser, no harm certainly could be brought about by experimenting with it against wireworms."

OPEN SPACES IN TOWNS.—Some years since we instituted an inquiry as to the provision for open spaces in our great towns. The general result was, that our towns were, for the most part, well-some, very well—provided with large open spaces at a distance from the centre of the town, but that there

was almost everywhere a great lack of open spaces in the very places where, for sanitary reasons, they are most needed—that is, in the more densely-crowded districts. We have been reminded of the circumstance by a report in a Liverpool paper, from which we condense the following particulars:—The area of the public parks and gardens of Liverpool is as nearly as possible 750 acres, or a little less than one-seventh of the entire area of the city, and acquired at a cost of £776,593. The acquisition of the land for Sefton Park in 1867 has provided a place of pleasurable recreation of ever-increasing value. The total cost of this park was

more general approval. On the whole, the cost of these breathing places has been comparatively trifling—a few thousands altogether; and they add very greatly to the embellishment of the city. At the present moment no fewer than eight city churchyards have been secured for public gardens; and as many as seventeen public gardens and recreation grounds have been acquired or laid out, exclusive of the five parks and the botanic gardens. Numerous ornamental beds are laid out in most of the gardens. In winter these are covered with Irish Ivy, but in summer they are filled with Palargoniums, Lobelia, Pyrethrum, Pansies, and other bedding-out

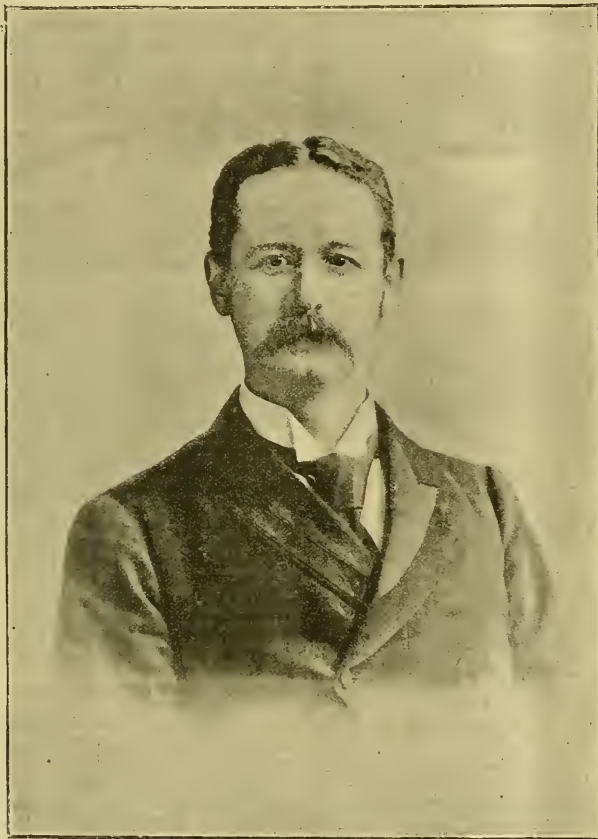
Report gives evidence of steady progress and increase of revenue. It is, however, pointed out that but little has been done in the way of either improving or cheapening the supply of forest produce to the villager, and it is not to be wondered at, therefore, that the department is not popular. What is wanted is not the mere collection of revenue, but the spending of that revenue in the improvement and cheapening of forest produce of all kinds, so that the villager may see that he is getting something in return for the restrictions and inconveniences which are placed upon him. In a recent inspection report, Colonel Walker reported that efforts were being made to sell departmentally-cut fuel and timber to the ryots, at specially low prices on the borders of the forest. This is a practical step in the right direction. The Forest Department, it is stated, cannot be said to be a complete success until the villagers have realised the great value of its operations to themselves.

PERIOD OF FORMATION OF THE FLOWER.—

Several interesting observations on this subject have lately been recorded. W. RUSSELL (*Rev. Gén. de Botanique*, 1892, p. 18) states that the male catkins of the Walnut begin to be formed about the end of April, and are fairly developed by the July preceding their blossoming. The female flowers, on the other hand, make their appearance on twigs which are formed in the spring, and the whole of their development takes place in the same year. They are, therefore, fertilised by the pollen of male flowers formed at a very much earlier period. By July the catkin is about a centimetre in length, and the pollen-sacs are then already formed, although the pollen-grains are not fully differentiated until the moment of flowering. According to Sig. Martelli (*Ebull. Soc. Bot. Ital.*, 1892, p. 52), there are two important periods in the development of the inflorescence of the Vine, viz., the summer (about August), when the axial parts of the inflorescence are first formed, and the early spring (after February), when the differentiation is effected of the principal axis into secondary axes and flower-buds. Winter is a period of rest, when there is no apparent increase in the buds. An examination in the autumn of the degree of development of the third and fourth buds from the apex of the branch, will indicate the prospects of a crop of Grapes for the ensuing summer. The yellow rays of the solar spectrum are those which take the greatest share in the decomposition of carbon dioxide and the process of assimilation; the blue are those which chiefly affect the movements of stimulation and of irritation, while the ultra-violet are most efficacious in the production of the flowers and reproductive organs. For the Vine, salts of potash in the soil are of great importance. Professor Sachs's theory that the substances which go to the formation of the flower are already formed in the green leaves, receives support from a fresh series of experiments carried out by him in the case of the buds formed on the leaves of Begonia (*Flora*, 1892, p. 1). Leaves of a Begonia gathered at the end of May were propagated in the ordinary way on wet sand. Numerous buds were formed in the course of a few weeks; but it was only after they had grown to vigorous plants, about the end of November, that inflorescences were first produced in the axils of later leaves. Another series of leaves, gathered from flowering plants at the end of July, was propagated in the same way, and the buds formed on these already contained inflorescences in the axils of the first leaves, which blossomed in October, and which must have been present in a rudimentary condition in the very youngest condition of the bud. The conclusion drawn from these facts is, that the substances which are used up in the formation of the flower are present in the leaves in the summer, but not in the early spring.

THE TEMPERATURE OF RIVERS AND SOIL.—

Mr. PAUL, of Knaresboro', has forwarded to us a copy of his report, communicated to the British Association, embodying the results of his observations on the temperature of the river Nidd. Mr. PAUL's observations are remarkably regular and consistently



H. E. MILNER, C.E.

£410,266; and no doubt £150,000 seems a big sum to expend on the laying out of any grounds, plus the cost of the land. At the same time, the work has been extremely well and durably done, and the design is generally admired. The formation of Sheil and Newsham Parks was another desirable step in the same direction, some 174 acres being thus reserved for public purposes. Stanley Park, it may be added, was made at the same time as Sefton, and opened in 1870. This park has an area of 100 acres, and cost £161,488. More recently the City Council has undertaken the laying out of open spaces in the centre of the city, and no item of corporate expenditure has met with

plants, which make a splendid show. It may surprise some to know that as many as 100,000 plants are reared and bedded out in this way every year. When to this is added the magnificent collection of Palms and rare plants at the Botanic Gardens, the care of the Corporation for plants must be commended. The great hothouse at the Botanic Gardens is said to contain the largest tropical Palm in England. Planted twenty years ago by the curator from a small pot, it is now 50 feet high—the altitude of the roof, and sooner or later, unless the roof is raised, the tree will inevitably burst through it.

MADRAS FOREST DEPARTMENT.—The annual

careful. He has reinforced them with some interesting observations on the exceptionally severe winter of 1890/91, which contain some apparently new observations on the protective character of a sheet of ice against the cooling of water by radiation. The rapid fall of temperature following a thaw is analogous to the effect observed on earth thermometers not far from the surface in like conditions. Some very interesting effects, says Mr. G. PAUL, were observed during the long period of intense cold. The river was frozen over, but the water under the ice remained at the constant temperature of 34° 0 from December 20 to January 2 inclusive. It fell to 33° on thawing on January 3. On January 6 a second period of ice on the water commenced, and during it the temperature under the ice remained at 33° 0. Not until the next thaw set in and a third frozen period commenced on February 27, did the temperature of the water under the ice fall to 32° 0. Compared with this the record of earth-temperature at the depth of 1 foot acquires a special interest. An ice-cap was formed on the ground on December 21, and remained until January 21. During this entire month the temperature at the depth of 1 foot scarcely varied. On December 20, before the severe cold set in, the temperature at that depth was 37° 4, on the 21st it fell to 36° 5, next day to 36° 4, and until January 4 its range was only between 36° 4 and 36° 3. From January 2 to 17 the temperature at 1 foot was 36° 3 or 36° 2; on the 18th it fell to 36° 0, and on that day the grass thermometer registered only 3° 8, the minimum temperature of the winter. On January 20 the 1-foot earth thermometer registered 33° 4, but on the 21st it fell to 33° 5, coincident with a rise of air-temperature and a general thaw. Next day the temperature at 1 foot had risen to 36° 2, and did not again fall below this value.

PHOTOGRAPHIC REPRESENTATION OF THE MOVEMENTS OF PLANTS.—MM. DEWIVRE and BOBARD describe an ingenious contrivance for photographing the movements of the growing parts of plants, and give the results of a series of observations on climbing plants (*Humulus Lupulus*, *Ipomoea purpurea*, *Convolvulus sepium*), which do not, in all respects, agree with those of Darwin. They state that the nutation of a young stem, whether climbing or not, consists of a succession of more or less irregular circular or elliptical curves, varying every moment, even in their direction, and caused by the unequal lengthening of the zone of growth of the stem. In the case of the *Ipomoea* they were able to determine a distinct heliotropism. They state that while light retards the growth, both of climbing stems and of those which do not climb, and that the violet and ultra-violet rays exercise a distinctly prejudicial influence on the growth of the stem, similar observations on roots made to grow in water demonstrated the existence of a distinct movement of circumnutation, even more regular than that of the stem. A similar movement was observed in a number of aerial roots which are insensible to the effects of radiation, such as those of Orchideæ, Aroidæ, and Bignoniacæ. By the same apparatus, curves were also obtained of the sleep-movements of leaves, both of those in which the movements of the leaves are in an upward, and of those in which they are in a downward direction. In both cases the movement is by no means an uninterrupted one, but consists of a number of alternate movements, upwards and downwards, at first considerable, afterwards much smaller; to the former of these the authors apply the expression movements of oscillation, to the latter movements of trembling. (*Revue Gén. de Botanique*, 1892, 65)

CULTURAL INDUSTRIES AT THE GAMBIA.—In a letter dated Feb. 24 last, says the *Kew Bulletin* for April, p. 103, His Honour R. B. LEWELYN, C.M.G., Administrator of the Settlement, points out the almost insuperable difficulties experienced in endeavouring to establish cultural industries in this part of West Africa:—"Since I came out here in April, between attacks of fever and expeditions

against chiefs, I have had very little time to look after agriculture. What can be done in a country when, practically speaking, there is not a single drop of rain for eight months in the year? The time to collect botanical specimens is during the rainy season, when everything is green; but then that is the time when Europeans cannot tramp about without great risks. The island of St. Mary, on which Bathurst stands, is merely a bank formed by debris from the river, and is barely above high-water mark. In the rainy season it is covered with water, as there are no means of draining it. During the dry season, English vegetables, Cabbages especially, grow well, but they have to be watered. I have prepared and published a comparative rainfall, and a few meteorological statistics, which I enclose. With the natives ground nuts are the staple product. Oil mills in Marseilles receive nearly all that are grown. The difficulty here is getting fresh water to keep the young plants alive during the eight months' drought."

ROSE SHOW FIXTURES IN 1892.—The following fixtures have been supplied to us by Mr. E. MAWLEY, to supplement those published earlier:—June 23 (Thursday), Ryde; June 29 (Wednesday), Farningham, King's Lynn (two days); July 6 (Wednesday), Brockham; July 19 (Tuesday), Moseley (Birmingham) (two days).

HORTICULTURAL CLUB.—We are informed that a special dinner will take place on Wednesday, May 25, the opening day of the Temple Show, when Sir J. D. LEWELYN, chairman of the club, will preside. The dinner will take place at 7 o'clock.

FRUIT FROM AUSTRALIA.—The steamship "Orient" is due to-day (May 14), at Tilbury Dock, bringing 431 cases of Apples from Sydney, 32 cases of Apples and 12 cases of Pears from Melbourne, with 3627 cases of Apples from Hobart, and 2 cases of Grapes from Adelaide; a total of 4449 cases of fruit; 9 cases of Palm seeds, some plants, and 9 cases of unspecified seeds. The "Orizaba" brought from Sydney, 467 cases of Apples, and 5 cases of Plums; from Melbourne, 287 cases of Apples, and 13 cases of Pears; also 7,442 cases of Apples from Hobart, making 8214 cases in all.

CAPE FRUIT.—The steamer "Roslyn Castle" arrived at Tilbury on Monday last, from the Cape, bringing 21 cases of Beurré Bosc Pears, and 12 cases of Apples.

BOOKS RECEIVED.—*Le Potager d'un curieux*, &c., par MM. A. PAILLIEUX et D. POIS. (Paris, Maison Rustique, 20, Rue Jacob.)

NOTICES OF BOOKS.

A MANUAL OF ORCHIDACEOUS PLANTS.

Part VIII.

The last issue of Messrs. James Veitch & Sons' admirable work embraces *Oncidium*, *Miltonia*, *Ada*, *Brassia*, *Gomezia*, *Ionopsis*, and *Ornithocephalus*, and the whole of the subjects enumerated are dealt with in the same careful manner as that which has characterised the previous issues. Of the great genus *Oncidium* the authors say:—"The genus *Oncidium* was formed out of the heterogeneous group of species brought by Linnaeus under *Epidendrum* by his successor, Olof Swartz. Swartz knew but five species when he founded the genus; but so rapid has been the progress of discovery since, that upwards of 300 have now been published, including doubtless several horticultural varieties, and of these nearly three-fifths are said to have been in cultivation at one time or another." These remarks show the extent of the genus, and the difficulties of dealing with it in a satisfactory manner are increased by the fact that many of the species have been renamed on re-introduction, or have received different names in different parts of Europe. In elucidating the doubts which consequently must often exist in the minds of many as to the authentic names of the different species, Messrs. Veitch's work is of the

highest importance, for it bears evidence that no pains have been spared in working out the matter in every case.

The genus *Miltonia* is made to embrace certain species formerly known as *Odontoglossums*, viz., *M. vexillaria*, *M. Roezlii*, *M. Phalenopsis*, *M. Endresii*, &c. It has long been held that there is no botanical feature in any of these species which would warrant the name of *Odontoglossum*; but such is the hold that a first name, be it ever so erroneous, has on the cultivators of plants, that it will be long before the one originally applied be corrected in gardens generally.

The usual copious and interesting notes on the discovery, introduction, and culture of each species run through this as in previous parts, and a map, showing the geographical stations of the principal types of *Oncidium* in Central and South America, is furnished, as well as numerous illustrations of the principal species. By the way, the illustration at p. 105 marked "Miltonia Roezlii alba" seems to be the "Warnham Court variety" mentioned in the letter-press, and not the variety "alba," a mistake having been made in the naming, doubtless.

POULTRY FOR THE TABLE AND MARKET versus FANCY FOWLS. By W. B. Tegetmeier, F.Z.S. Published by Horace Cox, Field Office, Bream's Buildings, E.C.

The keynote of this book is struck in the first page, where the author says that, "as the result of my experience of nearly half a century, I do not hesitate to affirm that no one breed of fowls has been taken in hand by the fancier that has not been seriously depreciated as a useful variety of poultry." The pictures fully bear out this opinion, contrasting, as they do, common and fancy fowls when first introduced, with the deformities bearing the same names now raised by cross-breeding, which latter are generally not only more delicate in constitution, and less productive than the old varieties, but far less suited than those for the table. The monstrosities raised for exhibition are comparatively useless as "producers of meat and eggs." The writer describes many varieties, the histories of which further prove his case; and then proceeds to give practical instructions for feeding, housing, fattening, and killing, all of which businesses he would wish carried out as humanely as possible, since due care and consideration for the comfort and well-being of his birds is ultimately quite as much to the breeder's advantage as to that of his poultry. Much of what Mr. Tegetmeier alleges as to the perpetuation of monstrosities and deformities for the exhibition table would apply equally well to certain garden productions.

SYON HOUSE GARDENS.

A visit to these well-known gardens is always full of interest to all who take a delight in good gardening. It is not our intention to enter into a detailed description of all the vast ranges of glass, or to attempt an enumeration of the many fine trees and shrubs in the grounds. A spring visit is instructive to those who wish to see the early forcing of fruits, flowers, and vegetables in quantity. Little or short supplies of either will not suit the case; provision has to be made to meet a large demand. At the present time and for several weeks past, Strawberries in pots have been yielding heavy crops of fine fruit. Some 5000 or 6000 are forced; two of the most reliable for early work are the "Syon House" form of Keen's seedling, which is very dwarf in growth, making but little foliage in advance of the flower trusses. It is a good setter and a heavy cropper; the fruit is similar to the older type, and another is the well-known Vicomtesse H. de Thury. At the present time the two best are Auguste Nicaise and President, of which nearly 1000 each are grown in pots. There are now nearly 1000 pots of these two kinds with fruits ripe or approaching thereto, all of which will be cleared off in about a week for special festivities at Alnwick Castle. These

fruits are remarkably fine, but heavy crops are the rule in spite of that; this can only be secured by previous good culture. Peaches and Nectarines are bearing excellent crops. Of the former ripe fruits have been already gathered, the variety being Alexander. The earliest lot of pot Vines have been cut, and the next succession are ripe, with others closely following them. Mr. Wythes takes heavy crops from his young Vines, one house just ripening looking remarkably well; an extra early house of Muscats set extremely well with bunches of excellent size. Muscats have to be produced as early as possible, hence a considerable quantity is needed to keep up a succession. The later houses of Vines look well, so also do the Figs, of which some extra fine fruits have been gathered in large quantities, brown Turkey being the standard kind. A considerable space is devoted to French Beans, Tomatoes, and other early vegetables, whilst Asparagus is most successfully forced in covered beds outside.

The outdoor fruit crop upon the walls bids fair to be an excellent one. A long range of wall is covered exclusively with Apricots, which are the picture of health, and a heavier set of fruit could not possibly be desired. These trees afford an instructive lesson to growers of the Apricot. When Mr. Wythes took charge, he found the trees upon a wall of eastern aspect, where they did not bear well, now he has them mainly facing south-west, and obtains the best results. By previous preparations in the way of root-pruning, these trees, many of them large ones, were successfully removed. Morello Cherries are very largely grown, so also are the early and main crop kinds, all bidding fair for a good set of fruit. In the pleasure grounds considerable improvements have been effected throughout its wide range from east to west, bordering upon the Thames for a long distance. Shrubs which had become overgrown, in some instances overhanging the paths too much, have been carefully lopped, whilst the paths themselves have undergone a process of renovation. The splendid specimen of Magnolia conspicua is now nearly out of flower, having been one mass of bloom, some of which were affected by the frosts of the past week or two. Standing in a good position nearly opposite the Palm-house, this tree is a grand sight when in bloom. The large range of glass in the pleasure grounds is almost crowded with large plants, and contains many fine specimens. Behind this range the smaller houses are filled with decorative plants, one full of Hymenocallis macrostaphana, another of Ixoras and Gardenias, others with small ornamental foliage plants. Mr. Wythes has considerably increased the stock of Orchids, aiming chiefly at growing such as will yield good returns for cutting purposes. A large specimen of Cymbidium Lowianum has borne this spring six or more splendid spikes of extra length, and the individual flowers large. Cypripediums are largely cultivated, C. harbatum in its best forms and C. Lawrenceanum are now the chief features, whilst for the winter months there is a large stock of C. insignis in the best of health. Miltonia vexillaria, of which there are several plants, are now freely producing their spikes. Cattleyas and Aroides also occupy considerable space, whilst there is a large stock of Calanthe vestita and C. Veitchii for the winter season. Pleione lagenaria is grown in considerable numbers, a long row of the plants being suspended from the roof. The Dendrobiums are mainly over. Many flowers having to be sent long distances, Orchids when carefully packed are well suited to such cases. Mr. Wythes is to be congratulated upon the all-round good condition of the extensive gardens under his charge. In spite of the encroachments of Greater London, it is to be hoped that Syon House Gardens and Park will be for many years preserved intact. *Vitis*.

House, Brentford, I saw some plants which practically exemplified the opposite state of the case. Mr. Jeffries had put by—forgotten, indeed—a packet of seed for a year or two, at the end of which time he sowed it, with the result that every seed germinated, and he has at the present time as pretty a lot of bloom as any admirer of them could wish for, in all shades of colour. *B.*

CINERARIAS, CALCCEOLARIAS, CYCLAMENS, ETC., AT REDLEES, ISLEWORTH.—It was satisfactory to find, on a recent call, that the grand strains of these flowers, for which Redlees was noted when the late Mr. J. Jamea was gardener here, have not one whit deteriorated under the fostering and skilful care of his successor, Mr. D. White, and not only these flowers but other classes of plants receive due care. In the well-furnished conservatory, we noted some great bushes of the old alba plena Camellia, each about 16 feet round, and clothed with their pure white blossoms, rendering them striking objects; whilst one side of the house was draped with the following varieties, trained as climbers, Mathotiana, Donckelaari, Monarch, a striking variety, flowers very deep red; Lavinia Maggi, and the old Maiden's Blush. As they were all profusely flowered, it rendered the structure very attractive. Here were also to be seen some splendidly-flowered plants of the old *Acacia armata*. Some Gardenias planted out in peat at the end of a hot-water tank in an adjoining house appeared to be in a position exactly suiting their requirements, judging by the extreme floriferousness of the plants. *J. B.*

REMEDY FOR THE ONION-FLY.—In answer to Mr. R. Dean's letter, headed "The Onion-fly," I

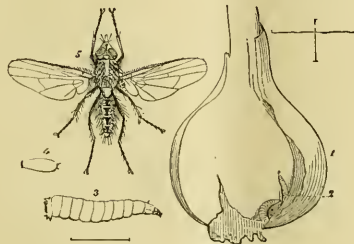


FIG. 93.—ANTHONIA CEPARUM—ONION-FLY.

should like to make known a remedy that I have found to be effectual in keeping away the fly from laying her eggs on the Onion plant, or on the ground close by. This must be applied at once, as the fly is now beginning to do her work, or it will be useless. Get some dry wood-ashes or that from a burned refuse-heap, or dry road-sweepings, and well mix half a pint of paraffin to half a bushel of any of the above, and then sow it along the drills early in the morning, whilst the plants are damp with the dew, twice a week through the present month, which will be found effectual. *J. W. Reed*. [This remedy is similar to one which Miss Ormerod gives in her *Manual of Injurious Insects and Methods of Prevention*, 1st edition, p. 126, but there sand is used, and the Onion-bed is watered with a rose-can after the dressing is applied. It is there stated that house-slopes, soap-suds, and trenching Onion ground at least 2 spits deep, burying the "fly-cases," or pupae of the last hatching of grubs of the summer deep in the ground, and making the soil, if light, very firm by trampling, rolling, and beating at seed time, does much to minimise the evil. Onions should never be sown for two years in succession on the same ground. We reproduce in figure the insect magnified, which was first described in our columns on June 19, 1841. En.]

— In replying to R. Dean's inquiry concerning the Onion-fly and maggot, I desire to state that the following treatment will be found effectual for these, and to prevent the ravages of wire-worms and canker on Carrots. The remedy is very simple, viz., procure, say an ordinary petroleum can, put in this about 6 gallons of common gas-tar, fill up with water, stir well, and leave for twenty-four hours. At the end of that period, to

every 4 gallons of water, add 3 quarts of water from the cask, and apply this mixture with a rose water can on alternate evenings. This will not only eradicate the fly and maggot germs, but it acts through the ammonia contained as a stimulus to growth. I may add that I have had crops of Onions which for size of bulb and weight of crop are all that could be desired, whilst my neighbours have failed entirely to grow them; but here the old adage must be borne in mind—prevention is better than cure; and I would advise growers to commence operations early. The same tar will last for two years. *J. S.*

BIRDS' NESTS.—What queer places birds will build in. About two years since the thrushes went to work in the scrub bush of Australia, *Ozothamnus rosemarinifolius*. This year my boys are home from school, and, as boys will be boys, they went bird nesting, and found a thrush's and a finch's nest in an *Abutilon vitifolium* album, and a blackbird's nest in a tub of *Megasea atropurpurea*. The latter abode is quite unique, the bird having taken advantage of the broad leaves of the *Megasea* to carry on a regular "umbrella courtship," and bring up a family, and not a drop of rain can reach the youngsters. *W. B. Hartland, Ard-Cairn, Cork.*

NEW METHOD OF FASTENING WALL TREES.—Instead of cloth or leather clippings, I use sheet lead, and instead of fixing both ends of same by nailing to the wall, I find (from lengthened experience) that one end fixed thereto is thoroughly reliable and efficient, and possesses the great advantage of allowing the branch to be released and refixed quickly, securely, and without risk; so that, for instance, having fastened my lead strips to the wall, I can fasten and release again a large tree in a short time. My method, as you will perceive (amongst other advantages) does away with the risk of giving the branch a dose of hammer, intended for the nail. I find that if the leaden strip comes a little more than half-way round the stem, it is perfectly secure; but of course, where I expect a great increase in the thickness of the stem within a short time, I cut the leaden strip a little longer than at first necessary. I find my method has many advantages too numerous to mention in a hurried letter, but which I should be glad to have an opportunity of detailing and demonstrating. *Alfred Booth*.

FRUIT PROSPECTS.—Bush fruits were very promising a few days ago, but the late frosts have altered the prospect considerably. Red Currants appear to have suffered the most, black Currants but little, most of their flowers being unexpanded. Gooseberries are blackened where the fruits were most exposed, but enough remain for a fair crop. Morello Cherries on walls are safe, only a few flowers being open, so that we shall be fortunate enough to get a good crop, but the Bigarreau cherries on walls are seriously damaged. Early Rivers Cherries on standards are also much cut, whilst the blossoms of later varieties near them are unopened at the present time, and appear to be safe; we always fail, however, to get a crop of these fruits from standard trees owing to the depredations of jackdaws and starlings, which commence as soon as the fruit begins to colour, and every fruit is cleared off before ripening. Plums show few blooms, owing, perhaps, to the heavy crop of last season; at any rate, we did not expect much, and shall not be disappointed, but the greater part of the flowers are killed. Damsons of the Chester variety, on the contrary, have escaped injury, although many of the flowers were open. Pears are grown here on walls only, and many of the expanded blooms are killed, while the unexpanded flower-buds appear to be safe. Strawberries look very promising, and will take no harm while the flowers remain closed. Apples are seriously injured, although the flowers are still very small, and not likely to open for some time. A few trees which only bore light crops last season are showing well, most of the others have very little flower on them this year. Some of the varieties of Apples are not so far advanced as others, and these have escaped damage. Peaches on walls did not flower well this spring, much of the young wood being killed by the winter's frost; moreover, the weather last summer was unfavourable for the ripening of the wood, and then we do not often get cold at and below zero three times in one winter. Most of the flowers of the Peach set well, and they are still safe, protection being afforded them by two thicknesses of fish-nets. The minimum temperature on the grass this morning (May 7) was 20°, and in the

HOME CORRESPONDENCE.

AURICULAS.—It is sometimes said that Auricula seed, if not sown soon, does not come up well. On visiting recently Mr. C. Jeffries, gardener, Boston

screen, 26°; and on the 1st inst. the grass temperature was the same, and that of the screen thermometer 27°. If we get any more such frosts, we shall have in this district a very poor crop of outdoor fruits this season. *W. H. Divers, Kelton Hall Gardens, Stamford.*

STRAWBERRY JOHN RUSKIN.—On Tuesday April 19, last, I met a customer of mine to whom I sent on December 8, 1891, a hundred plants of John Ruskin which I had taken from the field. He said, "I have had some nice Strawberries for breakfast this morning from those John Ruskin plants you sent me. The fruits are of fair size, good colour, and nice shape. Fruit red inside, with a very nice flavour. I think there is a future for this sort." Some of your readers who may have forced John Ruskin this season will be able to substantiate so much of the above as relates to the quality of the variety. *W. Horne, Perry Hill, Cliffe, Rochester.*

WINTERING STRAWBERRIES IN POTS.—Where Strawberries are forced in large quantities, it is often a difficult matter to store them during the winter months. In ridges they are liable to suffer from drought, frame or pit-room is not often at command, and larger structures are so much taken up with other things, that much of the difficulty in forcing is caused by want of proper storage-room for plants in pots. In England, I often made temporary frames, and plunged the pots in ashes, placing shutters of wood or asphalt over them during very severe weather, but have for nine years in the North plunged the pots in the litter placed over the Vine borders, packing them closely together. We have lost no plants, and have had very few pots broken. We have carefully examined the roots always when the plants have been removed for forcing, and nothing could be more satisfactory than we have found them. When the last batch was removed (about the middle of April), the border under the Strawberry pots was comparatively dry and sweet. The plants that have been outside in the plots have suffered somewhat, and mostly during March and April. The good old President appears to be the hardiest of the many varieties grown in Scotland. Duke of Connaught has also stood well, but there seems to be no loss among any of the kinds grown. The report we may have to give from the severity of April frost, and the effect on small fruits, Plums, and Apricots, I fear will be grievous. *M. T.*

OLEA FRAGRANS.—"C. H. B." must surely be poking fun at cultivators, p. 524, when he writes of this favourite old plant, the fragrance of which even he cannot exaggerate, "the foliage being fresh and beautiful, and supposing it had no other favourable qualities, it might be grown as a decorative foliage plant, and would answer very well for this purpose." Well, really, this is adding insult to injury to the hosts of plantsmen who have never been able to grow the Olea fragrans into a fairly passable condition. But, if meant seriously, I would invite "C. H. B." to show a dozen of Olea fragrans, up to his ideal, at the great forthcoming exhibition at Earl's Court, or the Thames Embankment, and so win his easy way to fame and fortune. But "C. H. B." does not even exhaust his praise of the Olea with the climax of converting it into a decorative foliage plant, he adds, "In addition to being very easy of cultivation, it is not troubled to any marked degree by insect pests, thus much labour and anxiety are saved." Does this really mean that it is one of the most difficult plants to cultivate, and that nine out of ten of the Oleas seen in this country are so infested with white scale as to convert their decorative foliage into a curious blend of green and white, leaving considerable uncertainty as to which predominates? I take no exception to "C. H. B.'s" soil, mode of culture, &c., though increase from cuttings is by no means easy, nor the growth of the young plants so rapid as might be supposed. It may be assumed that "C. H. B." is not mistaken in his species of Olive—my criticism is confined to the Olea fragrans—better known now as the Osmanthus fragrans, with which I have never seen the cleverest plantsmen succeed to anything like the degree described by your correspondent. *A. Canny Scot.*

THE FORGET-ME-NOT.—Permit me to thank M. Fr. Benary, of Erfurt, for his charming notes on these in your issue for April 23. I have nothing to take from, with little to add to these, yet, as a devoted admirer of the whole genus, and especially of *Myosotis dissitiflora*, with three varieties, the one just named, the

major, and the white or alba. As to these, neither the white nor the grandiflora, or large-flowered variety of *M. dissitiflora*, are so hardy, and consequently not so good as the normal species, which I have considered for twenty years or more by far and away the finest of all Forget-me-Nots. It can also be had in flower throughout the growing season by keeping up a succession of plants, either through seeds or cuttings, and by growing in any possible aspect from south to north, and all points between the two extremes. One of my rarest pleasures this spring, when lecturing in a distant county on technical education, was to find beautiful examples of *M. dissitiflora*, one in a cottager's, and the other in a parsonage garden. In the latter, group after group and small bed after small bed were composed and filled with this lovely Forget-me-Not in perfect bloom, although I did not see another example in the county but in the solitary cottage garden at least 10 miles from the parsonage. There is no variety equal to this species for pot culture, and by potting up plants before winter, and grown gradually on, and storing free from frost, and laying batches in and on in succession, it is easy to girdle the year round with this lovely Forget-me-Not. For winter and very early spring bloom, nice stubby plants in 3 or 4-inch pots are best. As the season advances 6-inch pots are perhaps more effective, but beyond this size Forget-me-Nots are neither so safe nor effective. Carefully grown in rather poor soil on a dry bottom, and in a sheltered place, *M. dissitiflora* is quite hardy against our ordinary winters, especially if transplanted shortly before winter; but cold, at any season, of much severity either prevents the blooms becoming blue, or changes the blue into a sort of purple, the plant in this way angrily blushing its displeasure at the coldness of its surroundings. But a few genial days restores its lovely colour, and the flowers and plants are themselves again. A sentence or two on M. Benary's last four paragraphs, and I have done. Do not attempt to cure the mildew on these plants. Prevent it by the wise choice of anti-mildew sets, and then should it come, pull up and throw away the first plant on which it appears, and no more may come. I would strongly advise the pot culture of these plants. No plants are easier grown and bloomed in pots, and none sell better. I once saw a fine stock in a street flower-market in Manchester of *M. dissitiflora*, and they were going as fast as they could be handed over—sweet types of beauty and sentiment—to the mill-hands and mechanics, the hard-headed horny-handed sons and daughters of labour. Then as to the decoration of graves, rooms, churches, &c., with cut Forget-me-Not flower-stems and leaves set up in dishes or shallow baskets, nothing can prove more beautiful or durable, unless it be M. Benary's other method of furnishing graves with small pots mossed over so as to hide the pots, this presenting a memento, veiled of the verdure of earth and the azure of the heavens, in remembrance of loved ones. Perhaps one better way of furnishing graves with Forget-me-Nots, that is, by keeping out a good stock of plants in succession, and planting and watering such plants into perpetual health and beauty. *D. T. F.*

SCOTLAND.

METHODS OF EXHIBITING.

It would be well if some of our horticultural societies (Scottish) could bestow a little more careful labour on the arrangement of their schedules, in order that exhibitors may be kept clear of errors which are of much too common occurrence at our exhibitions, to the avoidance of much wrangling and misunderstanding between the show committees and the exhibitors. Judges, too, would have their difficulties greatly reduced, and the public a definite and more complete understanding of the merits of the exhibits, for many persons go to exhibitions to get instruction, as well as to admire the articles which are staged.

Tables of plants are justly popular in the North, and are seen extensively at most exhibitions, and it sometimes happens that the arrangement of the plants—which is a special item of the exhibit—is not mentioned at all in the schedule; and the exhibitor, who may not understand this, takes his finest specimens to the show, and then he finds,

when the judges have given their verdict, that tables of plants, individually of less merit, but vastly superior in the arrangement, have won the first prize easily, while the finer specimens of plant-growing are barely noticed. Bouquets should have their size limited, or, at least, a rule made which would allow the exhibits to be tabled in something like proportionate dimensions. Mere size is a matter of taste, and judges come into conflict with each other, which something more definite in the schedule would prevent. Foliage plants, in the popular sense of the term, are generally well understood; but when it is not stated that Ferns are to be excluded or admitted, opinions again are often at variance, raising difficulties which should be unknown, and putting the inexperienced exhibitor in a dilemma as to the way he should act in the future.

Among fruits and vegetables, the quantities and methods of tabling are often not specified in schedules, and we would like to relate a few examples which have exercised our wits when acting as a censor. The appearance of many fine exhibits is sadly marred when they are huddled together; and if one lot be removed to observe the merits of the others, disarrangement of the whole follows. As examples of last season's experience, a fine dozen of Tomatoes were built up as high on a dish as they could be piled, and to see what was underneath the erection had to be pulled down, and those at the bottom were found to be mostly unripe, and the dish had to give way to one of smaller but quite ripe and sound fruit, arranged flatly in a nest box. A similar dish of Peaches were examined in the same manner, which looked grand, but which were all more or less split to the centre, or otherwise malformed; and when the fruits were replaced in form by the disappointed but good-natured exhibitor, the public could not see how the "blundering" judges should give fruits of smaller size, and with colour not better than the others, the first prize, while the fine-looking pile did not receive a third award. The exhibitor said, "Mom, I thought ye wouldna hae lifted them!" In another class, where four baskets of Strawberries were exhibited, the "toppers" were first-rate, but beneath them was a mass of many sorts, colours, and sizes, of very poor quality, and the exhibitor having been disqualified, he entered a protest; but when I whispered to him that we had gone under the surface and discovered his tactics, he said, "Well, the less I say about this the better." We had numerous cases in point similar to these, with baskets of Apples, Pears, and Potatoes, all with "toppers," which gave us much trouble; and when we went to the bottom of the lots, it was discovered that those which were finest on the top were not the winning lots.

It would save much trouble and annoyance if those who frame and arrange schedules would state how produce is to be exhibited, and all should be flat, as no judge who knew his duties would ever think of being satisfied by merely glancing at the outside of a pile, or the top layer of a basket, when he is expected to give a correct award; and I know many exhibitors who are ready to endorse this, and who would be glad to see schedules made more definite in their language. *M. T.*

VEGETABLES.

SEAKALE LILY WHITE.

The above is really a capital vegetable for April, and in a late spring like the present it is invaluable. If it be buried in a heap of clean coal-ashes or leaf-mould out-of-doors, it is delicate in flavour, and the ivory-whiteness of the stalks makes it a more desirable kind than the other Seakale. I have said that it is most suitable for April, because the roots do not force well. The old method of propagating Seakale from seed is now out of date, most Seakale being raised from sets made of the best pieces, cut off roots dug up for forcing, cut into 4-inch lengths,

and placed in boxes under cover, and buried in soil till April. By that time crowns will have formed, and the sets may then be planted in any open piece of ground 18 inches apart, where they will make good roots for forcing. I shall be excused for mentioning this, because, although the plan is regularly practiced by the market gardener, it is not known in every private place. *J. Rust, Eridge Castle.*

ELLAM'S EARLY AND OTHER CABBAGES.

The first-named is excellent for early cutting, and it is doubtful if we have any better early variety, and whether it is sown at an early or late date it is rare for a plant to bolt. The heads, which turn in quickly, should be cut as soon as they are ready, or they burst. Being small it may be planted 1 foot apart, and a small area will hold a large number of plants, and these coming off the ground early in the summer it can be utilised for growing other crops, two other early varieties of Cabbage growing here for trial which came from France, and which both did well with me last summer, but this spring nearly every plant has bolted. Ellam's Cabbage, I may say, was fit to cut this year on April 21. To follow this one I have Mein's No. 1, a really fine Cabbage, which once grown will always be grown. Hill's Incomparable, Early Battersea, and Carter's Reliance are also excellent, very few plants bolting.

WALCHEREN CAULIFLOWERS.

This old variety, taking all its points, is hard to beat, although there are some that are earlier. I grow it largely for wintering in frames with others, and can trust to it, for it seldom "buttons," which other varieties do, especially the Erfurt. Early London, and Veitch's Pearl and Autumn Giant, are all good. *H. Markham.*

CELERY IN MAY.

In such seasons as those of 1891 and the present year, good samples of Celery in May are most acceptable for salad, and also as a vegetable, owing to the general lack of other vegetables. To have Celery late in the spring is a simple matter, and gives less trouble than Seakale, to which, as a vegetable, it is preferred by some. Of course, something will depend on the nature of the soil, but most gardeners can manage to secure some Celery for late use, and the best late variety is Standard Bearer, which is the longest keeping Celery that I have grown, although there may be others which equal it. Some persons may object to a pink or red Celery for cooking, but, as is well-known, they are the best keepers, and when Standard Bearer is kept till May, it has very little pink colour, and is almost white, and the flavour is good to the last. Seed should be sown in warm districts on a warm border early this month, and covered either with a cold frame or mats till the seeds have germinated. I prefer the frame stood on a hard coal-ash bottom, and place on this a layer 6 inches thick of rotted manure, leaf-mould, and sandy loam. The seed is sown very thinly, and the frame is kept close and moist till the plants appear, when more and more air is afforded. If the plants come up too thickly, thin out and transplant the thinnings to a warm border; they will make useful flavouring for soups. The reason for this early thinning is to allow the plants required for late purposes plenty of space, as sturdiness of growth must be encouraged from the start, weak plants often bolting or decaying in winter. I do not prick out this late lot, hence the value of thin sowing and early thinning; on the other hand abundance of room should be given, and if frame room cannot be spared, it is preferable to sow in the open a fortnight earlier to crowding in frames. Rich manures should not be dug into the trenches, and the latter should not be deep; and on heavy land I would grow this crop on the flat, that is, only removing sufficient soil to make room for the manure, feeding the plants with liquid and other manures whilst growing. For obtaining crisp Celery of good flavour, fish manure is excellent. The time for sowing the seeds depends upon position and locality, in late districts it should be early in May; in earlier over the middle

of the month is not too late; but I do not attach much importance to the time of sowing, as the after management of the crop is of more consequence. I would state that early moulding-up is very injurious, as it checks growth, and sets up decay. The earthing-up should be left to the latest possible date, which allows the tissues of the plants to harden and resist bad weather better than would be the case with the opposite practice. I never protect the plants, and this hardiness is owing to late earthing up. We now have Standard Bearer in good condition. It is perhaps necessary to lift in a very warm spring, and lay in the roots on a south border, but so far this year Celery stocks have not run or started to seed. *G. Wythes.*

NURSERY NOTES.

ORCHIDS AT MESSRS. HUGH LOW AND CO'S.

PHALENOPSIS, Cattleyas, Dendrobiums, and Angre-cums never seem to go out of bloom at the Clapton Nurseries, the stock of each of these great genera being so great, and so varied, that some or other of them are constantly in bloom. Among the Phalenopsis, which in the several houses devoted to them still maintain their wonted vigour, there is a good show of bloom on the Phalenopsis amabilis; some superbly-coloured *P. Ludemanniana*, and numbers of the pretty little *P. rosea*. With them, but not in bloom, are many rare species, including the original plant of the pure white *P. Schilleriana vestalis*, *P. Cynthia*, *P. leucorrhoda*, *P. casta*, &c., and in the same house in bloom is the rare and very singular *Renanthera histerionica*, with its crimson-spotted yellow flowers; and, not in bloom, some grand specimens of *Vanda Lowii*, still in the Bornean vases in which they were imported.

The Cattleya-houses have a fine show of *C. Triane*, coming with some good forms of *C. intermedia*, *amethystina*, *C. amethystoglossa*, &c., and in one of the houses a recent importation of *C. Mendeli* makes a promising start with the first flowers, for among them appears the lovely *C. Mendeli albena*, a finely-formed pure white variety, with a pale pink front to the lip, and a lemon-yellow tinge in the throat.

The ranges of *Cypripedium*-houses have quantities of *C. Volanteum* just expanding. Nearly a houseful of *C. Lawrenceanum* in bloom was to be observed recently, and, in lesser quantity, *C. Druryi*, *C. leucorrhodum*, *C. villosum aureum*, *C. Boxalli*, *C. niveum*, *C. Godefroye*, *C. concolor*, *C. hirsutissimum*, and, in bud, the beautiful *C. Chamberlainianum*.

In the *Angre-cum*-house were a large number of a species of *Angre-cum* of the *A. articulatum* section, but with long spikes of white flowers, differing much in the size, and somewhat in the shape of the flowers. All are beautiful, however, and the importation seemed to be much freer to grow and flower than its neighbour *A. Ellisi*. The pretty, dwarf-growing *A. fastuosum* was in flower in several specimens; the flowers are very large in proportion to the height of the plant. Various other species were showing well for bloom in their season.

In the *Dendrobium*-houses there was a good display of *D. Jamesianum*, every plant of the large quantity grown being well set with flowers or flower buds. Enough of *D. Wardianum Lowii* was observed to show the excellence of the strain; a few of the elegant yellow *D. dixanthum*, a lot of *D. albosanguineum*, *D. Dalhousienum*, *D. Findlayanum*, *D. luteolum*, *D. aggregatum mejus*, and hundreds of fine spikes were coming on the neat specimens of *D. thyrsiflorum*.

The *Odontoglossum*-houses were beginning their show with *O. triumphantis*, *O. Pescatorei*, *O. crispum*, &c.; and other striking things in flower were some good *Trichopilia suavis*, *Miltonia cuneata*, one a very fine form; *Laelia cinnabarina*, *Galeandra dives*, *Oncidium cucullatum*, *Saccolabium bellinum*, and *Lycaste plana*.

The Clapton Orchids thrive well under the care of Mr. L'Anson, an enthusiast in his work.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

MAY 3.—Present: Dr. M. T. Masters (in the chair), Mr. Morris, Dr. Scott, Mr. Michael, Professor Church, Rev. G. Henslow, Hon. Sec.; and Mr. E. im Thurn, visitor.

Narcissus Basal Rot.—Specimens of the variety *Troilus* were sent by the Rev. W. Dod, with the following communication:—"Of this variety thousands go off every year. With regard to the disease, I observe (1) in places where plants get little or no sun, though they do not flower well, the rot never comes; (2) It attacks particular varieties, e.g., *Ard Righ*, *Spurius coronatus*, and *Golden Spur* worse than others; while *Horsfield*, *Emperor*, and all of the muticus blood, are entirely exempt. The *Incomparabilis* tribe never show a symptom of it, however delicate their growth may be; nor do any poeticus or other delicate *Narcissi*, such as *trianthus*; (3) The best preventive is annual transplanting. *Maximus* need to suffer here, but by this means I now have a large and healthy stock of this form."

Raspberry Canes Diseased.—Mr. G. Massee reported on the plants sent to the last meeting from Holly Lodge, Highgate, as follows:—"The black patches on the stems are caused by a minute parasitic fungus belonging to the genus *Dothidea*, probably *D. rosea*, Fr., but as the specimens are immature, the species is not certain. *Spiraea* and other roseaceous plants suffer from the attacks of species of *Dothidea*. In all known cases the spores germinate at once when mature, and then infest the younger shoots; hence the entire removal of all diseased portions before the spores are mature is imperative."

Conifers, Growth of.—Photographs were received from Mr. Curtis, of Kensington, showing the comparative growth of a Silver Fir (*Abies pectinata*), and of a Douglas Fir (*A. Douglasi*), which grew side by side for twenty-two years. The former was 10½ inches in diameter, the latter 10½ inches. The trees were taken from a plantation in Ireland, in a soil equally adapted to both. The comparative results showed strongly in favour of the cultivation of the Douglas Fir as a timber tree in Great Britain and Ireland.

Odontoglossum citreum, Monstrous.—A blossom was received from Mr. Bull, in which there were three well-developed stamens and three lips, the two extra lips representing two lateral stamens.

Tulip Leaf, Monstrous.—Dr. Masters exhibited, on behalf of Dr. Hogg, a leaf showing a very thick midrib, which was densely clothed with thick and branching cellular processes, which bore stomata and hairs at certain points; a remarkably hypertrophied condition of a not uncommon peculiarity of certain Tulips, which have a row of hairs on the inner surface bulb scale, but not, however, on the developed leaf.

Orchid Leaves Attacked by Beetles (?).—Mr. Ingram, of Elstead, forwarded some leaves of imported *Orchids* attacked apparently by beetles. They were forwarded to Mr. Pascoe for examination.

Azalea Sport.—Mr. G. Paul sent sprays of *Azalea mollis* with yellow flowers, but associated with others which were pure white, the petals being only about three-quarters of an inch in length. The stamens, five in number, were almost included, together with the pistil, within the short tube of the corolla. Mr. Paul reports that, "It was a chance seedling, and possibly the flowers might have been fertilised with some of the other varieties of *Azalea*, such as *pontica alba*; but I think that the reversion to white is through the yellow forms of *mollis*, which have smaller flowers as a rule than the orange-coloured kinds, which also open with a whiter shade."

Pine-apple, Monstrous.—Mr. Morris exhibited a photograph of a tall variety of a Pine-apple from the Straits Settlements, from Sir Hugh Low. It was called the Hen-and-Chickens, as it produced a number of smaller Pines from the base of the stem. They were described as being of a bright red colour, and of excellent quality.

Carnations Diseased.—Mr. McLachlan reports that the name of the fly which attacks Carnations, referred to at the last meeting, is *Hylemyia nigrescens*.

PLANT NOTES.

CYTISUS ARDOINII AND LITHOSPERMUM FRUTICOSUM.

This year the rockeries are deficient in two of their usual May decorations—the abundant yellow flowers of *Cytisus Ardoinii*, and the bright blue of *Lithospermum fruticosum*. This last is often damaged here in severe winters, the young shoots being killed back, so that the plant takes the whole summer to recover itself. But the *Cytisus*, of which all the flower-buds have been frozen when nearly ready to open, has never suffered so before during the fifteen years that I have grown it. *C. Wolley Dod*, *Edge Hall*.

COLONIAL NOTES.

SYDNEY BOTANIC GARDEN.

The third great Australian garden is in New South Wales, about 600 miles from Melbourne, Victoria. For beauty of situation it stands without a rival. It has a commanding position on the shore of the harbour, and possesses remarkable elements for landscape treatment.

The harbour of Sydney (Port Jackson) is one of the most celebrated in the world, usually being associated with that of Rio de Janeiro, as the finest in existence. Like outstretched divergent fingers, promontories extend into this charming sheet of water. On parts of the slopes of two of these the Botanic Gardens, covering about 40 acres, have been established. As was to be expected, the representation of native plants is somewhat different from that in the other gardens, owing to difference in the climate. In certain directions, for instance, in palms from the smaller islands of the Polynesian archipelago, the garden is exceptionally rich. The specimens are numerous and well grown.

Botany Bay, of the early navigators, lies within easy excursion distance of the city of Sydney. There and in the contiguous peninsulas, one can see growing wild the native plants which gave the place its appropriate name.

Before leaving the subject of the Australian gardens, it may not be out of place to call attention again to the deep interest and local pride felt by the people of the respective cities in these establishments. Every intelligent person with whom I conversed upon the subject appreciated the importance of such institutions in a country with undeveloped resources. It was also felt that, since these gardens, and the smaller ones, for that matter, keep in touch with Kew, the botanical interests of the colonies, particularly in their economic aspects, were receiving due attention.

The botanic gardens of the south do not appear to sustain any close connection with the universities. They are, of course, available for purposes of investigation, but they are governmental and not academic institutions.

It is frequently said that, in the southern hemisphere, everything is reversed from what is found in the northern. This is certainly not true of the budgets for botanical gardens. These institutions are everywhere very popular, but I did not find in any case that too much money was provided for the running expenses. In fact, I observed no instance where a somewhat larger income would not have improved the condition of affairs. But the directors and superintendents of the larger gardens, and the curators of the smaller ones, made the best use of the rather scanty funds placed at their disposal. *G. L. Goodale*.

ST. VINCENT.

A considerable portion of a recent number of the *Kew Bulletin* is occupied with an account of the history of the Botanical Establishment of St. Vincent, which has recently been reorganised under the direction of Mr. Henry Powell. Mr. Powell received his training in the gardens at Goodrich Court and in the Royal Gardens, Kew. The great object of the station is to

further the cultivation of plants likely to be commercially useful in the colony, and at the same time to promote botanical knowledge generally. *Xanthosoma sagittifolia* is noted as producing fibre. It is an Aroid, not, so far as we know, used elsewhere for a similar purpose. As showing what is done, we note from Mr. Powell's report the planting of Nutmegs, Cocos, India-rubber (*Manihot Glaziovii*), Para Rubber (*Hevea brasiliensis*), Agave rigida, *Bauhinia acuminata*, *Cassia siamea* (a timber tree), *Cassia fistula*, Figs, Calliandra Saman, *Pachira Spruceana*, *Charlotte Rothschild* and other Pine Apples, *Poinciana regia*, *Sebania grandiflora*, *Sauaveira*, and various Vines.

Obituary.

MR. R. MITCHELL: SAD DEATH OF A GARDENER.—A very promising young gardener was Mr. Richard Mitchell, who was for four years in the employment of Mr. W. Cunard, Orleans House, Twickenham. Apart from the Orleans House gardens, Mr. Mitchell had charge of the market fruit-growing department which Mr. Cunard has in the old kitchen-garden of Lebanon House, nearer to Twickenham town, and to which reference is made elsewhere. He was but twenty-nine years of age, having gone to Twickenham from a garden at Roehampton. On Monday, April 25, he was engaged in tying out the Vine laterals in a viney which has a glass partition, the ladder on which he stood resting at the top against this partition. Suddenly, whilst reaching out, the ladder reversed, throwing Mitchell against the glass partition. He seems to have thrust out his right hand to try and save himself, with the result, that his arm was severely lacerated with the broken glass, and bled profusely; so bad were the cuts, that it was found advisable to remove him to the local hospital. Partial unconsciousness with delirium set in, and although all that was medically possible seems to have been done, the unfortunate man succumbed to his injuries, which seem to have been aggravated by blood-poisoning, and he died at midnight on the following Saturday. An inquest was held on the body on the 4th inst., and it was removed for burial at his early home, Chertsey, which ceremony took place on Saturday last.

MARKETS.

COVENT GARDEN, May 12.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal auctioneers, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day, &c.]

TRADE improving, with prices firmer. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d.	s. d.
Anemone, 12 bunches 3 6-3 0	Mignonette, 12 bunch 4 0-6 0
Arum, per doz. bl. ... 2 0-4 0	Myosotis, or Forget-me-not, 12 bunches 2 0-4 0
Azalea, p. doz. sprays 0 6-0 8	Narcissus (various), ... 2 0-4 0
Bluebell, 12 bunches 1 0-1 6	Scilly doz bunches 2 0-4 0
Camellia, white, doz. 2 0-2 0	Orchids:—
— red, per doz. ... 1 0-1 6	Cattleya, 12 blms. 6 0-9 0
Carnation, 12 blms. 1 0-3 0	Odonotoglossum ... 2 0-6 0
Cinerarias, 12 bun. ... 0 0-0 0	crispum, 12 blms. 2 0-6 0
Cowslip, 12 bunches 0 6-1 6	Pelargoniums, scar-
Daffodils, double per dozen bun. 1 6-3 0	— let, per 12 bun. 4 0-6 0
— single ... 2 0-6 0	— 12 sprays ... 0 1 0
Eucharis, per dozen 3 0-6 0	Polyanthus, 12 bunch. 1 6-3 0
Freesia, dozen bun. 2 0-4 0	Primroses, doz. bun. 0 6-1 0
Gardenias, per dozen 4 0-6 0	Primula, sing., 12 bun. 4 0-6 0
Heliotrope, 12 sprays 0 6-0 9	Roses, Ten, per dozen 0 8-2 0
Hyacinths, 12 bunch. 2 0-4 0	— coloured, dozen 1 0-3 0
— Dutch, p. box 1 0-4 0	— yellow (Maré-
Jonquills, dozen bun. 1 0-3 0	chals), per doz. 1 6-4 0
Lilac white (French) ... 2 0-4 0	— red, per dozen ... 2 0-4 0
— per bunch ... 4 6-5 0	Spiraea, 12 bunches 4 0-6 0
Lilium Harrisii, doz. 2 6-4 0	Tuberose, 12 blms. 0 6-1 6
Lily of the Valley, per doz. sprays ... 0 6-0 10	Tulips, p. doz. bun. 4 0-8 0
Maiden Hair Fern, 12 bunches ... 0 6-0 8	Violets, Parma, per bunch ... 2 0-3 0
Marguerites, per doz. bunches ... 3 0-4 0	— English, 12 bun. 1 0-1 6

Wallflowers, per doz. bunches ... 2 0-4 0
ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d.	s. d.
Adiantum, per doz. 4 0-12 0	Genistas, per dozen. 6 0 10 0
Arum, per dozen ... 6 0-9 0	Heliotrope, per doz. 6 0-9 0
Aspidistra, per doz. 18 0-63 0	Ivy Geraniums, doz. 6 0-9 0
Azalea, per doz. ... 24 0-38 0	Lilium Harrisii, 12, 18 0-5 0
Begonias, per doz. ... 6 0-12 0	Lily of the Valley, pot 1 6-2 0
Calceolaria, per doz. 6 0-9 0	Lobelia, per doz. ... 4 0-8 0
Cinerarias, per doz. 4 0-9 0	Marguerites, per doz. 6 0-12 0
Cyclamen, per doz. 9 0-18 0	Mignonette, doz. pots 6 0-10 0
Cyperus, per dozen 4 0-10 0	Musk, per doz. ... 3 0-6 0
Drazenas, each ... 1 0-5 0	Palmas, various, each 2 0-10 0
Echeveria pyramidalis, 12, per doz. ... 12 0-24 0	— specimens, each 6 8 4 0
Ericas, various, doz. 12 0-4 0	Pelargoniums, p. doz. 6 0-10 0
Ferns, various, doz. 4 0-9 0	— scarlet, p. doz. 3 0-6 0
— per 100 ... 8 0-15 0	Primulastensis, doz. 4 0-10 0
Ficus elastica, each 1 6-7 0	Roses, Fairy, p. doz. 6 0-10 0
Fuchsia, per doz. ... 6 0-9 0	Spiraea, per doz. ... 6 0-12 0

BEDDING PLANTS, various, in boxes, 1s. to 3s.

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d.	s. d.
Apples, 1-sieve ... 1 0-4 0	Lemons, per case ... 8 0-14 0
Apples, Tasmanian, per case ... 7 0-14 0	Pine-apples, St. Michael, each ... 2 0-6 0
Grapes, new, per lb. 3 6-5 0	Strawberries, per lb. 1 6-5 0

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d.	s. d.
Artichokes, Globe, each ... 0 4-0 6	Lettuces, per doz. ... 1 6-2 0
Beans, French, lb. ... 2 6-3 0	Mushrooms, punnet 2 0-...
Beet, per doz. ... 0 6-0 9	Mustard and Cress, punnet ... 0 4-...
Carrots, per bunch. 0 4-0 6	Parsley, per bunch ... 0 3-0 6
Cauliflowers, each ... 0 3-0 6	Seakale, p. basket ... 1 6-2 0
Celery, per bundle ... 1 0-3 0	Shallots, per lb. ... 0 6-...
Cumbers, each ... 0 6-0 9	Spinach, per bushel 3 6-...
Endive, per dozen ... 2 0-3 0	Tomatoes, per lb. ... 1 6-2 6
Herbs, per bunch ... 0 9-1 0	Turnips, per bunch ... 0 4-0 6

POTATOS.

NEW POTATOS.—The arrivals during the past week have been heavy from Lisbon as well as Malta, which caused prices to give way from 2s. to 4s. per cwt. all round. Market dull.

OLD POTATOS.—Supply not heavy, and market firm. *J. B. Thomas.*

SEEDS.

LONDON: May 11.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., report that the present protracted sowing season is now naturally drawing to a close. With reference to the stocks of seeds left unold, choice Alaska, white, and Trefoll, are apparently about used up, but a moderate quantity of red Clover seed will be carried over. Sanfola is exhausted. Italian Ryegrass is also in very narrow compass. As regards Canary seed, which of late has presented the most interesting feature on the market, last Monday's advance is fully sustained; Liverpool prices, taking freight into account, now considerably overtop London quotations. Spring Tares still feel freely; current rates are temptingly low. Mustard and Rape seed are both firm. Linseed continues to favour holders. The Board of Trade Returns give the imports into the United Kingdom of Clover and Grass seeds for the last four months as 170,339 cwt., value £182,680, as against 138,641 cwt. value £311,733 for the corresponding period of 1891.

FRUITS AND VEGETABLES.

SPITALFIELDS, May 10.—Quotations:—English Apples, 2s. 6d. to 5s. per bushel; American do., 12s. to 22s. 6d. per barrel; New Zealand do., 8s. to 12s. 6d. per bushel; foreign Tomatoes, 1s. to 1s. 6d. per box; forced Rhubarb, 1s. 3d. to 1s. 6d.; natural do., 1s. to 1s. 6d. per dozen bunches; Seakale, 1s. to 1s. 6d. per punnet; Curry Kale, 1s. 6d. to 2s. 6d.; Spinach, 2s. 6d. to 3s. 6d. per bushel; Cabbages, 5s. to 7s. 6d. per tally; Cauliflowers, 3s. 6d. to 7s. per tally; Greens, 5s. to 6s. 6d.; Carrots, 1s. 9d. to 2s. 6d.; Parsley, 3s. to 3s. 6d. per dozen bunches; Parsnips, 1s. 6d. to 2s. 6d.; English Onions, 6s. 6d. to 7s. 6d. per cwt.; Sprouting Broccoli, 4s. to 5s. per sack; Endive, 1s. to 1s. 6d.; Cabbage Lettuce, 1s. to 1s. 3d.; Lettuce, 2s. to 3s.; Brodstouts, 4d. to 6d. per dozen; Celery, 4d. to 1s.; Horseradish, 1s. to 1s. 1d. per bundle.

BONMARK, May 10.—Quotations:—Broccoli, 7s. to 12s. 6d.; Cabbages, 3s. to 5s. per tally; Sprouting Broccoli, 4s. to 4s. per bag; Spinach, 2s. to 3s. per bushel; Greens, 2s. 6d. to 3s.; Carrots, 1s. 3d. to 1s. 6d.; Spring Onions, 4s. per dozen bunches; Egyptian do., 5s. to 6s. per cwt.; English Apples, 5s. to 10s. per bushel; Canadian do., 12s. to 20s.; and Newtown Pippins, 15s. to 25s. per barrel.

CORN.

Averages.—Official statement of the average prices of British Corn, imperial measure, for the week ending May 7, and for the corresponding period last year:—1891: Wheat, 41s. 6d.; Barley, 15s. 10d.; Oats, 20s. 7d. 1892: Wheat, 41s. 6d.; Barley, 25s. 9d.; Oats, 11s. 1d.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80s. to 102s.; inferior, 60s. to 75s.; hay, best, 60s. to 92s.; inferior, do., 25s. to 50s.; and straw, 20s. to 35s. per load.

POTATOS.

SPITALFIELDS: May 10.—Quotations:—Magnums, 60s. to 80s.; Imperators, 60s. to 80s.; Hebrons, 60s. to 80s.; Bruce Magnums, 60s. to 80s.; Snowdrops, 60s. to 80s.; Sutton's Abundance, 65s. to 85s.; Main Crop, 65s. to 105s. per ton.

BOBOROV: May 10.—Quotations:—Bruce Magnums, 60s. to 90s.; Duclair do., 90s. to 100s.; Feenlad do., 50s. to 55s. per ton.

GENERAL MARKET AVERAGES: May 11.—Quotations:—Magnums, 50s. to 90s.; Imperators, 60s. to 80s.; Snowdrops, 60s. to 80s.; Maincrop, 65s. to 105s. per ton; new Jersey, 3d. to 5d. per lb.; foreign Kidneys, 14s. to 20s. per cwt.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.	BRIGHT SUN.
	ACCUMULATED.						
	Mean for the week ending May 7.						
	Above (+) or below (-) the Mean for the week ending May 7.	Above 42°, for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.	More (+) or less (-) than Mean for the Week.	
0	2	Day.	Day.	Day.	Day.	10th	
1	1	31	17	+	2	215	5
2	3	42	14	+	21	240	4
3	3	31	13	+	20	190	3
5	5	33	18	+	48	215	2
4	6	40	24	+	5	251	1
6	6	33	13	+	45	140	4
6	2	46	15	+	2	209	6
7	4	34	14	+	32	166	3
8	5	35	12	+	4	119	5
9	2	40	4	+	33	125	5
10	3	45	6	+	38	135	2
* 4	4	33	0	+	4	41	4
							</

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts:—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts:—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending May 7, is furnished from the Meteorological Office:—

"The weather during this period varied considerably; at first it was generally fine and bright, but soon became cloudy and unsettled, with cold rain in nearly all places. Towards the end of the week, however, it gradually improved, and finally became fine and dry in all parts of the Kingdom.

"The temperature was below the mean, the deficit ranging from 1° to 3° in most of the western and northern districts, to 5° in 'England, E. and S.W.,' and to 6° in the 'Midland Counties' and 'England, S.' The highest of the maxima were recorded either on the first or last day of the period, and ranged from 65° in 'Scotland, E.' and 64° in 'England, E.' and the 'Midland Counties,' to 59° in 'Scotland, N.,' 'England, N.W.,' and the 'Channel Islands.' During the middle part of the period the daily maxima were in many cases below 50°. The minima were very low for the time of year. The absolute lowest, which were registered during the early morning of the 7th over England, and on irregular dates in Ire-

land and Scotland, varied from 24° in the 'Midland Counties' (at Cirencester), and 26° in several other districts, to 31° in 'Ireland, N.,' and to 36° in the 'Channel Islands.'

"The rainfall was rather more than the mean in 'England, E.,' and the 'Midland Counties,' but considerably less in all other districts.

"The bright sunshine was less prevalent generally than during the preceding week, but exceeded the normal value in all the western and northern parts of Great Britain, as well as in the Channel Islands. The percentage of possible amount of duration ranged from 70 in the 'Channel Islands,' 52 in 'Scotland, W.,' and 50 in 'Scotland, E.,' to 38 over Southern and Central England, and 37 in 'Ireland, N.'"

NOTICES TO CORRESPONDENTS.

APPLES: Daniels Bros.—We cannot undertake to name any more Apples this season, as nearly all of them have lost their distinguishing characteristics.

BLACK CURRANT: W. G. T. The shoots sent are infested with the Currant bud-mite. Cut off the tips of all shoots having the same appearance, and burn them forthwith. These mites seldom trouble the Currant bushes when good cultivation is the rule. In autumn or early winter scrape all the soil away under the bushes, and bury it deeply or char it, replacing it with fresh soil from another part of the garden, and to this add some rich decayed manure.

BROCCOLI AND CAULIFLOWERS: E. B. R. Both of these plants belong to the species *Brassica oleracea*, or Wild Cabbage, the first named being *B. o. asparagoides*, and the second *B. o. cauliflora*. The authors of the *Vegetable Garden* tell us that Broccoli differs from Cauliflower in having more numerous, broader, and stiffer leaves, and usually bare leaf-stalks; the veins of the leaves are stouter and whiter. The cultivation of the plant dates back to a more remote period than that of the Cauliflower. In Italy, the name Broccoli is applied to the young shoots which are emitted by the various kinds of Cabbages and Turnips preparing to flower, and the Italians have been careful to select and cultivate only those kinds that produce the most tender and succulent sprouts. The sprouting Broccoli represent the first form exhibited by the new vegetable when it ceased to be the earliest Cabbage, and was grown with an especial view to its shoots.

BULBS IN POTS: A. Haslam. Take them out of the pots, and without other disturbance of the roots, lay them in pretty close together on a border in little trenches that are made just deep enough to hold them, afford them a good watering then, and afterwards if they should get dry, and in July, or earlier in the case of Snowdrops and Crocuses, withhold all water as soon as the leaves begin to turn of a yellow colour. Soon after this change take them out of the soil, clear the soil from them, and let them dry in the sun for a week; they may then be stored away till September or October.

COMMERCIAL GARDENING: Jason. You would do best to obtain a situation as a learner in some large nursery, and elect what branch of nursery practice you would give your chief attention to. The instruction and experience gained in the nursery should be supplemented by reading Lindley's *Theory of Horticulture*, the articles in Cassell's *Dictionary of Gardening*, and other standard works of gardening, as well as some elementary one on botany, the physiology of plants, plant-life, &c., by attending lectures on horticultural subjects when possible, and by close observation of the various phenomena exhibited by the plants which are under your charge. None of the schools of horticulture come, at present, up to our idea of what such institutions should be, and we can recommend none.

CORRECTION.—On p. 590, column c, and 16th line from top, for "generally lose the first leaves, which unfold prematurely," read "generally lose prematurely the first leaves to unfold."

FIGS DISEASED: An Anxious One. The fruits are attacked by a fungus *Mucor amethysteus*. We should advise you to gather and burn all affected fruits forthwith, and to employ the usual remedies against these minute fungi, viz.: sulphur in pans of water, mixed with whitewash and smeared on the hot-water pipes, &c.

GREEN FLY: G. M. The ordinary greenfly goes through many stages in the course of its career, and this is one of them. Apply the usual remedies.

INSECTS: I. W. Your Raspberry shootlets are infested by the minute red caterpillars of a small moth, which eat into the hearts of the buds, and then make their way downwards into the canes. They are quite like the little red caterpillars which feed in the hearts of the Apricot buds (*Ditula angustiorana*). Hand-picking is the only remedy which we can at present suggest. We will try and rear them. They are new to us as Raspberry feeders. I. O. W.

JAMAICA: D. D. Grisebach's *Flora of British West Indies* is the only recent work. Luanan's *Hortus Jamaicaensis*, published at the beginning of the century, but still obtainable from second-hand booksellers, gives the commercial uses of Jamaica plants, and for general purposes may be more likely to meet your wants. D. M. [The Report on Jamaica and its products, published in connection with the Colonial Exhibition, and the Government Report just published by Stanford, would also be useful. Ed.]

LATERAL SHOOTS ON THE VINE: Major McEwan. The stopping or removal of sub-lateral shoots are about of equal consequence, the main idea being to confine the growth of the Vine to the first formed and best leaves, and these are found on the shoot which bears the bunch, not letting them be employed in building up useless parts; and the other is the prevention of the crowding of the leaves together in the limited space afforded by a roof. Crowding means the deprivation of much of the leaf surface of the benefits of light and direct sunshine, without which healthy development is not possible, therefore all good cultivators remove the sublateral entirely, or permit them to grow only a joint or so long. The same practice is followed with Vines in vineyards, when these are restricted to three or five canes each, all sublateral shoots are removed, and the canes are topped at about 5 feet in June, and kept to that height by later cuttings.

NAMES OF PLANTS: W. E. G. 1, *Raphiolepis ovata*; 2, *Laurus nobilis*; 3, not recognisable; send better specimen; 4, *Berberis vulgaris*; 5, *Cupressus Lawsoniana*; 6, *Kerria japonica*.—Alexander Kirk. A fairly good *Cattleya labiata* var. Mendell—ordinary type.—J. A. P. 1, *Osmanthus aquifolius*; 2, *O. aquifolius variegatus*; 4, *Ruscus androgynus*; 5, *Weigela rosea variegata*; 6, *Kerria japonica*; 7, *Coronilla glauca*; 8, *Daphne indica rubra*.—K. T. G. 1, *Platycerium alcicorne*; 2, *Lapageria rosea*; 3, *Clerodendron Thompsonianum*; 4, *Anthurium Scherzerianum*; 5, *Euphorbia splendens*. The *Chrysanthemum* have the appearance of having been over-manured.—F. S. 1, *Arnebia echioides*; 2, *Saxifraga sarmentosa*; 3, *Triteileia uniflora*.—Hortus. 1, *Staphylea colchica*; 2, *Acacia*, next week; 3, *Rhododendron fragrantissima*; 4, *R. virgatum*. M. C. 1, *Pasiflora Raddiana* var.; 2, *Jasminum Sambac*; 3, *Mesembryanthemum echinatum*; 4, *Amelanchier vulgaris*; 5 and 6, next week.—A. Nash. *Aspasia epidendroides*.—F. P. We cannot undertake to name florist's flowers. You should send them to some nurseryman who makes a specialty of these plants.—L. J. A. 1, *Ranunculus repens*; 2, *Myosotis arvensis*; 3, *Myosotis* sp.; 4, *Lychnis viscaria*; 5, *Ornithoglossum umbellatum*. 1, 2, 4, are British; 3 and 5 doubtful.—C. S. 3, *Orobuchus vernus*; the Cactus next week.

ODONTOGLOSSUMS: B. C., Allerton. Two remarkably fine varieties of *Odontoglossum Andersonianum*, Reich. f., the No. 1, which is tinged with rose colour, approaching O. Ruckerianum, Reich. f., and showing the inadmissibility of it as a species; indeed, some of the forms of O. Andersonianum itself approach very closely in appearance to O. crispum, but their Hawthorn odour always betrays the O. odoratum, which, crossing both ways with O. crispum, has resulted in this complicated race of hybrids. J. O'E.—W. E. G. 7, *Asplenium viviparum*.

ORCHIDS: *J. B. R.* The appearances of the leaves sent point to high temperature by night, with too little ventilation at all times, and the thinness of the leaves caused by the above, has been aggravated by an attack of Thrips.

PLUMS: *F. C. 1*, we take to be the *Prunus spinosa*, or Sloe, with pubescent branches all spiny, and calyx glabrous within; *2*, we take, in the absence of fruit, to be *P. insititia*, or Bullace, with branches faintly pubescent, some spiny, ultimately glabrous; leaves pubescent beneath when young, and calyx glabrous inside. *P. domestica* is said to differ in the leaves having on the nerves beneath, and calyx velvety inside; but we doubt whether it be possible to draw any fixed line between *insititia* and *domestica*, even in the form of the fruit.

SEEDLING FERN: *J. S.* We are quite unable to name so infantile a specimen.

SHADING FOR OPONTOGLOSSUMS: *W. D.* Your material is much too thick; the colour also should be much lighter.

STRAWBERRY, LA GROSSE SUCRÉE: *J. Barnard.* As fine a sample of this capital fruit as we have ever seen.

STRAWBERRY PLANTS: *J. W.* If the plants are gradually inured to outside air, and planted out of doors in about a fortnight, in good soil without much disturbance of the roots, you will be enabled to have some fair fruits in September. It is scarcely worth the expense and trouble of keeping them in pots for forcing another season because they have not done well in this one, as strong young runners of the present year, potted in August will give much better results. If for early forcing pot the runners into 48's; if for late forcing employ 32's. Use good loam, to which a small quantity of rotted stable manure is added; give good but not excessive drainage to the pots; pot very firmly, and be sure to leave space at the top for a good supply of water. Stand the pots 9 inches apart on coarse gravel coal ashes, or on boards. Keep all runners cut off, and allow only one crown or bud to a plant.

VINES: *D. D.* The roots sent were not exactly in an unhealthy state, although there were few fibrous roots, this alone pointing to their being deep in the border, or to the latter being wet or ill-drained. The leaves are thin, which partly arises from deficient root action, aggravated, probably, by insufficient ventilation, or air not afforded early enough in the morning. The shanking of the whole bunch, for it is a species of shanking, may be due to any of the above conditions, or all of them combined. You will do right to remake the border as proposed; nothing less than that will be any use. You might entice to the surface the roots of any of the Vines, which must perform remain for a time untouched, by strewing some special Vine manure on the surface, and slightly forking it in.

WEED ERADICATOR: *Constant Reader, and Others.* The weed-killer is advertised in this issue. We know nothing of the other preparations you refer to. For conditions of export to Germany, apply to the German Consul at Portsmouth.

WEEDY SANDY SOIL: *A. B.* Could you not crop it with mid-season and late Potatoes? after ploughing or digging it, and in the late autumn manure it heavily and dig it deeply; say one spit, and the top soil to a depth of 3 inches shovelled into the trench, i.e. bastard trench it. The Potato crop could be assisted in the summer with dressings of superphosphate of lime. If you do not care to plant Potatoes, take a crop of Ryegrass and Clover, or white Turnips or white Haricot Beans. It must be either a smothering crop like Clover or Rye, or one that will require the hoe to be in constant use like the others named.

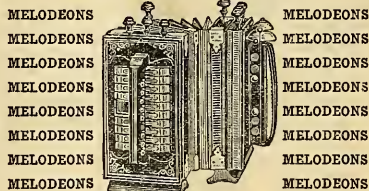
COMMUNICATIONS RECEIVED.—*J. J. S.*—*J. Scruby*.—*P. Isherwood*.—*Ransomes, Sims, & Jefferies*, shortly. —*Vilmerion Andrieux* at Cte.—*T. B.*—*M. B.*, Middleburg.—*S. P. O.*—*T. R. H.*—*National Rose Society*.—*F. V. D.*—*A. Eleu*, Paris.—*L. L.*, Brussels.—*J. H.*—*R. G. H. E.*—*W. T. T. D.*—*J. T.*, Chicago.—*D. E. C.*, Tonbridge Wells.—*W. G. S.*—*J. W.*—*Clarendon Press*.—*M. F.*—*R. A. R.*—*J. C.*—*E. C.*—*C. de B.*—*Wild Rose*.—*G. M.*—*J.*—*Expert*.—*H. O. N.*—*D.*—*Journal of Horticulture*.—*E. B.*—*W. E.*—*J. O. R.*—*D.*—*A. Corps*.—*J. O.*—*Pomum*.—*J. B. W.*—*A. D.*—*E. M.*—*C. T. D.*—*M. F.* (many thanks).

PHOTOGRAPHS, DRAWINGS, &c., RECEIVED.—*Vicomte de St. L.*—*H. E. M.*—*W. Clark* Skarston Park.—*O. T. W.* (not suitable for reproduction).—*B. F.* (already illustrated).

CHEERFUL WINTER EVENINGS.

CAMPBELL'S BROAD REED MELODEONS

(Patent), GRAND NEW MODELS.



NO HOME SHOULD BE WITHOUT ONE. CAMPBELL'S world-famed MELODEONS have Organ and Celestial Tone and Charming Bell Accompaniments, The Solemn Psalm, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming instruments. No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER. To readers of the *Gardeners' Chronicle*. OUR GRAND PRIZE MEDAL "GEM" MELODEON. 8s. 6d. 6s. 6d. With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 8s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER. To readers of the *Gardeners' Chronicle*. OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON. 10s. 10s. With Two Sets of Broad Reeds, Organ and Celestial Tone, and the Charming Bell Accompaniments, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS. Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales:—"Campbell's Patent Melodeons are the finest instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready. 100,000 of these valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS,
116, TONGATE, GLASGOW.
ESTABLISHED 50 YEARS.



LAWN MOWERS,

The Best in the World.

In all sizes to meet every requirement.
"NEW AUTOMATON," the Best Grass Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"ANGLO-PARIS," the Best Small Machine.
"EDGE CUTTER," the only one of real service.
"BEST CUTTER," the only one of real service.
THE BEST POINT AND HORSE-POWER MOWERS.
Orders executed promptly by all Ironmongers.
RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of
OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.
1 Gwt. and Oil Mixture, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.;
and BACHELOR'S WALK, DUBLIN. Discount for Cash.

BENTLEY'S BENTLEY'S

WEED DESTROYER

Has paved the way for many imitators, but maintains its position of superiority, and acknowledges no equal. Has the largest sale, and the confidence of the leading gardeners.
3 gallons, 5s. 6d.; 6 gallons, 10s.; 12 gallons, 18s.; 18 gallons, 27s. 6d.; 40 gallons, 50s. Carriage paid.

SOLE INVENTOR—

JOSEPH BENTLEY,
CHEMICAL WORKS,
BARROW-ON-HUMBER, HULL.

EPPS'S PEAT,

For ORCHIDS, STOVE PLANTS, Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, by sack, yard, ton, or truckload. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal and Fine SILVER SAND, CHARCOAL, CANE FIBRE REFUSE, fresh SPAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Lifter. The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 5s. per sack; 5 for 23s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 5s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack. Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

RICHARDS' NOTED ORCHID AND OTHER PEATS,

Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco-Paper, Insecticides, Weed-Killer, and all Garden Sundries, at the Shortest Notice. Special Railway Rates to all parts. The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Chief Peat Depot and Grounds—Ringwood, Hants. Samples and Price List post-free.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in later from cake for American blight, and as an emulsion when paraffin is used. Has outwitted many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

SLUGICIDE (REGISTERED).—Certain death to Slugs, fertilises the soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners ever invented. 1s. 6d. per box, of all Seedsmen. Trade marks. "THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

TANNED NETTING.—For Preserving Fruit Trees, Flower Beds, &c., from Frost and Blight. 35 square yards for 1s.; any width sent. Carriage paid on all orders over 5s.
HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE,
4d. per bushel; 100 for 25s.; truck (loads about 2 tons), 40s.; 4-bushel bags, 4d. each.
LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. per sack, 5 sacks, 22s.; sacks, 4d. each.
COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.
SPAGNUM MOSS, 8s. 6d. per sack.
MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price List.
ELI G. SMYTH, F.R.S., 21, Gough Street, Drury Lane (late called 17A, Coal Yard), W.C.

GARDEN REQUISITES, as supplied to the Royal Gardens, COCOA-NUT FIBRE REFUSE, 1s. 3d. per sack, 10 for 12s., 20 for 22s., sacks free; 2-ton truck, 30s., free on rail near works. Fine ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS DO., 5s. per sack, 5 for 22s. 6d. BLACK DO., 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. Coarse SILVER-SAND, 1s. 6d. per bushel, 14s. 4d. ton, 26s. per ton. CHARCOAL, 8s. per sack. SPAGNUM, 7s. 6d. per sack, all sacks and bags 2d. each. RUSSIA MATS, 10s. 6d. to 18s. per dozen. RAFFIA, VIRGIN CORK, STAKES, &c. BONES, 4-inch, 11s. per cwt. Pure BONE-UST, 11s. 6d. TOBACCO-PAPER, Specialties, 10d. per lb., 25 lb. for 21s. CLOTH, 1s. per lb., 25 lb. for 25s. Price List, free.
W. HERBERT AND CO.,
Hop Exchange Warehouse, Southwark Street, London, S.E.

HORTICULTURAL SHADINGS and NETTINGS, TIFFANY, COTTON WOOLS, and WADDINGS. Supplied Wholesale by—
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHO-DODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

GARDEN REQUISITES.—Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of—
WATSON AND SCULL, 80, Lower Thames Street, London, E.C.

THE BEDDING PLANT OF THE SEASON—GRAND NEW DWARF TROPÆOLUM, "MRS. CLIBRAN."

Colour, lovely shade of Orange-yellow; habit, compact, and about 6 inches high; free and continuous bloomer, producing a brilliant display.

Gardeners' Chronicle: "The colour is decidedly very good. An excellent bedder."

Journal of Horticulture: "The variety must be regarded as an acquisition."

Gardeners' Magazine: "A distinct bedding variety; will make a gay display in bed or border."

Mr. D. MELVILLE, Dunrobin Castle Gardens: "I think your Tropæolum should be most useful. An excellent substitute where Calceolarias die off."

Mr. W. INGRAM, Belvoir Castle Gardens: "Seems to promise an effect not afforded by any other dwarf bedder."

Mr. W. M. EARLEY, Ilford: "I am charmed with Mrs. Clibran Tropæolum."

Mr. G. DOUGLAS, Great Gearies: "A very distinct novelty."

This Splendid Novelty has been Awarded several Certificates. Plants ready end of May. Price, 1s. 6d. each; 6 for 7s. 6d.; per dozen, 12s.

For full Description of above, also other distinct Novelties and Specialties, including NEW BEDDING PELARGONIUMS, see New CATALOGUE (No. 115), Free on Application.

CLIBRAN & SON, Oldfield Nurseries, Altrincham; 10 & 12, Market Street, Manchester; and Principality Nurseries, Llandudno Junction, N. Wales.

EARL'S COURT, LONDON.

INTERNATIONAL HORTICULTURAL EXHIBITION, And BUFFALO BILL'S WILD WEST.

Chairman of the Executive Committee—H. E. MILNER, F.L.S., Assoc. M.Inst.C.E.

This EXHIBITION is the only INTERNATIONAL HORTICULTURAL EXHIBITION that has been held in this country since 1866, and represents in every detail the HIGHER PERFECTION to which the art of Horticulture has attained at the present day in this country and abroad, and at the same time gives reproductions of ENGLISH and FOREIGN GARDENS of FORMER PERIODS.

A Floral Fairland. All the Flowers that Grow.
The GARDENS of OLDEN TIMES Reproduced. Electric Fountains.
The Floral Maze. Leafy Avenues and Floral Towers.
THE BEST MILITARY BANDS IN EUROPE. FLORAL FÊTES.
Brilliant Illuminations. Battles of Flowers.
THE MOST DELIGHTFUL PROMENADE IN LONDON.

Entrance to Exhibition, Grounds, Gardens, and Camp, and to 2500 Free Seats in the Arena to Buffalo Bill's Wild West Show (perfect view for every visitor of the whole performance)] 1/-

All the LEADING NURSERYMEN will be represented by their FINEST SPECIMENS; EVERY DESCRIPTION of FLOWER and FOLIAGE being contributed, including Palms, Ferns, Flowering Shrubs, Insectivorous Plants, &c., from the RAREST TROPICAL EXAMPLES to the COMMONEST NATIVE PRODUCTIONS.

£2000 TO BE GIVEN IN PRIZES.

The various Gardens into which the Exhibition has been divided will include the following:—
Large English Landscape Garden under Cover, the beds of which will be changed from time to time.

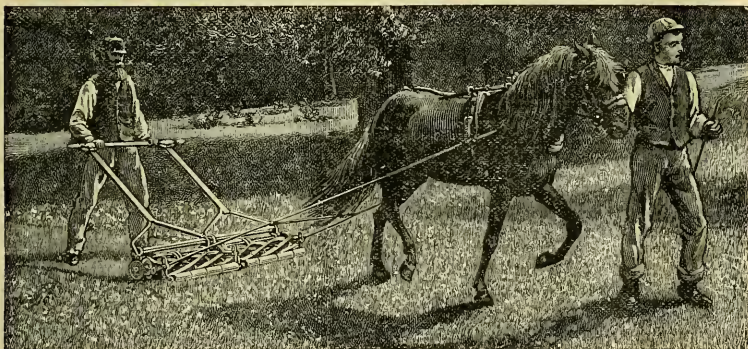
Japanese Garden. Indian Tea Garden, with Tea-house attached.

Tudor Garden. Garden of Ancient Rome.

Egyptian Garden on the Banks of the Nile. Jacobean Garden.

Modern Italian Garden.

Season Tickets, 10/6, Now Ready. GATES OPEN FROM 11 A.M. to 11 P.M.
Secretary—G. A. LOVEDAY, B.A.



THE

"NEW EASY" LAWN MOWER.

The **LIGHTEST RUNNING** and **CHEAPEST ROLLER** Machine.

UNEXCELLED DURABILITY.

Made in all Sizes, from 10 to 24 inches.

The **LARGEST SIZE EASILY WORKED** by ONE MAN.

Illustration shows two 24-in. Machines coupled together, doing the work of a 50-in. Horse Machine, at one-third the initial cost.

SOLE LICENSEES—

SELIG, SONNENTHAL, & CO.,

85, Queen Victoria St., London, E.C.

BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

WINTER GARDENS, CONSERVATORIES, AND GREENHOUSES IN ALL STYLES.

GARDEN FRAMES in great VARIETY.

Surveys made in any part of the Country.
LADIES AND GENTLEMEN WAITED UPON BY
SPECIAL APPOINTMENT.

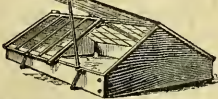
GARDEN FRAMES in great VARIETY.



No. 60.
**PORTABLE PLANT
PRESERVER.**
CASH PRICES. CARRIAGE PAID.

6 ft. by 3 ft. ... £2 0 0 6 ft. by 4 ft. ... £2 5 0
12 ft. by 3 ft. ... 3 2 0 12 ft. by 4 ft. ... 3 15 0

No. 73.
**NEW SPAN-ROOF
GARDEN FRAME.**

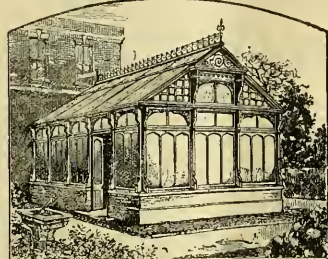


CASH PRICES. CARRIAGE PAID.

4 ft. by 6 ft. ... £2 14 0 12 ft. by 6 ft. ... £5 14 0
8 ft. by 6 ft. ... 4 4 0 16 ft. by 6 ft. ... 7 4 0

All Frames made of Selected Red Deal, painted three times,
and Lights glazed with 21-oz. sheet glass.

Carriage paid on Orders of 40s. value.



BOILERS of ALL MAKES and SIZES.

No. 74.
**THREE-QUARTER
SPAN
GARDEN FRAME.**
CASH PRICES. CARRIAGE PAID.



4 ft. by 6 ft. ... £2 14 0 12 ft. by 6 ft. ... £5 17 6
6 ft. by 6 ft. ... 4 5 6 16 ft. by 6 ft. ... 7 6 6



No. 75.
**MELON AND
CUCUMBER FRAME.**
CASH PRICES. CARRIAGE PAID.

4 ft. by 6 ft. ... £2 0 0 12 ft. by 6 ft. ... £4 3 0
8 ft. by 6 ft. ... 3 0 0 16 ft. by 6 ft. ... 5 6 0

CUCUMBER-FRAME LIGHTS.

6 feet by 4 feet, painted and glazed ... 14s. 0d. each.

6 feet by 4 feet, unpainted and unglazed ... 5s. 6d.

Catalogues of all our Manufactures, post-free on application.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 "	.. 0 3 6	16 "	.. 0 9 0
6 "	.. 0 4 0	17 "	.. 0 9 6
7 "	.. 0 4 6	18 "	.. 0 10 0
8 "	.. 0 5 0	19 "	.. 0 10 6
9 "	.. 0 5 6	20 "	.. 0 11 0
10 "	.. 0 6 0	21 "	.. 0 11 6
11 "	.. 0 6 6	22 "	.. 0 12 0
12 "	.. 0 7 0	23 "	.. 0 12 6
13 "	.. 0 7 6	24 "	.. 0 13 0
14 "	.. 0 8 0	25 "	.. 0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 30s. If set across three Columns the lowest charge will be 30s. Page, 28; Half Page, 24 10s.; Column, 23.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths and Marriages, 6s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week must reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 6d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months: Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

ESTATE SALES.

The Best County Medium for Advertising Sales of Estates is

THE "WORCESTER HERALD,"

ESTABLISHED 1794.

The Leading County Paper. Extensive circulation among the upper and middle classes in Worcestershire and adjoining counties. Advertisers would do well to forward for reference and distribution plans and particulars of Estates, Catalogues of Machinery, Furniture, Books, and other Property advertised in the Columns of the "HERALD."

Sales of Stock and Agricultural Effects.

The "WORCESTER HERALD" is the most effective organ for giving publicity to announcements of this class. It is the leading Agricultural Paper in the County, and Circulates most extensively among Agriculturists in and around Worcestershire.

Farms to Let.

Land Agents, Estate Managers, and all having Farms to Let would do well to advertise in the "WORCESTER HERALD," the Leading County Paper. Specially adapted for bringing such notices before Tenant Farmers. Large circulation. Moderate charge.

Situations Vacant and Wanted.

For producing results the "WORCESTER HERALD" is recognised as a specially good medium. Cheap Rates. Apply for terms.

SPECIMEN FREE. Price 2d.

Published Friday for Saturday.

OFFICES:—72, HIGH STREET, WORCESTER.

THE SYDNEY MAIL,

AND

NEW SOUTH WALES ADVERTISER.

CONTENTS:—

INTERCOLONIAL AND GENERAL NEWS.
SPORTING and the FIELD, in which is incorporated BELL'S LIFE IN SYDNEY.
RECORD OF RACES, and NOTES on the TURF.
CRICKET and AQUATICS.
THE FLORA OF AUSTRALIA. (Drawn and engraved especially for this Journal.)
NATURAL HISTORY. (Original Articles.)
AGRICULTURE, PASTORAL, HORTICULTURE.
GOLD FIELDS and MINING generally.
STOCK and SHARE REPORTS.
ORIGINAL and SCIENTIFIC ARTICLES.
TALES by POPULAR ENGLISH and AUSTRALIAN AUTHORS.
THE FASHIONS. DOMESTIC ECONOMY.
INDOOR AMUSEMENTS.
THE CHESS PLAYER. THE HOME CIRCLE.
COMMERCIAL NEWS.
SHIPPING INTELLIGENCE.

The SYDNEY MAIL has a wide circulation throughout the Australian Colonies, New Zealand, Polynesia, &c., and contains a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.

Single Copies, 6d.; Stamped, 7d.

Publishing Office—Hunter Street, Sydney, New South Wales.

ENGLAND.

The undermentioned Newspaper and Advertising Agents are authorised to receive ADVERTISEMENTS for the SYDNEY MORNING HERALD and SYDNEY MAIL:—

LONDON Messrs. Geo. Street & Co., 30, Cornhill, E.C.
Mr. F. Algar, 8, Clement's Lane, Lombard Street, E.C.
Messrs. Gordon & Gotch, St. Bride Street, Fleet Street, E.C.
Messrs. W. H. Smith & Son, 186, Strand.
BRISTOL James and Henry Grace, Royal Insurance Buildings.
MANCHESTER James and Henry Grace, 73, Market Street.
EDINBURGH Robertson & Scott, 31, Hanover Street.
GLASGOW W. Porteous & Co., 15, Royal Exchange Place.

Copies of each Journal are filed at the above Offices for the use of Advertisers.

New Edition, corrected up to date.

THE COTTAGER'S CALENDAR OF GARDEN OPERATIONS. By the late Sir JOSEPH PAXTON, M.P.

Reprinted from the *Gardeners' Chronicle*.

Price 3d.; post-free 3½d.

Twenty-five copies, 5s.; 50, 10s.; 100, 20s.

Parcels of not less than 25 delivered carriage free in London only. Not less than 100 carriage paid to any part of Great Britain. THE PUBLISHER, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

Belgian.

BULLETIN D'ARBOICULTURE, de FLORICULTURE, et de CULTURE MARAICHERE. A monthly horticultural work, with super-coloured Plates and Illustrations. Published since 1865, by F. BUVE-NIEN, F. FAYNAERT, E. RODIGAS, and H. J. VAN HULLE, Professors at the Horticultural School of the Belgian Government at Ghent. Post-price 10s. per annum.
H. J. VAN HULLE, Botanical Gardens, Ghent, Belgium.

Agricultural Economist.

AN ILLUSTRATED MONTHLY MAGAZINE, of 52 pages and cover. Exponent of scientific and high farming; advocate of co-operation in agriculture, in the supply of farm requisites, and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of pure oilseeds, complete manures, reliable seeds, and implements on wholesale terms. Specimen copy free. Subscription, per annum, 5s., inclusive of postage. Single copies 6d. each, through all Newsagents.

3, Agar Street, Strand, London, W.C.

AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

AMERICAN GARDENING,

WHICH INCLUDES:—

THE AMERICAN GARDEN	Unit
THE GARDENERS' MONTHLY and HORTICULTURIST	ed in
THE FLORAL CABINET	ONE.
POPULAR GARDENING	

Making the Largest, Best, Oldest, Liveliest, Handsomest Gardening Magazine in America.
THE LEADING AMERICAN JOURNAL FOR HORTICULTURAL ADVERTISEMENTS.
Subscription Price for England and Countries in the Universal Postal Union, 6s. Subscriptions must commence from Jan. 1.

E. H. LIBBY, Publisher, Times Building, New York, U.S.A.

Agents for Great Britain and Ireland:—

STEWART JONES, 4, Spring Gardens, Charing Cross, London, S.W., to whom Orders for Advertisements and Subscriptions may be sent. A Specimen Copy post-free for 10d. (stamp).

FARMS, ESTATES, RESIDENCES.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "Midland Counties Herald Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to Let.

REVUE DE L'HORTICULTURE BELGE

et d'ÉTRANGER (Belgian and Foreign Horticultural Review)—14th year.—Among the principal Contributors:—A. Allard, E. André, C. Ballet, F. Burvenich, F. Crépin, O. de Kerchove de Denterghem, P. E. de Puydt, A. M. C. Jongkind Cominck, J. Kieck, T. Moure, C. Naudin, E. Oliveira, H. Orties, E. Pynaert, E. Rodigas, O. Thomas, A. van Geert Son, H. J. van Hulle, J. van Volckem, H. J. Veitch, A. Westmael, and F. Volkenstein.

This illustrated Journal appears on the 1st of every month, in parts of 24 pages, 8vo, with two-coloured Plates and numerous Engravings.

Terms of Subscription for the United Kingdom:—One year, 14s. payable in advance.

Publishing Office: 134, Rue de Bruxelles, Ghent, Belgium.

Post-office Orders to be made payable to M. E. PYNÆRT, Ghent.

WORKS OF AUTHORITY ON BOTANY.

BOTANY for BEGINNERS.

An Introduction to the Study of Plants. By MAXWELL T. MASTERS, M.D., F.R.S., late Examiner in Botany, University of London. With upwards of 100 Illustrations. Price 3s. 6d.

LINDLEY'S SCHOOL BOTANY.

A Complete Manual of Rudimentary Botany for Students. &c. With 400 Illustrations. 8vo, cloth. Price 5s. 6d.

LINDLEY'S ELEMENTS OF BOTANY.

With Illustrations. 8vo, cloth. Price 9s.

LINDLEY'S MEDICAL and ECONOMIC BOTANY.

With numerous Illustrations. 8vo, cloth. Price 5s.

SIR JOSEPH PAXTON'S BOTANICAL DICTIONARY.

Comprising the names, History, and Culture of all Plants known in Britain, together with a full Explanation of Technical Terms. Medium 8vo, cloth. Price 18s.

London: BRADBURY, AGNEW, and CO., (Limited), 9, Bouverie Street, E.C.

"THE PROPAGATION OF THE ROSE, BY CUTTINGS OR EYES,"

by TENO, 6d. post-free, 7d.—W. F. CHURCHER, 53, Chapel Road, Worthing.

Messrs. BELL'S LIST.

NEW VOLUME OF BELL'S AGRICULTURAL SERIES.
Crown 8vo, 198 pp., illustrated, 2s. 6d.

PRACTICAL FRUIT CULTURE.

A Treatise on Planting, Growing, Storing, &c., of Hardly Fruits for Market and Private Growers.

By J. CHEAL, F.R.H.S.,

Member of Fruit Committee, Royal Hort. Soc.; Member of Executive Committee, British Fruit Growers' Association; Member of Committee of Experts of the Fruiters' Company, &c.
"One of the very best agricultural manuals we have seen."
—Field.

PART I. NOW READY, Super Royal 8vo, 5s.

A NEW SUPPLEMENT TO THE THIRD EDITION OF **ENGLISH BOTANY** (Sowerby's). With Coloured Plates. This Work, to be completed in eight or nine parts, has been carried on for as Disputes by Mr. N. E. BROWN, of the Royal Herbarium, Kew, and will be completed by Mr. ARTHUR BENNETT. Full Prospectus on application.

Large post 8vo, cloth, 7s. 6d.

JOHNSON'S GARDENER'S DICTIONARY, Describing the Plants, Fruits, and Vegetables desirable for the Garden, and explaining the terms and operations employed in their Cultivation. With a Revised Supplement. By N. E. BROWN, of the Royal Herbarium, Kew.

THE BOTANISTS' POCKET BOOK,

Containing, in a tabulated form, the Chief Characteristics of British Plants, with the Botanical Names, Soil or Situation, Colour, Growth, and Time of Flowering of every Plant, arranged under its own Order; with a copious Index. By W. R. HAYWARD. Seventh Edition. Fcap. 8vo. Cloth limp, 4s. 6d.

LONDON: GEORGE BELL & SONS.

YORK STREET, COVENT GARDEN, W.C.

BOOKS ON ROSES, by WM. PAUL, F.L.S.

THE ROSE GARDEN, 9th edition, 4to, 360 pages, twenty coloured plates, numerous engravings, 7s. 6d. nett; the same, 8vo, without plates, 5s. 6d. nett. **ROSES IN POTS**, 7th edition, illustrated, post-free, 2s. **ROSES AND ROSE CULTURE**, 8th edition, illustrated, post-free, 1s. *The Journal of Horticulture*, says: "The best Works on Roses are those by Mr. Wm. Paul."

WM. PAUL AND SON, Nurseries, Waltham Cross, Herts.

SCOTT'S WASP DESTROYER has stood

many years' test as the only effectual Protection for Fruit Trees, &c., from Wasps and Flies. Prices, 1s. 6d. and 2s. 6d. per bottle. —Makers, CORRY AND CO., Limited, 16, Finsbury Street, E.C. Sold by all Nurserymen and Florists.

EXTRA STOUT strong-tanned NET, 2 yards

wide, 1½d. yard; 4 yards wide, 3d. yard; or 2 yards wide, 10s. per 100; 4 yards wide, 20s. per 100 yards. **NEW TWINE NETTING**, 1 yard wide, 1½d. yard; 2 yards wide, 3d. yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. **COTTON NET**, nine meshes to square inch, 1½ yards wide, 7d. yard run. W. CULLINGFORD, 24, Eastern Road, Plaistow, E.

SIX CABINET PORTRAITS, 3s.; three for 2s.

Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s. three for 2s. Stamp size, 2s. 4d. for 100 for 3s. 3d. Send Card or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—FRANCIS AND CO., 29, Ludgate Hill, London.

COCOA-NUT FIBRE REFUSE, newly

made, the same as supplied to the Royal Horticultural Society, 2 tons, loose, in truck, free on rails—G. N. G. W., S. W. L. & N. W., and Milling, 20s.; other lines, 25s.; in bags, 20, 16s. 40, 30s. Cash with order.—J. STEVENS AND CO., Cocoa-nut Fibre Merchants, 153, High Street, Battersea, S.W.

THE FRUIT GARDEN OF THE UNIVERSE.

—THE AUSTRALIAN IRRIGATION COLONIES (Chauffey Brothers), established and regulated by Government, OFFER an enjoyment of FRUIT, a sunny and sheltered climate, and most highly remunerative returns to Cultivators with small or large capital; pamphlet free. CHAUFFEY BROTHERS, Limited, 35, Queen Victoria Street, London, E.C. J. E. M. Vincent, Chief Commissioner.

CHAS. FRAZER'S EXORS.—Conservatories,

Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. **HOT-WATER BOILERS and HEATING APPARATUS**, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps.

PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

BOILING WATER OR MILK.**E P P S'S****GRATEFUL—COMFORTING.****C C C A**

BREAKFAST—SUPPER.

HILL & SMITH,

BRIERLEY HILL,

STAFFORDSHIRE,

And 118, QUEEN VICTORIA STREET, LONDON, E.C



NEW PATTERN

TREE GUARD,

"The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Uprights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

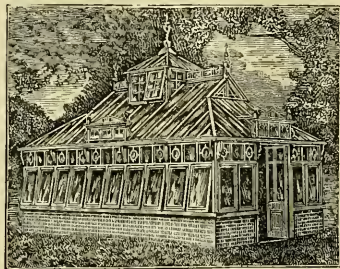
TESTIMONIAL.

"The Whittier, Herefordshire."

"Dec. 28, 1887."

"DEAR SIR,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 60 more as before. I enclose cheque for your account."

Yours truly,
RICHARD GREEN.
Messrs. Hill & Smith.

BECKETT BROS., CHELMSFORD.

Thoroughly Practical and Experienced Horticultural Engineers in all branches connected therewith.
Price LIST and Estimates free on application.

STOCK	SIZE
Inches.	Inches.
14x12	20x16
18x12	22x16
18x12	22x16
20x12	24x16
18x14	20x18
18x14	22x18
20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 500 feet respectively.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,

LEAD, GLASS, OIL, and COLOUR MERCHANTS,

34, St. John Street, West Smithfield, London, E.C.

Stock Lists and Prices on application. Please quote *Chronicle*

The Original and Only Makers of the

GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—**SILVERSTEY'S PATENT TRENTHAM**, With Special Provision for Cleaning the Inside thoroughly (a most important point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVERSTEY & CO.,

General Engineers, Founders, and Boiler Makers,

CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE

LIFE ASSURANCE AT COST
ABOUT HALF THE USUAL RATES.

**MUTUAL RESERVE FUND
LIFE ASSOCIATION**

OF NEW YORK.

E. B. HARPER, PRESIDENT.

FULLY MUTUAL.

ABSOLUTE SECURITY. Strict Economy.

The most successful Life Assurance Company in the World.
Total amount of Insurance in force, 1891 ... £44,190,635
New Business, 1891 ... £10,270,968
New Business accepted, 1891 ... £2,100,463
Total Death Claims paid, ... £24,644,085
Savings to Members by its System, about ... £6,000,000

Chief Office for Great Britain:

90, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

**THE RAILWAY PASSENGERS'
ASSURANCE CO.**

Pay over £2,700 weekly

as **COMPENSATION** for
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN, }

GARDENING APPOINTMENTS.

MR. S. HORTON, late Foreman at Northwick Park, as Gardener to J. HOWELLS, Esq., The Walk, Cardiff.

MR. H. WRIGHT, as Head Gardener to G. H. THORNTON, Esq., Orch Hill, Gerard's Cross, Slough.

MR. J. ROBERTSON, formerly of Algaikirk Hill, Boston, as Gardener to F. W. WOODHOUSE, Esq., Holborough Court, Sudland, Kent.

CATALOGUES RECEIVED.

P. BARN & SONS, 12 and 13, King Street, Covent Garden, London, W.C.—Hardy Perennials for Borders, Rockeries, &c.

MERRYWEATHER & SONS, Greenwich Road, and 68, Long Acre, W.C.—Pump and Water Supply Apparatus.

DICKSONS (Ld.), Chester—Bedding and Border Plants, Dahlias, and New Roses.

THE STOUT FERTILISER AND INSECTICIDE DISTRIBUTOR CO. (Ld.), Deansgate, Manchester—Stout's Specialities.

HOGG & WOOD, Coldstream, Scotland—Turnip Seeds.

THE LIVERPOOL HORTICULTURAL

COMPANY (JOHN COWAN), Limited, WANTS a thoroughly competent MAN to take charge of their Store and Greenhouse Department.—Apply, giving references and salary expected, to The Vineyard, Garston, near Liverpool.

WANTED, for the Seed Business (Retail),

a thoroughly practical MAN, as MANAGER. Must be well up in all branches of the Trade. Apply, stating age, experience, and salary required, to A. J. GARDENERS' *Chronicle* Office, 41, Wellington Street, Covent Garden, London, W.C.

WANTED, at once, a good SECOND GARDENER,

where Cucumbers, Melons, Grapes, Peaches, Tomatoes, are grown for Market. Wages £1 per week and overtime. Good reference required.—J. MCPHUN, Fairford Cottage, Maidenhead.

WANTED, for New Zealand, a thoroughly

practical MAN, in the Growing and Propagation of Plants and Flowers. One conversant with Vines preferred.—State full particulars in the first instance, to Messrs. JOHN LAING AND SONS, Forest Hill Nurseries, London, S.E.

WANTED, IMMEDIATELY, for a permanent

situation in a Market Nursery, a thoroughly experienced MAN as PROPAGATOR and GROWER of Plants for Market. Must be well up in Aspidistras, Palms, Dracenas, Foliage Plants in variety, Bouvardias, Double Primulas, Tuberoses, Ruchars, &c. Wages 30s. per week. Also, a YOUNG MAN used to Ferns and Soft-wooded Plants. Must be quick at Potting, Watering, Tying, &c. Wages 18s. per week.—Apply, stating experience, age, &c., with references, to JAMES WINGFIELD, Widmore Hill Nursery, Bromley, Kent.

WANTED, a good Outdoor MAN.—Must be

a successful Baulder and Grafter of Roses, Fruit Trees, &c. Married man preferred. Wages, with small Cottage and Garden, £1 per week to commence with, with increase to a thoroughly trustworthy man.—Apply, giving fullest particulars, to H. ENGLISH, Clapton Nursery, near Cleveford, Somerset.

WANTED, a good Indoor PLANT PRO-

FAGATOR, mostly Soft-wooded, to Grow for Market. Preference given to one who understands Clematis and Roses. A good House provided.—Apply to B. E. GARDENERS' *Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a steady man, as PROPAGATOR and ASSISTANT SALESMAN.—J. W. WINSITT AND SON, Ashburham Park Nursery, Chelsea.

WANTED, an ASSISTANT PROPAGATOR and GROWER (inside).—State references, full particulars of experience, age, married or single, wages, &c., to E. D. SHUTTLEWORTH and CO., LIME, Albert Nurseries, Fleet, Hants.

WANTED, as FRUIT FOREMAN, a practical MAN, who has had experience in good Nurseries in the Growing of all kinds of Outdoor Fruit Trees, and is capable of Managing a Staff of Men. A thoroughly competent man is required, to whom a good salary will be given.—WM. PAUL and SON, Nurseries, Waltham Cross, Herts.

WANTED, as PLANT FOREMAN, a thoroughly experienced man, accustomed to growing plants in quantity for market. Wages, 25s. per week, and cottage. State age and experience, to BETHELL WHITELEY'S Nurseries, Hillingdon Heath, Uxbridge.

WANTED, a respectable MAN, as FOREMAN (married). Must have had experience in Growing Ferns for Market on a large scale.—E. CURRY, West Green Nursery, West Green, Tottenham.

WANTED, MAN and WIFE, without family, age about 40, as SECOND GARDENER, under Glass; Wife as Landlady; under Laundry-maid kept. Must thoroughly understand their duties.—J. SWAN, Brackley Lodge, Weybridge.

WANTED, IMMEDIATELY, MAN and WIFE, without children. Man to attend to two Greenhouses and go out Jobbing. Two Rooms in Cottage, and Coals found.—Apply, stating age, reference, wages, &c., to 283, Regent Street, W.

WANTED, a MAN and WIFE, without family; man to look after Greenhouses, Conservatory, and pony and trap; wife to do Laundry work for small family. Only those with good characters need apply. Wages, 25s. per week. Rooms over Coachhouse; everything found for Laundry work, also coals.—Apply, R. J. B., London Institution, Finsbury Square.

WANTED, a GARDENER and his WIFE, ages 35 to 40, without children, to live in the house in an eastern suburb of London; man to attend to small garden and greenhouse, and to make himself useful; wife to act as good plain cook; a housemaid kept. Family consists of two ladies.—Apply to T. M., *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, an all-round Outside NURSERY HAND.—State references, full particulars of experience, age, married or single, wages, &c., to E. D. SHUTTLEWORTH and CO., LIME, Albert Nurseries, Fleet, Hants.

WANTED, Two Young MEN, accustomed to Market Nursery Work. Wages 20s. per week. State age and experience to BETHELL WHITELEY'S Nurseries, Hillingdon Heath, Uxbridge.

WANTED, a young MAN, used to soft-wooded Plants for Market.—Apply, stating age and experience, to G. LANGE, Chambers, Hampden, Middlesex.

WANTED, a young MAN, for LAWN Mowing, Flower Garden, &c. Wages 17s. per week, with bothy.—Apply, GARDENER, Marden Park, Caterham Valley, Surrey.

WANTED, TWO active MEN, used to Palms and Ferns.—JOHN ROCHFORD, Page Green Nursery, South Tottenham.

WANTED, a young MAN, for General Work. Abstainer. Wages, 12s.; four kept.—JOHN WILSON, The Gardens, Pavenham, Bedford.

WANTED, a strong active youth as IMPROVER in the Houses in a Market Nursery. Wages, 14s.—CHARLES RYLAND, Bold Lane Nursery, Town Green, Ormskirk.

WANTED, a young MAN, for the Houses. Used to Plant and Fruit Growing. Letters only.—WM. TAYLOR, Bentley Priory, Stanmore.

WANTED, a young MAN, to work in a Garden and in the Cowshed. Should be able to milk. Gentleman's place, near London. To live in bothy; fire, light, milk, and vegetables found. State wages required. Copies only of testimonials to be sent.—Address, M. R., *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, at ONCE, a HANDY-MAN (single), as Painter, Glazier, and Carpenter, &c. Wages 20s. per week, and references.—HEAL GARDENER, Hoar Cross Gardens, Burton-on-Trent.

WANTED, as IMPROVER, a respectable, sharp Lad, for Indoor and Out. Must be a good worker. Small premium required.—W. A. JENKINS, Moorley Bank, Durham.

WANTED, an IMPROVER, under Glass. Well up to Watering, Tying, and general routine of Plant Work.—Apply, stating experience and wages expected, HERD BROS., Victoria and Castle Nurseries, Penrith.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should write for Prospectus of the Scientific Dress Cutting Association, 272, Regent Street, London, W. Situations found for all pupils at good salaries. No Lady's education is complete without a knowledge of Dressmaking.

WANT PLACES. TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

Gardeners, Farm-Bailiffs, Foresters, &c. **DICKSONS (Limited)**, Loyal Auctioneers, Chester, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BAILIFFS, or GARDENERS.

JAMES CARTER and CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

Head Gardeners. **JOHN LAING and SONS** can at present recommend with every confidence several energetic and practical MEN of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stansfield Park Nurseries, Forest Hill, London, S.E.

RICHARD SMITH and CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

B. S. WILLIAMS and SON beg to intimate that they have at present in their Nursery and upon their Register some excellent MEN, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

GARDENER (HEAD).—Married, no family; offers his services to any Lady or Gentleman requiring a thoroughly practical man in all branches. Long experience in large establishments; twelve months in present situation; leaving through the want of being let. Sixteen years at present situation. References of the highest order.—J. CARTER, Wharton Grange, Framfield, Sussex.

GARDENER (HEAD), Scotch.—Age 45; life experience in all branches, Orchids, &c. Good personal character. Two girls. Wife good laundress.—S., 1, Vauxhall Terrace, Astwood Road, Worcester.

GARDENER (HEAD WORKING).—Age 28; good all-round experience.—W. BARKER, gardener to H. C. Stephens, Esq., M.P., Avenue House, Finchley, N., will be pleased to recommend the above to any Lady or Gentleman requiring the services of a steady reliable man.

GARDENER (HEAD WORKING), where one or two are kept.—Vines, Melons, Peaches, Cucumbers, Tomatoes, Mushrooms, Store and Greenhouse Plants, Flower and Kitchen Gardens. Good character.—A. BOCKER, Grange Gardens, Acton Lane, Willersden, N.W.

GARDENER (HEAD WORKING); age 29, married.—A. HORSLEY, Wallingford Castle Gardens, Berks, is open to engage with any Lady or Gentleman requiring a good all-round Gardener. Fourteen years' experience in good establishments. Good character from present and previous situations.

GARDENER (HEAD WORKING), age 46, married, no family, abstainer, requires re-engagement. "Thirty years' practical experience in Growing and Forcing Grapes, Peaches, Melons, and Cucumbers, Strawberries, Vegetables, and Mushrooms; also Kitchen and Flower Gardens, Pleasure Grounds, Land and Stock. Eight years' excellent character, and sixteen years' references.—J. D. Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Juddville, near Dorking, wishes to recommend his Foreman, James Pullen. Thoroughly practical in all branches, including Orchids, Store and Greenhouse Plants, Fruit, and Hardy Herbaceous Plants. Excellent character.

GARDENER (HEAD WORKING).—Age 40; good practical experience; also Grass-land and Cattle, if required. Wife for Poultry, or Caretaker. Six years' good character.—C. G., 34, St. John Street, Winchester.

GARDENER (HEAD WORKING).—Mrs. GILBEY, Woodburn House, near Maidenhead, wishes to recommend H. Redden as above. Thoroughly experienced in Growing Fruit, Flowers, and Vegetables. Inside and Out. Twelve years' good experience. Age 23. Address, H. REDDEN, Woodburn House Gdns., near Maidenhead, Berks.

GARDENER (HEAD WORKING).—Married, three children; thoroughly experienced in all branches.—Fruit, Flowers, and Kitchen Garden. Two and a half years' good character.—J. DAVIES, High Street, Halesowen, Birmingham.

GARDENER (HEAD WORKING).—Age 36, married; ten years' testimonials as Head Gardener. Thorough practical experience. Estate changing hands. Shortly disengaged.—JAMES RUSE, Trematon Castle, Saltash, Cornwall.

GARDENER (HEAD WORKING).—where two are kept; age 27.—J. ANDERSON, Charman Dean, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD WORKING).—Age 35, married; thoroughly understands Grapes, Peaches, Tomatoes, Melons, and Mushrooms, Store and Greenhouse Plants, Flower and Kitchen Gardens. Excellent character. Gentlemen giving up.—A. S., 63, Martin's Road, Shortlands, Kent.

GARDENER (HEAD WORKING), where a thorough practical man is required. Thoroughly understands the profession in all branches; highly recommended by all employers.—GARDENER, 3, Avenue Cottages, Nursery Road, Southgate.

GARDENER (HEAD WORKING), where two or three are kept.—Age 28, single at present. Eleven years' practical experience in all branches, including Orchids. Good testimonials from last situation.—A. MYHILL, 23, Salisbury Road, Upper Holloway, London, N.

GARDENER (HEAD WORKING), where two or three are kept.—Age 39, married, well suited; good character and reference.—S. METHERELL, High Street, Wormley, Herts.

GARDENER (HEAD), or GARDENER and BAILIFF.—Age 31, one boy, 17; excellent testimonials.—T. S., *Gardener's Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD, or SINGLE-HANDED).—Age 33, married. Thoroughly practical in all branches; understands the management of Cows, Poultry, Bees, Land, &c. Seven years' excellent character.—G. DUNNAGE, Sandford's Farm, Hatfield Peverel, Chelmsford, Essex.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, married; fifteen years' experience in all branches. Good character.—E. D., 14, Martindale Road, Balham, S.W.

GARDENER (good SINGLE-HANDED).—Age 29, married; thoroughly experienced in all branches. Excellent references from previous and present employers.—W. FLEET, 2, Sherwood Road, Harrow.

GARDENER (HEAD, or good SINGLE-HANDED).—Middle age, married; well versed in all departments, glass, &c.; no objection to a cow. Leaving through breaking up of establishment; good character.—GARDENER, Avenue House, Belzize Park Gardens, Hampstead.

GARDENER (SINGLE-HANDED).—Age 27, married; wanted by an energetic sober young man not afraid to work, situation as above. Understands Melons, Cucumbers, Fruit, Flowers, and Kitchen Garden, and can grow some Orchids. Two years and nine first-class characters. Leaving through employer quitting the neighbourhood.—FAWDEY, 65, Barnwell Road, Brixton, S.W.

GARDENER (SINGLE-HANDED).—Age 40; one child, age 9. Twenty years' experience in Vines, Flowers, Fruit, and Kitchen Garden. Wife can cook, or do other house duties. Nine years' good character, ten previous disengagements when suited. Could apply personally with full particulars.—GARDENER, Highcroft Hall, Swanley Junction, Kent.

GARDENER (SINGLE-HANDED).—Age 27, married when suited. Total abstainer. Understands Greenhouse Plants, Cucumbers, Tomatoes, &c., and general routine of Gardening.—H. WAYLING, 14, Canterbury Terrace, Maïsa Vale, London, W.

GARDENER (SINGLE-HANDED, or where help is given).—Married, no encumbrance. Thoroughly understands Flower Garden, Kitchen Garden, Greenhouse, or Conservatory; good reference.—Arlow Cottage, Windsor.

GARDENER (good SINGLE-HANDED).—Age 27. Ten years' experience; four and a half years last place. Steady, willing, and industrious; excellent references.—UNWIN, 48, Newnham, Cambridge.

GARDENER (SINGLE-HANDED, or otherwise).—Age 27, single; twelve years' experience in all branches of Gardening.—W. M., Wykehurst Cottage, Bolney, Haywards Heath, Sussex.

GARDENER (SINGLE-HANDED).—Age 26, single; four years good character; near London preferred.—S. BAKER, Fielding Cottage, Canham Road, South Norwood, S.E.

GARDENER (SINGLE-HANDED), where help is given.—Age 25, single; eight years good character. Disengaged. Abstainer.—J. WOOD, Brook Cottage, Balcombe, Sussex.

GARDENER (SINGLE-HANDED, or SECOND), where three are kept.—Age 23. Good character.—W. SANSON, 7, Sydney Terrace, Feltham, Middlesex.

GARDENER (SECOND, or good UNDER).—Age 23, married; seven years' experience inside and out. Can be well recommended.—C. B., 33, Parkfield Road, Willesden Green, London, N.W.

GARDENER (SECOND), where three or four are kept.—Age 27, single; four years in last place. Inside and out. Good references.—A. C., 7, Lewis Road, Loughborough Junction, S.E.

GARDENER (SECOND).—Age 25; ten years' experience. Inside and out. Good references.—F. A., New Lodge, Bowland, near Crawley, Sussex.

GARDENER (SECOND), where three or four are kept.—Age 25. Nine years' experience inside and out. Good references.—H. TITLEY, Hainton, Lincoln.

GARDENER (UNDER), in the Houses.—Age 19; two years' good character. Bothy preferred.—H. SMITH, The Gardens, Compton Lea, Horsham, Sussex.

GARDENER (UNDER), good.—Young man, 19; strong, active, and willing. Three years inside and out; well recommended.—W. NEVARD, Rythe House, Thames Ditton, Surrey.

GARDENER (UNDER).—Age 22. Good recommendations; four and a-half years' experience inside and out. Abstainer.—GARDENER, 6, Belvedere Cottages, Church Road, Wimbledon, Surrey.

GARDENER (UNDER), or in a good Nursery.—Age 19; four years in present place. Used to inside and out. Can be well recommended.—G. PRIMMET, The Gardens, Coombe Ridge, Kingston, Surrey.

GARDENER (UNDER).—Age 22; abstainer. For reference, apply to Admiral Martin, Bitterne, Southampton.—E. HOUSE, Brook Road, Bitterne.

GARDENER (UNDER), in gentleman's garden or nursery.—Age 26; good character.—WM. FARRIER, Wingham, Kent.

GARDENER (UNDER).—Age 20; good experience of Glass, and Kitchen Garden. Good character. Disengaged.—E. HOAD, Spring Cottage, Limsfield, Surrey.

GARDENER (UNDER), inside or inside and out.—Age 20; nearly five years' character from present situation.—J. B., West Street, Ewell, Surrey.

GARDENER (UNDER).—Age 21; seeks engagement in a private establishment under Glass. Good reference.—G. WISE, The Heights, Chorley Wood, Herts.

GARDENER (UNDER).—Seven years' experience inside and out. Abstainer.—G. MILLS, The Gardens, St. Vincent's, Grantham, Lincolnshire.

GARDENER (UNDER), inside and out.—Age 21; four years' good reference from last situation.—H. BARTON, 19, Queen Street, Crook's Place, Norwich.

GARDENER and COOK, Man and Wife.—Understands Vines, Flowers, Cucumbers, and Kitchen Garden. To live in House.—C. C., Win-or Terrace, Beekton, Essex.

To Florists.

MANAGER of a first-class business of Paris wishes to find re-engagement as **MANAGER** or **FIRST HAND**. Fifteen years' experience; three years in London (West End). Well qualified in every branch of the business; several First Prizes. Undeniable references.—WILLIAM, 38, Faubourg St. Honoré, Paris.

MANAGER, for a small good Business Nursery, chiefly Glass.—Age 21. Good experience in Stephanotis, Eucharis, Tomatoes, Cucumbers, and other Greenhouse Plants. Must be a permanent place. Over eight years' experience. Total abstinence. Excellent references. Able to do Bookkeeping, Serp, make Wreaths, &c.—X. Y., 121, Barnt Ash Lane, Lee, S.E.

TRAVELLER, or MANAGER, in either or all branches of the Trade. Twenty-eight years' experience. Thorough knowledge.—THOMAS BUNYARD, 3, Wellington Road, Ashford, Kent.

To Market Nurserymen.

FOREMAN, or MANAGER, in a small Nursery; well up in Ferns, Grapes, Tomatoes, Cucumbers, &c. Good references.—A. W., 47, Cavendish Road, Aldershot, Hants.

FOREMAN in a good Establishment.—Age 23; twelve years' experience (Fines included) in good gardens. Castle Howard, Stoke Edith Park, also Ireland.—H. BELL, Sewberry, Hull, Yorks.

To Nurserymen.

FOREMAN (Indoors), MANAGER, or SALESMAN.—Age 29, single; fourteen years' experience in all branches. Could take a journey.—J. W., Plummer's Plain, Horsham, Sussex.

FOREMAN; age 27.—H. AMOS, gardener to J. G. Williams, Esq., Pendley Manor, Tring, Herts, can with confidence recommend his present Foreman, or any gardener requiring the services of a thoroughly experienced and practical man.—FOREMAN, as above.

FOREMAN, in the Houses.—Age 25; over two years' good character as Foreman in last situation.—J. W., Woodhouse, Horndean, Hants.

FOREMAN or GROWER.—Age 28; ten years' experience in Tomatoes, Plants, Forcing, Wreaths, &c. Excellent references.—A. W., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN, or JOURNEYMAN (First), in the Houses in a good Establishment.—Age 24. Nine years' practical experience; excellent references.—T. RIDGE, The Grove, Totteridge, Herts.

FOREMAN.—Age 27. Thirteen years' experience in all branches. Fourteen months' character from last employer, two years previous as Foreman.—T. WADE, Ivy Cottage, Ascot, Berks.

FOREMAN, in the Houses.—Age 26; good experience in Fruit and Plant House. Can be highly recommended.—T. ATTWOOD, Packington, Ashby-de-la-Zouch.

To Nurserymen.

FOREMAN, in Market Nursery.—Age 41. Twenty-four years' experience in the cultivation of Fruits and Flowers for Market.—T. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOREMAN or PROPAGATOR and GROWER.—Age 33, married; well up in Grapes, Peaches, Tomatoes, Cucumbers, Strawberries, Mushrooms, and the usual Pot and Out Market Stuff.—F. A., Primrose Nursery, Sidcup, S.E.

FOREMAN, in a good establishment.—Age 27; good practical experience in Plant and Fruit Culture. Three years up present situation, four and a half previously. Can be well recommended.—A. UPWARD, The Gardens, Cherkeley Court, Leatherhead.

ROSE GROWER.—Well up; first-class and very successful exhibitor. First-class references.—C. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

To Nurserymen.

PROPAGATOR.—Age 23; nine years' experience in Slove and Soft-wooded Stuff, Ferns, &c., for Market. Good references.—E., 41, Wellington Street, Strand, W.C.

To Nurserymen.

PROPAGATOR and GROWER, First-class.—Eleven years' practical experience in all branches; good Florist and Decorator.—H. H., W. Dawson, High Street, Haslemere.

JOURNEYMAN.—Inside, or Inside and Out.—R. DONKIN, The Gardens, Nunhurst, Craleigh, will be pleased to recommend an energetic young man as above.

JOURNEYMAN, in the Houses in a good Establishment.—Age 22; seven years' experience. Good references.—J. GILES, Eastwell Park Gardens, Ashford, Kent.

JOURNEYMAN (SECOND), inside, or inside and out, under a Foreman, in a good establishment.—Age 19; six years' experience; total abstinence; highly recommended.—A. ALLEN, Cavendish, Suffolk.

JOURNEYMAN, in the Houses; age 20; five years' experience.—Mr. C. G. Osseley, Manor Garden, Christchurch, Hants, can confidently recommend a young man as above.

JOURNEYMAN, in the Houses, where three or four are kept.—Age 21; two years' good character from last place.—F. PIKE, Iping, Midhurst, Sussex.

JOURNEYMAN, inside, or inside and out, in good Establishment.—Age 22. Seven years' experience; good references.—J. RING, 129, Salisbury Road, High Barnet.

JOURNEYMAN (SECOND), in a good establishment.—A young man, age 20; has had good practical experience, and can be well recommended. Bothy preferred.—GARDENER, Effingham Park, Crawley Down, Sussex.

JOURNEYMAN (First or SECOND), inside.—Age 23; seven years' experience; good character. Strong and willing.—STEPHEN RICHARDSON, The Gardens, Pimbley House, Sunbury-on-Thames.

JOURNEYMAN (First), in the Houses; age 24.—Mr. BURGINS can highly recommend F. Thomas as above to any Gardener in want of a steady trustworthy young man. Seven years' experience.—W. BURGINS, Woodlands Castle Gardens, Clonsilla, Dublin.

JOURNEYMAN (First), in the Houses.—Age 23; knowledge of Orchids. Seven years' experience. Well recommended. Total abstinence.—J. CARTER, 11, Canterbury Terrace, Maidva Lane, London, W.

JOURNEYMAN, for the Houses.—Five years' experience in Heaths, Orchids, Chrysanthemums, &c.; good recommendation. F. MATTHEWS, 1, Albion Villas, Victoria Road, Trowbridge.

JOURNEYMAN, inside, or inside and out.—Age 24. W. WARD can with confidence recommend a steady and reliable young man as above. Abstainer.—Castle Malgwyn Gardens, Boncath, R. S. O., South Wales.

JOURNEYMAN, in the Houses in a good establishment, or SECOND where five or six are kept.—Age 24; two and a half years' excellent character.—W. A., Little Linford, Newport Pagnell, Bucks.

IMPROVER, inside, in a good Establishment.—Age 18; strong, and willing. Three years' experience, and good character. Bothy preferred.—ROBERT RICKARDS, Falfeld, R. S. O., Gloucester.

IMPROVER, in Fruit Growing, in Market Garden.—Young man, age 19. Good character. Abstainer. Three years in the work.—G. RIDEOUT, Chiddingfold, Hawkhurst.

IMPROVER.—Age 19; willing to pay £5 for two years' instruction in a good private place; has been six years in a nursery.—H. COULAND, Hull Road, Hesse, Hull.

IMPROVER, inside, or inside and out.—Age 18; two years' experience. Good reference.—W. DENNETT, Bridge, South Petherton, Somerset.

IMPROVER.—Age 19; strong and willing. Four years in situation. Bothy preferred.—W. J. BRIT-TAIN, Britwell Road, Burnham, Bucks.

IMPROVER (age 19), in a Gentleman's garden. A Lady, giving up her establishment, wishes to highly recommend a Youth as above.—A. BOOKER, The Gardens, Oakley, Horsey, N.

IMPROVER, in a private place.—Age 20; three and a half years' good character from a Nurseryman.—S. HAYWARD, 18, Gothic Villas, Vicarage Road, Tottenham.

IMPROVER.—Age 20; wages not so much an object as opportunity of learning.—Apply, F. Walser and Grist's Library, Western Road, Brighton.

IMPROVER, inside, in a good private establishment.—Age 20; five years' good character; would pay a premium; bothy preferred.—W. GATFORD, Holtye, Edeburgh, Kent.

COACHMAN and GARDENER.—Age 44, married; no objection to milk cows. Leaving through a death. Five and a-half years present place; disengaged end of this month.—COACHMAN, Northend, Betsam, Gravesend.

TO GARDENERS.—Situation wanted, in a Gentleman's Garden, by a young man (age 20); can be well recommended. Abstainer.—G. PEARSON, Farnham, Bedford.

TO GARDENERS.—Situation wanted by a married man (age 32, two children), in a Garden and Pleasure Grounds. Five years in present place. Good character.—M. M., Mr. Fox, Hinton Grange, Saffron Walden.

TO NURSERYMEN wanting a good **INSIDE HAND**.—Age 22; three years Second to present employer; three previous in a nursery.—A. AKHURST, Woodside, Sandridge, Sevenshaws, Kent.

TO NURSERYMEN.—Two young men seek situations in Market Nursery. Used to Vines, Tomatoes, Carnations, Bonvards, Ferns, and Plants for Market.—G. Royal Nursery, Barrack Road, Christchurch, Hants.

TO NURSERYMEN.—Advertiser, age 27, well up in Ferns, Palms, Ficus, and general Nursery. Seeks situation in Nursery. Good references.—T. D., 7, Romney Place, South Hove.

TO THE SEED TRADE.—A well educated Youth (age 16), wishes to be APPRENTICED to the above.—H. G., Mr. Gibson, Stationer, Aldridge, Wallall, Staffordshire.

TO MARKET GARDENERS.—Wanted, by Advertiser, of fourteen years' experience as Salesman in Covent Garden Market, and also on the premises engaged as Salesman. Eight years' excellent character. First-rate Road connection.—Address, R. W., 109, Duke's Road, Chiswick.

TO FARMERS and MARKET GARDENERS.—Re-engagement wanted by farmer's son, age 19; strong, healthy, and willing to be useful in any branch. Three years' experience on mixed farm and at Covent Garden. Live in; good references.—O. 132, Earl's Court Road.

SHOPMAN, SALESMAN, or MANAGER.—Age 28, married; experienced in Wreaths, Bouquets, Plants, Seed, Nursery Stock, Book-keeping, &c. Good Salesman. Highest references.—FLORIST, 65, Solon Road, London, S.W.

PAINTER and HANDYMAN, on Estate.—Permanent or Piece-work. Age 37, married.—W. ARBER, 7, The Pavement, Hayden's Road, Wimbledon.

TO FLORISTS.—A Young Lady (age 18) seeks re-engagement in a Florist's Shop. For references, &c., apply to Mrs. BUTCHER, Florist, South Norwood, S.E.

TO FLORISTS.—Situation wanted by a young Lady as Florist, either in a Florist's or Florist and Seed Shop.—M. P., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

HOLLOWAY'S PILLS.—Weakness and Debility.—Unless the blood be kept in a pure state, the constitution must be weakened, and disease supervene. These wonderful Pills possess the power of neutralising and removing all contaminations of the blood and system generally. They quietly but certainly overcome all obstructions tending to produce ill-health, and institute regular actions in organs that are faulty from derangement of Biliary. The dyspeptic, weak, and nervous may rely on these Pills as their best friends and comforters. They improve the appetite, and thoroughly invigorate the digestive apparatus. Holloway's Pills have long been known to be the surest of all remedies for Liver complaint, dreadful Dropsies, Spasms, Colic, Constipation, and many other diseases always hovering round the feeble and infirm.

GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2682.

No. 282.—VOL. XI. {THIRD SERIES}

SATURDAY, MAY 21, 1892.

[Regt. as a Newspaper. {PRICE 3d. POST-FREE, 3½d.}

CONTENTS.

Alnwick Castle ...	662	Nursery notes—	
Anthuriums ...	655	Orchid exhibition at Mr. Wm. Bull's ...	663
Book notice—			
Horticultural Exhibitor's Handbook ...	659	Ophiglossum pendulum ...	656
Carrot grub, the ...	662	Oranges, Jaffa ...	658
Chiloege exhibition ...	658	Orchids at Ghent ...	658
Clematis indivisa lobata ...	662	Palm, fœo, of Australia ...	659
Coco-de-mer, the discovery of ...	649	Podocarpus pectinatus ...	662
Decid. system, the ...	656	Polyanthus and Primula, reversed forms of ...	662
Dendrobium, pruning of ...	659	Root grafting, experiments in ...	659
Gambir ...	658	Rosa gigantea ...	658
Flowers, writing on ...	658	Royal Botanic Society ...	656
Fruit trees, spraying ...	657	Royal gardener, a ...	652
Gardeners' Orphan Fund, the ...	674	Societies—	
Gardeners' Orphan Fund, the ...	659	Cheltenham ...	658
Hardy fruits, colour on ...	663	Ghent Horticultural ...	658
Herbaceous plants, Kew's medals for ...	658	Royal Horticultural ...	664
Hydrisic canadensis ...	662	Royal Botanic ...	661
International Horticultural Exhibition ...	661	Stachys tuberosa ...	662
Leaves, effect of exposure on ...	659	Syme, Mr. D., testimonial to ...	665
Lime on heavy soil ...	659	Temple flower show ...	658
Market gardens, Paris, profits from ...	659	Traveler's notes, a ...	669
More or noteworthy plants—		Tree pruning ...	657
Aquilegia transylvanica ...	650	Week's work ...	653
Calceolipina ...	650	Flower Garden ...	655
Gentiana pyrenaica ...	650	Forestry ...	653
Oncidium Grævesianum ...	650	Fruits under glass ...	654
Viola declinata ...	650	Hardy fruit garden ...	655
		Kitchen garden ...	651
		Orchid-houses ...	655
		Plants under glass ...	654

ILLUSTRATIONS.

Alnwick Castle ...	661
Indian garden, plan of ...	653
Ophiglossum pendulum ...	657

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

"Parton's Calendar," New Edition, "The Cottage's Calendar of Garden Operations," Price 3d., post-free, 3½d. 41, Wellington Street, Strand, London, W.C.

A GAVE AMERICANA.
Several very fine Specimen Plants for Sale, price 2½ each. Apply—
T. GOSLING, 24, Miles Street, Hammersmith, W.

LOTUS PELIORHYNCHUS.—First-class Certificate, Royal Horticultural Society, May 3. A most attractive Greenhouse Plant, specially adapted for hanging-baskets. Price 3s. 6d. and 5s. each.
ROBERT VEITCH and SON, The Royal Nursery, Exeter.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List free—P. MCARTHUR, The London Nursery, 4, Maids Lane, London, W.

Trade Offer of Large Palms.
W. ICETON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliate Plants. Lowest Prices quoted on application.
W. ICETON, Putney, S.W.

VIOLAS.—Our Collection of these is unique, and quite unrivalled. Sample dozen, including many of the finest sorts, in their respective colours, post free, for list.

DAHLIAS.—We grow 50,000. Only the very best varieties kept in stock. A trial dozen will convince everyone of this. Plants of all sections ready now, 4s. 6d. per doz., carriage free.
DOBIE and CO., Florists, Rothsay, Scotland.

CARTERS'—THE BEST SEEDS.

CARTERS' HOLBORN PRIZE PRIMULA.
CARTERS' VICTORIA PRIZE CALCEOLARIA.
CARTERS' BRILLIANT PRIZE CINERARIA.
The finest strains to cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN,
237 and 238, HIGH HOLBORN, LONDON, W.C.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 9d. per 100.
RICHARD SMITH and CO., Worcester.

W. D. BUNDAY, of Covent Garden Market,
and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOES, GRAPEES, &c. Good references.

CHOICE FRUIT!—CHOICE FRUIT!

Highest market prices guaranteed. Prompt cash.
HENRY RIDES, Centre Avenue, Covent Garden, W.C.

JOHN COLLINGRIDGE is open to receive Consignments of Choice CUT FLOWERS for SALE, on COMMISSION. Highest references.
New Flower Market, and 5, Russell Court, Strand, W.C.

MESSRS. SQUELCH and WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOES, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE.
Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

CLEARANCE SALE of BULBS for Summer and Autumn Flowering. Price LIST on application. Splendid mixed Gladioli, 2s. 6d. per doz.; Anemone fulgens, scarlet, 5s. 6d. per 100; Anemone Glory of the South, large scarlet, 5s. 6d. per 100; double-tasseled Anemone fulgens, 3s. 6d. per 100; large white, three-spotted flower, 2s. 6d. per doz. Mixed Turban Ranunculus, from named sorts, 3s. per 100.
BARR and SON, King Street, Covent Garden, W.C.

ORCHIDS A SPECIALTY.

Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants.
W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

THE Best Present for a Gardener.

VINES and VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
New Edition.
Price 5s., post-free, 5s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

KENTIAS, in many useful sizes for furnishing,

also large quantities in 60's, Cocos Weddelliana, and many other Palms. FERNS in many sizes, grown hardy for furnishing. Cheap for cash.
GEORGE CLARK, Clarence Lane, Putney, S.W.

Rape Seed and White Mustard.

H. AND F. SLAIRE have fine clean samples of the above, suitable for sowing, and will be pleased to submit samples and quote prices.
Seed Growing Establishment, Wisbech.

WANTED, BACK NUMBERS of the "GARDENERS' CHRONICLE."—No. 54, January 7, 1888; No. 106, January 5, 1889—PUBLISHER, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a few large-flowering SPECIMEN PLANTS.

Not less than 4 feet in height and bushy. Oleanders, Brugmansias, and Fuchsias, &c.
J. RATLIFF, Springfield, Northampton.

WANTED, SEEDLINGS of Cyclamen persicum,

Herbaceous Calceolarias, Primula sinensis, Cinerarias; and small PLANTS of Chrysanthemum, Early White and Yellow, Source for William Holmes, Madame Desgranges, William Robinson, Florence Percy, and Lady Selborne.—State price per 100 to—
J. LION PARK Nursery, Stanmore, Middlesex.

SUTTONS' FLORISTS' FLOWERS.

The best strains in existence.

SUTTON'S PRIZE BEGONIA.
5s. and 2s. 6d. per packet.

SUTTON'S PERFECTION CALCEOLARIA.
5s. and 2s. 6d. per packet.

SUTTON'S SUPERB CINERARIA.
5s. and 2s. 6d. per packet.

SUTTON'S SEEDS GENUINE ONLY
DIRECT FROM SUTTON and SONS, THE QUEEN'S SEEDSMEN, READING.—All Flower Seeds Post Free.

CLEMATIS COCCINEA, brilliant scarlet.
CLEMATIS CRISPA, mauve, 2s. 6d. each.
Highly perfumed, perfectly hardy.
No Garden should be without these gems.
E. S. WILLIAMS and SON,
Victoria & Paradise Nurseries, Upper Holloway, London, N.

150,000.—Special Offer of Kentias.

W. ICETON has a large quantity of the above to offer, very reasonable, at from 27 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £20 per 1000.
W. ICETON, Putney, S.W.

PRIMULAS—PRIMULAS—PRIMULAS.

24th year of distribution. Williams' Superb Strain, 1s. 6d. per dozen, 10s. per 100; P. OBSCURA, 4d. each. CINERARIAS, same price; also double white PRIMULAS, 6d. each. Carriage free for cash with order.
JOHN STEVENS, The Nurseries, Coventry.

Seeds for Present Sowing.

DICKSON and ROBINSON'S
Superb Strains of the following are unsurpassed:—CALCEOLARIA, CINERARIA, GLOXINIA, and PRIMULA, Red, White, and Mixed Colours, each 1s. 6d. and 2s. 6d. per packet, post-free.

EXHIBITION DWARF EVERGREEN LAWN GRASS.
per lb. 1s., post-free, 1s. 3d.; per cwt., 100s., carriage paid. Descriptive Price CATALOGUE, post-free, on application.
Seed Warehouse, 12, Old Millgate, Manchester.

NICOTINE SOAP.—An effectual and speedy

Eradicator of Scale, Thrips, Green Fly, Mealy Bug, Red Spider, American Blight, and all Parasites affecting Plants, without injury to Foliage. Price 1s. 6d., 3s., and 5s. 6d.; 14 lb., 15s. 6d.; 25 lb., 25s.—CORY and CO., Limited, 13, 15, and 16, Finsbury Street. To be obtained through all Seedsmen and Florists.

Boulton & Paul's Outdoor Requisites.

BOULTON and PAUL,
MANUFACTURERS, NORWICH.
Every Requisite for the Kennel and Poultry Yard, Aviaries, Pigeon Cotes, Pheasants.
Requisites for the Garden, Park, Pleasure Grounds.
Wire Netting for Game and Sheep. Iron and Wire Fencing, Gates, &c.
Send for Illustrated CATALOGUES, post-free, on application.

THE CHADBORN and COLDWELL

M'F.G. CO.,
Makers of the Patent "EXCELSIOR" LAWN MOWER,
223, UPPER THAMES STREET, LONDON, E.C.

Registered Telegraphic Address: "LAWN MOWERS, LONDON."

J. WEEKS and CO., HORTICULTURAL

EXPERTS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Architect, War Department, Royal Horticultural Society, Royal Botanic Society Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.
King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT

MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE, 10, Victoria Road, Putney.
WM. THOMSON and SONS, Clonfert, Galashiels, N.B.

SALES BY AUCTION.

Thursday Next.

CATTLEYA CLAESIANA, Linden.
WITHOUT THE LEAST RESERVE.

Messrs. Linden have much pleasure in dedicating A GRAND NEW CATTLEYA, just received, to their most zealous and enterprising collector, M. Claes, who succeeded in discovering this GORGEOUS NEW SPECIES, and describes it as one of the most wonderful yet introduced.

THE WHOLE IMPORTATION WILL BE INCLUDED.
THE PLANTS ARE IN SPLENDID CONDITION.
NO MORE WILL BE IMPORTED.

MR. J. C. STEVENS has received instructions from Messrs. Linden, L'Horticulture Internationale, Brussels, to SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 26, at half-past 12 o'clock precisely, the above magnificent novelty, without the least reserve.

On view morning of Sale, and Catalogues had.

Thursday Next.

WITHOUT RESERVE.

EXTRA FINE PLANTS OF CATTLEYA REN,
THE GRANDEST INTRODUCTION OF THE CENTURY.

MR. J. C. STEVENS has received instructions from Messrs. LINDEN, Brussels, to include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 26, some extra fine plants of this, Linden's most glorious introduction, without the least reserve.

On view morning of Sale, and Catalogues had.

Thursday Next.

ABSOLUTELY UNRESERVED. 200 SELECTED PLANTS OF CATTLEYA ALEXANDRE, INCLUDING MANY EXTRAORDINARY FINE SPECIMENS, IN MARVELOUSLY FINE CONDITION.

MR. J. C. STEVENS has received instructions from Messrs. LINDEN, Brussels, to include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 26, the above grand lot of this, Linden's most magnificent novelty. Absolutely without the least reserve.

On view morning of Sale, and Catalogues had.

Thursday Next.

FIVE NEW EXQUISITE CATTLEYS, WITHOUT THE LEAST RESERVE.

In the MOST MAGNIFICENT ORDER.

MR. J. C. STEVENS has received instructions from Messrs. Linden, Brussels, to include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 26, the above, without the least reserve.

On view morning of Sale, and Catalogues had.

Thursday Next.

ABSOLUTELY UNRESERVED SALE OF 100 SELECTED PLANTS OF CATTLEYA VICTORIA REGINA.

Messrs. Linden are the first introducers of this new Cattleya, and their Collectors have had the opportunity to collect the best and strongest plants, which are all included in this Sale.

MR. J. C. STEVENS has received instructions from Messrs. Linden, L'Horticulture Internationale, Brussels, to include in his SALE by AUCTION, without reserve, the above grand lot of this novelty, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 26.

On view morning of Sale, and Catalogues had.

Thursday Next.

A NEW AND MOST LOVELY CATTLEYA. Without the least Reserve. Discovered by M. Claes, and described as very pretty.

MR. J. C. STEVENS has received instructions from Messrs. Linden, Brussels, to include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 26, without the least reserve, the above new Cattleya.

On view morning of Sale, and Catalogues had.

Thursday Next.

TWO FINE NEW ORCHIDS, WITHOUT RESERVE.
IMPORTATIONS
CATTLEYA MOSSIE CHIRGUENSIS
AND CATTLEYA WAROCQUEANA.

MR. J. C. STEVENS has received instructions from Messrs. LINDEN, Brussels, to include in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, May 26, the above two fine NEW ORCHIDS, without reserve.

On view morning of Sale, and Catalogues had.

Thursday Next.

ABSOLUTELY UNRESERVED SALE of extraordinary fine

CATTLEYA MOSSIE CHIRGUENSIS
AND CATTLEYA WAROCQUEANA.

MR. J. C. STEVENS has received instructions from Messrs. LINDEN, Brussels, to include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, May 26, absolutely without the least Reserve, the above grand Importations.

On view morning of Sale, and Catalogues had.

Thursday, June 2.
THE COLLECTION OF ORCHIDS FORMED BY THE LATE HENRY FORD BARCLAY, Esq.

MR. J. C. STEVENS has been favoured with instructions to SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, June 3, at half-past 12 o'clock precisely, the COLLECTION OF ORCHIDS formed by the late Henry Ford Barclay, Esq., of Monkham, Woodford, which includes fine exhibition specimens of Vanda tricolor, V. suavis, and Angureum sesquipedale; also Cypripedium, Dendrobium, Cattleyas, Calanthes, Anthuriums, &c., &c.

On view morning of Sale, and Catalogues had.

Thursday, June 2.

A FINE COLLECTION OF ESTABLISHED ORCHIDS, chiefly in Flower.

MR. J. C. STEVENS will include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, June 2, a fine COLLECTION OF ESTABLISHED ORCHIDS, chiefly in Flower, comprising many beautiful specimens and varieties. LILIIUM, ANAETHYLLIS, and TUBEROSES, from South Africa, BEGONIAS, &c.

On view morning of Sale, and Catalogues had.

Thursday, June 2.

A small Collection of ESTABLISHED ORCHID.

MR. J. C. STEVENS will include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, June 2, a small private Collection of ESTABLISHED ORCHIDS, consisting of some good specimens and varieties, all well grown.

On view morning of Sale, and Catalogues had.

Tuesday, May 24.

CYPRIPEDIUM SPECIERIANUM MAGNIFICUM, Messrs. CHARLES WORTH, SHIPLEY WORTH, & CO., Heaton, Bradford, and 213, Park Road, Clapham, S.W., have instructed

MESSRS. PROTHEROE AND MORRIS to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY NEXT, May 24, at half-past 12 o'clock, a splendid consignment of CYPRIPEDIUM SPECIERIANUM MAGNIFICUM.

Dried flowers will be on view at time of Sale.

DENDROBIUM CAMBERGIANUM.

A new CYMBIDIUM CATTLEYA L. ELATA, and many

VALUABLE ORCHIDS.

On view morning of Sale, and Catalogues had.

Wednesday Next.

50 lots assorted PALMS, comprising PHOENIX RECLINATA, DRACENA INDIVISA, KENTIAS of sorts, and other choice Palms in various sized pots; also 100 clear-grown plants of SEAFORTHIA ELIENSIS; 150 lots of BULBS and PLANTS, various; 50 lots of HERACLIUM PLANTS; PANCRATIUM CARIBUEUM; 40 lots of GREENHOUSE FERNS; 100 bunches of TIE STICKS; LATTICE WORK, BAMBOO LADDERS and CANES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, May 25, at half-past 11 o'clock.

On view morning of Sale, and Catalogues had.

Cycas revoluta.

An IMPORTATION of 25 SPECIES, received direct from Japan. They are in excellent condition.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on WEDNESDAY, June 5.

Friday, May 27.

Being the day following the Great Temple Show.

MESSRS. PROTHEROE AND MORRIS will include on FRIDAY NEXT, a large quantity of ORCHIDS in FLOWER and BUD from various collections.

On view morning of Sale, and Catalogues had.

Friday Next.

A GRAND NEW SOBOLLIA.

An importation direct for sale without the least reserve. It contains a marvelous new Sobollia, described by the Collectors as having large pure white flowers, as large as S. xantholeuca. This is no doubt a wonderful discovery. The case also contained the rare SOBOLLIA LEUCOXANTHA and VIRGINALIS. The three varieties are raised together. The large white-flowered Sobollia was flowered in the forests instead of on the plains, where the other varieties were discovered. There will also be sold a fine lot of CATTLEYA IMPERIALIS, ONIDIUM KERAMET, new DOLERA, described as a grand variety; a very long-bulbed CHYSIS, PERISTERIA ELATA, and a scarlet-flowered EPIDENDRUM. This will give amateurs a fine chance of securing bargains. Most likely the Sobollia will turn out to be the

MOST VALUABLE AND RARE KIENASTIANA.

MESSRS. PROTHEROE AND MORRIS will sell the above by Auction at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, May 27, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next.

EPIDENDRUM INDIVIDUUM.

A grand new species of Cattleya-like growth, with short spikes, bearing bouquets of large pure white warts like fragrant flowers very freely.

MESSRS. PROTHEROE AND MORRIS will include in their SALE on FRIDAY NEXT, May 27, a small consignment of the above rare and beautiful species in fine condition; also some new and RARE DISA, and other TROPICAL ORCHIDS, from a very high elevation in South Africa hitherto unexplored, including a new species of DISA, with BEAUTIFULLY VARIEGATED LEAVES and handsome flowers.

On view morning of Sale, and Catalogues had.

MESSRS. PROTHEROE AND MORRIS have received instructions from M. SERRA, F. SANDER & CO. to include in their SALE on MAY 27.

A fine lot of unfloored SEEDLING CYPRIPEDIUM, in fine condition and vigour.

DENDROBIUM WARDIANUM, a fine lot of strong established plants.

Established and unfloored ODONTOGLOSSUM CRISPUMS. Also a fine lot of the new and beautiful ONCIDIUM GRAVESIANUM.

EPIDENDRUM GODSEFFIANUM, in fine masses.

DENDROBIUM DALHOUSIANUM, splendid plants, in flower.

LEGIA PURPURATA, grand plants, in flower.

CATTLEYA MOSSIES, fine specimens, in flower.

And other choice ORCHIDS in bloom.

The celebrated "Logs" Collection of

ESTABLISHED ORCHIDS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY, May 31, at half-past 12 o'clock precisely, the whole of the valuable collection of ESTABLISHED ORCHIDS, by order of E. Gotto, Esq., who is disposing of them in consequence of having to winter abroad. The Plants are in capital condition, and many special choice things that have been sent direct from the Brazil by a consignor on there, notably the Lemia Gottleiana (believed to be unique), First-class Certificate R.H.S.; L. grandis tenebrosa, fine expanse; L. elegans Turani, several magnificent pieces, and fine varieties; L. elegans Turani, specially dark variety; L. purpurata grande and Edwardi, both wonderfully fine forms; Sphoranthus grandiflora (supposed to be a yellow variety). In addition to this will be found fine specimens of Cypripedium bellatulum, villosum, aureum, Spicerianum magnum, calurum, Harrisianum, Dominiana, also marginatum, and others; Cattleya Skinneri alba, C. Harrisoni violacea, Cymbidium Lowii, Cattleya gigas (many fine varieties), C. Dormaniana, C. Mendel grande and C. M. super-bissima (both specially fine varieties), Brassia lanceum longissima, grand pieces of Oncidium Marshallianum, &c.

On view morning of Sale, and Catalogues had.

1,000,000 PALM SEEDS.

Undoubtedly the largest consignment ever submitted to Public Auction. The whole will be offered in one day, and the Consignment includes—

350,000 KENTIA POSTERIANA,

350,000 CECYLIUM BELMONTANA,

85,000 ARECA LUTESCENS,

And large quantities of COCOS, GEONOMAS, MARTINIA DISTICHA, CARYOTAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Rooms on WEDNESDAY, June 5 NEXT.

The Auctioneers will be pleased to execute commissions for Provincial and Foreign Buyers.

The Seeds are being sent by two well-known Firms direct to Messrs. PROTHEROE & MORRIS, and the whole will be sold absolutely without reserve.

Bodicotte Vicarage, 13 miles from Banbury.

THE WHOLE OF THE GREENHOUSE AND BEDDING PLANTS, comprising the Choice and Valuable Collection of Ferns, including First-rate Specimen of Todea Serrata, well-grown Tree Ferns, and many other rare and choice GREENHOUSE PLANTS, consisting of fine Azaleas, Deutzias, Hydrangeas, Geraniums, and other Plants, Roses in pots, 100 Lots of BEDDING PLANTS, consisting of Geraniums, Lobelias, Dahlias, Pansies, Stocks, Anthers, &c. Also, two Alderney Cows, Alderney Stirk, Shorthorn Cow, capital three-cylinder Pony Roll, and other Effects.

Will be SOLD by AUCTION by

MESSRS. SAM C. MILLER AND ABBOTTS,

upon the premises, on WEDNESDAY, June 1st, 1892, by direction of the Rev. A. Short, who is leaving.

The Auctioneers wish to direct special attention to this Sale. The grand Assortment of Ferns have taken many years to collect, and include some very rare specimens, and the Sale offers an opportunity for purchasers seldom to be met with.

The Cattle are in good condition.

On View the morning of Sale until 12 o'clock, when the Auction will commence. Catalogues may be obtained of the Auctioneers, 32, High Street, Banbury.

WANTED, a genuine NURSERY, SEED, and FLORIST BUSINESS, in a good Country Town, where £200 to £1000 may be profitably employed.

H. L., 5, Wood Street, S.Windon.

WANTED, to RENT, with option of Purchase, a SMALL NURSERY of about 1 acre, with good 600 feet run of Glass.—M. Gardener's Chronicle Office, 41, Wellington Street, Strand, W.C.

ORPINGTON (Kent).—FREEHOLD COM-PACT ESTATE, about 1½ acres. Three 6-roomed Houses, new, Good Shed, and Water Supply. Good Building Frontage to main road. S. E. R. 1 mile. Immediate possession. No reasonable offer refused. Particularly adapted for Vines, Tomatoes, and Cucumbers.

Particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

KENT.—In the best-growing district, TO BE SOLD, a FREEHOLD NURSERY. Four acres of Land, and nine modern Greenhouses, each 100 feet in length; all heated by hot-water Firing. S. E. R. 1 mile. Immediate possession. No reasonable offer refused. Particularly adapted for Vines, Tomatoes, and Cucumbers.

Particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

LONDON, N.W. (7611).—In a splendid district, TO BE SOLD, TWO COMPACT NURSERIES, of about 3 acres in extent, large Jobbing Business and Connection, 8 Greenhouses, all Heated; 9-roomed Dwelling-house, Stabling, and Buildings. Price for Stock, Buildings, Horses, &c., £1300. Apply to PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

THURSDAY, MAY 26 NEXT.

NEW ORCHIDS.

HIGHLY IMPORTANT, ABSOLUTELY UNRESERVED SALE,

AT

STEVENS' ROOMS,

OF

FIVE NEW EXQUISITE CATTLEYAS

BY ORDER OF

MESSRS. LINDEN, BRUSSELS—

CATTLEYA CLAESIANA CATTLEYA VICTORIA REGINA

(LINDEN),

(SANDER),

The whole importation of this glorious new Cattleya.

Messrs. Linden are the first introducers of C. VICTORIA REGINA, and their Collectors had opportunity to select the best and strongest plants, which are all included in this Sale.



CATTLEYA ALEXANDRÆ,

(LINDEN AND ROLFE),

Two Hundred Selected Plants of H.R.H. PRINCESS OF WALES' grand New Cattleya, including many extra fine large specimens, in the most marvellous condition.

CATTLEYA REX

(JAMES O'BRIEN),

 The Grandest Introduction of the Century. 

CATTLEYA, SPECIES NORA,

A most lovely New Cattleya.

ALSO, SOME GOOD PLANTS OF THE NEW AND BEAUTIFUL

PERISTERIA LINDENI (ROLFE), & RODRIGUEZIA LINDENI (A. COGNIAUX).

ALSO, FINE IMPORTATIONS OF

CATTLEYA MOSSIÆ CHIRGUENSIS, & CATTLEYA WAROCQUEANA,

ALL IN THE MOST MAGNIFICENT CONDITION.

FOR SALE, without any reserve, on THURSDAY, MAY 26,

BY

AT HIS GREAT ROOMS,

MR. J. C. STEVENS, 38, KING ST., COVENT GARDEN, LONDON, W.C.

GOLD MEDAL LAWN MOWERS 'INVINCIBLE' 'VICTOR'

NEVER
BEEN
BEATEN.

SAML.
EDWARDS'
PATENTS.

EASY
TO
WORK.



TWO HANDLES, same price.
Light in Construction.
Invaluable Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

SHANKS'S LAWN MOWERS

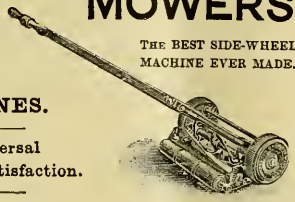
THE BEST AND
MOST LASTING

MACHINES.

Give Universal
Satisfaction.



THE STANDARD MACHINE.



THE BEST SIDE-WHEEL
MACHINE EVER MADE.

FOR LISTS, ADDRESS—

"BRITANNIA" MOWER

ALEXR. SHANKS & SON,

DENS IRONWORKS, ARBROATH, N.B.

AND

110, CANNON STREET, LONDON, E.C.

LONDON WAREHOUSE:—

5, OLD SWAN LANE, UPPER THAMES STREET, E.C.

WHERE REPAIRS ARE ALSO EXECUTED.

HORTICULTURAL BUILDER.

Every description of GREENHOUSES, LIGHTS, &c.

PIT LIGHTS.

CUCUMBER HOUSES.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. 6d. each, 50s. doz., £10 for 50 lights, free on rail in London. Cash or reference with order.

Timber sufficient to build 100 feet by 12 feet house, lights, door, &c. Put on rail in London. Price, £9 10s. Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.

Send for Illustrated Catalogue, just issued.

SANKEY'S famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

GILBERT'S DOUBLE PRIMULAS, Lord Beaconsfield and Marchioness of Euston. They make unique pot plants. Cuttings, in small 6/6, warranted hardy, and good plants, for potting on, well rooted; the former, 36s. per dozen, and the latter, 30s. No charge for Packing and Postage.—R. GILBERT, High Park, Stamford.

BARR'S SEEDS, BULBS AND PLANTS. VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.

FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.

BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michauxia Desaié, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.

BARR AND SON, 12, King Street, Covent Garden, London.

L'HORTICULTURE INTERNATIONALE

(Orchid Emporium), Leopold Park, Brussels.

THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurseries to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

FERNS! FERNS!!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cuneatum, Aralias, Cyperus, all in 48's, 6s. per doz. Palma, Ficus, 1s. each. Large Ferns, 10 best sorts 5s. 6d. per doz., in 48's. Cinerarias, Spiraeas, Marguerites, and Pelargoniums. Rhodanthe in bloom, 8s. per dozen, in 48's. Adiantum cuneatum and P. tremula, extra size, in 24-inch pots, 16s. and 20s. per 100. Packed free. Cash with Order. J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

FERNS

If you wish to have
CHOICE, VARIED & BEAUTIFUL
COLLECTION OF FERNS
different from those commonly seen
you can obtain such from
W & J. BIRKENHEAD.
FERN NURSERIES, SALE, MANCHESTER
Who have 1400 DIFFERENT KINDS FOR
SELECT FROM. CATALOGUE ON APPLICATION.

Many Acres of Lilies of the Valley!
T. JANNNOCH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.
T. JANNNOCH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

SPLENDID

NEW DWARF BEDDING TROPÆOLUM,

"MRS. CLIBRAN,"

The finest new, soft-wooded plant sent out for years.

See last or next week's advertisement;

Or, send for CATALOGUE No. 115, containing full description and price.

CLIBRAN'S OLDFIELD NURSERIES, ALTRINCHAM;

10 & 12, MARKET STREET, MANCHESTER;

and Principality Nurseries, Llandudno Junction.

KEYNES WILLIAMS & CO'S
GRAND NOVELTIES
CACTUS DAHLIAS
Lists on Application
NURSERIES
SALISBURY

NATIVE GUANO.—BEST AND CHEAPEST MANURE for GARDEN USE. Price £3 10s. per ton, 10 bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample bag, sent Carriage Paid to any Station in England, on receipt of P.O. for 5s.

Extracts from 16th Annual Collection of Reports:—**NATIVE GUANO, for POTATOS, VEGETABLES, &c.** H. BRINKWORTH, Potato Grower, Reading, used for Potatos, Onions, and Carrots, results:—"Very good; never had better crops."—J. BUTLER, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatos large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, for FRUIT, ROSES, TOMATOS, &c. J. PEED & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory; we use no other Guano now; consider yours preferable to Peruvian."—J. FINCH, Orford Garden:—"Used for Vegetables, Tomatos, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatos, and many other things. The Cheapest Manure in the Market."

Orders to the **Native Guano Co., Ltd.**, 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

DOHERTY'S CHRYSANTHEMUM

MANURE is the only Manure on the market having a definite scientific basis. It is distinct from all others, and is specially prepared for the cultivation of Chrysanthemums intended for exhibition. It is pronounced by the best judges to be the most perfect fertiliser of the day, not only for Chrysanthemums, but for Pelargoniums, Zonal Geraniums, Fuchsias, Eucharis, Crooms, and Tomatos.

Testimonial.—October 12, 1891. To Mr. A. J. Doherty, "Dear Sir,—I have tried your new fertiliser upon several varieties of Chrysanthemums with great success; in fact, I think it the best fertiliser I have ever used for Chrysanthemums. It produces large Blooms, and quantities of Cuttings, and nourishes the plants during the whole growing season. Kindly send me 1 cwt. more, as I am in want of some immediately, and I prefer this to any other."—(Signed), A. J. MANDA, F.N.C.S., F.R.H.S., United States Nurseries, Hextable."

Sold in sealed tins, with directions for use. Size No. 1— $\frac{1}{2}$ dozen, 4s. 6d.; $\frac{1}{2}$ dozen, 8s.; 1 dozen, 15s. Size No. 2— $\frac{1}{2}$ dozen, 9s.; $\frac{1}{2}$ dozen, 16s.; 1 dozen, 30s. The large tins contain three times the quantity of the small ones.

From the Agents—Messrs. LITTLE & BAILLANTINE, Carlisle; Messrs. FITCH & MANDA, Hextable, Swanley, Kent; Mr. JOHN GREEN, F.R.H.S., Norfolk Nurseries, Dereham; and from the Inventor, A. J. DOHERTY, Analytical and Manufacturing Chemist, Burlington Street, Manchester.

ALBERT'S HIGHLY CONCENTRATED HORTICULTURAL MANURE.

A Chemically Pure Plant Food.

UNPARALLELED FOR ITS RAPID ACTION AND FRUITIFYING PROPERTIES.

BEST AND ONLY RELIABLE COMPLETE FERTILISER for all VEGETABLES, FRUIT TREES, VINES, FLOWERS, LAWNS, &c.

UNPRECEDENTED RESULTS obtained by its use.

For Prices and Descriptive Pamphlet, apply to—

H. & E. ALBERT,
17, GRAVECHURCH STREET, LONDON, E.C.
Responsible Agents wanted.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatos, Peaches, &c., beyond any other Manure.

If you Try it Now
You will Order later on.

Cambridge, September 12, 1891.
"I have formed a very high opinion of the value of the Patent Silicate Manure, especially for Tomatos, Grapes, and Peaches."
(Signed) E. HOBDAY.

Prices in Sacks, at Works, 10s. per cwt.; £2 per $\frac{1}{2}$ ton; £3 15s. per $\frac{1}{2}$ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

SLUGICIDE (REGISTERED).—Certain death to Slugs, fertilises the soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners ever invented. 1s. 6d. per box, 12 all Scotland, The terms. "THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

STANDEN'S (PATENT). MANURE.

ACKNOWLEDGED to be unrivalled for Efficiency and Economy, as most satisfactory and lasting results follow the application of the smallest quantity. In new and enlarged Tins, 6d., 1s., 2s. 6d., 5s. 6d., and 10s. 6d.; and in Kegs, 28 lb., 10s. 6d.; 56 lb., 18s.; 112 lb., 32s. each.

Sold by all Nurserymen and Seedsmen.

SOLE MANUFACTURERS:

CORRY & CO. (Limited),
13, 15, & 16, FINSBURY ST., LONDON, E.C.



TRADE MARK.



TRADE MARK.

THESE WELL-KNOWN MANURES

ARE USED BY THE

Leading Growers,
Royal Botanic Society,
Royal Horticultural Society,
Royal Parks,
London County Council,
Throughout the United Kingdom,
And in Every Quarter of the Globe.

Sold by SEEDSMEN, FLORISTS, and NURSERYMEN,
in 6d. and 18. Packets, and SEALED BAGS:—
7 lb. 14 lb. 28 lb. 56 lb. 112 lb.
2s. 6d. 4s. 6d. 7s. 6d. 12s. 6d. 20s.

Or direct from the Works in 18. Packets, post free, or Bags of either size, Carriage Paid (as sample), in the United Kingdom, for Cash with order as above.

The respective Trade Mark is printed on every Packet and Bag, and also impressed on the Lead Seal attached to the mouth of each Bag. The only Guarantee of Genuine.

PRICES OF CRUSHED BONES IN VARIOUS SIZES ON APPLICATION.

CLAY & SON,
Manufacturers and Bone Crushers,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

RELIANCE FERTILISER. NITROLAINE.

A highly concentrated Plant Food, cleanly to use, for Greenhouse and Garden. The least possible waste, with utmost efficiency, 7 lb., 1s. 9d.; 14 lb., 3s.; 28 lb., 5s. 6d.; 56 lb., 10s.; 112 lb., 18s.; and—

A cheap and excellent "all-round" manure for Fruit, Flowers, Vegetables, Grass, & a genuine Plant Food, rich and lasting, 56 lb., 5s.; 1 cwt., 5s. 6d.; 5 cwt., 25s.; 10s. worth of Manures carriage paid to any railway station 200 miles, or on C.P. & Co.'s roads. Guano, Nitrate, Ammonia, Phosphates, Bone Manures, &c.
LEAF MOULD, PEAT MOULD, FIBROUS LOAM, and POTTING COMPOST, 3s. per 4 bushel sack; 1s. per bushel. Best Brown Peat, 5s. per sack; 1s. 6d. per bushel. Coco-nut Fibre, 1s. 2d. per sack; 5 for 6s. Silver Sand (coarse or fine), 1s. 6d. per bushel. Charcoal (nuts or fine), 2s. per bushel.
Price LISTS free. The Trade supplied on liberal terms.
"PLANT FOODS and HOW TO APPLY THEM," a Descriptive List, with Directions for Use, post-free, 1d.
HORTICULTURAL SUPPLY CO., Old Shot Tower Wharf, London, S.E.

PATENT DANDELION, PLANTAIN, DOCK and DAISY ERADICATORS. By this simple and effective invention, the time and expense usually involved by removal of these noxious weeds is reduced to a minimum. No digging up the turf. A long felt want supplied.
Price, 5s. 6d. Postage and package, 6d. extra.
Of all Ironmongers, Sawmen, and Florists.
WILKES & SON, Ironmongers, Salisbury.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER and CO., Farnborough, Hants.



FOR DESTROYING WEEDS, MOSS, &c.

ON CARRIAGE DRIVES, GARDEN WALKS, ROADS, STABLE-YARDS, WALLS, STONEWORK, &c.

Saves more than twice its cost in Labour. No Smell. One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every confidence in recommending it."

Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy."

Use—In 1 and 2-gallon Tins, 2s. per gal. (Tins included); in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20 gallons, 1s. 4d. per gallon. Special quotation for larger quantities. Carriage paid on 10 gals. and upwards.

Used in the proportion of one gallon to twenty-five gallons of water.

THE ACME SUMMER SHADING, White and Green.

For SHADING GREENHOUSES, CONSERVATORIES, &c. Does not wash off with the rain. Can be used WARM or COLD. 1 lb. makes 1 gal. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 6d.

For particulars of **ANTI-FUNGI POWDER** for Tomato Disease, Mould and Mildew on Roses, Vines, &c.; **KENTISH PLANT MANURE**, **SOLUBLE MANURE**, **ZINC LABELS**, **NEW METALLIC INK**, &c., apply to the

SOLE PROPRIETORS AND MANUFACTURERS,
THE "ACME" CHEMICAL CO., Limtd.,
Tunbridge, Kent;
and Carlton Street, Bolton, Lancashire.

"NOTHING SUCCEEDS LIKE SUCCESS."

HUGHES' FIR-TREE OIL

SOLUBLE INSECTICIDE.

The most pleasant and reliable of all insecticides for destroying insects on plants, animals, and birds. Thousands of testimonials received from all parts of the world. Bottles, 1s. 6d., 2s. 6d., 4s. 6d., 7s. 6d., and 12s. 6d.; in bulk, 11s. per gallon, with full directions for use.
For Apiculture, for spraying, 1s. 6d.; post, 1s. 8d. Tropical Beetle Powder, 1s. and 2s. 6d. Green and Cream Shading for Glass Houses, 1s. Patent Self-Feeding Syringes, 12s. 6d., 17s. 6d., and 22s. 6d. Vapour Roll Furniture, 1s. each.
Wholesale from all Horticultural Dealers.

E. GRIFFITHS HUGHES, Victoria St., MANCHESTER.
NEW YORK—ROLKER AND SONS.

FOWLER'S MEALY BUG DESTROYER.

For the eradication of this most troublesome pest. It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s. 6d., 5s., and 10s.; in half gallon, 42s. each.
CORRY and CO., Limited, 13, 15, 16, Finsbury Street, E.C.
Sold by all Seedsmen.

THE PERFECT WEED KILLER

COMPLETELY DESTROYS VEGETATION on Garden Walks, Carriage Drives, Stonework, etc.

WE GUARANTEE
all Weed Killer bearing our Trade Mark to be thoroughly efficient. Refuse Imitations.

THE GARDENER'S MAGAZINE says:—"The Perfect Weed Killer is at once simple, cheap, and effective. At the Royal Gardens, Kew, the Royal Horticultural Society's Gardens, Chiswick, and other public places the Perfect Weed Killer is trusted for making a clean sweep of the road weeds."

Prices—1 Gallon, 2s.; 5 galls., 1s. 6d. per gal.; 10 galls., 1s. 4d. per gal. Carriage paid on 10 galls. &c.

Special Quotations for Larger Quantities.

THE PERFECT SUMMER SHADING

Supersedes all Others for SHADING GLASS ROOFS OF ALL KINDS.

Is applied COLD, yet does not wash off with Rain.

1 lb. makes 1 gallon. Prices—1 lb. Tin, 1s.; post free 4 1/2d. extra.

H. and A. CHEMICAL COMPANY,
97, Milton Street, Glasgow.

May be had through Chemists or Seedsmen.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by— They are the first, foremost, and best in the world.
 HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
 HIS ROYAL HIGHNESS THE PRINCE OF WALES,
 THE KING OF THE BELGIANS,
 The Late EMPEROR OF THE FRENCH, THE EMPEROR OF RUSSIA,
 And most of the Nobility, Clergy, and Gentry of the United Kingdom.



Royal Horticultural Society's Show, South Kensington, London, June 3 to 7, 1881. The "Journal of Horticulture," of June 9, says:—"MOWING MACHINES.—After a critical examination, the Silver Medal was granted to the old firm of world-wide fame, Messrs. T. Green & Son, of Leeds and London. As the Machines are known in all lands where good lawns are cherished, it is quite unnecessary to give any description of them."

Upwards of 170,000 of these Machines have been sold since they were first introduced in the year 1856, and thousands of unsolicited Testimonials have been received, testifying to their superiority over all others.

REDUCED PRICES OF
 GREEN'S Patent ROLLERS,

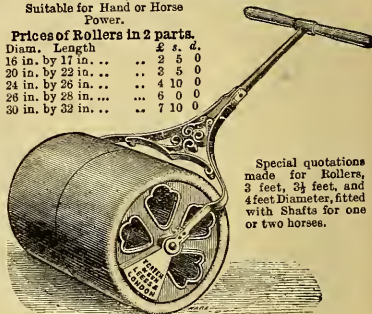
For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam.	Length	2 s.	d.
16 in. by 17 in.	2	0
20 in. by 22 in.	3	0
24 in. by 26 in.	4	0
28 in. by 28 in.	6	0
30 in. by 32 in.	7	10

Special quotations made for Rollers, 3 feet, 3½ feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

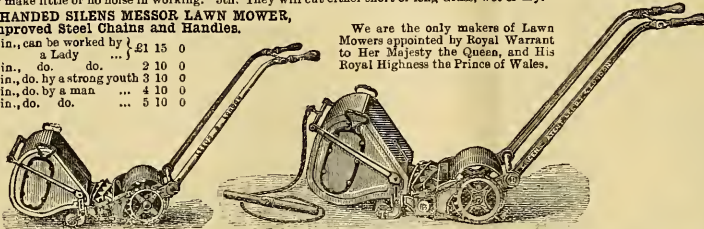


They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.
 The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER,
 With Improved Steel Chains and Handles.

To cut 6 in., can be worked by a Lady ...	£1 15 0
To cut 8 in., do. ...	2 10 0
To cut 10 in., do. by a strong youth ...	3 10 0
To cut 12 in., do. by a man ...	4 10 0
To cut 14 in., do. do. ...	5 10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

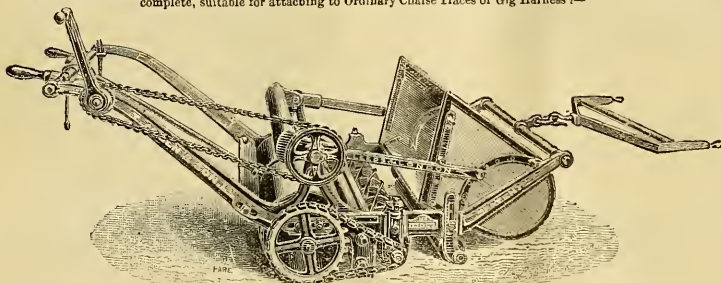


DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man on even lawn ...	£8 10 0	To cut 22 inches, can be worked by two men ...	£8 10 0
To cut 18 inches, do. man and boy ...	7 10 0	To cut 24 inches, do. do. ...	9 0 0
To cut 20 inches, do. do. ...	8 0 0		

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self Delivery Box, or Side-delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 ins. diam., £1 16s.

Packing Case, 3s.
 Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

A very useful and serviceable Machine.

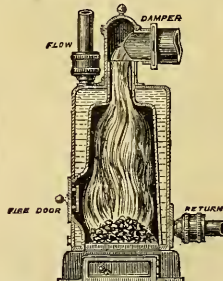


MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

HOT-WATER BOILERS

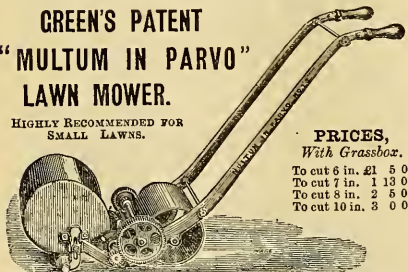
AND OTHERS WITH
 SHELVES,
 AND HOLLOW OR
 ORDINARY CAST-
 IRON
 GRATE BARS.

VERTICAL
 SADDLE
 BOILERS, &c.



**GREEN'S PATENT
 "MULTUM IN PARVO"
 LAWN MOWER.**

HIGHLY RECOMMENDED FOR
 SMALL LAWNS.



PRICES,
 With Grassbox.

To cut 6 in. ...	£1 5 0
To cut 7 in. ...	1 13 0
To cut 8 in. ...	2 5 0
To cut 10 in. ...	3 0 0

GREEN'S Patent LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.
 Size with 1 wheel for Ordinary Courts, price 14s.
 Do., with 3 wheels, 17s.

Size for Clubs and Large Grounds, price £1.

Small Bag of Marking Composition, 9d.



Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are Warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c.

Descriptive Illustrated PRICE LISTS Free on application to

THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON;
 or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

ORCHID EXHIBITION.—Now OPEN.

ORCHID EXHIBITION.—Admission Free.

ORCHID EXHIBITION.—One of the most beautiful sights in London.

ORCHID EXHIBITION.—A vision of loveliness unparalleled in Europe.

ORCHIDS.—Must be seen to be realised.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 534, King's Road, Chelsea, London, S.W.

Geranium—Verbena—Fuchsia.
WILLIAM BADMAN offers, in well-rooted stuff fit for present potting-up, GERANIUMS, Vesuvius, Hy. Jacoby, Queen of Belgians, Master Christie, West Brighton Gem, F. V. Raspi, Madame Vaucher, all at 10s. per 100; SILVERBIRCH, Flower of Spring, May Queen, Bijou, 10s. per 100; Crystal Palace Gem, Happy Thought, 10s. per 100; BRONZE of sorts, 12s. per 100; TRICOLORS of sorts, 18s. per 100; LOBELIA, Brigton, Emperor William, 2s. 6d. per 100, 20s. per 1000; Snowball, 3s. 6d. per 100; VERBENAS, Purple, White, Scarlet, Crimson, Rose, 6s. per 100; HELIOTROPE, dark and light, 6s. per 100; AGERATUM, Dwarf Blue, 5s. per 100; FUCHSIAS, best sorts, 8s. per 100; CALCEOLARIA, Golden Gem, 5s. per 100; Camden Hero, fine Crimson, 8s. per 100; PELARGONIUMS, Show and Decorative, best sorts, 3s. per dozen; IVY LEAF, best Doubles, a fine collection, 2s. 6d. per dozen, picking included. Terms, Cash with Order.—CEMETERY NURSERY, GRAVESEND.

Carpet Bedding Plants.
WILLIAM BADMAN offers good rooted cuttings, COLEUS Verschaffelti, IRENE Lindeli, ALTERNANTHERA amena, spectabilis, magnifica, major aurea, paronychoides, amabilis, all at 6s. per 100; CENTAUREA candidissima Seedlings, 6s. per 100; strong plants, 18s. per 100, picking included. Terms, Cash with Order.—CEMETERY NURSERY, GRAVESEND.

ORCHIDS.
CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

PRIMULAS,
Single and Double,
CINERARIAS, CALCULARIAS,
GLOXINIAS,
and all others for present sowing.
All saved from the finest strains in existence.
Per packet, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.

DICKSON'S NURSERIES CHESTER
(LIMITED)
(400 Acres)

To the Trade.
MANGEL WURZEL and TURNIP SEEDS.
H. AND F. SHARPE have very fine Stocks of the above-named Seeds of 1891 growth, and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advantageous prices.
The quality is very fine and the growth strong.
Samples and prices on application.
SEED GROWING ESTABLISHMENT, WISBECH.

IF YOU WANT
BEGONIAS,
H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, S.E.
GUARANTEES to supply BEGONIAS, first-class Quality, at one-third the usual price, as follows:—
12 Good Single Mixed ... 3s. 12 Mixed Double ... 6s.
12 Extra Good to Colour 6s. 12 Very Fine, to Colour, 12s.
12 Very Finest, equal to named varieties of 6s. 12s. 12 Extra Fine Double, 18s.

I could give a large number of Testimonials, but the following, I think, will be sufficient to prove the excellence of my Begonias:—Hogg House, Buxted, Uckfield, Aug. 26, 1891.
DEAR SIR.—You will be glad to learn that the Begonias I had from you in the summer have turned out remarkably well. The clinks and terra-cotta are especially fine, some of the blooms measuring near 6 inches across. The flowers are of fine form, and good substance in the petals; plants dwarf in habit, and free-flowering; foliage robust. I shall have much pleasure in recommending them to my friends. Yours truly—
H. C. PRINSEP, Gardener to Viscountess Portman.
To Mr. H. J. Jones.
RYECROFT NURSERY, HITHER GREEN, S.E.

TROPÆOLUM SPECIOSUM (the well-known Hardy Scarlet Climber).—Strong Plants, in pots, 12s. per doz.; 15, 3d. each. Out of pots, 9s. per doz.; 1s. each. Free and Safe by Post.
HOWDEN AND CO., The Nurseries, LIVERNESS.

DAHLIAS.

10,000 DAHLIAS.—The cream of all sections. Now ready. Show, Fancy, Pom-pom, Cactus, and Single varieties, well-rooted, and true to name, price, 6 for 2s.; 12 for 3s.; 2 doz., 6s. 6d.; 20s. for 100; our selection. Carriage paid. Descriptive List of all the best new and some varieties in cultivation, with price of purchaser's selection, free.
Send for a sample dozen, and give us a trial order.

10,000 LOBELIA EMPEROR WILLIAM.
—The best blue variety. Strong, well-rooted plants, from cuttings, 4s. per 100.

TEA ROSES in pots.—Thousands of good plants in all the finest varieties, such as Niphetos, Climbing Niphetos, Catherine Mermel, The Bride, William Allen Richardson, Perle des Jardins, Sunset, &c., 6s. per doz. and 9s. per dozen. Selected plants, 1s., 1s. 6d., 2s. 6d. each. Suitable for planting in the Conservatory, Greenhouse, outside planting, or growing in pots.

GIANT PANSIES, finest blotched varieties, Ne plus Ultra, 2s. per dozen; 12s. 6d. per 100.

NOW is the best time to buy and to secure the finest plants, all packing free. Trade supplied. Catalogues gratis.

A. J. AND C. ALLEN, Florists and Rose Growers, HEIGHAM, NORWICH, NORFOLK.

DANIELS BROS.,
TOWN CLOSE NURSERIES, NORWICH,

BEG to offer the following from their splendid collection of choice named Florists' Flowers, &c., all in sturdy young stuff, guaranteed true name, and sent Post or Carriage Free on receipt of Cheque or Post-office Order.

Per doz.—s. d.
Ohyrsanthemums. Japanese and Incurred. Choice sorts from our splendid collection—
per 100, 15s.; 6 for 1s. 6d. 2 6
" New and very select ... 6 for 2s. 6d. 4 6
" **"W. A. Manda,"** the new Golden Yellow Ostrich Plume, splendid ... each, 5s.
" Six superb new varieties, including "Gloire du Rocher," "Florence Davis," and "Vivand Morel" ... 7s. 6d.
Dahlias. Show and Fancy, a magnificent collection, including all the finest varieties ... 6 for 2s. 6d. 4 6
" Show and Fancy, new and very choice sorts, 6 for 5s. 9 0
" Cactus flowered. A superb collection, including the best of recent introduction ... 6 for 2s. 6d. 4 6
" Cactus flowered. New and very choice sorts ... 6 for 5s. 9 0
" Cactus flowered. Six grand new varieties, including "Beauty of Arundel" ... 6 for 5s. 9 0
" Single flowered. A charming collection, including the newest ... 6 for 2s. 6d. 4 6
" Single flowered. Six new and very select sorts, 5s. Pom-pom or Bouquet. A very choice assortment, 6 for 2s. 6d. 4 6
" New Marguerite. Single, pure white, very pretty, each, 2s. 6d.; 3 for 6s.
" New "Tom Thumb." Single, very pretty, only 1 foot high, 3 for 2s. 6d., 5 for 12s. 6d.
Fuchalias. Single and double flowered. All the most beautiful varieties ... 6 for 2s. 3 6
" New and extra choice ... 6 for 2s. 6d. 6 0
" Six superb new varieties, including "Mrs. Charles Daniels" ... 4s. 6d.
Pelargoniums. New Zonal. All Autumn struck—
" Single flowered. From our grand collection; splendid for pot culture ... 6 for 2s. 6d. 4 6
" Six new varieties of 1891 (Pearson's) ... 7s. 6d.
" Double flowered. Zonal. Grand varieties; fine for pots ... 6 for 2s. 6d. 4 6
" New double flowered. Ivy leafed. Magnificent varieties for pots or hanging baskets, &c., very choice sorts ... 3 for 2s. 6d. 6 0
" Gold and silver tricolors. The most beautiful sorts ... 6 for 2s. 6d. 5 0
Begonias. Tuberous-rooted hybrids. Magnificent single-flowered varieties. Immense blooms of the most beautiful colours. Strong flowering tubers, very choice mixed ... per 100, 30s.; 6 for 2s. 6d. 4 6
" Extra choice sorts, for pot culture ... 6 for 5s. 9 0
" Double flowered, very fine mixed ... 8s. and 12 0

BEAUTIFUL HARDY FLOWERS.

A grand collection of Choice Hardy Perennials. Splendid for Garden Decoration, or for Cut Flowers during the Summer and Autumn.
Strong, established plants for blooming this year, including LUCERNE, double crimson; ANTHEMIS PALLIDA (the Sulphur Marguerite), PYRETHRUMS, PHLOXES, &c.—all first-class sorts.
Twelve in twelve choice varieties ... 3s. 6d.
Twenty-five in twenty-five choice varieties ... 6s. 6d.
One hundred in fifty choice varieties ... 21s. 0d.
PACKING and CARRIAGE FREE.

ROYAL HORTICULTURAL SOCIETY.

THE TEMPLE SHOW.

In the next number we intend to publish a Full Report of the Show, together with Portraits

OF THE
PRESIDENT AND OF ALL OF THE MEMBERS
OF THE COUNCIL OF THE
ROYAL HORTICULTURAL SOCIETY.

THE
Gardeners' Chronicle.
SATURDAY, MAY 21, 1892.

BARRÉ AND THE DISCOVERY OF THE COCO-DE-MER.

VISITORS to Kew Gardens who have lately watched with interest the highly curious—indeed, most remarkable—germination and growth, in the warm Lily-tank house, of the once mysterious Cocco-de-mer, may be pleased to learn the particulars of its original discovery in the Seychelles Islands; whence it is now named the *Lodicea seychellarum*.

This group of small islands, some 5° south of the equator, and 55° east of Greenwich, is supposed to have been first discovered, as far as Europeans were concerned, by the Portuguese, early in the sixteenth century, possibly in 1506 by Fernando Suarez, and named The Seven Brothers. It was not, however, until 1742 that the enterprising Governor of the Isle of France, Labourdonnais, sent Captain Lazare Picault in the *tartane* "Elizabeth" to take possession of these apparently unimportant islands; and they were subsequently visited and settled by M. Moreau de Seychelles, one of the chief officers of the French East India Company, after whom they were named—the French Minister at that time being also his relative, the Viscount Hérault de Seychelles. In 1750, a governor was appointed to Mahé, the principal island, under the control of the Governor of the Isle of France.

It is, however, to that skilful and observant engineer officer, Monsieur Barré, that we owe the first exact and detailed survey of the various islands composing this archipelago of twenty-nine islands and islets in the year 1760, which he undertook by the special desire of that brave navigator, Captain Marion de Fresne, who was massacred with two boats' crews at the Bay of Islands, in New Zealand, during June, 1772.

Second in importance to Mahé, and 21 mi's north-east of it, is the island of Praslin, with an area of some 27 square miles. It was here that Barré landed one fine morning for the purpose of surveying the coast of the island, which, from the number of conspicuous cocoa-nut trees was then named the Ile de Palme. Wandering outside the thickets and scrub, along the coral beach, he saw before him a huge fruit, which he at once conjectured must be a Cocco-de-mer; but as it was just on high-water mark, he thought it had been washed up by the sea, and not being acquainted with the size or shape of the Cocco-de-mer, of which he had only heard by reputation, or only seen when nuts without their enveloping husk, he was not at all sure that it was one. However, knowing the rarity and costly value of a unique specimen (which, up to that date, had been sold in the markets throughout India and

China in small pieces for its weight in silver), he carefully concealed the fruit, which weighed at least 50 lb., out of sight, until he could transport it safely to his ship. But on leaving the shore, rather priding himself on his lucky discovery of a prize, what was his surprise and indeed mortification to find the ground under the tall Palm trees covered with numbers of these nuts in all stages of germination, whilst looking up at the mighty Palms above him he saw that these fine trees bore the same fruit. He had discovered the true habitat of the wonderful tree heretofore unknown to science: a tree so wonderful that General Gordon, more than a hundred years afterwards, declared that it must have sprung from the tree of knowledge which originally grew in Eden in pre-Adamite times.

No wonder that at first sight the poor engineer, who had thought to fill his purse with fifty pounds of silver in exchange for his Coco-dermer, felt some vexation,* foreseeing that as soon as the wonder-working fruit, which was supposed to be the product of the sea, became recognised as a terrestrial natural object, its fictitious value in the oriental markets would speedily become a thing of the past; and rightly he judged, for the Coco-dermer is now only of value as a botanical curiosity.

He found these magnificent double Coco Palms to elevate their crests to a height of at least 50 (French) feet; their summits to be crowned with a tuft, or huge plume, of about a dozen fronds, each 20 feet in length, and somewhat in the form of a fan; and each of these great leaves to be supported on a stipite 6 feet long, which is hollow or indented (*échanuré*) in its contour. From the axilla (*aisselle*) of the leaves issues a panicle, with branches which bear the female blossoms. The pistil of these flowers he found to produce at maturity the huge fruit which, with its husk weighed, as before observed, some fifty pounds.

On reflection, and after careful examination of this large grove (Rochon calls it a forest), Barré was persuaded that this Coco Palm was not the real Coco-dermer of commerce—not the true sea-borne double Coco-nut, whose recuperative qualities were so highly esteemed by the enervated Moguls of India. Nevertheless, out of sheer curiosity, he collected some three dozen of the nuts, and took them with him to the Isle of France, where the celebrated botanist, M. Pierre Poivre, instantly recognised them as the true fruit so much sought after; and as M. Poivre was at this time the Intendant and Commissary of Marine of the French Colony, he and the Governor, the Chevalier Des Roches, instantly accelerated the departure of Captain Grenier,† who, assisted by Rochon, was about to sail for India, with instructions to visit the Isle de Palme, or Praslin, as it was now named, and obtain some germinating nuts and young plants for the Government Botanical Gardens then being formed at Pamplemousses and at Le Reduit.

Accordingly, on May 30, 1769, the "Heure du Berger" and the "Verd-Galand" commanded by Captain Grenier and Lieutenant La Fontaine respectively, left Port Louis; and on June 2, the day of the transit of Venus, these ships were off the Vigie bank, reaching the Seychelles on the 13th of the same month. Rochon speaks feelingly of the dangers he encountered in journeying to and fro from the ship to his

observatory on shore. Crocodiles! sharks and torpedos, we are assured, did great damage, and several of his men were bitten or wounded by these animals. We cannot help thinking that the torpedos were less dangerous than the spikes of the mud-larks! However, Alexis Rochon duly visited the Isle de Palme, and industriously collected a quantity of the young plants and nuts of the great Coco trees, the Cocos-dermer, which he classified as a species of *Latania*. Filled with zeal, he transported several specimens, as well for the Museum of Natural History at Paris, as well as a young growing tree 20 feet in length.

Now comes the curious part of the story, which may be given in Rochon's own terms:—"On my return to Europe, I brought to the Academician, Louis Guillaume Lemonnier (brother of the astronomer), the doctor, a fine Coco-dermer (for so it is called), which had germinated in my trunk by the heat of the hold. The young shoot was doubtless arrested, for it ceased to grow in spite of all the care which this scientific botanist took to restore its life. The form of this fruit and of its germ contributed not a little to the celebrity of this Nut, designated by botanists under the denomination of *Nux medica*; the Indians regard it not only as a powerful antidote and counter-poison, but also as an excellent remedy for venereal diseases."

It is curious that Pickering gives no account of this discovery in his *Chronological History of Plants*; although he mentions the double nuts of the *Lodoicea seychellarum* as having been found by Hieronimo di Santo Stefano on the Maldiv Islands in 1496. He wrongly states that this *Cocos maldivica* was first ascertained by Sonnerat to be a native of the Seychelles Islands. *S. Pasfield Oliver, Captain late Royal Artillery, Moray House, Anglesey, Gosport.* [A figure of the seed in germination was given in our issue for August 7, 1886. Ed.]

NEW OR NOTEWORTHY PLANTS.

ONCIDIUM GRAVESIANUM, Rolfe, n. sp.*

This very elegant species of *Oncidium* (see fig. 94, p. 651), is an ally of the well-known *O. crispum* and *O. pretextum*, but differs in a variety of particulars, among which its much narrower petals, averaging only half an inch in breadth, is perhaps the most striking, for they impart quite a distinctive appearance to the plant. It is a native of Pernambuco, in Brazil, and is one of the things sent home from the district in which *Cattleya labiata* has been re-discovered. It was imported by Messrs. F. Sander & Co., of St. Albans, with whom it has just flowered. It received an Award of Merit from the Royal Horticultural Society of April 19 last. It bears branching panicles of golden-yellow and brown flowers 2 inches in diameter, whose characters are more particularly

* *Oncidium Gravesianum*, n. sp.—Pseudobulbs 3 inches long, 2½ inches broad, broadly elliptical-oblong subcompressed; margin acute. Leaves elliptical-oblong, obtuse, 4 inches long, 1½ to 2½ inches broad. Panicle large and branching. Flowers 2 inches in diameter. Bracts very small. Dorsal sepal spatulate-oblancoate, obtuse, undulate, brown, with a few irregular yellow bars. Lateral sepals united at base into a narrow claw 5 lines long, the free parts suddenly diverging at right angles, lanceolate-oblong in shape. Petals obovate, 5½ to 6½ lines broad, like the sepals in colour. Lip pandurate, 1 line long; side lobes spatulate-obovate, 1 line long; isthmus 2½ lines broad; front lobe broadly suborbicular-ovate, undulate; crest consisting of a triangular acutely-margined elevated basal portion, then extending into a short high central side, and with a few small teeth on the isthmus, directed in a line towards the side lobes; colour yellow, the basal part with many brown spots, the front lobe very broadly margined with brown. Column 5 lines long, purple-brown below, with a prominent yellow swelling in front, yellow above, with light brown anther-case; wings very large and rounded, yellow, with a marginal row and a few other brown spots. Native of Pernambuco, Brazil. *R. A. Rolfe.*

pointed out in the technical description below. This section of the genus contains several very showy garden plants, yet it presents great difficulty to botanists, and the limits of some of the species are not very clearly defined. The present one is a very interesting addition to the group. *R. A. Rolfe.*

CALTHA ALPINA, SCHUR,

Found in 1853, and described in the *Flora Transylvanica*, is one of the most beautiful of the single Marsh Marigolds we have yet seen. In habit and general aspect it differs little from *C. palustris*, but the flowers are larger, and of a rich orange-yellow. The radical leaves are sub-orbicular or reniform, with crenate margins; those on the stem round, cordate, coarsely dentate, and nearly always sessile. It grows from 1 to 2 feet high, with a fine bold habit, and it flowers in great profusion. *C. alpina* is certainly an acquisition to the bog or semi-bog garden, and is well worth possessing, in addition to the best form of the common species. It is a native of Bächen des Arpas, Transylvania, and flowers with us in April and May. Nyman, in the *Conspectus*, places it under *C. palustris*, but for all garden purposes it deserves a separate name.

AQUILEGIA TRANSYLVANICA, Schur. (*C. alpina* Bmg. non L.),

seems to be an extremely rare plant under cultivation, although we are told it is very common in Transylvania, and gives quite a character to some districts. It takes the place of *A. alpina*, and fortunately is a much easier managed plant under cultivation. It flowers more freely, and the individual blooms are quite as large, though not so rich in colour. It grows 1 to 2 feet in height, branches, and is quite glabrous. The lower leaves binate, the segments 2 to 3 fid. The flowers are large, being 2 to 3 inches in diameter, bright rich blue or purplish. The sepals are ovate-oblong, distinctly clawed. It flowers during May and June. If this fine species can only be kept distinct and typical, it will prove a valuable addition to the alpine garden. The difficulty, as every one knows, with *Aquilegias*, is keeping them true if planted or kept together in a collection. It matters little how many are planted in the rock garden or border. Our experience is, that in the matter of a couple of years, *A. chrysantha* and its hybrids, *A. vulgaris* and its varieties, and possibly *A. sibirica* will have taken possession everywhere, to the exclusion of the rarer sorts.

VIOLA DECLINATA

is a species new to us, and recently received from Transylvania, where there still seems to be a large, very important field for the plant hunter. There are two forms found in the neighbourhood of Königstein, *V. gracilis* and *montana*. The latter is the form now in cultivation, and next to *V. calcarata* is one of the most charming Violets we remember having seen. It has a fine compact habit, branching freely from the base with rich green, oval, toothed leaves, and large bright blue flowers, with purple blue blotches on a yellow eye. In the variety *gracilis*, which is the heterophylla var. *gracilis*, Knuch, and *V. gracilis*, *Flora Græca*, vol. i., p. 146, the leaves are much narrower, and the flowers are smaller. They flower from May to July. *V. heterophylla*, a nearly allied species, is now showing abundance of flower-buds and will soon be a picture. It is a true alpine Violet, dwarf in habit, branching near the base, and producing its largish blue flowers in the greatest profusion. The leaves are narrow lanceolate toothed, and of a bright green. *D.*

GENTIANA PYRENAICA,

figured in the *Botanical Magazine*, t. 5742, was, we believe, first introduced to England by Mr. Backhouse, of York, a pioneer of alpine plant cultivation in this country. It is one of the rarest and most beautiful of all the dwarf Gentians, and although widely distributed in the Pyrenees, and among the mountains of Hungary, the Caucasus, and Armenia, ranging from 5000 to 8000 feet above sea level, it is one of the rarest Gentians in cultivation. It flowers in March, April, and May, and often earlier. It has

* "Il vit avec peine," says Rochon, "que la terre étoit couverte de ces fruits et des arbres qui les portoient." (*Voyages aux Indes Orientales*, p. 148).

† It was this Captain Grenier who discovered the short sea route to India for sailing vessels during the North East Monsoon.

a dwarf tufted habit, not unlike *G. verna*, and rarely exceeds 1 or 2 inches high. The leaves are lanceolate, acute, and invariably rough edged. The flowers are solitary. The corolla salver shaped, an inch in diameter, of a deep prussian-blue colour, the edges crenulate. It is really a fine species, and does well in peaty soil, with a little shade. *D.*

INTERNATIONAL HORTICULTURAL EXHIBITION.

HORTICULTURAL SUNDRIES.—Going to this Exhibition by the carriage entrance at Earl's Court, the "sight-seer" passes what, perhaps, the majority of visitors will consider the least entertaining part of all. We refer to the large covered space devoted to the exhibition of implements and sundries of every description that are in any way connected with horticulture. Although this may be the idea of the ordinary sightseer, however, these exhibits cannot fail to attract and interest those who really take interest in the working of a garden, be they amateur or professional. Here may be seen what improvements have taken place in implement-making up to date, and the visitor will doubtless be surprised as his attention is directed to the ingenuity manifested in some of these machines.

The first stand we noticed was that of the Economic Fencing Co., Billiter Street, London, E.C., who have quite a bright display of all kinds of fencing materials, garden rollers, iron seats for lawns, &c.; while immediately opposite is another of the same description, belonging to Messrs. David Rowell & Co., 5, Victoria Street, Westminster. This stand was not yet finished, but we could see stout iron railings, tree-guards, ornamental wire arches, large entrance-gates, &c., that would soon be put in their places.

Close to these is a very interesting exhibit to the gardener, because it refers to the question of fruit culture, which we all seem to be discussing now-a-days. It is an apparatus for drying and preserving surplus fruit, called the "Universal American Evaporator," shown by Messrs. Ph. Mayfarth & Co., Frankfurt-on-Maine, Germany, and also of 16, Mincing Lane, London, E.C. We have not space here to describe perfectly the processes by which this is obtained, but it is by causing heated atmospheric air to play upon the fruit, which has been upon trays with galvanised-wire bottom, and placed in the inclined flue or evaporating-chamber. (For a fuller description, see *Gardeners' Chronicle* for July 11, 1891.) One of these machines is now at the Royal Horticultural Gardens at Chiswick, where its action has attracted much attention of late years. There are also Grape-mills, Apple-slicers, cider and wine-presses, &c.

Messrs. Corry & Co., Ltd., have a stand covered by glass, in which are a quantity of preparations for destroying garden pests. Their specialty, The Lethorion (vapour cone) is the chief amongst these, and is recommended to destroy all forms of parasitic life, without hurt to the most delicate of plants.

Mr. J. Bentley, Chemical Works, Barrow-on-Umber, exhibits many kinds of insecticides and artificial manures, of his own preparation. Messrs. W. Clibran & Son, Altrincham, Manchester, have also a stand containing these kinds of preparations, as well as their "Campbell's Fumigating Insecticide." Messrs. Sheard & Co., 2, Praed Street, Edgware Road, W., have specimens of show cards, stands, signs, metallic labels for hanging or for putting in pots, &c.

Another similar exhibit is that of Mr. Jno. Pinches, Oxenden Street, S.W., who has zinc garden labels in three shapes—for Roses, for fruit trees, and for Orchids; also a new label, made of flax, and patented last week, which is said to be very strong and durable, as it certainly is much lighter than the other ones.

Messrs. Jarman & Co., seed growers, Chard, Somerset, have the only collection of seeds we noticed. This is a very large collection, however, containing seeds for farm and garden, all of which are tastefully shown in small glass globes.

Messrs. B. S. Williams & Son have a stall where the Thanatophore occupies a prominent place. This new patent apparatus for steaming Tobacco juice is now pretty generally known.

Fisher & Sharp, Bamboo importers, 173, Queen Victoria Street, have Bamboo stakes for the garden; also seats and fittings for summer-houses, besides many fancy and attractive articles for use and ornament in the house.

Messrs. Merryweather & Sons, who have greatly developed their system of water supply to mansions, and irrigation generally, have a large number of fire protection apparatuses, from the large and powerful steam engine to the ladies' boudoir hand fire-apparatus. Most of these engines are also adaptable for the purposes of an ordinary "portable." There are also garden engines and hoses of many descriptions, the principal of which is their improved sphincter grip and non-kinkable hose.

Boilers and boiler makers are strongly in evidence, and there is plenty to interest the gardener who is desirous of comparing the different advantages offered by each of them. Foremost amongst these is the Thames Bank Iron Company, who have, as usual, a goodly number of their well-known and attested boilers of divers descriptions, including the



FIG. 94.—*INCIDIUM GRAVESIANUM*. (SEE P. 65.)

horizontal tubular saddle, improved Trentham, automatic independent box boiler, &c. Messrs. Sam Deards & Co., Limited, 21, Eldon Street, Liverpool Street, E.C., show their "Champion" boiler, with which they obtained two first prizes at Liverpool in 1886.

Mr. J. Watson, florist, St. Albans, shows his patent suspension boilers, which, when fixed, are suspended directly in the fire to at least three-quarters their height; and the new double-action boiler ("The Challenge") is suspended in the same way, besides which it is hollow, and the heat has to pass from the back of the boiler through it again before passing out. It is affirmed that this new form presents at least 18-20ths of the whole surface to the fire. The "Victory" patent combination gas stove, fitted with the patent double-action boiler, is specially recommended for amateurs with houses 25 feet in length, or less.

From Mr. F. C. Poidevin, Guernsey, comes a tubular boiler, fitted over by a saddle, the tubes being in direct contact with the fire, as well as the saddle being well exposed to the heat. Each can be worked without the other, in case of an accident. It is called "The Economical Patent Boiler."

There are many examples of horticultural buildings to be seen. Messrs. Crompton & Fawkes,

Chelmsford, have a very pretty specimen; besides which, they have erected and heated the "Insectivorous" house in the grounds.

R. Stevens, Bromley, Kent, exhibits his patent system of glazing for flat or circular roofs. By means of an India-rubber roller and a leaden clip, the glass is firmly fixed in such a manner that it can be removed and refixed in a few seconds.

A little lean-to house, shown by Newton & Co., Hitchin, Herts, is glazed in another style, also without putty, and the rafters are of rolled steel. Mackenzie & Moncur, horticultural builders, Edinburgh and Glasgow, have an ornamental span-roofed greenhouse. An ornamental conservatory is by the well-known firm of Richardson & Co., Darlington.

Mr. W. Duncan Tucker, Tottenham, shows a very useful span-roofed house, of good appearance; and also models of Cucumber-houses.

A very small portable house, described as a tenant's fixture, is shown by Mr. John Bennett, Blenheim House, St. Albans, Herts.

Bone's patent clip for glazing is exhibited by the patentee, Tower House Gardens, Chiswick. Messrs. Ardeshir & Byramji, Mr. J. Falconer, and Mr. A. Mackie have collections of ornamental ware.

The well-known firm of Doulton & Co. have a large stand of ornamental pottery, vases, &c. Mr. Ernest Wayless, of Vienna, and 88, Oxford Street, London, has also a collection of these articles.

A good collection of Messrs. Sankey's Bulwell pottery is to be seen, neatly arranged in a very attractive stand. We noticed many novelties, as well as the ordinary form of pans and pots, for which this firm is so well noted.

Messrs. William Iles & Co., Warner Road, Camberwell Park, have also a varied collection of garden pots and pans, Orchid baskets, &c.

A collection of garden fountains and ornaments is exhibited by Messrs. F. Rother & Co., Ground Street, Blackfriars, made from a prepared stone (Rother's), which is said to withstand the effects of weather and frost. Mr. William Colchester, has a stand of Ichthemio guano, and Mr. J. George, Putney, S.W., has a good collection of garden sundries. Messrs. Stott & Co., Manchester, show their Stott specialties. The Insecticide (Killmright), the Distributor, and the Fertiliser (Feedmright).

Another large collection of sundries, including good samples of peat and loam, come from Messrs. W. Wood & Sons, Wood Green; whilst Mr. G. W. Davis exhibits his Concentrated Fertiliser.

Mowing-machines are shown by Messrs. Ransome Sims & Jeffries, Ipswich, who are mowing the lawns in the Exhibition; and also by Messrs. Alexander Shanks & Son, Arbroath and London.

Messrs. Joseph Davis & Co., Kennington Park Road, London, have a large collection of meteorological and scientific instruments, their specialty being the new American forecast barometer, which we have not space to describe here. Similar exhibits come from Messrs. R. Sprigate & Co., Opticians, Oxford Street; and from Messrs. G. Crawley & Co., 13, Spital Square, E.C.

The Sphincter Grip Armoured Hose Company is represented, and, besides their specialty, have various other articles, such as syringes, small pumps, &c. Messrs. J. H. Heathman & Co., Edzell Street, Long Acre, London, exhibit their patent ladders and steps, garden engines, &c.; and Mr. J. Kelly, Pyrmont House, Winchmore Hill, London, has his patent telescope ladders.

Radiators for heating private and public buildings are shown by Mr. J. Jeffries, 10, Great Queen Street, Westminster. Madame Goffton, though not exhibiting necessities for the gardener has a stand containing very beautiful articles for the house, such as screens, &c., with flowers painted upon them, some of which we noticed were very faithfully represented. Mr. W. Edwards has his easy-levelling rake, and Messrs. B. Hemby & Co., straw blinds. Mr. G. Riley exhibits a rustic house; and Messrs. Needham & Henty self-acting fountains. Refrigerators, useful for preserving fruit and other foods, come from Mr. E. Sydney; and Messrs. Pulham & Son, exhibit stone figures, balustrading, &c. Messrs. Shand, Mason

& Co. have brought some hose hydrants; and fruit from the Australian Irrigation Colonies is shown by Messrs. Chaffey Bros.

We do not pretend to describe the exhibits more fully, but we would advise gardeners and others at all interested in horticulture to spare a little time when visiting this Exhibition, in order to inspect for themselves what we can only give them a few hints upon.

PRUNING DENDROBES.

THOSE desirous of ocular demonstration of the merits or demerits of pruning *Dendrobium nobile*, should make a point of attending the May Show in the Temple Gardens, where they will have an opportunity to draw their own inferences on this question, which has been for several years past pretty well discussed, but which is still, in many quarters, a moot one.

I had the pleasure of inspecting some plants of the above the other day, and was assured that he had had an annual pruning for several years—six, I think; and I can assure your readers that the appearance of these plants showed that they were perfectly satisfied with the treatment adopted, viz., that of cutting out the whole of the flowering-wood with flowers attached, when these had arrived at that stage best adapted for lasting in whatever decorations they might be required for.

Nothing could be finer in the way of *Dendrobis* growth than that exhibited by these plants, some of which were 3 feet 4 inches long, of remarkable solidity and thickness, and covered the entire length with the most perfect foliage, and showing bloom at almost every node; at any rate, some which I counted were showing eighteen and nineteen racemes.

The size of these plants is certainly unique; the first one we measured was 5 feet 8 inches in diameter; second, 6 feet 3 inches; and the third, 6 feet 9 inches; sufficient, I think, to show those holding a contrary opinion that cutting down or pruning is a principle in *Dendrobe* culture safe to follow; besides, the plants are much more slightly when relieved of the old wood, often covered with serial roots. *Pomum*. [Our correspondent furnishes the name and address of the grower of these plants, but for the present he is desired to withhold them from the public. Ed.]

A ROYAL GARDENER.

MR. THOMSON, who, as we learn from a local paper, has just celebrated his 88th birthday, is one of the last remnants of the old school of royal gardeners, and enjoys the distinction of having served under George III. and succeeding sovereigns of this country. Mr. Thomson was born in 1804, in Shropshire. He was educated at the Shrewsbury Grammar School, sitting on the same form with Darwin, the great naturalist. He left Shropshire in 1819, and was placed by Mr. W. T. Aiton, head gardener to George III., in the Royal Lodge Gardens, Windsor, under Mr. Nitchell. Mr. Thomson afterwards went to the Cumberland Lodge Gardens, the Hampton Court Gardens, and, finally, to the Royal Botanic Gardens, Kew.

Mr. Thomson has also every Sunday to prepare and place bouquets of the choicest flowers in season in the pews of the Royal Chapel used by the King, the Marchioness of Conyngham, and members of her family, &c., the favourite flower of the Marchioness—the Neapolitan Violet—being introduced as much as possible. In 1830 Mr. Thomson left the Royal service, and was appointed head gardener to the Duke of Northumberland at Sion House, Isleworth. The Duchess of Northumberland was preceptor to the Queen, then the Princess Victoria, and Mr. Thomson was brought into contact with Her Majesty, thus completing his connection with a line of four monarchs. In his early days in the Royal Gardens, he had charge of the Orange trees presented by Louis XVIII. to George IV., which founded the present orangery at Windsor Castle. He was also deputed to make a selection of American plants

from a sale by the Duke of Buckingham at White-knights, near Reading, and superintending their removal to Windsor Castle, where they were planted when the Castle was restored. He also took a prominent part in forming and planting the ruins on the margin of Virginia Water, so well known to all who have visited that scene of Royal picnics and boating excursions.

While engaged on this work, Mr. Thomson gained the cognomen of "the Royal fool." He was superintending the making of a branch road leading from the main road in the park to the Fishing Temple. The new road was staked out, but the king did not approve of the curve, and wished Mr. Thomson to alter it. The young gardener, nervous in the presence of the king, did not improve matters, and seeing Mr. Nitchell in the distance, suggested to his majesty that he should be called. George IV. said tartly, "Yes, you fool, do." The young man summoned Mr. Nitchell to the king's presence, and disappeared himself among the shrubs.

A horticultural incident, of which Mr. Thomson is very proud, is the fact that while he was head gardener to the Duke of Northumberland, he was the first to flower *Vanda teres* in England in 1833. The Duchess of Northumberland was, as before mentioned, governess to Princess Victoria, then about thirteen years of age. The Duchess took to Kensington Palace every morning some flowers for her illustrious pupil, and Mr. Thomson made up all those baskets and bouquets of flowers. The Princess, with her mother, the Duchess of Kent, would frequently visit Sion House. On those occasions Mr. Thomson had to accompany the Royal ladies, and make up bouquets from any flowers the young Princess might select in the great conservatory and hot-houses of Sion House. On one of these visits the first flower opened of *Vanda teres* was cut and handed to the Princess Victoria by Mr. Thomson. When Her Majesty last year visited Baron Rothschild at Waddesdon Manor, it was curious that a bouquet of *Vanda teres* should again be selected by the Baron as the most beautiful floral offering he could make to his Sovereign.

Mr. Thomson has resided at Hayward's Heath for about sixteen years.

ORCHID NOTES AND GLEANINGS.

CHYSIS BRACTESCENS.

THIS is a deciduous plant, casting its leaves after the growth is completed, requiring at this time to be kept at the cool end of the Cattleya-house, and giving it just sufficient water to keep the bulbs from shrivelling. In the spring of the year, the plants should be re-potted if grown in pots, but we prefer to grow them in baskets, which is more in accordance with their natural conditions, where they grow upon the branches of forest trees, and consequently have some shade during their growing season. After potting or basketing, as the case may be, they should be removed to the East Indian-house. The plants grow low down in Mexico, in the province of Vera Cruz and the province of Tlaxcala, where they are found growing wild, and as these places are said to be very hot, therefore while the growth is forming, we like to place them where they can have the greatest amount of heat. After growth is completed, they like a decided rest; this can be the more easily given them by reducing the temperature and withholding water. The flowers of all the species of *Chysis* are showy, with the exception of one, *C. aurea*, the species upon which Lindley founded the genus, which arises from the fact that the blooms are self-fertilising, and they, consequently, never display their beauties. *Orchid Album*, vol. x., part 112.

DENDROBIUM INFUNDIBULUM

is a very fine variety; the plant here figured flowered in the fine and choice collection of Major-General Berkeley, at Bitterne, Southampton, which is under the able care of Mr. Godfrey, and we ourselves have

scarcely been without blooms of it during the whole season. We grow it in the lightest part of the Olontoglossum-house, at the warmest end, and have found that a moist atmosphere is essential to its welfare during the entire year, but more especially during the summer, its growing season. It may be grown in a pot or hanging-basket, but the soil should be made firm about its roots, taking care not to overload the roots with soil, neither should too great an amount of pot-room be allowed. The pots should be especially well-drained, using as soil good brown fibrous peat, and about an equal part of chopped sphagnum moss, adding a few medium-sized nodules of charcoal. The plants should remain in the house in which they open, taking care to avoid wetting the flowers from the syringe, as we have observed that even the most delicate blooms last in beauty considerably longer when so treated. *Orchid Album*, vol. x., part 112.

FAN PALMS OF AUSTRALIA.

(Continued from p. 619.)

COMING now to R. Brown's two intra-tropic species of *Livistona*, it must be admitted that some of the enigmas concerning them have not yet been solved, even after the lapse of nearly a century. In our young libraries here the great *Palm-wood* of Von Martius is not yet available, hence I cannot follow up the present enquiry from that source; but, during the forty-five years of my uninterrupted researches in Australia, I have become acquainted with only one *Livistona* in Nature, with the characteristic of ovate fruitlets, ascribed to both *L. inermis* and *L. humilis*. It would seem furthermore that the petioles of young plants are far more spinous than those of aged plants, a remark fitting also *L. australis*. The correctness of this observation might be tested even in European conservatories. When in 1836 I saw a tall *Livistona* far in the interior of Arnhem's-land, evidently the same which Leichhardt noticed there in 1845, I gave it the name of that lamented geographer, because it agreed not with the short diagnosis given by R. Brown and by Kunth for the tropic Austral *Livistonas*, and when I subsequently became almost convinced, so far as I here could judge, that *L. humilis* is a youthful *L. inermis*, I kept up the name *L. Leichhardtii* for the united species, their original names having become inapplicable now.

The third genuine species of Australian *Livistona*, namely *L. Marie*, occurs in Central Australia on Gilly's Range, and also on a tributary of the Finke River, in about 24° S., and in West Australia on the Hamersley Range, in about 22° S. It was dedicated at the time of nuptial festivities to H.R.H. the Duchess of Edinburgh. The greatest height known of this extremely local Palm is 70 feet. The petioles are somewhat spiny at the lower part, and attain a length of 5 feet, and that is also the maximum length of the leaves; these in a young state are of a splendid coppery colour, and in age of a remarkable pale green. The panicle had been seen to attain a length of 10 feet, according to notes from the German missionaries in Central Australia. As seemingly germinable seeds were sent by me long ago to European gardens, it is probably now a well-known Palm in culture there, as it is in some parts of Australia. Should this not be the case with you, then living plants might be obtained, for instance, from Mr. J. Edgar, of Rockhampton, Queensland. The fruitlets are globular, and particularly large, from the Western Australia locality in contrast with those of *L. australis* from which species *L. Marie* is also distinguished by the paler leaves, with elongated rachis, which forms a solid axis sometimes nearly 1 foot long beyond the petiole, whereby the leaf gets a somewhat cuneate form; on this account it seems likely that the unnamed *Livistona*, referred to in the *Gardeners' Chronicle*, may be *L. Marie*. A rather full description of that Palm, chiefly from Western Australian material, was given in the *Fragm. Phytographi*, Austral., xi., 54, 55. But the fruitlets there described had lost their exocarp, which is brownish outside, and thus less dark-coloured than in other congeners,

The flowers, as seen on the West Australian plant, are hardly of half the size, compared to those of *L. australis*. *F. von Mueller*.

THE WEEK'S WORK.

FORESTRY.

By J. B. WEBSTER, Forester, Stangmore, Dunganon.

SEASONABLE WORK.—The cold drying winds and hot sunshine in many parts of the country of late have been trying to all recently-planted

moment. Of course, when once the trees attain a large or medium size, artificial fecundation becomes unnecessary. As the seeds of the Scotch, or Wych Elm, *Ulmus montana*, are generally ripe and ready for collecting during the first half of the month of June, a piece of ground should now be prepared for their reception. The most suitable soil is that of an open sandy texture, which should be formed into beds of 4 feet in width. These should be allowed for every 10 or 12 lineal yards of a bed of the width named, according to the quality of the seed. The seed should be covered with about

exhibits it is highly ornamental. Grafted standard ornamental trees of all kinds should now be examined, and all suckers that appear at the base of the stem should be cut or pinched off, and any buds that are appearing here and there along the stem had better be rubbed off by the hand in order to direct the energies of the plant to the formation of a head. Sow the seeds of different species of Barberries as they become ripe; some of the tender sorts may require the protection of a few evergreen branches stuck in the seed-bed during the first winter, but in spring they should be planted out in nursery lines to be prepared as covert plants. When planted

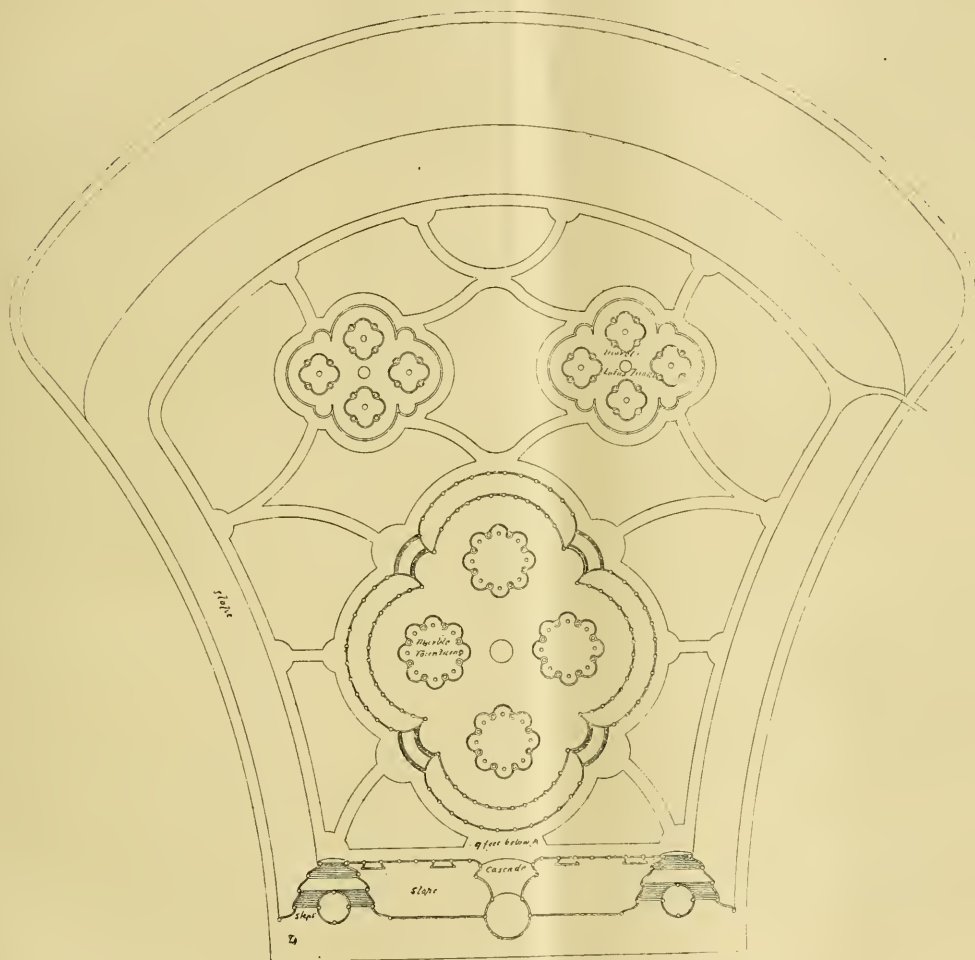


FIG. 95.—PLAN OF PORTION OF INDIAN TERRACE GARDEN. (SEE P. 661.)
(Designed by Mr. W. GOLDRING)

forest stuff. Conifers of recent introduction should claim the early attention of the planter, as some of the species are very apt, during the early stages of their existence, to produce female cones, but very few male catkins, and when the pollen becomes ripe, it should be collected upon a piece of clean paper, and introduced into the cones by brushing it well in between the scales with a camel-hair pencil. By utilising the pollen in this manner, the cones may be rendered fertile, and as the seeds of many of the species of Conifers are valuable, the labour involved in the operations of collecting and distributing is but of small

half an inch of fine soil; and should the weather be dry, the bed should be occasionally watered and shaded. Under favourable circumstances, the plants should make their appearance above-ground in about a week, when the shading should be removed. Sometimes the seed is thoroughly seasoned, and kept in a dry place till early spring, and sown in the above manner. The weeping Elm, *U. pendula*, likewise produces seed, and may be increased in the same way as the former. This is a very ornamental kind, with large, deep green leaves, which makes a fine standard when grafted upon a straight stem, and from the wild rugged head which it

on soft mossy ground in plantations, some species of Barberry reproduce themselves on the spot.

RECENTLY-FORMED ORNAMENTAL PLANTATIONS OF TREES, SHRUBS, AND YOUNG HEDGES.—The ground round about the above should be kept free from weeds, and even if no weeds appear at all, the hard crust had better be broken up with the hoe during the growing season, which will help to accelerate the development of the plants. Ornamental and standard trees that had their branches or limbs torn off during winter should have the wounds pared, and all splinters of wood removed

down to the solid timber, the surface being dressed with a coat of thick paint of the same colour as the bark of the tree; but in cases where fungus growths are making their appearance, tar should be substituted for paint, as it will effectually kill the fungus spores and equally well prevent the lodgment of water. Now that tree growth is making rapid progress, young plantations on heather ground on hill sides should be looked after at this season, as many of the Larch plants are liable to have their leaders bitten off by the hares during the winter; and as such trees will now be showing several leaders, the superfluous ones should be cut off, and the strongest and best-placed left to take the lead. These hares during a snow-storm often nip off the heads of trees fully 3 feet from the ground, which is very tantalising to the forester. Hard-wood trees that have been peeled and otherwise damaged by animals should be puned and sorted in such a way as to direct their forces to the formation of wood in the trunk. I may, however, state that Sycamore, Birch, Chestnut, &c., are apt to bleed when pruned at this season, and had better be left over till the end of July or August, when they can be pruned with impunity.

Scotch Fir, and other species of Pine, often suffer serious damage by winged game picking out the terminal buds of the leaders and branches, and if these are not noticed in due time, and pruned in such a way as to induce a well-placed bud or shoot carry on the stem or branch, otherwise mere bushes, not trees, will be formed, which answer very well for shelter, but are of no value as timber. During dry, warm weather scour and clean out drains and ditches, as the work can be carried out to better perfection and at a cheaper rate during summer than at any other time during the year. This sort of work I always try to do by contract, as it is better for the proprietor, besides affording the workmen an opportunity of making a few extra shillings. This is likewise the best season of the year to form bog roads. The ditches along both sides of the proposed road should be cut first, and the stuff excavated used to form the surface of the road, and bring it into shape, the centre of which should be rather higher than the sides, to allow surface-water to run off. In this way the soil should be allowed to lay and drain itself until it becomes fit to bear hard material.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Fowrie Castle, Swainsay.*

PANCRATIUMS.—Plants which are showing for bloom, or making growth, should be assisted frequently with manure-water to which a little soot has been added, and by feeding the plants in this way the flowers will be greatly improved, and the plants strengthened for flowering another year. Bulbs raised from seed last year, which have been kept growing up to the present time, should be put into larger pots, according to the strength of the plants; and large plants which have been growing in the same pots for several years may be repotted at any time when the plants are out of bloom, it not being necessary to disturb the roots, except to remove the old crocks. The proper time to divide the bulbs is just before the plants start into growth.

CRINUMS.—These plants grow to a large size when kept in a suitable temperature, which makes it necessary to afford them considerable root-space, with a view to full development. Any bulbs of flowering age which require larger pots may be treated like the *Pancratium*, not disturbing the roots further than removing the old crocks on repotting them.

TUBEROUS BEGONIAS.—Young plants raised from early-sown seeds which were pricked off into pots or boxes, should be now put into the pots it is intended to bloom them in, for if the roots are confined for too long a period in small pots at this early stage, growth is checked, and the flowering of the plant is likely to be unsatisfactory. Old tubers which started late, should now be put into their flowering pots, and grown on in cold frames until they show for bloom, the frame lights being taken off on fine days.

BOUVARDIAS.—Plants which did good service in the autumn and winter, and were cut back, and have since made fresh growth, should have some of the soil removed, and be potted into pots two or three sizes larger than those they have come out of. The compost may consist of two parts of fibrous loam and one each of rotted manure and leaf soil, with some sand

to keep the soil porous. Cut-back plants, if healthy, generally throw out sufficient shoots to furnish themselves. Young plants propagated in the present spring, and which are still in small pots, when well rooted, should be repotted into large or small 32's, which will generally suffice for this season, as when the pots fill with roots, the frequent application of weak manure water will keep the plants healthy. Strong shoots which may be taking the lead must be stopped, but the stopping should not be carried too far, as I always think that a moderate number of strong growths are preferable to a greater number of weak ones. After repotting, keep them a little closer for two or three weeks than will be necessary after they are established, and grow them in a light house, near the glass, and on a moist bottom, which will be a means to keep them healthy. Shade during bright sunshine, and freely syringe the plants when closing the house for the day, which should be about 4.30 P.M., so as to husband some amount of sun-heat which will be of special advantage to backward plants. Where it is intended to plant out *Bouvardias* in pits, the bed should be made of a rich compost, similar to that recommended for pot culture, plenty of space afforded each plant to grow, as when grown in this way, they attain to double the size they do in pots, and close planting causes them to lose their lower leaves.

THE KITCHEN GARDEN.

By G. WYTHES, *Gardener, Syon House, Brentford.*

CULTIVATION OF THE VEGETABLE MARROW IN FRAMES.—These succeed in the open in most parts of the country, that glass protection is seldom afforded them. Any disused hotbed is sufficiently warm to start Marrows in, and if it be too cool, some additional short stable-dung will suffice to give warmth. To ensure success, free growth should be encouraged from the start, and the plants should be strong, and free from insects. After soiling the bed, and planting it, give little or no ventilation for a time, and when growth begins, stop the plants, when 12 inches long, by taking out the point of the stem. Put two plants under a light on a mound of soil. One of the best Marrows for frames is Pen-y-Byd, a prolific variety, which bears fruit whilst quite small. With due attention to airing, and affording water at the root, it is a variety that will bear fruit at every joint, and if these are cut when of the size of an Orange, they form a delicious vegetable early in the season. Plenty of air should be afforded in fine weather, and when the out-of-doors plants come into bearing, the frame may be removed, and the plants allowed to run outside; and with attention in watering, they will continue to bear till cut down by frost. The Custard Marrow is another kind which does well in a frame, its fruits being used whilst quite young.

GENERAL WORK.—The ground must be stirred between growing crops whenever the hoe can be used, and the later crops must be thinned as soon as the plants can be handled. Turnips soon suffer if left long in a crowded state, and the main crop of Carrots should be thinned early, for if left till very dry weather sets in, the thinning cannot be done so readily or without injury to those that are left for late use. Spinach also, to be good, requires early thinning of the plants, and abundance of water in dry weather. Radishes should now be sown on north borders, and the earlier-sown ones watered. Mustard and Golden Cress may be sown fortnightly. Watercress, if sown in frames, and planted out in a cool and moist position, is always useful. Lettuce may be sown at intervals of three weeks, if a constant supply of these salad plants be needed. At this season sow the seed in drills thinly, and thin out to 1 foot apart any thinning that there may be should be transplanted for succession. When plants are left where the seed was sown, they stand hot weather well, and need less watering. Endive may be sown now in small quantities, but I prefer to sow about a fortnight hence. Turnips should be sown, one of the best varieties for this season being Veitch's Red Globe, an excellent keeper. Potato stems coming up through the soil should have some fine earth drawn around and up to them daily, as a protection against possible frosts. Should any loss have occurred among the Globe Artichokes during the winter, now is the time for dividing large crowns and making good gaps in the rows. A few of these plants should be planted annually, and an equal number of the oldest done away with. Artichokes like richly-manured ground, trenched deeply. The plants are usually divided and planted at the end

of the month of April, but growth is much later than usual this season that it may still be done. From this date onwards Mushrooms will be best obtained from beds in the open, unless the Mushroom-house be a cool one. If not in the open, an outbuilding or some cool cellars under-ground might be utilised.

CELERY.—The seedlings of the earlier sowing will now be ready to prick off, and although an ordinary frame is good for this purpose, various makeshifts have to be resorted to by gardeners to protect the young plants from bright sunshine for a time, and from night-cold. The bed should consist of rotted manure, leaf-mould, sandy loam, and the seedlings should have been somewhat hardened off, and not brought out of strong heat to be transplanted to the frame. Prick them out at 3 inches apart, and make firm by means of the finger, not the dibber; water them gently with a fine rose-can, and sprinkle them morning and evening. The trenches for the earliest crop of Celery, if the ground be vacant, may be thrown out, just deep enough to bury the manure, and leave a shallow depression that will retain the water. For this crop only a moderate amount of rotted dung is necessary, further assistance being given by means of liquid manure and fish manure and guano in showery weather, or before watering the plants. The space between the rows if for inter-cropping should not be less than 5 feet, and the width of the trench if for a double row, 20 inches; if for a single row, a 4 feet interval is enough. The manure may be dug in about 9 inches deep, or if the subsoil is poor, the top spit or some of it may be placed over the dung. It is advisable to fork up the soil at the bottom of the trench before putting in the manure. If the trenches are prepared a short time before the plants are ready the ground gets into a nice condition when planting-time arrives, and there need be no waste of ground between the trenches while the Celery is still in the frames, but it may be cropped with any quick-growing salad plant, &c. If plants were raised in February in heat, no time should be lost in getting these into the trenches. Cow-shed manure is preferable to stable manure.

CAPSIUMS.—The seed pods of Capsicums, both sweet and hot, are not used so much as they deserve to be in salads and cooked. The large kinds, if sown as previously directed, will be now fit for planting out, which may be done on a spent hot-bed, or on a bed of leaves and stable manure, such as is commonly employed for Cucumbers out-of-doors, keeping them close for a few days and moist, the latter point being an important one, for should red-spider obtain a footing on the plants they scarcely ever pay for the space they occupy, and, as everyone knows, a dry atmosphere is very apt to breed red-spider. When established they should be syringed every day when closing the frame for the night, and afforded liquid manure as soon as a good set of fruit is secured.

TOMATOS.—Any plants sufficiently hardened off, and in a condition to plant out at the foot of a south wall, may now be planted, slight protection being given at night for a few weeks. I have given various methods a trial, and have found that the best is to pot the Tomato plant into 10 or 12-inch pots, and to plunge these into the soil of the border, affording Thomson's Vine Manure when the soil is getting exhausted, and supplying water freely in dry weather. By acting in this way the fruits come much earlier, and those which are planted out either then or later form a succession to these. Although the yield of fruit is not so large from those in pots as from planted out plants, the obtaining of early fruit is an advantage. Tomatos are often too well treated at the start by making the soil too rich, but it is safer to restrict their root run, and mix some loam, mortar rubble, and burnt soil with the staple in preference to putting manure with it, which can always be afforded later if it should seem to be needed. Much root moisture should be avoided, as it is conducive to a diseased state of the plant. It will be found that the most fruit can be obtained from plants trained as cordons.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Castle Howard, York.*

CULTURE OF CUCUMBERS.—A start may now be made with the frame, and much of what has been stated about the frame-culture of Melons is equally applicable to these. Plant when the hills of rich soil have got warmed through. Make it firm, and water thoroughly; stop the plants at the fifth or

sixth leaf, and lay out the shoots regularly all round, but not pegging them down before soil has been put over the whole of the bed. Cut all fruits when they are of a useable size, they will keep fresh for seven days, provided the ends be put in water and they are kept in a cool place. The timely removal of the fruits will relieve the plants considerably. Lay in young shoots wherever there is space for their proper growth, and stop them at every joint if the varieties are free-fruited ones. The beds should be top-dressed with rich compost, and farmyard liquid-manure made free use of when the plants stand in need of a stimulus. Remove exhausted plants and soil, and plant the pit anew.

POT VINES.—Young Vines in 6-inch pots which may have made about 2 feet of growth, may be either stood on the plunging material for a few days, or taken direct to their summer quarters, preparatory to giving them their final shift. If the suggestions with regard to young Vines contained in my last Calendar have been carried out, they will now be in condition for shifting into 10-inch pots, and only those in 6-inch pots which are well rooted dealt with, the others being allowed to stand meanwhile till they have reached the same stage. Employ in potting good fibry loam, dried horse-droppings, lime rubble, wood-ash, finely-crushed bones, and a sprinkling of leaf-soil. It is always desirable to have the compost warm when using it, in order that the Vines may receive no check; and in potting, to make the soil fairly firm, and to give a good watering when the work is finished. It may be necessary to provide longer stakes when a trellis is not available. Those Vines which are intended for planting in borders this year may be transferred to them forthwith, the only disturbance that they are subjected to being the removal of the crocks. When treated in this manner, and strict attention paid to affording the plants abundance of water, that is, treating them like pot plants till such time as they have got a good hold of the new soil, they will grow at a great rate. These Vines, and those intended for planting next year, may be stopped after making 5 or 6 feet of growth, and all sublaterals kept pinched to one leaf, which will cause the buds to become plump. Vines for fruiting in pots should be treated similarly to the above, with this difference, that they are stopped when the length required to suit the structure they will be fruited in is obtained. Give all a minimum temperature of 60° to 65°, with a moist atmosphere, and admit fresh air to the houses on all favourable occasions.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, Gardener, Mereworth Castle, Maidstone.

WITH the advent of warmer weather, wall trees have made rapid growth, and will require constant attention in the matter of disbudding, pinching out the points of shoots that have reached their full limits, and nipping back fore-right and other weaker shoots, to cause them to form fruiting spurs. All young wood required for the filling up of gaps and wall space, or that required to take the place of other branches at a future period, should now be fastened to the walls or to the older wood.

Shoots of the Peach and Nectarine intended for bearing fruits next year should be laid in their places before the base of the shoot gets firm, or they may snap in the operation; put one tie of bast to fasten each to the branch from which it springs, using shreds and twigs to keep it in place afterwards. Disbud generally, but not too severely at present, and train thinly, spreading the shoots as evenly as possible over the space to be covered, so that no overcrowding of the shoots takes place, remembering that superfluous wood is, in its bad effects, next to overcropping the trees. Where trees have set fruit abundantly, remove some of it, but the quantity to be left finally must be decided by the condition of each tree, and the size to which the variety grows. Keep the garden engine in use on the mornings of bright days, making use of tepid water, or of that which has been exposed to the sun—not cold well-water. If black aphid be present, wash with a weak mixture of tobacco-water and clean water, or some other insecticide. Do not wait till the trees are badly attacked before taking steps to destroy the fly. Late-planted trees of all kinds should have the soil at the roots saturated with pond water or that which has the chill taken off it. Nets or other protective materials

may now be safely removed and put aside when dry, numbering each piece to save confusion when again required for use. Nets should be put in order for the protection of small fruits, all repairs to the same being completed without delay.

FIGS.—By this date it will be seen which shoots are likely to produce the most fruit, and if pruning has been deferred till now, it should be finished off. Do not prune too severely, nor restrict the trees too much, extension of branches being conducive to good cropping in the case of this fruit. Lay the bearing shoots in at their full length, but cut away any that are of spongy growth, most of which will be found springing up about the roots. Syringe the foliage of any trees that have been severely root-pruned. In bad weather cut and prepare shreds and nails, and layering pegs for use.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

PLANTING BEDS AND BORDERS.—The planting of all kinds of plants, excepting Alternantheras, Coleuses, and Iresines, may now be done, but before doing so, see that all the plants are thoroughly moist at the roots, and make the soil firm about them in planting, afterwards watering the soil to settle it. Verbenas, Calceolarias, Pelargoniums (of various sections), Lobelias, and Ageratums should be planted out first; following these with Heliotropes, Dahlias, Alternantheras, Mesembryanthemums, Golden Pyrethrum, Kleinias, Iresines, and Coleus. Do not set out the plants too close together, but allow them sufficient space for proper development, and at the same time plant them sufficiently closely, that, with proper attention in the matter of watering, they completely cover the space with foliage and flower within one month or thereabouts from the time of planting. The sooner the beds are well furnished with foliage and flowering plants the better, as then the pleasure which the possession and the appearance of such beds undoubtedly afford will be considerably extended. In too many cases the plants only succeed in covering the space allotted them a few short weeks before they get nipped by frost in the autumn. Sometimes a scarcity of the various kinds of plants employed at bedding-out time is responsible for this meagre appearance of the beds during the best part of the season, and not unfrequently it is traceable to a mistaken idea that a good floral display cannot be obtained unless the plants are set widely apart in the beds, so as to make good individual heads of growth. Where old plants of Pelargoniums which were struck in the autumn of 1890 are available for planting, they should be put in the centre of the beds, filling in round them with young plants of the same kind. If the plants are long-legged, they should be planted slanting-wise—that is, with the branches resting on the soil—to ensure that portion of the previously bare stems which are thereby fully exposed to the sun, pushing into fresh growths. Stocks and Asters, as well as Zinnias, Phlox Drummondii, and such-like, should be planted in the places in which they are to flower before they become "drawn." Like other plants, they are best transplanted in showery weather, but in the absence of rain, small flower-pots may be placed over the individual plants during the heat of the day for a few days, removing them in the evening of each day, which will enable the plants to become established quicker than would otherwise be the case.

MIXED BEDS.—Readers who find their stock of plants unequal to the demand, may get over the difficulty by planting mixed beds. Plants of almost every kind agreeing in harmony of colour may be employed, and by judicious arrangement such beds are very effective. Large beds having a groundwork of Phlox Drummondii may be dotted over with light and dark flowered Fuchsias of various heights, Nicotiana affinis or sweet-scented Tobacco, Salvia patens, Sweet Peas, supported by short sticks; variegated Maize, &c., and edged with Pelargonium Mangleri variegatum, are very telling in effect; as also are beds planted with Stocks, Asters, Zinnias, Sweet Scabious, Gaillardias; standard variegated, and pink-flowered Pelargoniums, set in a groundwork of Garaway's White, or other kinds of Mignonette, and edged with some of the Tom Thumb varieties of Nasturtium, such as Crystal Palace Gem, sulphur-coloured flowers; Cloth of Gold, golden-leaved variety; or Ruby King, crimson-rose flowers, so that whether the mixed beds are so planted through necessity or choice, they are equally effective. If a mulch of short dung or leaf-soil be

laid on between the plants as soon as each bed is planted and watered, it will conduce to the speedy filling of the beds by the plants, and will also save labour in watering.

GENERAL WORK.—This will consist in thinning annuals when the ground is moist after rain or a watering; planting out plants of Lily of the Valley which have been forced, the plants being watered some time before turning them out of the pots and after planting. Spring-flowering subjects, as Wall-flowers, Forget-me-Nots, Primroses, Armerias, Arabis, Daisies, and Aubrietias, as they are being removed from the beds to make room for summer bedders, should be planted in patches like the Lily of the Valley alongside the walks in the pleasure-grounds, and in the home woods and in recesses formed by trees and shrubs in close proximity to carriage-drives and other frequented places, thereby creating, as it were, pleasant surprises in every nook and turning, ten or twelve months hence.

THE ORCHID HOUSES.

By H. A. BURBERRY, Orchid Grower, Highbury, Birmingham.

THE SHOW HOUSE.—A show-house is of use for keeping flowers in good condition throughout the year, and at no time more than at this season, for in every house where the plants are cultivated a moist atmosphere is required, or growth will not be satisfactory. This kind of treatment, whilst it suits growing plants, is not conducive to long endurance of the blooms—hence the convenience of a "show-house." Occasionally artificial heat will still be required by day and night, but, as a rule, it may now be dispensed with, its absence tending largely to the welfare of the plants themselves; but with the flowers it is a different matter, the humidity at night, when no artificial heat is used, soon causing them to become spotted and useless. On the other hand, never do those in flower look so nice as when they are arranged by themselves with Ferns, Palms, and climbing Asparagus, where the house is kept cool, and shaded, moisture being afforded in moderation, and there is little warmth maintained in the hot-water pipes, with ventilation at night, if necessary, to stay damping. The various colours should be so placed as to harmonise with one another. The splendid colouring of Cattleyas, Sobralias, Dendrobiums, and Oncidiums, with the more modest tints of Odontoglossums, and the quaint forms and singular colours of Masdevallias, help to make a perfect fairyland. Artificial heat should be discontinued, therefore, in the intermediate, Cattleya, and the Mexican houses during the night, providing the temperature does not fall below 60° and for but a short time only, and in the cool houses also, providing it does not fall below 55° for any length of time. Trichopilis should be grown at the warmest part of the intermediate-house or the Cattleya-house, and in either pots or baskets. This genus is not so largely cultivated as many of the more showy species, yet such species as *T. crispata marginata*, *T. coccinea*, *T. tortilis* and *T. suavis*, and especially a white variety of the latter, are well worth having, their flowers forming a pleasing contrast when the plants are grouped with others in flower. Sphagnum moss and peat are the best materials in which to plant Trichopilis, and the necessary repotting should be performed after the plants have finished their flowering. *Odontoglossum vexillarium*, if tripps are kept from it, and it is treated as advised in my previous Calendar, will amply repay all trouble expended on it by presenting a mass of beautiful flowers about this date. The plant should be well shaded from the sun during its period of flowering, or the flowers will lose much of their brightness, the high-coloured species soon becoming paler. *Odontoglossum citrosum* is flowering well with us this season, and one spike possesses thirty-three flowers. It is an Orchid of easy culture, but to induce good flowering a thorough rest must be afforded it in a cool or intermediate house, from the time the young pseudobulbs are matured until the flower spikes appear at the apex of the new growths in the spring, and during this period just sufficient water to prevent excessive shrivelling of the pseudobulbs is all that is required. Plant it in good fibrous peat and but little sphagnum moss, and what is very essential, in well-drained pans or baskets. It dislikes to be repotted, and the plant should be disturbed at the root as little as possible, and what is done in this direction should immediately follow its flowering.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, MAY 24—Linnean Society; Anniversary Meeting.

WEDNESDAY, MAY 25—Committees of the Royal Horticultural Society in the Temple Gardens at 11 A.M.

SATURDAY, MAY 28—Royal Botanic Society meets.

SHOWS.

WEDNESDAY, MAY 25—Great Show of the Royal Horticultural Society in the Temple Gardens (two days).

FRIDAY, MAY 27—Exhibition, Earl's Court (two days).

SALES.

TUESDAY, MAY 24—Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, MAY 25—Plants and Palms, at Protheroe & Morris' Rooms.

THURSDAY, MAY 26—Large Collection of New and Rare Orchids, from Messrs. Linden, at Stevens' Rooms.

FRIDAY, MAY 27—Orchids in flower, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCTED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—56° F.

The anniversary dinner of this young and thriving institution took place on Tuesday evening last, at the Hôtel Métropole, Sir JAMES WHITEHEAD being the Chairman. A large gathering of city magnates was present, and, thanks to their liberality and the exertions of the Chairman, nearly £1000 was received for the benefit of the charity. We must refer to another column for a short account of the proceedings on this occasion; here we desire to advert to some points which struck us in connection with it. First and foremost, we must congratulate the managers on the success of their efforts. The orphans are, unfortunately, so numerous, and their wants so pressing, that a substantial addition to the Fund for their relief, whenever obtained, is a circumstance which every gardener will hail with delight. For this result we have largely to thank Sir JAMES WHITEHEAD and his friends. The occasion seems, however, to mark a new departure which will be watched with interest by those concerned. Pre-eminently among similar Institutions, the Gardeners' Orphan Fund is the work of the gardeners themselves. They initiated it, they have reared it, and brought it to its present state, almost exclusively by their own exertions. It appealed to their sympathies from the very first, and it has furnished an illustration of combined effort, such as is not too frequent in the gardening community.

The young Institute, early in its career,

suffered severe losses by death among those who were prominent among its founders and first managers. Happily, others were found to fill their places. We regret that Mr. WILLIAM MARSHALL, the zealous Chairman of the Committee, who was one of those that stepped into the breach, was unable to be present, and share in the gratification experienced by the result of Tuesday's efforts.

As gardeners we are proud of our own Institution, and we should regard any falling off in professional support as a great calamity. We trust no such consequence will follow, but if such results as those on Tuesday are to happen, there is possibly some room for apprehension that the managers may cease their efforts to create a sufficient reserve fund, and live from hand to mouth, trusting to the efforts of a popular chairman to recruit their exhausted coffers. Considering the never-ending responsibilities the fund has to bear, the greater part of such additions as those made on Tuesday last should, in our opinion, go to swell the reserve fund.

Let us also hope that the gardening community will not relax their efforts, and depend more upon the generosity of outsiders than upon their own exertions. That would neither be dignified nor satisfactory, as it might lead to others than gardeners claiming to take the lead in the management of the society. As it was, the gardening community did not take the first place at Tuesday's banquet. Considering the gain to the orphans, we do not wish to make any unfavourable comment upon this, but we would impress upon the management the desirability of supplementing the recent festival by one of more modest pretensions, perhaps, but one in which the rank and file of gardeners will be able to participate more fully than was possible on this occasion. We do not wish to be misunderstood. In the interest of the orphans, we welcome and are grateful for aid from any and all quarters, but we do not want that aid to cause the gardeners to lessen their own efforts or to lose touch with what is emphatically their own institution.

OPHIOGLOSSUM PENDULUM.—"No Ophioglossum," many will say, when they look at fig. 96. Nevertheless, Ophioglossum it is, widely though it differ from our humble British plant, and more like though it be in aspect to *Platycodon*. *Ophioglossum pendulum* is a tropical species, known to LINNÆUS, and was figured in HOOKER and GREVILLE's *Icones Filicum*, t. 19, and in HOOKER's *Garden Ferns*, t. 33. JOHN SMITH, in his *Ferns, British and Foreign*, likens the fronds to ribands or bands hanging loose and waving with the wind, often many feet in length. These plants succeed in a small quantity of soil, firmly fixed in pots, with pieces of soft stone or potsherds, and the pot with a flat back hung against a shady wall or pillar. The photograph, whence our illustration was taken, was executed by Mr. GEORGE ROBSON, of Brisbane, from a plant cultivated by Mr. SOUTER, in the garden of the Acclimatisation Society of Queensland at Brisbane. Mr. SOUTER tells us that he grows it in a shaded house, and the longest fronds are over 7 feet in length. The form that grows in Queensland is known as the variety *furcatum*, and this is probably the variety here figured.

THE TEMPLE FLOWER SHOW.—The fruit, floral, and Orchid committees of the Royal Horticultural Society will assemble at the Inner Temple Gardens on Wednesday, May 25, at 11 o'clock precisely. At 12.30 P.M. the exhibition will be formally opened by the president of the society, Sir TREVOR LAWRENCE, Bart., M.P., and will close on the following day (Thursday) at 8 P.M.

SIR TREVOR LAWRENCE.—We understand that the President of the Royal Horticultural Society does not intend to present himself as a candidate at the next election.

HORTICULTURAL CLUB.—We understand that Sir JOHN LLEWELYN, Bart., has (as Chairman), consented to preside at the special dinner of the Horticultural Club, which will take place on Wednesday, May 25, the first day of the great City Show of the Royal Horticultural Society.

LINNEAN SOCIETY.—The anniversary meeting of the above will take place on Tuesday next, May 24, at 3 P.M. precisely, for the election of Council and officers for the ensuing year. Dr. ALFRED R. WALLACE will this year be the recipient of the Gold Medal of the Linnean Society, which is awarded to him for his contributions to the literature of zoology, and specially for his work on the origin of species.

THE DECIMAL SYSTEM.—The New Decimal Association, says the *Daily Graphic*, whose headquarters are at Btolph House, Eustcheap, has memorialised the Lords of the Committee of Council on Education on the desirability of taking an important step in connection with the introduction of the metric system in this country. The May examinations of the Science and Art Department are known through the length and breadth of the land, and much has been done by means of these examinations to popularise and extend technical study. The memorial which has been presented, recommends that, in certain of the science examinations, alternative questions be given in future, based on the metric system of measurement, which may be taken, at the option of the candidate, in lieu of questions based on feet and inches. The Committee of Council on Education has already ordered that the principles of this system should be taught in the higher standards of all elementary schools; and one of the steps taken by the school boards of London and other towns, in consequence of this order, has been to furnish the pupil teachers and advanced scholars with boxwood rules, having a decimalised inch scale and a metric scale in juxtaposition. In addition to this, coloured wall charts of the metric weights and measures are used, and in this way the rising generation will, to a great extent, be prepared for the introduction of these weights and measures in future, and, we may add, will be spared much useless exertion in learning our present multiple and idiotic systems.

KEW.—An incident, as we learn, occurred at Kew on Sunday last, which scarcely reflects credit on the Commander responsible for the discipline in the British Army. It appears that, no doubt from inadvertence, the Princess of WALES passed into the garden with a dog, and on attempting to enter the Palm-house with it, was very properly prevented from so doing by one of the attendants. The circumstance fell under the notice of H.R.H. the Duke of CAMBRIDGE, who was one of the party, and who, if we are rightly informed, roundly scolded the official for doing what was his plain duty. The man in question did not know the Princess, but even if he had done so, he would have been amply justified in remonstrating. Dogs are not welcome visitors in the Royal Gardens in general, or the Palm-houses in particular, nor does the fact that they belong to a popular Princess make their company any more desirable.

ROYAL BOTANIC SOCIETY OF LONDON.—Professor MARSHALL WARD, F.R.S., yesterday gave his second lecture at these gardens on "Seeds and Seedlings." On this occasion the lecturer described the internal structure and the various changes that take place in the seed during germination and the first stages of growth—changes now found to be due to a fermenting principle which acts upon and breaks up the starch and albumen of the seed into a form capable of being absorbed by the infant plant, operating precisely in the same manner as the digestive secretions upon the food of animals. The next lecture, by Mr. HENRY POWER, F.R.C.S., on the

"Life History of the Fungi," will take place on Friday next at 4 o'clock, free to all visitors to the gardens.

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEE MEETINGS.—The meetings on Tuesday last might have been in midwinter instead of in

render it more attractive. The resources of Chiswick might have been drawn upon to supply something of an instructive character, even if it were not at this season able to show much that is decorative. Means might also readily have been taken to arrange on one central table what was shown; and even if some exhibitors, contrary to regulations, insisted on

increase in the number of subscribers which we all desire so strongly. The Temple Show next week will, we trust, completely obliterate the unfavourable impressions produced by the meagre fare of Tuesday last.

SPRAYING FRUIT TREES.—In a late bulletin from the United States Department of Agriculture on spraying fruits, it is estimated, says *Garden and Forest*, that no fewer than 50,000 fruit-growers in the United States habitually spray their trees and vines against such diseases as Apple-scab, the black-rot of the Grapes, &c., while five years ago there was practically nothing known of the subject. In order to get a direct answer to the question whether this practice paid, 250 Grape-growers in different parts of the country last year made a series of observations for the purpose of obtaining definite information as to the value in dollars and cents of the spraying treatment for Grape diseases. The facts reported by these men show that the actual profit to them over all expenses resulting from the treatment of black-rot and downy mildew was 37,000 dols.

IS SPRAYING HARMFUL?—In order to discover the amount of copper, says *Garden and Forest*, which remained on fruit from Vines sprayed with the Bordeaux Mixture, ten pounds of Grapes at the State Experiment Station in Amherst were taken, and the bunches selected were those which had the largest amount of copper mixture adhering to them. In one sample not a trace of copper could be found, and in the other two one-thousandths of one per cent of oxide of copper was found, an amount so small that one would need to eat from half a ton to a ton of these Grapes, stems, skin, and all, to obtain any injurious effect.

BRIGHTON AND SUSSEX NEW HORTICULTURAL AND MUTUAL IMPROVEMENT SOCIETY.—At the usual meeting of this Society on May 12, Mr. RICHARD DEAN, delivered a lecture on "The Life History of a Flower," as illustrated by the florists' Tulip, a number of coloured diagrams being employed by way of illustration. Mr. WILLIAM BALCHIN, Jun., presided, and there was a large attendance of members who were much interested in the singular vegetable physiology of this once popular subject. The development of that peculiar growth in the seedling Tulip, known as the "dropper," by which the raiser is unable to flower it under five or seven years; the assumption of the self or breeder form in the first instance of blooming, which is but a transient character; and then its development into the broken or recut form, was traced and fully explained. The characteristics of each section was set forth, as well as those of the feathered and flamed characters. Under the head of culture, the rules of its general management were also laid down.

BURNING OF AN OAK 1100 YEARS OLD.—Early on Saturday an unusual spectacle was witnessed in the Home Park at Hampton Court, when a magnificent Oak, growing about 20 yards from the Long Water, was discovered to be on fire. It is said to be 1100 years old, and one of the eight largest Oaks in England. It is 33 feet in circumference, having an average diameter of 11 feet. The trunk was hollow for about 10 feet, and several of the larger branches above that are also in a decayed condition. The fire was extinguished in a few hours, but not before the tree had been almost consumed. The cause of the fire is unknown.

TREE-PRUNING.—We take from the *Reading Mercury* a brief report of a case which will be of interest to many:—Plaintiff sued the defendant for the sum of £50. Evidence was given that the trees overhanging the defendant's garden 3 feet, and that defendant cut the trees down in mistake thinking that the hedge belonged to his side of the garden. Plaintiff wrote to the defendant complaining that the trees being cut down had thrown the two gardens into one. Defendant called in professional advice, and the damage was assessed



FIG. 96.—OPHIOCLOSSUS PENDULUM. (SEE P. 656).

the height of the London season, judging by the paucity of exhibits and the scanty attendance of members. We know, of course, that there were many valid reasons for this, but none the less it is a matter for great regret that the public should have been allowed to see so poor a display. That the exhibitors would not be numerous might well have been anticipated, and the meeting should either have been cut out of the programme altogether, or some special effort made to

placing their exhibits on the floor, something like grouping might still have been effected. Generally, there is no time to effect any re-arrangement after the work of the committee is over, but that cannot be pleaded on this occasion. To the committee-men conversant with the reason why, the matter was not important, but in the case of the average Fellow, the result was deplorable; a *fiasco* of this kind disgusts visitors, is universally commented on in the press, and will certainly not lead to that

by one gardener at 50s. The plaintiff refused to accept the award. At the conclusion of the case, his Honour gave judgment for the defendant with costs.

WRITING ON FLOWERS.—The *Moniteur des Postes* of Paris is responsible for the following story:—The passage of an electric current through the petals of a Rose causes the discharge of the colour from the part of the petal through which the current passes, and leaves a white mark. This effect was ingeniously turned to account at a banquet, where the place of each guest was indicated by a Rose, on the petals of which were thus inscribed the letters of his name. Our contemporary does not give any details of the way in which this was effected, and we are disposed to think this electrified Rose must take rank with the Blue Rose.

SWEET BRIAR A PEST.—The fragrant *Rosa rubiginosa* has increased and multiplied to so great an extent in some parts of Australia as to have become a serious nuisance, and it is proposed to place it and *Furze* in the list of plants to which the provisions of the Thistle Act apply.

ROSA GIGANTEA.—We learn that this fine single Rose, of which we gave a figure at the time of the Rose Congress at Chiswick, is about to produce flowers in the establishment of Mr. CHARLES TURNER, of Slough.

KELWAY'S MEDALS FOR HERBACEOUS PLANTS.—The following medals are offered this year, through the Royal Horticultural Society, at their meetings:—For *Pyrethrums* (perennial) on June 7: Six single and six double varieties, three blooms of each variety (large silver). For *Herbaceous Paeonies*, June 21: Three single and nine double varieties, three blooms of each variety (large silver gilt). For *Delphiniums*, June 21: Twelve varieties, one spike of each variety (large silver). For *Gaillardias* (perennial), July 12: Six varieties, five blooms of each varieties (large silver). Kelway's *Gladiolus* Medal, September 6: Twelve spikes in twelve varieties.

MAY HORTICULTURAL MEETING AT GHENT.—Certificates of merit for novelty were awarded for the following:—1. Seedling *Anaryllis*, to the Société Louis Van Houtte père; seedling from *A. pardina*, dwarf, with a large bulb, short and thick flower stem, large bloom, 6 inches across; petals, 3½ inches wide, by about ½ long; form perfect, colour dark velvety-red, background tinged with green. 2. *Odontoglossum* amabile, to M. Jules Hye-Leyssen; flower white, with rosy edges, and numerous small deep pink spots evenly distributed; lip most graceful, and whole flower very beautiful. 3. *Cattleya Skinneri*, to the same; large cluster of flowers of an unusually dark colour. 4. Species of *Odontoglossum* (*O. triumphans* × *O. luteo-purpureum*), to the same; flower brown with reddish borders, lip large, white, bordered with pale brown, and dotted with bright yellow. 5. *Tropæolum Lobbi variegata*, to MM. Duriez Frères; a pretty novelty; leaves bordered with white. 6. *Odontoglossum crispum rotundifolium*, to M. J. Hye; a large and beautiful bloom. 7. *Masdevallia Veitchii*, Prince de Galles, also to the same; a fine variety. 8. *Odontoglossum crispum punctatum*, to the same; flower dark coloured, much spotted and marked, well expanded and very fine. 9. *Abutilon Souvenir de Bonn*, to M. Patrick; edges of leaves pure white, suggestive of *Acer negundo*; foliage variegated. 10. *Azalea Madame Jos. Vervaene*, to M. Jos. Vervaene; large salmon-pink flower, bordered with white. Certificate for Culture: for *Vriesia Pastuchoffiana*, from M. Poelman-Maenhout; excellent example, with entire leaves. Honourable Mentions: 1. *Odontoglossum Pescatorei*, to M. J. Hye; flower large, with purple spots. 2. *Cattleya Mendelii Franciscæ*, to the same; lip very pretty. 3. A species of *Odontoglossum*, to the same. 4. *Lælia purpurea rosea*, of a pretty shade, to M. L. Desmet-Duvivier.

ORCHIDS, ETC., AT THE EXPOSITION DE MONT ST. AMAND, GHENT.—M. ALFRED VAN IMSCHOOT showed a group of eighty different Orchids, among

which we may mention:—*Odontoglossum Cervantesii* roseum, very deep pink; *O. Halli*, an excellent variety; *O. polyanthum*, a fine and rare plant; *Dendrobium chrysanthum*, *Oncidium phymatocheilum*, fine bunch of delicate blossoms; *Miltonia vexillaria*, very deep pink; *Cymbidium Lowi*, with very dark lip; *Cattleya intermedia*, magnificent specimen, with about 100 flowers; *C. Schroderi alba*, very rare and beautiful; *Lælia purpurata alba*, with large petals; *Chysis bracteensis*, very curious plant; *Epidendrum Pseudo-Epidendrum*, rare, lip glossy orange; *Anguloa Ruckeri sanguinea*, very deep colour, &c. There were also fine *Odontoglossums* from M. CH. VUYLSTEKE; besides triumphans, gloriosum, sceptrum, crispum, we must notice *Hunewellianum*, pulcherrimum, an excellent variety; *Ruckeri*, picturatum, histrix, ioplocon, rare, with bluish-purple flowers; *crispum*, fastuosum, *Andersonianum*, globata, &c. MM. VERVAET ET CIE, sent fine *Lælia purpurata*; M. L. DESMET-DUVIVIER fine varieties of Orchids, including *Cymbidium Lowi*, *Miltonia vexillaria*, and *Varecewiczii*, *Odontoglossum hastilabium*, *Oncidium scarodes*, *Lælia purpurata Russeliana*. M. JULES DE COCK sent fine *Cypripedium*—*bellatulum*, *Rothschildianum*, *barbatum nigrum*; MM. DESOIS ET CIE, sent *C. ananthum superbum*, *Dayanum superbum*, *Monsi*, &c. Their *Cypripedium insigne* var. *Imeschootiana*, was excellent, the flower generally bright golden yellow; lip large and wide, golden-yellow with large black spots irregularly distributed over the lower half and base; there is a wide white band along the upper edge. MM. DESOIS showed good varieties of *Cypripedium Elliotianum*; and M. L. DESMET-DUVIVIER, a remarkable *Maxillaria Sanderiana*, with unusually dark spots. Among the new varieties of *Azaleas* shown at Mont St. Amand, we noticed *Souverain du Congo*, large flower of uncommon shade of rosy-purple, with a metallic-blue flush; *President Ad. d'Hane*, a fine flower of the flambeau genus; *Perle de Ledeherg*, fine flower, white, streaked and spotted with pink; *Erna*, white lined and dotted with pink; *Robert le Diable*, with large dark spots; *President A. van Imeschoot*, a double dark red flower.

ANTHURIUMS.—A novelty raised by L. DESMET-DUVIVIER, of M. St. Amand, Ghent. There are numerous small bracts of the same colour as the spathe—that is, creamish-white. These bracts rise from the base of the spadix, extend during nearly the entire length, and give the plant a most unusual appearance.

VRIESIA TESSELATA VAR.—M. BERNARD SPEE, of Ghent, found among 100,000 seedlings of *V. tessellata* which he raised, two uncommon varieties, of which one only grew into a fine plant. The leaves are striped longitudinally with rather wide bands, some pure white, others yellowish-white, others, again, greenish-yellow. The plant is dwarfer than the type, more compact, the pretty leaves are more numerous and more dense, and the whole hybrid a decided acquisition. In the same establishment we saw an *Areca Bueri*, about 20 feet high, with nine large and entire leaves.

HORTICULTURAL EXHIBITION AT BRUSSELS.—The Royal Linnean Society and the Royal Floral Society of Brussels have organised for July 21, the date of the national fêtes, a large horticultural exhibition, to be held in the State Botanic Garden.

SPRING FLOWER SHOW AT CHELTENHAM.—On Wednesday, May 11, the spring show of the County of Gloucester and Cheltenham Royal Horticultural Society, was held at the Montpellier Gardens, Cheltenham. The show was in every respect a success. The exhibits were, perhaps, not quite so numerous as in some previous years; but the quality was unsurpassable. The principal features of the exhibition were the grand collections of foliage plants by Mr. Cypher, Messrs. Heath & Sons, and Mr. Mould, whose exhibits were placed in this order by the judges—a splendid lot of Orchids, some very fine collections of *Azaleas*, and excellent specimens of *Gloxinias* and *Calceolarias*. Mr. Cypher was 1st

for ten greenhouse *Azaleas*; Messrs. Heath & Son being 2nd; and Sir Alexander Ramsay, Bart., was 1st, Mr. T. P. W. Butt 2nd, and Mr. J. F. Mould 3rd, in the class for six greenhouse *Azaleas*. Messrs. Heath & Son were 1st, and Mrs. Graves 2nd for *Roses*. In the amateur class for Orchids, Mr. T. P. Butt was the only exhibitor, and was awarded 1st prize. In the nurseryman's class, Mr. J. Cypher took first honours, and Messrs. Heath & Son, 2nd. In the collection of twenty plants, grouped for effect, the prizes went to Mr. J. Cypher, Messrs. Heath & Son, and Mr. J. F. Mould respectively. Sir Alexander Ramsay, Bart., was 1st for a collection of *Calceolarias*, and Mrs. Graves 2nd. Messrs. Heath & Son secured 1st, and Mr. T. P. W. Butt 2nd prize for *Gloxinias*. Messrs. Heath & Son took the 1st prize for collection of herbaceous plants, and Mr. Butt for stand of stove and greenhouse plants. Mrs. Gillilan and Miss Sturt were successful in the classes for ornamental vases of cut flowers. There was a small show of vegetables. The only fruit shown were some fine *Strawberries*, for which the Rev. G. G. Coventry, of Woolstone, was 1st, and Mr. Southwood 2nd.

TUNBRIDGE WELLS GARDENERS' ASSOCIATION.—The first meeting of the third session of the members of the above Society, was held recently. A sub-committee was appointed to consider the best means to be adopted to entertain the secretaries and delegates of various gardeners' associations at a Conference, to discuss the proposed central delegate organisation of gardeners' societies, to be held the first Wednesday in June, at Tunbridge Wells.

BEGONIAS.—An exhibition of Begonias will be held at Heemsde, near Haarlem, from September 16 to 19. Thirty-eight classes are enumerated in the schedule, and medals of gold, silver-gilt, silver, and bronze, will be allotted to the successful competitors in the various classes. The Secretary is M. P. W. Voet.

JAFFA ORANGES.—The British Consul at Jerusalem, reporting on the Trade and Commerce of Palestine for 1890-91, says that the increase in the exportation of Jaffa Oranges was particularly marked in consequence of the increased demand for the fruit in England, on account of their large size and superior flavour, which is especially the case if they are gathered at the right time; and a London firm annually send out an agent to Jaffa, who collects carefully and ships the choicest crops of the season for the London market. In 1891, 270,000 boxes of Oranges of the value of £108,000 were exported, as compared with 200,000 of the value of £83,120 the previous year, and with £51,200 in 1889. It will thus be seen that the trade in this article is steadily on the increase, the Oranges being exported entirely to England.

CHICAGO EXHIBITION.—In the Michigan exhibit will be a representation in wax of 500 specimens of fruit which grow in the State. It will be prepared by a Kalamazoo woman, E. S. DENISON, of Alameda county, Cal., intends to send to the Exposition a Pumpkin weighing 326 lb. Ceylon will have at the Exposition several tea kiosks formed of native timber, including specimens of its exquisitely beautiful cabinet woods—Ebony, Satinwood, Calamander, Tamarind, Nadun, Suriyamara, &c. Descriptions appearing in Ceylon papers indicate that these kiosks will be of most elaborate design and finish, and that the tea industry will spare neither pains nor expense in drawing the attention of visitors to the merits of the fine-flavoured beverage. The scene which the Exposition grounds now afford, with most of the buildings nearing completion, and the construction being pushed forward by more than 6000 workmen, is accounted so interesting and wonderful, that from 1000 to 5000 visitors a day willingly pay the admission fee of 25 cents to witness it. Before the abolition of the free-pass system, the visitors often numbered as high as 15,000 or 20,000. The work of construction was interfered with, so that it was thought best to charge an admission fee, and thus

diminish the size of the crowd of sightseers, and at the same time add to the financial resources of the Exposition. The construction of the Exposition buildings is progressing in the most satisfactory manner, and there is no reason for doubt that all will be completed in time for dedication. The rough carpentry work is practically finished on all of the large structures except Machinery Hall and the manufacturers' building, and on these it is in an advanced stage. Six or seven of the buildings have the exterior appearance almost of finished structures, and look like imposing marble palaces. The erection of a number of the State buildings is now progressing. Landscape gardening and other work of beautifying the grounds is being pushed by a large force of men, and sodding, walk-making, and the planting of thousands of trees, shrubs, &c., is in progress.

PROFIT FROM MARKET GARDENS, PARIS.—We had heard much of the market gardens around Paris, says *The Contemporary Review*, and we give a day to them, driving out to Asnières. We introduce ourselves to M. COLMANT, Rue de Mesnil. His garden is only 2½ acres in extent; ¼ acre is given up to Asparagus. From September 1 to April 30 he sends every day to Paris from 200 to 1000 bunches, getting for them on an average through the eight months, 6d. a bunch. They grow in frames 50 feet long, 5 feet wide, floored with slates; under these hot-air pipes, above them a shallow layer of earth. The roots are crammed in as thickly as possible, covered with 2 inches of good soil, and the glasses drawn over; in eight days they are ready to cut, the stocks lasting for two months. He has also 1000 bell-glasses, costing one franc each, for salads. Every year the whole surface of the garden, to the depth of 6 inches, is taken out, sold to the neighbouring bourgeois for their flower gardens, and replaced by manure from Paris, which we saw standing in large ricks ready to be spread. He employs fifteen men, and pays £35 per acre rent on a fifteen years' lease, with right of pre-emption. We sat down with him to calculate his profits. Here is the balance sheet we made out:

Wages	£1,000	Sale of Asparagus ...	£2,550
Rent and taxes ...	100	Sales from rest of	
Manure	100	garden	178
Firing and repairs ...	200		
Interest and capital ...	150		
Horses and carts ...	100		
Sundries	50		
Balance (profit) ...	1,028		
Total	£2,728	Total	£2,728

Net profit of £1,028 on a little over 2 acres of ground.

GAMBIR.—The Director of Gardens and Forests, Straits Settlements, publishes in the last number of the *Agricultural Bulletin of the Malay Peninsula*, an interesting article on this product. Gambir is an extract made by boiling the leaves of *Uncaria gambir*, a climbing Rubiaceae shrub. It is indispensable in the tanning and silk trades, and is exported from Singapore to the average annual amount of 4,682,333 dollars. Great attention is therefore now being devoted to the cultivation of the plant in tropical countries. Mr. RIDLEY's account here given will, therefore, be read with interest. He describes the plant, its history, the uses of the plant, both for tanning purposes, for chewing, and as an astringent in medicine. The method of planting and cultivation generally are detailed, as well as the mode of preparation of the extract, so that a perfect monograph is given in a small compass.

THE EFFECT OF EXPOSURE ON THE RELATIVE DIMENSIONS OF LEAVES.—A series of observations on the variations in the leaf-ratio, i.e., the relation between the dimensions of length and breadth produced by various conditions of soils and atmosphere, have been carried out by Mr. G. F. SCOTT ELLIOT. The general deduction from these observations is that exposure, that is to say, increase of transpiration, has a tendency to lower the leaf-ratio, that is, to increase the breadth of leaves in proportion to their length. Many of the observa-

tions were made on tropical grasses. In these cases the lowest leaves which are most protected from wind and sun are proportionately the largest. Similar results were obtained by growing the same species in more or less sheltered situations. Mr. SCOTT ELLIOT could obtain no definite results on growing the same species in different soils. These researches are fully described in the *Journal of the Linnean Society*, xviii., pp. 375 to 385.

SOME EXPERIMENTS IN ROOT-GRAFTING.—There is plenty of room for research on the subject of root-grafting—a branch of our art which few understand anything at all about; yet if we only understood the proper way to set about it, it seems not improbable that root-grafting might become a common practice. Mons. LUCIEN DANIEL has been greatly interested in the study of root-grafting during the past year or two, and in a paper which may be consulted in the *Comptes Rendus*, Sept. 12, 1891, he sums up the results of his experiments as follows:—

1. We can often obtain grafts on roots of closely-allied plants.

2. The graft may succeed without bringing the generating layers in contact.

3. Sometimes we can graft a plant on the root of another belonging to an entirely different family; Saponaria on an Onagracea, for example.

4. The lack of success in most cases can be explained by the obstacle which the membranes of the graft present to the passage of nutritive matters.

ACTION OF LIME ON HEAVY SOIL.—The potassium silicate present in heavy loam is liable to be rendered soluble by the action of water and carbonic acid, and to be then taken up by the roots of plants, on which it acts rather injuriously. Hence lime is very frequently added to heavy loam soil, and the result is almost invariably an increase in fertility. The beneficial effect of lime depends according to Herr M. JOHNSTONE on its power of liberating the potash which is of great value to plants; this liberation of potash is accompanied by the formation of calcium silicate. For further details, consult *Biedermann's Centralblatt*, xx., p. 713, or *Naturw. Rundsch.*, vi., p. 322.

BOOK NOTICE.

HORTICULTURAL EXHIBITORS' HANDBOOK. By W. Williamson; revised by Malcolm Dunn. (Crown 8vo.) Publishers, Blackwood & Sons, Edinburgh and London.

This volume deals in a most comprehensive manner with all kinds of products of the garden. It enters into the cultivation of plants, both flowering and foliage, including Orchids and Ferns, with hints upon the arrangement of groups. Cut flowers are treated upon in detail, whilst fruit culture is thoroughly well handled. Vegetables, likewise, receive attention of a practical kind. The vast range of subjects which form the horticultural exhibitions of the present day would bear treating upon in an even more comprehensive manner than the authors have attempted. Had they written two volumes, one for plants and cut flowers, and another for fruit and vegetables, no fault could have been found with the arrangement, for in some instances a more detailed mode of procedure would have been of greater assistance. With the aid of the book, as it now is, those who contemplate further exhibiting, or others who intend to enter the lists but have not yet done so, will derive a deal of useful information. There is an absence throughout of allusions to the somewhat questionable modes of procedure which are at times resorted to, and which bring no credit upon those who practise them. In some particular cases the information given embraces all that is really essential. For instance, the culture of the *Chrysanthemum* is dealt with in a clear and concise manner from the cutting to the full blown flower. In the case of Orchids, some very practical and sensible remarks are made, as at p. 58 upon *Dendrobium*, which some growers

would do well to ponder upon in their spare moments; whilst in the case of other genera, the information is to the point. One piece of advice might have been added in regard to keeping Orchids as a whole cooler and in a dry atmosphere whilst in flower, as, for instance, in a living room, which for the time could be given over to the plants exclusively. Timing the flowering of stove and greenhouse plants is alluded to, so as to have them in flower at certain periods, but more information upon this subject would assist young beginners. For instance, timing by stopping is not mentioned in the case of *Allamandas*, *Ixoras*, *Rondeletias*, *Dracophyllums*, *Pimeleas*, and such like plants, all of these plants when thus treated are more reliable for certain dates. The cultural remarks for both Palms and Ferns are alike good and to the point; the selection of soils, and treatment of each as to watering, as in the case of stove and greenhouse plants in general, is a reliable guide. It has apparently escaped notice, however, when dealing with Palms, that *Stevensonia grandiflora* and *Pheniceophorum seychellarum* are one and the same thing, for both are dealt with separately. Florist's flowers are embraced, and the more popular are fully entered upon, from the seed sowing or the cuttings to the flowering stage. Forced plants are included in the category, so also are bulbs, whilst the somewhat neglected annuals receive necessary attention. Cut flowers are commented upon, with clear instructions for all the best known and most popular kinds. Roses, in particular, receive that attention which their popularity fully entitles them to. The use of paper collars (as accessories (?) in the eyes of the florists) is not advised; this is most commendable. One could wish that even the dressing of *Chrysanthemum* blooms had been not only left out, but condemned into the bargain. Amongst fruits, the notes upon culture may be taken throughout as excellent, and clearly to be understood. Upon Grapes (as a case in point) the amateur grower may aspire to exhibition honours if the instructions are carried out. Good selections of kinds are given, wherein quality, as in other cases, is made essential amongst the sorts to which priority is accorded. This is also the case with Pears, Apples, Peaches, and Nectarines. The culture of the Pineapple is described in a very lucid manner. Remarks are made upon judges and their selections, which many judges might read with profit who perchance fulfil this office in a perfunctory manner, and also the committees who have the selection of the same. It is however, not advisable to follow out the suggestion that each exhibitor should nominate those whom he thinks best suited; this would lead to delay in the choice, and more dissatisfaction than at present exists. A chapter upon manures and their application concludes this interesting book. This is well worth perusing by all cultivators; it might set some thinking who work on hap-hazard lines. The last sentences in this chapter reads:—"These notes on manures are mainly given for the purpose of drawing closer attention to a wide field of useful knowledge which has still to be largely utilised. The scientist has done his part in opening it up; it is the province of the practical horticulturist to make the best use of it for the benefit of all." The printing and general get-up of the book is in the usual good style of the publishers, whose name it bears upon the title page. *An old exhibitor.*

GARDENERS' ORPHAN FUND.

THE friends and supporters of this fund met in the Whitehall Rooms, Hôtel Métropole, on Tuesday evening, May 17, Alderman Sir James Whitehead, Bart., presiding. The room was decorated with Orchids, Anthuriums, Pelargoniums, Tulips, &c. Sir James was supported by many gentlemen well known in city circles, who take a practical interest in gardening pursuits, as well as those who are connected with the horticultural trade. In giving the toast of the evening, "Continued Prosperity to

the Gardeners' Orphan Fund," the chairman, as we learn from the *City Press*, reminded those present that during his mayoralty—in 1888-1889—he was instrumental in starting a fund which had as its main purpose the promotion of fruit culture in this country. He was happy to know that the efforts he made then had been attended with very considerable and successful results, and he attributed his presence there that evening to that fact. He felt highly honoured to think that the horticulturalists of the country had invited him to take the chair on that occasion, and to make an appeal on behalf of the orphans of the gardeners of England. While gardeners were supposed to receive—and in many cases did receive—a fair remuneration for their services, yet it could not be said that they were a highly-paid class. Thus it was that from time to time many of them were taken away prematurely, and their children thrown more or less upon the charitable feelings of the country. He knew that in many instances the services which had been rendered by the father had not been recognised by those who employed him; but in the main they had, of course, to deal with the fact that the children of the man who occupied more or less a labouring position (although in the case of a gardener it was associated with science) could not expect to be supported by those who had employed his father before him. Recognising that fact, the horticulturalists of the country had established the Gardeners' Orphan Fund, which made allowances, not exceeding 5s. per week, in aid of the maintenance of the orphans of gardeners until they were fourteen years of age. In addition to that they gave grants, not exceeding £10, to orphans, to enable them to become apprenticed to any particular trade. The help accorded was no doubt small, yet it was a real boon to those in whose behalf it was given, and he believed that nothing could exceed the gratitude which the widowed mother and other relatives of the poor children showed towards the benefactors who were connected with the Fund. The institution was one of the most useful which had ever been founded, and it was not too much to say that, except for that Fund, a large number of children would be compelled to seek refuge in the workhouse with all its demoralising effects. The Fund was one of the most economically-worked societies he had ever been associated with, or which had ever been brought into being throughout the country. With the exception of £40 or £50 a-year paid in the way of clerical work, all the administration of the fund was purely voluntary. There were no office expenses, because the Royal Horticultural Society at Chiswick had given the Fund a home; and Mr. Barron, the Garden Superintendent, was the Hon. Secretary of the Fund. Mr. Barron performed his duties with great judgment, zeal, and efficiency; and he showed an enthusiasm for the cause which had a great deal to do with its success. During the first year the Fund took eleven pensioners under its charge. The following year the number swelled to nineteen, and subsequently to thirty-nine, the figure for last year having been fifty. If the result of that dinner was a satisfactory one, they would be able to still further increase the number. At the present time there was a very large number of cases with which the committee were entirely unable to deal, not one of which was undeserving of help. Another great feature in connection with the fund was, that it was supported by the class for whose benefit it was instituted. The institution was doing an immense service, and it was building up for itself a position of great usefulness. In conclusion, Sir James Whitehead made a very earnest appeal on behalf of the fund, asking his hearers to generously aid the committee in extending the work which had been so well started. The subscription list was announced during the evening, amounting to nearly £1000, and including, from the chairman, £100; Sir Sir Julian Goldsmid, M.P. (president), £50.

The Rev. M. S. A. Walrond, M.A., in very hearty terms proposed the toast of "The Chairman," endorsing the public-spirited manner in which Sir James had taken up the cause of gardening and

fruit culture throughout the country. The chairman, in expressing his thanks for the kind way in which his name had been received, spoke of the great advantages which were to be derived from fruit culture in London and the country alike. Sir Trevor Lawrence, Bart., M.P., proposed the toast of "Success to Horticulture," to which Mr. H. R. Williams and Mr. J. Laing responded. Other toasts included "Kindred Institutions," proposed by Mr. A. W. G. Weeks, and replied to by Mr. N. Sherwood; and "The Visitors," proposed by Mr. Richard Dean, and replied to by Mr. Alderman Samuel.

NOTES OF A TRAVELLER.

(Continued from p. 621.)

MAKURPURA.—The Makurpura Palace and Park, upon which latter Mr. Goldring is specially engaged, situated about 6½ miles from Baroda, and reached by a straight road kept in splendid condition, is a favourite resort of His Highness the Gaekwar. The vegetation along the road is not particularly striking. The hedges are composed of Prickly Pear and various species of Euphorbia, *E. quadrangularis* predominating. As a hedge it is perfect—quite impassable to cattle.

The entrance to the palace is through a massive archway, built in modern style of red brick, relieved with white stone. On the left of the main drive are the stables, hidden by a thick shrubbery; whilst on the right a "nullah" or dry watercourse has been transformed into a rockery. *Arundo donax*, with its tall plumes, grows well here, and *Ipomoea Leari*, amongst other creepers, helps to hide the barest portions. *Ricinus communis* and *Nim* Trees thrive, and are both bold and effective plants for this purpose.

Handsome lamps, shortly to be used for the electric light, are on either side of the drive, and beds filled with various kinds of plants, with a centre one, such as *Bougainvillea* edged with *Alternanthera*, line each side. A striking tree is planted near the stables; it has large, upright, pea-shaped flowers 4 to 4½ inches long; the upper sepal is a beautiful rosy-pink, the lower being of a somewhat lighter shade. There is also a white variety. It is a pretty tree, of graceful habit, with dark pinnate foliage, and oval pinnæ, by name *Agati grandiflora*. *Bignonia stans*, also in flower, well supports its name as a screen plant in front of the stables.

A "Horse-radish" tree, *Moringa pterygosperma*, covered with its numerous white flowers, a nice specimen, some 30 feet high, is noticeable. The pods of this tree, sometimes eaten by Europeans as *Asparagus*, are said to be very good.

Saccharum Sara—the Penreed grass—is economically a most valuable plant; amongst other things, strong ropes for tow-lines are made from its leaves, which are first beaten to a rough fibre and then twisted, by the hostmen of Allahabad; and the young tops and pith are in some parts also used for food.

Having crossed a bridge, one finds oneself in the wide path encircling the Quadrant, consisting of four large plots of grass with the main drive still leading straight to the palace, and broken only by one large tree some 50 feet high, of *Ailanthus excelsa*, with a noble head. This one tree, with the exception of a moderate-sized *Ficus religiosa*, is the only one anywhere near this side of the palace. The effect is certainly peculiar. The sides of the Quadrant, covered with *Dosh*-grass in good condition, have centre pieces in two instances of large handsome bronze statues on granite pedestals, whilst something of a similar nature is to be obtained for the other two. Beds in a continuous half-circular scroll, have been made near the edges of each quarter, whilst between each, either a lamp-post meant for the electric light, but still unconnected, or a single specimen, usually a *Musa*, has been planted. The beds are filled with the usual type of plants. *Vineas*, *Acalyphas*, *Goldfussia*, *Callipais*, *Gallardias*, *Agaratas*, and *Mule* *Pinks* fill the main portion of these beds, but as they are all raised, and surrounded by a brick edge, about 1 foot high, covered with cement (to protect them from being washed away during the monsoon), quite hidden in some instances by creepers, and in addition to which each has a thick wire arch used for the same class of plant, the effect is pretty. The creepers most usually, in fact almost entirely, used, are the small-flowered *Ipomoeas*, such as *I. semper-virens* and *I. vitifolia*.

The fountains are very peculiar—that in front of

the old palace is in an entirely different style—the figures being but one-quarter the size—to the one in front of the new—the effect to me is one-sided. The exterior is hidden by a closely clipt and dense hedge of double Pomegranate, allowed to grow to within a few inches of the top of the stone-work, but kept close up to it. At regular intervals iron mermaids painted white and relieved with gilt (and manufactured in Manchester), support a pipe for the discharge of water, whilst in the centre a taller piece with two wide shallow basins at the top, the uppermost one being the smaller, has been placed.

This was erected in this style by the Gaekwar's wish, such a fountain having been in front of the palace, where his childhood was spent. The basin of this fountain is very shallow, and covered with dark green tiles.

The best substitute for a Conifer I have yet seen was planted one on each side of the four pairs of steps leading to the terrace surrounding the fountain. *Casuarina glauca*, some 8 feet high, thick and bushy, were cleverly clipped to the almost exact shape of *Cupressus Lawsoni viridis*. Round the fountains are small beds filled with the same plants already mentioned, and edged with *Alternanthera*.

A thick shrubbery hides out the park palings and the country immediately beyond. Here the *Msrana*, the Gaekwar's second wife, can walk without fear of being seen. No man, of course, ever sees her under ordinary circumstances.

In front of the shrubbery some big beds are dotted about on the grass at intervals, one in particular attracting my attention. It is filled with *Casuarina glauca* and *Helianthus cucumerifolia*. The latter is certainly a fine plant as grown here—8 feet high—with greyish-white, hirsute foliage, and numerous moderate-sized sunflowers; in one other portion of the park it is equally showy.

Further on, a bed of double red and white *Oleanders*—slightly sticky—comes into view, whilst *Hibiscus sinensis* and its more handsome ally, *H. mutabilis*, fill another a little to the right. The latter is very fine, and makes handsome bushes. The ends and corners of most of the beds are planted with triangular masses of *Crinum asiaticum*, growing like a weed; *Agave recurva*, *Sansevieria zeylanica*, and other plants of a similar description. The *Sansevieria* yields fibre, but I understand it is too coarse for ordinary use. Still continuing, another rockery made in the same way to resemble sandstone, and which soon narrows into a small tunnel, is reached. It is planted with *Acalyphas*, *Ipomoeas*, *Tamarix indica*, the pretty grey foliage of which forms a pleasing change; whilst tall *Bambusa*, or, perhaps, more correctly, *Dendrocalamus tulda*, with its long graceful shoots, relieve the whole from being too dwarf and even. Much of this rockery is completely hidden by yellow-flowered *Ipomoea semper-virens* and *I. vitifolia*.

Still continuing this walk, one passes the palace behind the band-stand, and soon comes on a charming little roofed rustic bridge, the sides of the steps to which are hidden by the thick foliage of *I. vitifolia*. Beneath is the lake, small, but winding prettily about, bordered on one side by a high rockery plated chiefly with *Bamboos*; whilst on the other, the park stretches up in an unbroken line towards the palace. This rockery is the largest and prettiest in the park, and contains a small grotto, over which water trickles. The grotto has only just been finished, and is planted up the sides with *Nephrolepis tuberosa*, various *Adiantums*, whilst a nice little piece of *Rhipis flabelliformis* is in one corner. A small Chinese pagoda, used as a tea-house, is on the top of this rockery, which is thickly planted with *Bamboos*, *Arundo*, *Gossypium herbaceum*, the native wild cotton, a great favourite herbaceous of its pretty seed; *Ipomoea carnea*, now in flower, and other plants, including a fine mass of *Aloe verrucosa*, with its long stalks and small brilliant scarlet tubular flowers. Not far from here a small plant of *Duranta Eliebi* alba was bearing its white bloom and yellow seeds in profusion, and *Combretum purpureum* was luxuriating with leaves often 1 foot long on the side of the stone steps descending from the rockery. On leaving, one passes through a group of the pretty zebra-like *Sansevieria zeylanica* and *Fourcroya levis*, resembling *Agave americana*, though lighter in colour.

A wooden corridor, prettily domed, built of teak lattice-wood, now comes in view; it is scarcely yet finished, but it is proposed to pave it with marble, and fill it with statuary and creepers. Behind the corridor a fine row of *Cassia sinuata* was in full bloom, whilst a little to the left, connecting it with

the palace, is a small Italian garden, with two handsome bronze vases in the centre.

In the centre of that portion of the park behind the new palace a band-stand has been erected on a terrace. On each side of the road an avenue of Millingtonia has been newly planted, with small beds between the trees.

The band-stand is a pretty structure, with a light pyramidal roof, supported by iron pillars and latticed supports, up which, and over the roof, various creepers, such as *Quisqualis*, *Combretum*, *Ipomoeas*, and *Bougainvillea* have been trained. The terrace is square, and approached from the four sides by stone steps, *Casuarina glauca*, clipped in pyramidal form, heads the top of each flight, whilst the angles

chiefly employed; his attention now is chiefly directed to the park of the grand new palace at Baroda, and a few gardens of ancient Maranas. Makurpura is certainly a pretty place, but small and flat; the extent of the park at present laid out being but 70 acres—it is proposed to include more.

LUXMI VELAS.—The park of the Luxmi Velas Palace was to be 400 acres in extent, but it is now proposed to include 800. Very little work, with the exception of constructing roads, has as yet been done, but here Mr. Goldring has a grand opportunity to distinguish himself. Approaching the Luxmi Velas from the south, and passing one of the main carriage-drives, one comes to the Marana's gardens, immediately in front

vegetation being several great Tamarind trees, which must have been there years before the palace was commenced, one enters a courtyard known as the Throne-room Courtyard. The chief plants were *Caladium macrohiza variegatum* (which, however, grows green here), and *Dracenas*; whilst single specimens of *Caryota urens*, *Rhapis flabelliformis*, and *Oreodoxa regia* have been planted. All the soil was covered with *Pothos aurea*, which, when thus grown, forms small but highly variegated leaves; like this, it is a most pretty plant. Another courtyard, still incomplete, contains some nice specimens of *Crotons*. Continuing round the east side, to the north, with its wonderfully handsome Durbar entrance, one comes

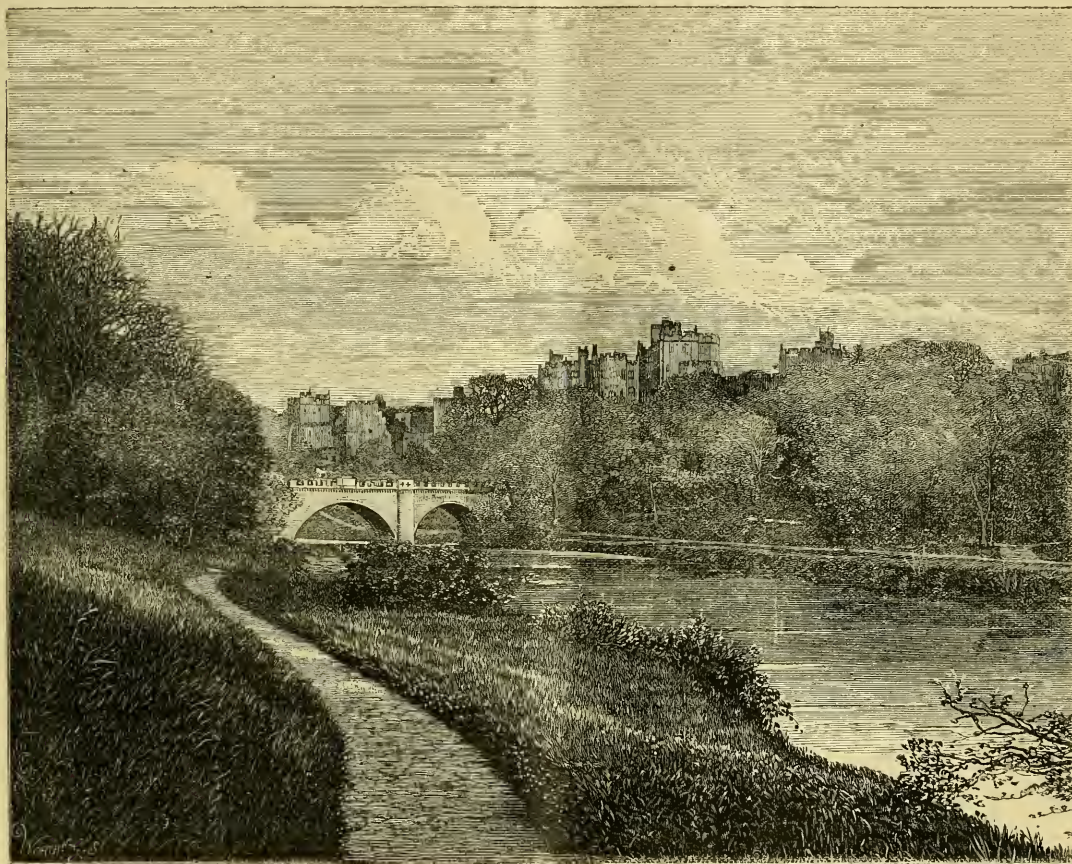


FIG. 97.—ALNWICK CASTLE, AS SEEN FROM ABOVE THE LION BRIDGE. (SEE P. 662.)

of the square on the side of the terrace are planted with masses of *Agave rigida*; the whole is effective and neat. Behind the band-stand is a sunk terraced garden, laid out with *Cannas* and other plants.

To the left of the band-stand is the tennis-court, latticed on one side, against which creepers have been planted, amongst others, *Bignonia Chamberlainiana*; Mr. Goldring thinks it will do well here. Round this is an old plantation of *Zizyphus jozuba*, no doubt marking the site of an ancient village. The tree does not grow high, and is not particularly decorative, its chief value consisting in its edible fruit, much resembling a Cherry; *Guavas*—*Paidium Cattleianum*—are also scattered about. It is on this park, and at Umrut, that Mr. Goldring has been

of that portion of the palace set aside for her use. A high bank with a thick shrubbery at the top, largely composed of *Bignonia stans*, hides this from everything behind. Women are usually employed in this garden. It is sunk several feet below the ground-level, and turfed with good Doab grass, kept constantly watered. Positions have been marked out for two fountains and an aviary, whilst the grass-plot in the centre is cut up into scroll-beds filled with *Gaillardias*, *Vincas*, *Calliopis*, *Ageratum*, *Coleus*, *Mule Pinke*, edged with *Goldfussia* and *Alternanthera*, or purple *Eranthemum* and *Alternanthera*.

Passing from here to the side facing east, where scarcely any work at all has been done, the only

to the front—500 feet long—facing west, in front of which is a sunk terrace $6\frac{1}{2}$ acres in extent, and a grass gallop in course of construction a mile long. In this terrace, which has been excavated some 6 to 7 feet, a band-stand and several fountains are to be erected, surrounded by numerous scroll beds; see fig. 95, p. 653. Passing round the terrace to the right one comes to a nullah, or dried water-course. This Mr. Goldring has transformed into a rockery, always being careful to leave a wide passage in the centre for the monsoon. Near is a huge Tamarind, whilst the rockery is planted chiefly with *Mussa* and *Ipomoeas*. All round this nullah the previously flat ground has been nicely undulated. Labour is cheap, prisoners being largely employed.

They work with chains attached to their feet and waists. Gangs of four men and three women are calculated to move 500 cubic feet of soil per day (of course not far) at a cost of rupees 1.9 = 2s. 2d. The women carry the soil on their heads, whilst the men work with a small pick and a tool formed like a large hoe.

Superintendence is said to cost 10 per cent. of the whole outlay on labour. Another big nullah, close to the entrance, is considered to be the only other portion finished. This has on one side the limit of the park in this direction, a thick shrubbery, whilst on each side of the (now dry) watercourse are rockeries covered with Bamboos, *Bignonia* stans, all the *Ipomoeas*, a species with peculiar *Baninia*-like foliage, from which it obtains the common name of "Goat's-foot," the flower is of moderate size, and purplish in colour.

On the right of this drive is a row of *Millingtonias* in flower, and a few Palms, such as *Lantana rubra* (which grows and colours well), *Washingtonia filifera*, and *Lantana borbonica* have been planted. The main roads of this park are 40 feet wide, the secondary being 20 feet. The electric light will be used on these. Such is at present what will some day be a famous park. *J. H. Veitch.*

(To be continued.)

ALNWICK CASTLE.

The gardens of this unique specimen of a mediæval castle, the residence of the Duke of Northumberland, have frequently been noticed in these pages, and the illustration (fig. 97), which we reproduce, appeared on October 23, 1880. At that time, Ingram, since dead, was gardener at Alnwick, a most successful cultivator of plants, fruits, and vegetables. Mr. Harris, the present, and for some ten years past, gardener at Alnwick, worthily maintains the gardens at their previously high level of keeping, and in some respects has introduced improvements.

The special feature of the gardens at this period of the year is the spring gardening, which in that part of the country is at its best in the present month and during the first half of June. The best effects are produced by simple means, Wallflowers, *Aubrietias*, *Violas*, *Silene pendula*, and the like being the plants mostly employed. The *Rhododendrons* are beautifully in bloom in that part of the grounds which lies to the right hand across the Aln in our illustration.

Tuesday, May 10, saw the coming of age of Lord Warkworth, the Duke of Northumberland's grandson, when a garden party, numbering 3000 persons, assembled, and 1500 of the ducal tenantry, townsfolk, and others sat down to a banquet, held in the guest-hall of the castle and a spacious annexe, which had been fitted up and specially decorated for the occasion. Earl Percy, in the absence of the Duke of Northumberland, was in the chair, with Lord Warkworth on his right, and the Marquis of Stafford on his left. The toast of the evening, "Lord Warkworth," was proposed by Sir Matthew White Ridley, who spoke of Lord Warkworth's "successful scholastic and University career," and said that "above all, he had led a pure and honourable life, a manly life, a straightforward and a pure life, and one which gave every guarantee that his manhood would be brilliant and honourable."

With such grand doings at Alnwick, the resources of the gardens there were severely taxed, and Mr. Wythes, the gardener at Syon, contributed large quantities of forced produce of all kinds out of his abundance.

HOME CORRESPONDENCE.

CLEMATIS INDIVISA LOBATA.—Your note at p. 530 respecting the above-named climber at Roseville Nursery, Harrogate, reminded me of a fine plant that I had under my charge for some considerable time. It occupied a portion of a roof of a large lofty conservatory. It covered some 300 feet of surface, and when the flowering shoots were allowed to hang in graceful festoons, waving with every gentle breeze, and studded with its thousands

of star-shaped flowers, one could not but admire its gracefulness. For cutting purposes during the spring months, there is not another conservatory climber which can come near it for usefulness. We used to cut armfuls of its long sprays for various purposes in the house decoration. Culture is easy, but some care in pruning and training are necessary, otherwise the plant gets into a tangled mass difficult to manage. After flowering, it should be pruned hard back to one or two eyes, that is, if the plant has covered its allotted space, and that was one of the advantages I found in cutting those long sprays, which I cut clean away to the base, leaving only a few buds or eyes, which started immediately into growth, and at the regular pruning would be several inches long, and were left as they were to grow on. Such early growths gave flowers much earlier than those which came after the regular pruning, and the flowering season was thereby considerably lengthened. In the early stages of growth after the pruning, the breaks are numerous, and these require some considerable amount of attention in the matter of disbudding and training. Ripe wood even here is necessary if a profusion of bloom is wanted, therefore the shoots should be trained thinly, and exposed to sun and air. Green-fly is often troublesome when the plant is growing, and for this insect nothing answers better as an insecticide than Lemon-oil, sprayed over the plant with the garden-engine, and the drip of this insecticide never injures anything which stands under the climber. Fumigation is usually out of the question in large conservatories when these adjoin the mansion, but Lemon-oil has no disadvantages. *J. E., Nostell Priory Garden, Yorks.*

AN IMPROVEMENT ON MOWING MACHINES.—We have a 22-inch mowing-machine, Shanks, maker, which we used to work with two men, the ground being very mossy and uneven, but now it may be worked by a donkey, which is much more efficient. The machine would never throw the cuttings far enough into the collecting-box, the machine having to be stopped sometimes twice in going across the lawn, to push the grass into the box. I have invented a simple addition to the mower by which the person guiding it is enabled to push the grass into the box without leaving his post, or stopping. It is of wood, and does not in any way affect the working of the machine, but it makes a great deal of difference in the number of steps taken by the man guiding the mower, and to the amount of his work, the lawn having an area of nearly 2 acres. If these remarks should induce any reader of them to seek further information, I shall be pleased to give further particulars, if their machine is a Shanks; other makes I have no acquaintance with. *A. Corps, Gardener, Hensell, Hawkhurst.*

STACHYS TUBERIFERA.—As a good deal of attention is just now being called to this vegetable, I may state I saw a large plantation of it in Messrs. Sutton & Son's Portland Nursery at Reading, and their method of treatment may prove of service to those who are bent on trying the *Stachys* in their gardens. The soil in which the tubers are planted is light, and deeply trenched in character, and well manured. Just before the tubers begin to grow, a mulching of rotted manure is placed on the surface, and a covering of manure is placed on the plantation in winter to keep them from frost. At the time I saw the plantation, large quantities of fine tubers were being taken from it. At the time the tubers are ready for cooking, it is well not to keep the bed too wet. *R. D.*

THE CARROT GRUB.—I will give my experience in dealing with this matter. Some ten years ago when I was gardener for the late Lord Dacre at the Hoo, Welwyn, I had some trouble with the grub in all our root crops. I found my way out of it in the following manner: having selected sufficient ground for a crop of Peas, it was thrown into ridges during the month of October, no manure being afforded, as the land to grow Peas had been well trenched and manured at the time the Peas were sown. This plot of ground, then, having been thus early thrown up into ridges, it had the whole of the winter's frost and the east wind of the spring to penetrate and pulverise it. About the middle of March it was levelled with forks, and top-dressed with freshly-laked lime to about the depth of an eighth of an inch, and an equal depth of fresh soot, which latter, was procured from the mansion, where wood fires were much used. Having thus dressed the land, it received a good rolling, and the drills were then drawn and the seed sown in the usual manner.

The after-management was of the usual kind, and the root-crops were always satisfactory when the practice of dressing the land with soot and lime was carried out, and I would advise any gardener who is troubled with the grub to give the above method a trial. *G. Merritt, Park View Nursery, Harpenden.*

REVERTED FORMS OF POLYANTHUS AND PRIMULA.—I send what I take (from circumstantial evidence) to be the last stages of reversion by seed from a laced *Polyanthus* to a Cowslip. Formerly I have, in this garden, found them in successive rings of degeneracy round a "garden" *Polyanthus*, the outside ring containing both common wild *Primrose* and common wild Cowslip. Another is a bunch of seedlings of several generations of *Primula elatior* (Jacquin), which was planted here in a corner of my garden, and left to itself. It has changed its form in some instances to the common "hybrid" *Oxlip*, probably, you will say, from *Polyanthus* pollen, which is brought from other parts of the garden, but it is very unwilling to change its colour, and has never got beyond dull red. The others show a curious but not ornamental habit of doubling back the petal which I never before saw in *Primula*. *Primula elatior* (Jacquin) seems to have no share in the garden (laced strain) *Polyanthus*. I should set them down as simple *Primula* veris, judging by the commoner forms of reversion, but no doubt *Primula vulgaris* easily joins in the mixture, but *P. elatior* blood never shows. *C. W. Dod, Edge Hall, Malpas.*

PODOCARPUS PECTINATUS.—I am afraid I must demur to the editorial criticism of the remarks in the *Kew Bulletin* about the nomenclature of this plant. In the *Gardeners' Chronicle* for January 23 last (p. 113) the name is attributed to Brongniart and Gris, on the authority of a specimen in the Kew Herbarium. But I have not been able to ascertain that these writers ever published the name as their own. On the contrary, they described the plant in the *Bulletin de la Société Botanique de France* as *Dacrydium Pancheri*, giving Pancher's name, *Podocarpus pectinatus*, as a synonym. This name being supported by a valid diagnosis of a species to which it is referred as a synonym, is no longer a *nomen nudum*. Its adoption only follows the ordinary Kew rule, that the name of that author is to be adopted who first places a given plant in its right genus. I fail to understand how anyone, even if he could consult the materials and documents at Kew and Paris, could "get on the track" of *Podocarpus pectinatus*, Brongniart and Gris, as such a name is absolutely destitute of any authority; and, in fact, was repudiated by the very authors to whom it is attributed. *W. T. Thiselton-Dyer, Kew.*

HYDRASTIS CANADENSIS, L. YELLOW-ROOT, YELLOW PUCCON.—This very rare plant, not in commerce, and not to be had in Europe, is now flowering in my garden. The plants I received last autumn from the United States. *Hydrastis canadensis* has disappeared from its native country, and is now only to be found very rarely in the United States. The sepals are red on the outside, but fall away as soon as the flower opens. Petals none. The leaves are rounded, heart-shaped at the base, five to seven-lobed, doubly serrate, veiny. I hope to see the crimson fruits. The root of this plant is yellow, bitter, pungent, and tonic; it also yields a dye. *Rheum palmatum*, L. var. *tanguticum*, Regel, the true Turkestan or Thibetan Rhubarb, is also flowering now for the first time, with six flower-stalks from a single root; the leaves are now small. *Rheum officinale*, Baillon, the true Chinese Rhubarb, with its characteristic round and lobed leaves, has a peculiar odour like Pepper, especially the young leaves; I have not remarked this odour in any other species. *Panicum obtusifolium*, Delile, is a very rare grass—a rare even in almost all herbaria of Europe. I received numerous specimens (dried) from Professor Schweinfurth; the specimens are very fine. It is a botanical object of value. *Buysman, Middelburgh.*

INFLUENCE OF LATE FROSTS ON FRUIT PROSPECTS.—The severe frosts experienced during the first week in the present month of May, culminating, on the 9th inst., in nine degrees, did much injury to hardy fruit crops. Though the Apple blooms were yet unexpanded, and had the protection afforded by the floral envelopes, the pistils were frozen to very blackness. As regards Hawthornedens, as many as seventy per cent. seem to be injured. Wellingtons and Blenheim Pippins have also suffered, but to less extent. Codlins and King of the Pippins, though

the blooms were equally advanced, seem to have withstood the trying ideal with immunity. Amongst Cherries, both standards and Morellos, the whole of the blooms which grow upwards, and with their pistils exposed, are destroyed, though, such as hang downwards, having their petals, or floral envelopes, hanging over them in cup-form, seem to have escaped, comprising probably thirty per cent. of the whole. But Cherry trees in this district have unfolded so abundant a display that there is yet hope of a fairly good crop. What a waste of force is annually seen in the over-abundant blossom on varieties of Cherries bear. It is apparent on all named varieties. With improvement of fruit has come less vigour; so much so, that it would be desirable for native fruit improvers to try and get trees with more vigour and less bloom, whereby such extreme exhaustion would be prevented. Turning to bush fruits, the red and white Currant crops were greatly decimated when the bloom racemes first formed in the month of April, many being utterly destroyed. There will be a fair crop, however, of somewhat shortened clusters. The latter frost, owing to the protection the foliage afforded, did not injure them greatly. Gooseberries suffered severely on the 9th inst., quite forty per cent. of the berries most exposed on the upper branches appear now as if they had been steeped in boiling water. Upon Plums the numerous blossoms had set before the more recent severe frost occurred, yet they suffered greatly; a fairly good crop is within the margin of probabilities, however. Williams and other Pears, through stricken severely by the low temperature, are, nevertheless, not wholly destroyed, and Strawberries look well and promising. *William Earley, Iford, May 9.*

COLOUR ON HARDY FRUITS.—To determine what are the real causes that conduce to high colour in Apples, Pears and other fruits, &c., it is important that very early observation should be made, as many fruits last year in spite of the frequent rains, began to lay colour on ere they were half-grown so that it would seem needful to look further afield than to mere sunshine, or to fine dry autumn weather. When I last summer drew the attention of a market grower of hardy fruits to the very early colouring of certain Apples, we remarked that it was to be attributed to the frequent showers and winds, which seemed to be the chief factors in this colour production. We should like to learn whence the colouring matter comes, and of course the causes that tend to create it. Of course, there must be other operating causes to produce colour than are those which appear on the surface. The mere contact of wind, of rain, or sunshine, will not suffice to create colour. This matter must be evolved presumably from the soil, or the roots, or the sap of the trees. Perhaps in certain cases this colouring matter is ever present, and only needs certain conditions to fix it. Perhaps it is but there ordinarily, and only comes when the aerial spirits of warmth, wind, or rain call it. Very pretty indeed is the rich colour usually seen in early winter after the leaves have fallen, on the young growths of deciduous trees. Of course, it is assumed that such coloration comes only late in the autumn, but it may be that it is the product of the whole growing season's work, and only evidenced when maturation has rendered the colour dense and striking. A scientific solution of the fruit coloration problem can only be obtained by careful observation and microscopic examination and analysis. *D.*

CUCUMBERS.—I fear those growers of Cucumbers who would seek for novelties by crossing various varieties, in the hope of getting something specially superior to the sorts now in cultivation, will not find any great encouragement in public opinion, which seems to hold that the general products of cross-fertilising any two good sorts is to spoil them. That, at least, was the verdict pronounced the other day on some Cucumber exhibits at the St. James Street Drill Hall, and the verdict may have been justified. The fact should be recognised, that we have as good, handsome, and as prolific Cucumbers as we may ever hope to possess, and anyone who crosses for the production of new sorts, should realise that it is very difficult to secure in that way anything which is dissimilar from what we already have, and very likely is a long way inferior. It by no means follows in Cucumbers, any more than in Melons, that crossing two of the very best sorts leads to further development of quality; generally, in fact, it leads to deterioration, because Cucumbers seem to have reached their bounds of progression.

Of course, we have in past years obtained many fine kinds through intercrossing, but that advance is now so much less marked, that a real improvement is a novelty indeed. Mr. Lockie would seem to have gathered up all the best qualities of Cucumbers, and concentrated them in the production of his Perfection and other good forms. One thing seems certain, and that is, because the taste now runs so much upon smooth or spineless forms, that the fine old rough spined varieties have become neglected, although these were esteemed to have the best quality and flavour. Perhaps we shall never see a better-coloured, handsomer, or more productive spine Cucumber than is Blue Gown; and it merits being kept not only true, but also well preserved by careful cultivation and selection. In spite of our wealth of handsome varieties, really handsome fruits at exhibitions seem still to be too seldom met with. *A. D.*

NURSERY NOTES.

ORCHID EXHIBITION AT MR. W. BULL'S.

The tenth annual exhibition held at the establishment for new and rare plants, in the King's Road, Chelsea, is perhaps the best which has yet been arranged, the long house in which the display is made being literally crowded with rare and handsome Orchid flowers from end to end. Were it not for the artistic arrangement, we should be inclined to say that as usual there are too many flowers brought together within the space allotted, but the clever use made of such graceful Palms as *Cocos Weddeliana*, and large quantities of *Adiantum cuneatum*, and other suitable foliage plants, together with the graceful hanging of drooping *Panicum*, which borders all the stages, relieves the otherwise too brilliant colour by fresh greenery, and gives harmony to the whole.

Another notable feature in the exhibition, which is seen at a glance, is the great array of gorgeous *Cattleyas*, *Lælias*, *Odontoglossums*, and other showy species, which attracts the eye at a distance, and which are of themselves a picture of much beauty, their tall flower-spikes mingling with the drooping sprays of *Odontoglossum citrosimum* in baskets and rafts; *Cattleya citrina*, *Oncidium concolor*, and other species, with pendent flowers, suspended near the roof, and level with the eye of the beholder. There are also to be witnessed at various points, groups set up as independent effects in floral arrangement, which, although each is perfect in itself, and cannot fail to be admired, combine admirably with their surroundings.

To note two or three of these arrangements—or rather the plants which are used in making them, for the effect cannot be described, let us take that on the stage facing the entrance. Here we have a background of Palms, fronted by a great specimen of *Cymbidium Lowianum*, carrying many spikes, which mingle with the tall branched sprays of *Odontoglossum Pescatorei*; and then the middle and foreground consist of *Cattleyas*, *Miltonia vexillaria*, arranged with brilliant *Masdevallias*, and *Ada aurantiaca*, the whole intermingled with Maidenhair Fern, and fronted by a rockery planted with Ferns. On the right hand, set off by a mirror at the back, we have a group of the sprays of *Oncidium scarceoides*, *O. Marshallianum*, white *Odontoglossums*, and scarlet and purple *Masdevallias*. On the left hand is an equally pretty set of plants, in which the spider-like *Oncidium phymatocellum*, the fragrant and handsome *Cattleya Schroderae*, varieties of *Odontoglossum triumphans*, &c., take part, with, on both sides, suitable *Orchids* suspended overhead. And so on throughout the house are found some striking groups, whose contents are too numerous to particularise here. Let us turn, therefore, to some of the rarer and handsomer species and varieties with which the house is replete, which, in most cases, it needs not the eye of the connoisseur to select, their superiority over the ordinary varieties, being so very evident. First, then, to note the best of the forms of *Lælia purpurata*, which, as with fine varieties of other showy species, are named with

varietal names for the purpose of identification although in many cases the plants are unique. Of these, then, *Lælia purpurata magnifica* is a noble flower of the dark *L. p. Brysiana* section, the lip very large and richly coloured, the petals veined with purple; *L. p. atropurpurea* is another superb form; *L. p. alba*, pure white with maroon-coloured lip with a white tip; *L. p. Victoria*, large pure white with a very large lip of maroon colour, which has a rosy tip; and *L. p. bella* and *L. p. Princess*, two charming things of the "Russelliana" section, the former white with a delicate lilac veining, and the latter nearly white, there being but a slight rose and yellow tinge in the labellum. Next in point of stately beauty come forms of *Cattleya Mendelii*, of which we noted *C. M. grandiflora*, a very large and richly coloured flower; *C. M. insigne* with a lip which has a round flat front lobe of a rich crimson colour, and exquisitely crimped; *C. M. majestica*, white, with light velvety-crimson front to the labellum; and *C. M. princeps*, a very perfect and beautiful flower. Among the many fine specimens of *Cymbidium Lowianum*, two which demanded special attention represent the extremes of beauty in this species, viz., *C. L. concolor*, a wholly light yellow form, with none of the brownish colour seen on the labellum of the ordinary kind; and *C. L. atropurpureum*, whose labellum is adorned with a tint closely approaching blood-red.

Cattleya Mossie enters largely into the display, and among them were some grand named forms; and in point of beauty the varieties of *C. Schroderae* are not a whit behind them, that named *C. S. aurea*, with broad open orange throat and pink sepals and petals, being a noble object, with five flowers. *Odontoglossums* also are in profusion, and a few of the best may be noted. Foremost comes a plant of *O. crispum virginale*, with its white flowers, the labellum having an orange centre edged with white, which at the margin appears like hoar-frost; then we find the original *O. Chestertonii*, a hybrid; and *O. imperator* and *O. Victor*, with pale yellow flowers of waxy texture, with chestnut-brown spotting. Further are some gem-like *O. Scillerianum*, old enough certainly, but still rare; then *O. Wilckeanum* *albens*, *O. triumphans chrysolorum*, *O. t. leopardium*, a small form with spots all over it; the noble *O. polyanthum grandis*, and many others only to be found here.

Around the fountain there is always a rich display and especially of objects of rare botanical interest. Among the showy species there are a fine *Trichopilia crispis*, with wholly crimson lip, and the allied *T. lepidis*, whose petals and labellum are edged with silvery-white; here, too, is the rare *Cymbidium tigrinum*, the fragrant *Epidendrum inosmum*, the stately *Epidendrum Frederici Guilielmi*, the graceful *Oncidium cornigerum*, and the elegant and rare *Pleurothallis scapula*.

Other fine specimens which really command attention are the varied and handsome forms of *Oncidium superbiens*, *O. undulatum*, and *O. macranthum hastiferum*; *Coclogyne cristata alba*, the forms of *Lælia elegans*, of which *L. e. Mastersii* is the most beautiful; the large drooping heads of *Thunia pulchra*, several of the rich rosy-crimson *Vanda Parishii* *Marriottiana*, *Epidendrum Wallisii*, the rare *Oncidium dido*, *Phaius bicolor*, the quaint and rare *Cypripedium Mastersianum*, the elegant *C. caudatum* (some of the specimens with half-a-dozen flowers), and various other *Cypripediums*, *Angraecum Scottianum*, *Miltonia vexillaria erubescens*, a large pan of the dwarf, highland form of *Dendrobium Jamesianum*, *Cattleya Lawrenceana*, *Dendrobium Dearei*, and especially the numerous hanging specimens of *Odontoglossum citrosimum*, varying from pure white to rich rose, spotted and unspotted.

And this show, the invitation card says, will be kept up "from May till August." How will it be done? A glance through the other Orchid-houses, and especially those in the newer nursery, reveals house after house of large plants of *Odontoglossums*, bristling with flower-spikes in every stage; one side of a house of *Miltonia vexillaria*, with hundreds of spikes; a large quantity of *Lælia purpurata*, and

other *Lælias* and *Cattleyas* in sheath, gorgeous *Masdevallias*, *Oncidium macranthum*, &c., and in some sort answers the question, although it must entail much care, thought, and labour in keeping up the high standard at present attained.

SOCIETIES.

ROYAL HORTICULTURAL.

MAY 17.—At the meeting of the Society in the Drill Hall, James Street, Westminster, but a small array of exhibits was brought together, amateurs, gardeners, and nurserymen apparently being intent on the forthcoming great event in the Temple Gardens. There were cut blooms of *Orcids*, some fine flowers of rare *Rhododendrons* from Kew, a group of *Roses*—chiefly novelties, another of *Calceolarias*, which had by some means got placed on the floor, notwithstanding the abundance of tabling; and the rest consisted of miscellaneous cut blooms, *Strawberries*, *Melons*, and other fruits dispersed without order on the thinly filled tables.

Floral Committee.

Present: G. Paul, Esq., in the chair; and Messrs. H. Herbst, R. Dean, H. B. May, N. Davis, C. J. Salter, C. Jeffries, T. W. Girdlestone, E. Mawley, T. Baines, C. Noble, J. Fraser, W. Watson, G. Gordon, G. Phippen, and R. Owen.

Messrs. J. Veitch & Sons, Chelsea, showed a number of plants of a new *Pelargonium Arctæ*, described as a sport from *Volonté Nationale*. The specimens showed good form, and bore large trusses of pink and white blossoms. This variety received an Award of Merit. Another, *Florence Edith*, with white flowers (except for a very little lilac veining on the upper petals) appeared to be a very floriferous variety. The same firm exhibited sprays of *Wistaria sinensis alba*, a pure white form of *W. sinensis*, and was awarded a First-class Certificate. Also sprays of *Cerasus serrulata* and *C. avium multiplex* for comparison; *C. serrulata* has pure white and very large blossoms; also sprays of *Citrus trifoliata*. They showed likewise *Pandanus pacificus*, a green, broad-leaved, good decorative subject from the South Sea Islands. A First-class Certificate was awarded this plant.

Mr. James O'Brien, Harrow-on-the-Hill, exhibited *Cyrtanthus angustifolius aurantiacus*, a flame-coloured tubular flower, borne on a spike about 14 inches long. Also *Cyrtanthus Tuckii*, with bold scarlet flowers.

From T. B. Haywood, Esq., Woodchatch Lodge, Reigate, came a collection of *Streptocarpus* bulbs, raised from seed obtained from Messrs. Veitch & Sons. These were of great merit, and attracted considerable attention. The Hon. P. C. Glynn, Rook's Nest, Godstone, showed a box of cut flowers of the pretty *Mackaya Bella*, and one could not help wishing that this plant was more often to be seen in gardens than it is; also cut flowers of *Cantus dependens*, another good plant very seldom seen doing really well. It is useful for training up a pillar in a cool conservatory.

James Rogers, Esq., Ragsdalewood, Chislehurst, exhibited a seedling *Pelargonium*. Messrs. Lane & Son, Berkhamstead, contributed a basket of pot *Roses* of the *Polyantha* section, *Anne Marie de Montravel*, which were very dwarf, the flowers being white. Also four plants of *The Pet*, also white, but the buds before they unfold are coloured.

A seedling *Carnation* came from Messrs. Laing & Mather, The Nurseries, Kelso, N.B., of a very pale flesh colour, and clove scented. Messrs. William Paul & Son, Waltham Cross Nurseries, Herts, exhibited a group of *Roses*. *Zenobia* is a strong-growing moss variety, and a good colour. Of *Teas* there were *Princess May* and *Medea*, a new and good yellow; *Lady H. Grosvenor*, hybrid *Tea*, a large pale rose-coloured bloom, which received an Award of Merit. *Pink Rover*, a hardy climbing variety, with pale rose-coloured blooms, and *Clio*, a hybrid perpetual.

A group of well-grown herbaceous *Calceolarias* came from T. Nohard, Esq., York House, Lower Sydenham (gr. Mr. H. Slater), and was awarded a vote of thanks. Messrs. J. Peed & Sons, Norwood Road, London, S.E., were accorded a vote of thanks for plants of *Anthurium Jeffersii*, *RouPELLI*, J. Peed, and an unnamed seedling of good merit. Dr. Stewart, Hill Side, Churnside, N.B., sent a few blossoms of a bedding *Pansy*, *Sylvia*, which he de-

scribed as being of dwarf growth, free-flowering, and early; the flowers, which are fragrant, are of a very pale lemon-yellow. Mr. H. Elliott, Stour Vale Nursery, Christchurch, Hants, exhibited a pan with three plants of *Richardia albo-maculata nana*, the spathe of which were about 10 inches high.

A collection of *Rhododendron* blooms came from the Royal Gardens, Kew. *R. arboreum*, *R. a. album*, *R. glaucum*, with small leaves and flowers, the latter a dull red colour; *R. rhombifolium*, a deciduous species from China, bearing small violet blossoms; *R. kewense*, the result of a cross between *R. Griffithianum* and *R. Hookeri*, a very floriferous hybrid, with light pink blossoms, almost white when fully expanded, but quite pink in the bud. The large *R. Griffithianum*, better known as *R. Aucklandii*.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. James O'Brien, Sec., S. Courtauld, T. B. Haywood, R. Brooman White, E. Hill, J. Jacques, Jas. Douglas, Hugh Low, Chas. Pilcher, H. M. Pollett, and H. Ballantine.

In view of the approaching Temple Show, the exhibits were not numerous, but some of them were exceptionally fine, and notably the pure white *Vanda teres alba* from the Right Hon. Lord Rothschild's gardens, and which is the first of this species we have seen worthy to be called white; and the singular and unique *Cattleya icricolor* shown by Baron H. Schroder, The Dell, Egham (gr. Mr. H. Ballantine). Messrs. James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, sent their new *Cypripedium Eboracense* (*Argus* *Phellatium* ♂), which in flower much resembled *C. Marshallianum* ×, but with foliage near to that of *C. argus*. Messrs. Veitch also sent another new hybrid, *C. eurylochus* × (*clivare* ♀, *hirsutissimum* ♂), with curiously elongated and deflected petals, rose at the tips, and at the base greenish, spotted with purple, the upper sepals and pouch also being greenish, shaded and spotted with purple. From the same firm came *Dendrobium lineale*, with five fine spikes, and *Masdevallia candida-Estrade* ×, F. Wigand, Esq., Clare Lane, East Sheen (gr. Mr. W. H. Young), exhibited *Dendrobium Læanum atropurpureum*, which differed from the type in having the labellum wholly rich dark purple. J. W. Temple, Esq., Leywood, Groombridge (gr. Mr. E. Bristow), sent *Cattleya Skinnerii*, Temple's var., with very large and richly-coloured flowers; *C. Schroderi* *Leywoodensis*, a form with a rich glowing orange throat; and *C. Schroderi rosea*, also very handsome. C. J. Lucas, Esq., Warham Court, Horsham, exhibited a very large and singular form of *Sarcopodium Lobbianum*.

R. Brooman White, Esq., Ardarauch, Garelochhead, Dumbartonshire (gr. Mr. Brown), sent fine cut examples of *Cattleya Mendellii*, *C. Lawrenceana*, and a magnificent spike of *Oncotoglossum crissum*. Reginald Young, Esq., Linnet Lane, Ullet Road, Liverpool, sent a flower of a fine *Lælia majalis*, with broad rose-tinted lip; and another form with white lip spotted with crimson, and which has flowered four years in succession. The Right Hon. Joseph Chamberlain, M.P., Birmingham (grower, Mr. H. A. Barbery), sent two very distinct forms of *Dendrobium superbiens*; and the Rev. E. Handley, 19 Royal Crescent, Bath, sent flowers of a dark form of *Lælia præstans*.

List of Awards.

ORCHID COMMITTEE.

First-class Certificates.

To *Vanda teres alba*, from the Right Hon. Lord Rothschild.

To *Cattleya icricolor*, from Baron Schroder.

Awards of Merit.

To *Cypripedium Eboracense* ×, from Messrs. Jas. Veitch & Sons.

To *Masdevallia caudata-Estrade* ×, from Messrs. Jas. Veitch & Sons.

To *Cattleya Skinnerii*, Temple's var., from J. W. Temple.

To *Cattleya Schroderi* *Leywoodensis*, from J. W. Temple.

Butanasi Certificate.

To *Sarcopodium Lobbianum*, from C. J. Lucas.

Cultural Commendation.

For *Cattleyas*, &c., to R. Brooman White (grower, Mr. J. Brown).

Fruit and Vegetable Committee.

Present: P. Crowley, Esq., in the chair; and Messrs. J. Lee, A. Moss, R. D. Blackmore, Harrison Weir, J. Chesel, A. Sutton, G. Taber, T. J. Saltmarsh, G. Bunyard, A. Dean, W. Bates, G. H. Sage, G. W. Cummins, G. Wythes, J. Hudson, F. Q. Lane, H. Balderson, and J. Smith.

The Earl of Dysart, Ham House, Richmond (gr. Mr. G. H. Sage), was awarded a First-class Certificate for ripe fruits of *Pingo* de M-l Fig. The Duke of Northumberland, Syon House, Brentford (gr. Mr. Wythes), was awarded a Cultural Commendation for two dozen large ripe fruits of *Brown Turkey* Fig.

A First-class Certificate was also awarded to a *Melon* (Ganton Orange), exhibited by Lord Suffield, Ganton Park Gardens, Norwich (gr. Mr. W. Allau); a small red-fleshed variety, yellow, and very slightly netted. Lord Suffield also exhibited three seedling *Strawberries*, Ganton Park, Lord Suffield, and Empress of India; the last-named received a First-class Certificate.

A vote of thanks was accorded to Mr. R. Orlebar, Hinwick House, Wellingborough, for a dish of *Strawberries* (John Ruskin). A seedling *Tomato* came from F. Richard, Esq., Bure Homage, Christchurch (gr. Mr. T. Borte).

Mr. Wythes was accorded a vote of thanks for some fruiting shoots of *Ficus elastica*.

R. Burrell, Esq., Westley Hall, Bury St. Edmund's (gr. Mr. E. Bishop), showed a seedling *Melon* (Westley Surprise).

Lecture.

HARDY CLIMBERS AND TRAILING PLANTS.

At the afternoon meeting a paper by Mr. Leach, of Albury Park Gardens, Guildford, was read by the Secretary, the Rev. W. Wilks, on "Hardy Climbing Plants." Mr. Leach complained that these plants had not been made the most of in town or in country gardens, where we might expect to see them, and that although scorned to deprecate the Ivy—which was rightly employed on some old castle or tower, out of reach of the shears, and therefore able to assume its natural habit—it had been, and is, often used in places and under circumstances where other plants would be more suitable. Mr. Leach felt himself all the more unable to account for this, seeing the beautiful foliage and flowers that some of the species present. Even in the midst of a smoky town, the Virginian Creeper and *Ampelopsis Veitchii* would succeed as well as the *Wistaria sinensis*, *Clematises*, and many others that were mentioned. Many people were accustomed to look upon *Aristolochia Sipho* as a plant requiring a warm conservatory, but it would grow and flower well out of doors. The essayist said that *Roses* were and had been for a long time most deservedly popular for covering walls, bowers, and such-like places, but they were usually runed too hard, thus minimising their floriferousness, as well as being cut out of shape and form. Mr. Leach then proceeded to give names of those he would include in a general collection, and added that, with few exceptions, they would be content with almost any soil, and suitable situations could be easily found for them.

The Chairman (Mr. J. Douglas) asked if anyone present would add any particulars to the subject, and in response, the Rev. W. Wilks, who had built a verandah about twelve months ago, and had planted many of these climbers against it, gave interesting particulars as to how they had stood the severity of last winter, when the thermometer had fallen so low as 8° Fahr. Amongst many others, we noticed that *Choisya ternata* was not injured at all, neither *Trachelospermum* (*Rhynchospermum*) *jasminoides*, which is certainly remarkable. *Solanum jasminoides* suffered only at the points, whilst the new *Rose* from Burnham, *Rosa gigantea*, was killed outright. *Passiflora corallæa* had its points injured, but the varieties of *Clematis* were not hurt.

ROYAL BOTANIC.

First Summer Show.

MAY 18.—This was held in the Society's garden, Regent's Park, in good weather. An exceptionally bright display of exhibits was arranged in the artistic manner usual to the summer gatherings in the Society's gardens. Exhibitors for competition, were perhaps fewer than on some former occasions, but the non-competitive groups and miscellaneous exhibits added more than sufficient to the general effect to atone for any falling off in this respect. In the open division for twelve greenhouse Azaleas, the 1st prize was awarded to Mr. C. Turner, the Royal Nurseries, South; Mr. H. Eason, gr. to B. Noakes, Esq., Hove Cottage, Highgate, was 2nd; and Mr. H. James, Castle Nursery, Norwood, 3rd. For six greenhouse Azaleas, open to amateurs only, Mr. A. Offer, gr. to John Warren, Esq., Handcross Park, Crawley, was 1st; and Mr. H. Eason, 2nd.

In the nurserymen's class for six greenhouse Azaleas, Mr. Henry James, Castle Nursery, West Norwood, was 1st.

Mr. A. Offer was 1st for six stove and greenhouse plants (amateurs' division), with good specimens of *Anthurium Scherzerianum*, *Statisia profusa*, *Tetradlea ericoides*, *Hedera fuchsoides*, *Azalea*

Baronne de Vriere, and Erica ventricosa, coccinea minor; Mr. R. Scott, gr. to Miss Foster, The Holme, Regent's Park, was 2nd; and Mr. R. Butler, gr. to H. H. Gibbs, Esq., St. Dunstan, Regent's Park, 3rd. In the nurserymen's division the 1st prize was to Mr. J. F. Mould, Pewsey, Wilts, who had Anthurium Scherzerianum, Erica Cavendishii, Tremandra verticillata, Boria heterophylla, Azalea Fiambeau, and Dracophyllum gracile; Mr. H. James, West Norwood, was 2nd.

In the nurserymen's division for twelve stone and greenhouse plants, Mr. J. F. Mould was again 1st, and Mr. H. James was 2nd.

Mr. A. Offer was 1st for six fine foliage plants (amateurs), and Mr. R. Butler 2nd.

In the nurserymen's division for six fine foliage plants, Mr. Henry James was 1st, and Mr. J. F. Mould, 2nd. Mr. C. Turner, Royal Nurseries, Slough, was 1st for six Pelargoniums (nurserymen) with capital specimens, and Mr. J. Wiggins, manager to Mr. D. Baldwin, Hillingdon Heath, Uxbridge, was a good 2nd. In the open division for six fancy Pelargoniums, Mr. C. Turner was again 1st; Mr. D. Phillips, gr. to R. W. Mann, Esq., Langley Broom, Slough, 2nd, and Mr. J. Wiggins, 3rd. All the Pelargoniums were well shown.

Messrs. Paul & Son, Old Nurseries, Cheshunt, were 1st for a collection of alpine (open), and Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, 2nd. For a collection of hardy herbaceous plants, Mr. Ware was 1st, and Messrs. Paul & Son 2nd. Mr. F. T. Mould, Pewsey, Wilts, was 1st for six Cape Heaths (open), and Mr. Henry James 2nd. Mr. A. Offer was 1st for six large specimen Ferns, open to amateurs, and Mr. R. Butler 2nd.

For six Pelargoniums, open only to amateurs, R. W. Mann, Esq., Langley Broom, Slough, was 1st.

Mr. H. James was the only competitor for twelve exotic Orchids; and Messrs. Paul & Son, Cheshunt, for nine Roses in pots, open to nurserymen.

Messrs. William Paul & Son, Waltham Cross, Herts, were awarded a Small Silver-gilt Medal for a large miscellaneous collection of Roses in pots, and a quantity of cut blooms. This exhibit was really excellent, and attracted much attention.

Messrs. Cutbush & Son, Highgate, for a miscellaneous group of well-grown plants, were awarded a Large Silver Medal. Messrs. B. S. Williams & Son obtained a Small Silver-gilt Medal for a pretty group of miscellaneous plants and Orchids. A Silver Medal was also awarded to Messrs. Hugh Low & Co., Clapton, for a group of Orchids; and a Small Silver Medal to Mr. W. May, gr. to F. C. Jacobine, Esq., Cheam Park, Surrey, also for a group of Orchids, in which we noticed several good varieties of Cattleyas. Messrs. Jno. Laing & Sons, Forest Hill, was awarded a small Silver Medal for a very beautiful and tastefully-arranged group of miscellaneous plants. A Silver Medal to Mr. R. Scott, gr. to Miss Foster, The Holmes, Regent's Park, for a group of plants. For a miscellaneous group of Roses in pots, Mr. C. Turner, Royal Nurseries, Slough, obtained a Silver Medal.

Messrs. Jas. Carter & Co., High Holborn, showed a group of Petunias, well-flowered, single and double, and gained a small Silver Medal. The same firm also obtained a small Silver Medal for an interesting collection of Cactus and succulent plants.

For a group of show Pelargoniums, Mr. D. Phillips, gr. to R. W. Mann, Esq., was awarded a Small Silver Medal. Mr. T. S. Ware, Tottenham, was a collector of Tree-Foamias, Azaleas, &c. Some of the Foenias were very bright and distinctive; a Silver Medal. The same firm also obtained a Small Silver Medal for a collection of late-flowering Tulips. Arcadian floral decoration were shown by Mr. J. R. Chard, Brunswick Nursery, Stoke Newington.

Messrs. Barr & Son, Covent Garden, exhibit a large collection of hardy flowers, and obtained a Silver Medal.

The following plants, exhibited by Messrs. J. Veitch & Son, Chelsea, were awarded Botanical Certificates:—*Pandanus pacificus*, *Adiantum Capillus-veneris* var. *tenuis*, a pretty variety, with fronds very like *A. cuneatum*; but of course much harder; *Cypripedium Evenor*, a hybrid obtained from *C. bellatulum* and *C. Argus*, having the form of *bellatulum*, and the characteristics of both parents in the markings; *Dendrobium lineale*, from New Guinea, a very tall growing species, with long racemes of small white flowers, with violet-lined lip; *Madevallis caudata* Estrade obtained from a cross between *M. candida* and *M. Estradei*; *Cypripedium eurylochum*, from *C. hirsutissimum* × *C. ciliolare*. *Cyrtanthus*

Tuckii, exhibited by Mr. James O'Brien, was also awarded a Botanical Certificate.

Silene virginica, a bright cardinal-red coloured species, about 10 inches or 1 foot high, shown by Mr. T. S. Ware, Tottenham, Botanical Certificate.

Dracena Coulingii, already described in our pages, from Messrs. B. S. Williams & Son, Holloway, Botanical Certificate.

A TESTIMONIAL TO MR. DAVID SYME.—On the occasion of the annual dinner of the London Agricultural Seed Trade, at the Holborn Restaurant, London, on Monday, May 30, at 5.45 P.M., a presentation will be made to Mr. D. SYME, manager to the firm of PETER LAWSON & SON, Limited, Edinburgh, by his friends in the seed and nursery trades, and others. Further particulars will be furnished by the Honorary Secretary, Mr. D. ALLESTREE, 6, Market Buildings, Mark Lane, E.C., on application.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.
	Above 42° or below 42° the Mean for the week ending May 14.	Above 42° for the Week.	Below 42° for the Week.	Accumulated. Above 42° difference from Mean since Jan. 1, 1892.	10ths Inch.	No. of Rainy Days since Jan. 1, 1892.	
0	2	51	3	16	210	1	87
1	2	53	4	16	238	2	61
2	1	53	4	2	138	0	65
3	1	65	1	43	211	4	66
4	2	75	4	7	248	4	56
5	2	76	0	32	198	4	50
6	3	61	0	11	165	3	61
7	3	69	0	16	167	1	61
8	3	73	0	14	118	5	62
9	2	66	0	19	124	3	68
10	2	71	0	28	133	1	61
* 2	1	81	0	27	4	4	68

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending May 14, is furnished from the Meteorological Office:—

"The weather during this period was generally fine and dry. Towards the end of the week, however, it became dull and rainy in all the northern and western districts, while some slight showers were experienced at most of our southern and south-eastern stations.

"The temperature just equalled the mean value in 'England, N.E.', but exceeded it in all other districts. In 'England, E.' the excess was only 1°, but in the other parts it amounted to 2° or 3°. The highest of the maxima were recorded generally during the middle part of the week, when they varied from 76° in 'England, S.W.' (at Landover), and 75° in 'England, S.' (at Southampton), to 70° in several other districts, and to 67° in the 'Channel Islands.' The lowest of the minima occurred as a rule during the earlier part of the period, when the thermometer fell to 29° in 'Scotland, N. and E.', to 30° in 'Ireland, N.', to 31° to 32° in several other localities, to 34° or 35° over 'England, N.W., N.E., and E.', and to 36° in the 'Channel Islands.'

"The rainfall was rather more than the mean in 'Ireland,' 'Scotland, N. and W.,' and 'England, N.W.' In nearly all other districts it was less than the normal, the fall over 'eastern, central, and southern England,' being very slight.

"The bright sunshine exceeded the mean considerably in nearly all districts; the percentage of the possible duration ranging from 74 in the 'Channel Islands,' 69 in 'England, S.W.,' and 60 in 'England, S.,' to 43 in 'Ireland, N.,' and 41 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, May 19.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

MARKET heavily supplied, and with a moderate business doing, prices keep low. *James Webber, Wholesale Apple Market.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.	s. d.		
Acemoss, 12 bunches	1 6	3 0	Myosotis, or Forget-me-not, 12 bunches	2 0	4 0
Arum, per doz. bl.	2 0	4 0	Narcissus (various),		
Azalea, p. doz. sprays	0 6	0 9	Scilly, doz. bunches	2 0	4 0
Bluebell, 12 bunches	1 0	1 6	Orchids:—		
Camellias, white, 1 doz.			Cattleya, 12 blms.	6 0	9 0
dorea	2 0	3 0	Ottolofoglossum		
Carnations, 12 blms.	1 0	3 0	crispum, 12 blms.	2 0	6 0
Clematis, 12 bunches	6 0	9 0	Pelargoniums, scar-		
Cowslips, 12 bunches	1 0	1 6	let, per 12 bunch.	4 0	6 0
Daffodils, double per			12 sprays		
dozen blms.	1 6	3 0	Polyanthus, 12 bunches	1 6	3 0
— single	2 0	6 0	Primroses, doz. bun.	0 6	1 0
Eucharis, per dozen	3 0	6 0	Primula, sing, 12bun.	4 0	8 0
Gardenias, per dozen	1 6	4 0	Roses, 100 per doz.	1 0	2 0
Heliotrope, 12 sprays	0 6	0 9	— coloured, dozen	1 0	3 0
Jonquils, per dozen			— yellow (Maré-		
bunches	1 0	3 0	chals), per doz.	1 6	4 0
Lilac white (French)			— red, per dozen	2 0	4 0
per bunch	4 0	5 0	Spiræas, 12 bunches	4 0	6 0
Lilium Harrisii, doz.	2 6	4 0	Tuberose, 12 blms.	0 6	1 6
Lily of the Valley, per			Tulips, p. doz. bun.	2 0	6 0
doz. sprays	0 6	0 10	Violets, per bunch.	2 0	3 0
Maine Fern, 12 bunches	4 0	6 0	— English, 12 bun.	1 0	1 6
Marguerites, per doz.			Wallflowers, per doz.		
bunches	3 0	4 0	bunches	2 0	4 0
Mignonne, 12 bun.	4 0	6 0			

ORCHID-PLANTS, in variety,

ORCHID-BLOOM IN VARIETY.

PLANTS IN POTS—AVERAGE WHOLESALE PRICES.			
Adiantum, per doz.	4 0-12 0	Genistas, per dozen.	6 0-10 0
Arum, per dozen	8 0-9 0	Heliotrope, per doz.	6 0-9 0
Aspidistra, per doz.	18 0-25 0	Ivy Geraniums, doz.	6 0-9 0
Azalea, per doz.	24 0-30 0	Lilium Harrisii, 12, 18	0 6-0 9
Begonia, per doz.	6 0-12 0	Lily of the Valley, pot	1 6-2 0
Calceolarias, per doz.	6 0-9 0	Lobelia, per doz.	4 0-5 0
Carnations, per doz.	4 0-9 0	Marguerites, per doz.	6 0-12 0
Clematis, per doz.	9 0-18 0	Mignonne, doz. pots	6 0-10 0
Cyperus, per dozen	4 0-10 0	Musk, per doz.	2 0-3 0
Dracenas, each	1 0-5 0	Palms, various, each	2 0-10 0
Echeveria pyramidalis,		specimens, each	8 0-14 0
per doz.	12 0-24 0	Pelargoniums, p. doz.	9 0-15 0
Ericas, various, doz.	12 0-24 0	— scarlet, p. doz.	3 0-6 0
Ferns, various, doz.	4 0-9 0	Primula sinensis, doz.	4 0-6 0
per 100	8 0-15 0	Roses, Fairy, p. doz.	6 0-10 0
Ficus elastica, each	1 6-7 6	— vars. per doz.	12 0-24 0
Fuchsia, per doz.	6 0-9 0	Spiræas, per doz.	6 0-12 0
Bedding plants, various, in boxes, 12 to 3s.			

Bedding plants, various, in boxes, 1s. to 3s.

FRUIT.—AVERAGE WHOLESALE PRICES.

Apples, ½-sieve	... 1 0- 4 0	Lemons, per case	... 8 0-14 0
Apples, Tasmanian,		Pine-apples, St. Mi-	
per case	... 7 0-14 0	chael, each	... 2 0- 6 0
Grapes, new, per lb.	... 2 0- 4 0	Strawberries, per lb.	1 6- 4 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe, ea.	0	4-6	Lettuces, per doz.	1	6-20
Asparagus, per bund.	1	6-8	Mushrooms, punnet	2	0-
Beans, French, lb.	2	6-30	Mustard and Cress,		
Beet, red, per dozen	2	0-30	punnet	0	4-0
Carrots, per bunch	0	4-6	Farsley per bunch.	0	3-8
Cauliflowers, each	0	3-6	Seakale, p. basket	1	6-20
Celery, per bunch	1	0-30	Shallots, per lb.	0	6-0
Cucumbers, each	0	8-9	Spinach, per bushel	3	6-
Endive, per dozen	2	0-30	Tomatoes, per lb.	1	6-26
Herbs, per bunch	0	9-10	Turnips, per bunch.	0	4-6

POTATOS.

NEW POTATOS.—Supply comparatively heavy, especially rounds, and prices easier. Kidneys still very firm.

OLD POTATOS.—Weather in favour of this article, and prices gradually rise. Price, 90s. to 110s. J. B. Thomas.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure, for the week ending May 14, and for the corresponding period last year:—1892: Wheat, 31s. 7d.; Barley, 25s. 2d.; Oats, 21s. 4d. 1891: Wheat, 39s. 11d.; Barley, 27s. 11d.; Oats, 20s. 9d.

POTATOS.

SPITALFIELDS: May 17.—Quotations:—Magoums, 65s. to 90s.; Imperators, 65s. to 90s.; Hebrons, 65s. to 90s.; Bruce Magoums, 60s. to 85s.; Snowdrops, 70s. to 90s.; Sutton's Abundance, 70s. to 90s.; Main Crop, 80s. to 100s. per ton.

BOBOUGH: May 17.—Quotations:—Bruce Magoums, 70s. to 85s.; Dunbar do., 85s. to 105s.; Fenland do., 65s. to 70s. per ton.

STRATFORD: May 17.—Quotations:—Light land, 65s. to 85s.; Dark-land, 60s. to 75s.; Scotch, 75s. to 110s. per ton.

NOTICES TO CORRESPONDENTS.

*. PHOTOGRAPHS, DRAWINGS, OR SPECIMENS.—We shall be pleased to receive from our Correspondents notes relating to interesting Gardens, together with Specimens or Illustrations of interesting Plants. Although circumstances prevent us in all cases from reproducing them, we are nevertheless glad to receive them, and as far as possible to utilise them for the benefit of our readers.

ANALYSIS OF FERTILISERS: F. D. Some years ago we published a number of these, but we do not think it would be worth our while to repeat them now that any one can, by paying a fee to a competent analyst, obtain what he wants. The general result of our enquiries was that most of the manures, &c., were fairly good for their purpose, but that the price asked was in some cases, and for small quantities, quite exorbitant.

ARICULAS: G. H. M. Paste is the circular band round the eye of the flower; throat is the mouth of the tube in which are the pistil and stamens; body-colour is the colour of the bloom lying between the paste and the margin, and in a show Auricula is a well-defined band; centre is the orifice or mouth of the tube; edge is the line of colour surrounding the whole bloom. The brown flower sent is what florists call shaded, and has no edge or margin, and scarcely a body-colour. In some cases very fine and distinct alpine are put into stands of show varieties, but to us, it appears to be a straining of the rules and definitions of a show flower to do this.

CORRECTION. In "A Traveller's Notes," *Gardeners' Chronicle*, p. 621, 1st column, for Gaultieria read Guatteria.

EARLY VINERY FROM WHICH THE CROP IS GATHERED: H. B. P. The object now should be to mature the wood, and preserve the foliage as fresh as possible for the longest period. To do this the ventilation should be ample day and night in fine weather; at the same time maintain, even if artificial heat be applied, a dryish atmosphere in dull cool weather, or mildew will attack the leaves. The border must not be allowed, if inside, to lack moisture. In ordinary seasons the border outside will not require to be watered, unless it be a shallow one, or the loam very light. It is well to allow the laterals at the bottom of the canes to extend somewhat, those near the top in a smaller degree. In full summer, if the roof glass be removable it should be taken off.

FIGS: An Anxious One. The Figs sent last week which were stated to be attacked by *Mucor amethysteus*, have since developed another fungus much more likely than the *Mucor* to have caused the disease. This is *Gloeosporium leucolor*, B., which is destructive to Grapes, and was described in *Gardeners' Chronicle*, 1871, p. 1162, and figured in *Gardeners' Chronicle*, 1890, p. 657. Mr. Berkeley seems to have been of the opinion that Grapes would contract the disease from Peach and Nectarines, and vice versa.

FUNGUS ON WALNUT TREE: Jas. Hope. It is not possible to say exactly what the fungus is, but probably the spawn of an *Agaricus*, like *A. melleus*.

INSECTS ON GRAPES. T. We can find no insect. Probably the "ringing" has been done by some small caterpillar.

IXIAS: A. P. We do not know what was the treatment you pursued after the bulbs went out of bloom that has caused them not to flower this season. They should have received water until the leaves turned yellow, when water should have been withheld, gradually keeping the pots in an airy cold frame till the leaves were ripe, when the pots should have been stored away on a shelf in the greenhouse. In September and October shake out the bulbs, select the largest—the flowering ones—and pot them, six or eight, in a 4½-inch pot, in rich sandy loam, with plenty of small crocks for drainage. Stand the pots in a cold pit plunged in

coal ashes or sand, and let them start without the application of heat.

LARGE WHITE-FLOWERED CACTUS: E. P. The species enquired for probably is *Cactus (Cereus) grandiflorus*. The calyx is of a beautiful yellow, the outside brown colour, the petals pure white, which adds to the lustre. The calyx when fully expanded would measure about 1 foot. It opens about 7 o'clock in the evening, is fully open about 11, and begins to fade about 4 A.M. The flowers are strongly fragrant.

NAMES OF PLANTS: W. W. *Amelanchier vulgaris*.—E. D. L. 5 and 6, forms of *Fritillaria pyrenaica*.—*Hortus*. *Acacia pubescens* (*Mimosa pubescens*).—C. S. *Cereus Malesonii*, the angular stemmed sps., *Phyllocactus latifrons*, var.—D. E. 1. *Oxalis* Boweri; 2, *Ornithogalum umbellatum*.—J. W. Jan. 1, *Echites picta* of gardens; 2, *Cardamine* impatiens; 3, *Chrysosplenium oppositifolium*; 4, *Adoxa moschatellina*—all the specimens dried up and scarcely recognisable when we received them.—G. C. 1, *Lonicera Ledebouri*; 2, *Ribes*; next week. 3, *Dacrydium Franklini*, *Cephalotaxus drupacea*. C. *unbraculifera* seems to be a form of C. *pedunculata*, but we are not sure. The others next week.—A. B. C. 1, *Abies grandis*; 2, *Thuja occidentalis* var.; 3, *Retinospora obtusa*; 4, *Abies Pinsapo*; 5, *Retinospora obtusa* var.; 6, *Cryptomeria elegans*.—No name. 7, *Prunus Padus*.—G. W. E. *Arum maculatum*.—G. W. D.A. 1, *Lencioium aestivum*; 2, *Lantana*, garden form of; 3, *Maxillaria tennifolia*; 4, *Viburnum Lantana*; 5, *Leycesteria formosa*; 6, *Weigela hortensis variegata*; 7, *Andromeda floribunda*; 8, *Hippophae rhamnoides*; 9, *Prunus Padus*: all bad specimens, withered.—M. L. N. 1, *Fuchsia Boliviana*; 2, *Escalonia macrantha*; 3, *Kennedyia longercasmosa*; 4, *Bignonia radicans*; 5, *Athyrium Filix femina*.—T. *Euphorbia pilosa*.—J. W. M. *Prunus Padus*.

PELAGONIUM: J. H. R. The death of the plants is due to deep potting. Just as a tree may be killed by piling earth round the stem.

PEACH LEAVES: G. J. The leaves have been caught by the sun when wet, and when there was not enough air on.

PHOTOGRAPH: A. W. Probably because the plant had already been well figured in our columns; or, perhaps, because the photograph was not suited for reproduction. Of course we cannot undertake to reproduce all the photographs and drawings that are sent to us, though we are very pleased to receive them.

ROSES: G. May. The insect which we saw in the bottle was green-fly, in one of its stages. The injury done to the Rose blooms sent by you on the second occasion, point rather to a weevil in the mature beetle stage, or as larvae as having caused the holes in the petals. The injury would appear to have been done whilst the flowers were in bud. As weevils (the perfect insect) feed at night, you should look for them then, using a dark lantern on going into the houses, and suddenly turning the light on the plants. The insects will be startled, and will drop to the ground, on which a calico sheet, or sheets of paper, should have been spread some time previously.

STRAWBERRY PLANTS: Subscriber. The plants put out in February are not likely to produce runners early enough and strong enough for potting for forcing next spring. The bloom trusses should be picked off the plants. Forced plants of *La Grosse Sucrée*, properly hardened off before planting them out, might, under very favourable circumstances, produce runners fit to be forced late, but usually the runners are weak, few, and late.

THORN: J. W. The flowers you send appear to be those of *Crataegus coccinea*, which has probably been grafted on the White Thorn.

COMMUNICATIONS RECEIVED.—G. Fulford.—R. B. (cannot inform you).—H. W.—W. S. (Quercus).—Dr. L. Veronil (Maurice et Loire).—G. W. D. Communication sent to secretary.—G. H. Knareborough.—Ch. de B. Lierre.—Prof. Penzance. Genoa.—W. W. Rooting.—F. B. We cannot interfere. There has been no wilful breach of contract. As we understand your letter, the postal authorities are to blame for not despatching the parcel.—W. W.—G. B. H. P.—B. T. L.—T. C. H. Florence.—C. F. Walton.—W. H. H. D. T. F.—B. D. G.—W. D. W. L. Boston.—E. C. W. B. H.—Royal Botanic of Edinburgh.—W. C. D.—C. de B., Ghent.—Dr. F. Krauslin.—J. C. R.—M. Koster & Sons. F. G.—J. R. J.—C. T. Drury.—W. Nelson, South Africa.—E. M. R.—W. Harrington.—C. H. R.—H. C. P.—D. A.

DRAWINGS, SPECIMENS, &c. RECEIVED.—J. A. G.—C. The Board of Agriculture.—Technological Museum, Sydney.

LETHORION (VAPOUR CONE).



PATENT.
They are now universally admitted to be thoroughly uniform in strength, and safe for any plant or flower, even if four times the quantity are used. Scales and mealy-bug may be completely eradicated by using the Cones double strength.
PRICES.—For frames of 50 to 100 cubic feet, No. 1 each, 6d.; No. 2, 8d.; No. 3, 1s.; 1000 feet, No. 3, 1s. 6d.; 4000 feet, No. 4, 5s.

The house should be well secured.

CORRY & CO., LIMITED.
13, 15, & 16, Finsbury Street, London, E.C.

HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

The "STOTT" Patent INSECTICIDE DISTRIBUTOR.



CHEAP, SIMPLE, and EFFECTUAL. 28s. Complete.

INSECTICIDE "KILLMRIGHT."

CERTAIN PREVENTIVE OF MILDEW.
DEATH TO CATERPILLARS, and all INSECT PESTS on Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and other Plants. NON-POISONOUS.
2-lb. Tins, 1s. 9d.; 14-lb. Tins, 9s.; 56-lb. Kegs, 34s.

FERTILIZER "FEEDMRIGHT."

Most Invaluable for
Roses, Chrysanthemums, Greenhouse, & Stove Plants.
2-lb. Tins, 1s.; 14-lb. Bags, 4s. 6d.; 56-lb. Bags, 15s.

PRICE LISTS and TESTIMONIALS on Application.
2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE and RETAIL FROM THE
"STOTT" FERTILIZER & INSECTICIDE
Distributor Co., Ltd., MANCHESTER.
Retail from all Ironmongers, Seedsmen, &c.

Prices:—In Tins, 1 Pint 1/3, 1 Pint 1/9, Quarts 3/4, 1 Gall. 5/4, 1 Gall. 9/4, 5 & 8 to Gall. Drums, 8/6 per Gall. Carriage Paid.

THE MYTHE CASTLE GARDENS,
Tewkesbury, Aug. 13th, 1891.

Gentlemen,—I have given your "Climax" Insecticide a good trial on tender foliage, Orchids and Ferns for Bug and Scale. In every instance I found the Bug and Scale dead and the foliage bright and clean. I found it most effectual for Black Fly on Peach trees. The "Climax" Insecticide ought to be better known, it is the only one I have found to kill Bug on tender plants without injury to the foliage.—I am, yours faithfully,

W. MACKIE.

Prepared Solely by
The Boundary Chemical Co., Ltd.,
LIVERPOOL.

EXTRA STOUT strong-tanned NET, 2 yards wide, 1½d. yard; 4 yards wide, 2d. yard, 10s. per 100; 4 yards wide, 20s. per 100 yards. NEW TWINE NETTING, 1 yard wide, 1½d. yard; 2 yards wide, 3d. yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. COTTON NET, also meshes to square 1½, 1½ yard wide, 1d. yard run.
W. CULLINGFORD, 24, Eastern Road, Plaistow, E.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.
1 Cwt. and Oil Mixture, Firms of all Stations. Liquid Non-Poisonous Paints Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.; and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

GATES

STOCK	SIZES
14x12	20x15
16x12	20x16
18x12	22x16
20x12	24x16
16x14	20x18
20x14	22x18
	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest price, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,
LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*

GARDEN REQUISITES.—
Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of—
WATSON and SCULL, 90, Lower Thames Street, London, E.C.

HEATHMAN'S HOSE,

ANTIMONIAL RED RUBBER.
Is Lightest in Weight, yet Strongest and Most Durable
FOR GARDENS.

220 Miles Sold the last Five Years. Price Lists from—
HEATHMAN'S HOSE FACTORY,
2 & 37, ENDELL STREET, LONDON, W.C.

ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,
AND ALL GARDEN SUNDRIES.

SEND FOR A
PRICE LIST
from the Largest Manufacturer in the Trade,
H. G. SMYTH,
21, GOLDSMITH STREET,
DRURY LANE, W.C.



JAS. BOYD & SONS,
HORTICULTURAL BUILDERS
and HEATING ENGINEERS,
PAISLEY.

HORTICULTURAL STRUCTURES
of every description,
in either Wood or Iron,
or both combined.

Wooden Chapels,
Shooting Lodges, Cottages,
Tennis Courts, Verandahs, &c.

Hot-water Apparatus
for warming Churches,
Schools, Public Buildings,
Mansions, Harness Rooms,
Drying Rooms, Rothouses, and
Buildings of every description.

Illustrated Circulars
Post-free.

Complete Catalogue, 3s.

EARL'S COURT, LONDON.

INTERNATIONAL HORTICULTURAL EXHIBITION, And BUFFALO BILL'S WILD WEST.

Chairman of the Executive Committee—H. E. MILNER, F.L.S., Assoc. M.Inst.C.E.

A Floral Fairyland. All the Flowers that Grow.
THE GARDENS of OLDEN TIMES Reproduced. Electric Fountains.
The Floral Maze. Leafy Avenues and Floral Bowers.
THE BEST MILITARY BANDS IN EUROPE. FLORAL FÊTES.
Brilliant Illuminations. Battles of Flowers.
THE MOST DELIGHTFUL PROMENADE IN LONDON.

All the LEADING NURSEYMEN will be represented by their FINEST SPECIMENS; EVERY DESCRIPTION of FLOWER and FOLIAGE being contributed, including Palms, Ferns, Flowering Shrubs, Insectivorous Plants, &c., from the RAREST TROPICAL EXAMPLES to the COMMONEST NATIVE PRODUCTIONS.

Admission—FRIDAY, MAY 27, 5/-, until 5 p.m., including 2,500 Free Seats to Buffalo Bill's Wild West. Saturday, May 28, One Shilling.
GATES OPEN from 11 a.m. to 11 p.m. Season Tickets, 10/6, now ready.

IMPORTANT EXTRA ANNOUNCEMENT.

GRAND FLORAL FÊTES.

GREAT SUMMER FLOWER SHOW.

THE FINEST FLORAL DISPLAY OF THE CENTURY.

FRIDAY and SATURDAY, MAY 27 and 28.

Money Prizes (over £800) and Medals for all Classes of Flowers.

Secretary—G. A. LOVEDAY, B.A.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

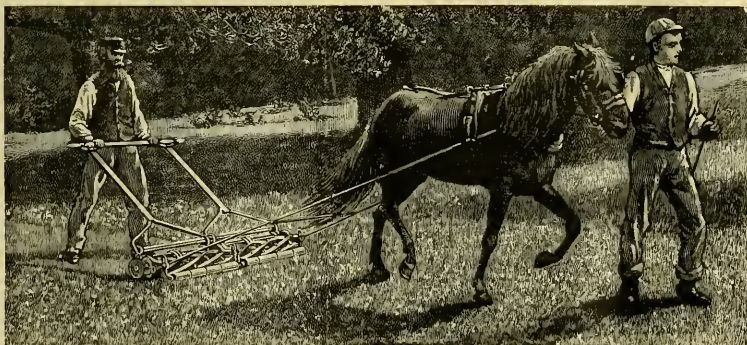
PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, Etc.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London." Telephone No. 4763.



THE

"NEW EASY" LAWN MOWER.

The **LIGHTEST RUNNING** and
CHEAPEST ROLLER Machine.
UNEXCELLED DURABILITY.

Made in all Sizes, from 10 to 24 inches.

The **LARGEST SIZE EASILY WORKED** by ONE MAN.

Illustration shows two 24-in. Machines coupled together, doing the work of a 50-in. Horse Machine, at one-third the initial cost.

SOLE LICENSEES—

SELIC, SONNENTHAL, & CO.,
85, Queen Victoria St., London, E.C.

For Green and Black Fly, American Blight, Camellia Scale, Red Spider, Mealy Bug, Brown and White Scale Worms, Wood Lice, &c.

"PICRENA," THE UNIVERSAL INSECTICIDE.

SAFE—ECONOMICAL—EFFECTUAL.

15, PRINCES STREET, EDINBURGH, July 15, 1887.—"Dear Sir, I have thoroughly tested a sample of a new Insecticide which you were so good to send me. At the rate of 1 oz. to a gallon of water at a temperature of 95°, I find it kills Green Fly immediately. Double this strength, or 2 oz. to a gallon at 120°, seals the fate of Scale of all sorts in a few seconds; while 3 oz. to gallon at same temperature effectually dissolves Mealy Bug, and so far as I have yet observed, without the slightest injury to leaf or flower, and it is within a most agreeable compound to work with. All our insect remedies are applied through common syringe, or garden engine, a much severer test of efficiency than when applied by hand-washing or spray.—I remain, dear sir, yours truly. (Signed) A. MACKENZIE," of Messrs. Mathew & Sons.

Victoria and Paradise Nurseries, Upper Holloway, London, January 7, 1888. "GENTLEMEN—I have given your Insecticide, 'Picrena,' a good trial in competition with many others. I am pleased to say that I have found it to be more effectual in destroying Mealy Bug and other insects than anything we have ever used. It ought to command a good sale. (Signed) B. S. WILLIAMS."

Sold by Chemists, Nurserymen, and Florists, in Bottles at 1s. 6d., 2s. 6d., and 3s. 6d.; in Tins (1 and 2 gallons), 10s. 6d. and 20s. each; in quantities of 5 gallons and upwards, 9s. per gallon.

Prepared only by DUNCAN, FLOCKHART & CO., Chemists to the Queen Edinburgh.

May be had from B. S. WILLIAMS, Victoria and Paradise Nurseries, Upper Holloway, London; and from WILLIAM EDWARDS and SON, 157, Queen Victoria Street, London.

SAVE HALF THE COST.

GARSDIE'S BEDFORDSHIRE COARSE AND FINE SILVER SAND

Is admitted by the leading Nurserymen to be the Best Quality obtainable in the Trade.

Consumers should Buy Direct from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus save half the ordinary cost. NO TRAVELLERS OR AGENTS. Apply direct to the Proprietor for Samples and Price free on Rail or Canal. All Orders executed with the utmost promptness and under personal supervision. Special Railway Rates in force to all parts. All kinds of PEAT supplied at lowest possible prices. Sample Bag sent on application to GEO. GARSDIE, Jun., F.R.H.S., Leighton Buzzard, Beds.

GISHURSTINE COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-trees, in lather from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

TRY THE PATENT "MANCHESTER" LAWN MOWER.

Awarded numerous National & International Prize Medals.



Many thousands of these excellent English made Machines in use, giving unqualified satisfaction. Easy to work on uneven ground, and cut long or short grass, wet or dry, and give the turf a beautiful velvety appearance.

FOLLOWS & BATE LTD., ENGINEERS, GORTON, MANCHESTER.

Patentees and Manufacturers of the Royal "ANGLO-AMERICAN," "TENNIS," and "CLIMAX" LAWN MOWERS.

80,000 SOLD SINCE 1869.

To be obtained promptly from all respectable Ironmongers and Saddlers. PRICE LISTS POST FREE.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses, Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigpen Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps.

PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

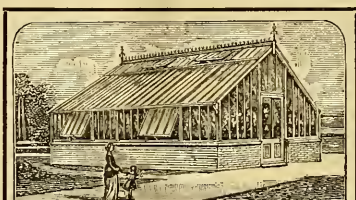
If you fail to obtain this Valuable Canvas from your local Seedsman, send a post-card to—

BENJ. EDGINGTON, (LIMITED),

2, DUKE STREET, London Bridge, S.E.,

Who will reply by return, with Samples and full Particulars.

"FRIGI DOMO" CANVAS.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25ft. by 12ft., £50; 30ft. by 15ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 3-oz. glass, carriage paid.—1-light frame, 4 x 6, 8s. 6d.; 2-light frame, 6 x 6, 55s.; 3-light frame, 12 x 6, 85s. 6d.; Span-roof Frames, 12 x 4, 24 1/2s. 6d.; 9 x 5, £3 15s.; 16 x 6, £9 10s.

HARDY BRUIN & CO., Street, Grahams LEICESTER



And for all Glass Structures that require Shading. Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsman and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—CORYY and CO. (LTD.), Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 16, Finsbury Street, London, E.C. Sold by all Seedsman and Florists.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO THE LONGFORD WIRE CO. (LIMITED),

WABBINGTON.



Paris International Exhibition, 1889. HIGHEST AWARD, SILVER MEDAL.

NO AWARD WAS GIVEN

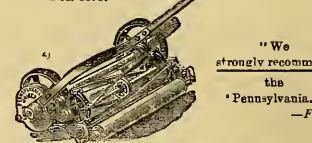
to any English or Continental-made Lawn Mowers!

THE PERFECTED

"PENNSYLVANIA"

AMERICAN LAWN-MOWER.

IMPORTANT IMPROVEMENTS FOR 1892.



"We strongly recommend the 'Pennsylvania.'" —Field.

PERFECTION OF EASY WORKING AND EFFICIENCY.

The only American Lawn Mower fitted with Six Cutting Blades. It will mow grass closely and smoothly, and with half the labour of the best English Machines. All sizes, up to largest (21 in.), can be worked easily by one man. ONE MONTHS FREE TRIAL ALLOWED. Carriage Paid to all Stations.

Gardeners, professional or amateur, who value time and wish to avoid laborious work, while obtaining the best possible results in the way of keeping their lawns to perfectly trim order, should write for Price Lists and Testimonials from—

LLOYD, LAWRENCE & CO., 34, WORSHP STREET, LONDON, E.C., and all Ironmongers and Seedsman.

BOULTON & PAUL, NORWICH,



Manufacturers of ALL KINDS of



GARDEN REQUISITES.

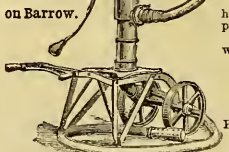
Send for Illustrated Catalogue, free on application

No. 22

Force and

Lift-Pump,

on Barrow.



Cash Prices—Carriage Paid.

With connections and strainer, but without hose, £1 10s.

Suction or delivery hose, carriage paid with pump, 2s. 3d. per foot.

Extreme width, outside wheels, 22 inches.

EVERY REQUISITE FOR THE GARDEN, PARK, AND PLEASURE GROUNDS.

Send for Catalogue.

BOULTON & PAUL, NORWICH.

RANSOMES'

At the Jubilee Meeting of the R.A.S.E., Windsor, HER MAJESTY THE QUEEN and H.R.H. PRINCESS VICTORIA OF PRUSSIA each purchased a RANSOMES' LAWN MOWER.



All Mowers sent on a Month's Trial, Carriage Paid.

LAWN MOWERS,

The Best in the World.

In all sizes to meet every requirement.

"NEW AUTOMATON," the Best Gear Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"ANGLO-PARIS," the Best Small Machine, the only one of real service.
"EDGE CUTTER," the Best for Cutting Slopes.
"BANK CUTTER," the Best for Cutting Slopes.

THE BEST PONY and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.

RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS. — The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 " ..	0 3 6	16 " ..	0 9 0
6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.

If set across three Columns the lowest charge will be 30s.

Page, 2s; Half Page, 2s 10s.; Column, 2s.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

LIFE ASSURANCE AT COST ABOUT HALF THE USUAL RATES.

MUTUAL RESERVE FUND LIFE ASSOCIATION

OF NEW YORK.

E. B. HARPER, PRESIDENT.

PURELY MUTUAL.

ABSOLUTE SECURITY. STRICT ECONOMY.

The most successful Life Assurance Company in the World.
Total amount of Insurance in force, 1891 ... £44,190,536
New Business, 1891 ... £10,270,968
New Business accepted, 1891 ... £10,100,403
Total Death Claims paid ... £2,454,665
Savings to Members by its System, about ... £6,000,000

Chf of Office for Great Britain:

90, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

THE RAILWAY PASSENGERS' ASSURANCE CO.

Pay over £2,700 weekly

as COMPENSATION for

ACCIDENTS OF ALL KINDS.

64, CORNHILL, LONDON.

W. D. MASSY, } Secs.
A. VIAN, }

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS



WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM, With Special Provisions for Cleaning the Inside thoroughly (a Most Important Feature). These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers, CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE

GARDEN REQUISITES, as supplied to the Royal Gardens. — COCOA-NUT FIBRE REFUSE, 1s 3d, per sack, 10 for 12s; 20 for 20s, 30 for 28s, sack free; 2-ton truck, 30s., free on rail near works. FINE ORCHID PEAT, 8s. 8d. per sack. BROWN FIBROUS do., 5s. per sack, 5 for 22s. 6d. BLACK do., 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. COARSE SILVER-SAND, 1s. 6d. per bushel, 14s. 4d. per ton. CHARCOAL, 8s. per sack. SPHAGNUM, 7s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 10s. 8d. to 15s. per dozen. KAFFIA, VIRGIN CORN STALKS, &c. BONES, 4-inch, 11s. per cwt. PINE BONE-DUST, 11s. 6d. TOBACCO-PAPER, Speciality, 10d. per lb., 25 lb. for 21s. CLOTH, 1s. 10d. per lb., 25 lb. for 26s. Price List, free. W. HERBERT and Co., Hop Exchange Warehouses, Southwark Street, London, S.E.

TANNED NETTING.—For Preserving Fruit Trees, Flower Beds, &c. from Frost and Hail. Price, 3s square yards for 1s.; any width sent. Carriage paid on all orders over 5s.

HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

Protect your Gardens from Ravages of Birds.

TANNED NETTING, 35 yards, 1s. Can be sent any width; carriage paid on orders over 5s. Also BELL-TOP TENTS, 40 feet in circumference, with pegs, poles, all complete, from 20s. to 120s. each. HENRY ROBINSON, Tent and Net Merchant, Rye, Sussex.

HORTICULTURAL SHADINGS and NETTINGS, TIFFANY, COTTON WOOLS, and WADDINGS. Supplied Wholesale by JOSEPH COOKSON, 21, New Cannon Street, Manchester.

EPPE'S selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. Peat Moss Litter. The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 8d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 6s. per sack; 5 for 22s. 6d. RIVETED FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. 6d. per sack, 5 for 18s.; and 2s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included. Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

RICHARDS'

NOTED ORCHID AND Other PEATS,

Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco-Paper, Insecticide, Weed-Killer, and all Garden Sundries, at the Shortest Notice. Special Railway Rates to all parts. The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Chief Peat Depot and Grounds—Ringwood, Hants. Samples and Price List sent free.

THE FRUIT GARDEN OF THE UNIVERSE.

—THE AUSTRALIAN COLONIES (Chaffey Brothers), established and regulated by Government. OFFER an enjoyable life and OCCUPATION, a sunny and salubrious climate, and most highly remunerative returns to Cultivators with small or large capital, or pamphlet free. CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street, London, E.C. J. E. M. Vincent, Chief Commissioner.

BOOKS ON ROSES, by WM. PAUL, F.L.S. THE ROSE GARDEN, 9th edition, 4to, 360 pages, twenty coloured plates, numerous engravings, 17s. 6d. net; the same, 8vo, without plates, 8s. 9d. net. ROSES IN POTS, 7th edition, illustrated, 10s. 2s. 6d. net. ROSES IN CULTURE, 6th edition, illustrated, post-free, 1s. The Journal of Horticulture, says: "The best Works on Roses are those by Mr. Wm. Paul."

WM. PAUL and SON, Nurseries, Waltham Cross, Herts.

SIX CABINET PORTRAITS, 3s.; three for 1s. 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 1s. 6d. Six-inch, 1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order, and in about ten days you will receive Highly-Finished Copies, with Original.—FRANCIS and CO., 29, Ludgate Hill, London.

AWARDED TEN GOLD AND SILVER MEDALS.



REGISTERED NO. 13,195.

PRICES of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
ARMOURD.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices—
1-in. dia., best quality ... 38/3 1/2 in. dia., ex. stout qual. 52/0
1/2 in. dia., best quality ... 45/0 1/2 in. dia., ex. stout qual. 52/0
All Hose Carriage Paid and despatched same day as order is received.
Also Maker of Hose for Delivery, Steam, Fire, Sanitation, and Liquid Manures, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING, ROOFING FELTS, SACKING, &c., Post Free. MAKE TO HER MAJESTY THE QUEEN.
ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

NOTICE.

OUR NEXT NUMBER

WILL CONTAIN

FULL REPORT OF THE TEMPLE SHOW,

TOGETHER WITH A

SPECIAL SUPPLEMENT OF PORTRAITS

OF THE

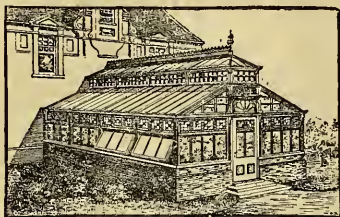
PRESIDENT AND ALL MEMBERS OF THE COUNCIL

OF THE

ROYAL HORTICULTURAL SOCIETY.

ADVERTISEMENTS FOR THIS NUMBER should reach the Office as early in the week as is possible.

RICHARDSON'S



HORTICULTURAL BUILDINGS.

The Most Complete Illustrated Catalogue.
Conservatories, Greenhouses,
Vinerias, Fench Houses,
Stove and Orchid
Houses, &c. Also
Boilers, Pipes,
and all Fittings.
Many
PRIZE MEDALS.
Temporary London
Office and Exhibits—
Stand 14, Group A,
International Horticultural
Exhibition.

W. RICHARDSON & CO.,
DARLINGTON.

BOILING WATER OR MILK.

E P P S'S
GRATEFUL-COMFORTING.

C O C O A

BREAKFAST-SUPPER.

To the Seed Trade.

PARTNERSHIP OR MANAGERSHIP
Wanted by a young Man.—Twelve years' thorough experience in all branches. Has a good connection, and could invest £500 or £200.—L. L. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

PARTNERSHIP.—A Gentleman, about to start a MARKET NURSERY near London, wishes to meet with a PARTNER with a few hundred pounds.—Address H. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, for a Provincial Seed Business, a thoroughly practical MAN, as MANAGER.—Character must bear the strictest investigation.—Apply, with full particulars as to experience and salary required, to R. J. S., Messrs. Hurst & Son, 152, Houndsditch, London, E.

WANTED, a HEAD GARDENER of great experience in Flowers, Fruits, and Shrubs.—Direct to J. MELBURY, Dorchester.

WANTED, a WORKING HEAD GARDENER.—A thoroughly competent man required. Well up in Orchids, Stove, Ferns, and Greenhouse Plants, Early and Late Forcing, Grapes, &c. Three others kept. Wife to attend Lodge Gates, &c. Scotch Gardener preferred.—Reply by letter, stating age, experience, wages, to Mr. EVERED, Otlands, Horley, Surrey.

WANTED.—Can any Gentleman thoroughly recommend a SINGLE-HANDED GARDENER, married (without family preferred). Small Garden and Conservatory at seaside (Hants). Wife to look after House in winter. Full particulars, and wages, to HAMILTON FLETCHER, Brookwood Park, Alresford, Hants.

WANTED, as GARDENER, a young intelligent MAN, who would make himself generally useful. No Glass. Preference given to one who could live Boes.—Apply by letter, stating capabilities, age, and wages required, to O. A., Town Court, Orpington, Kent.

WANTED, GARDENERS, respectable experienced Men. Good references.—Apply, 10 A.M. Tuesday, 24th inst., 210, Earl's Court Road, S.W.

WANTED, AT ONCE, a good SECOND GARDENER, mostly inside.—Willing and obliging. Wages 19s. a week, no botchy.—Apply, H. GARDENER, Kirby Firth Hall, Leicester.

WANTED, a MAN, for a Branch Nursery.—Must be able to Raise and Grow Ferns in quantities. Soft-wooded Plants, &c., for Market. Wages, 25s. per week. A permanent place for a suitable man.—Apply, stating experience, age, &c., with references, to JAMES WINGFIELD, Widmore Hill Nursery, Bromley, Kent.

WANTED, a young MAN, with a good knowledge of Propagating Household Plants for Market. One preferred that is a successful Budder.—Apply in own handwriting to Mr. PROCTOR, Nurseries, Ashgate Road, Chesterfield.

Propagator Wanted.

MESSRS. THOMAS CRIPPS AND SON, Tunbridge Wells Nurseries, Kent, require as above, a MAN thoroughly well up in Clematis, Rhododendrons, Ivies, Roses, Japanese Maples, Conifers, Bedding Plants, &c. Apply, enclosing testimonials and wages, to 49, High Street, Tunbridge Wells.

Nursery Foreman.

WANTED, a WORKING FOREMAN, must be well up in growing general indoor stock, especially Cut Flowers. Preference given to one having a knowledge of General Outdoor Nursery Stock. Wages, 27s. per week, and house on the place.—ROBERT GRAHAM, The Newmarket Nursery, Newmarket.

WANTED, AT ONCE, TEN or TWELVE active young MEN, used to Cucumbers and Tomato growing. Also, a good STOKER, who would also have to attend to a steam boiler and pump.—HENRY WHATELEY, Spring Gardens, Kenilworth.

WANTED, GRAPE THINNERS.—A few respectable MEN can be employed temporarily at Grape Thinning, &c. Only expert hands please apply. Also WANTED, a GOOD HAND at POTTING.—Address, TITE, Hampton-on-Thames.

WANTED, SEVERAL active young MEN, accustomed to Potting Orchids.—Apply, giving references, and stating wages, to the LIVERPOOL HORTICULTURAL CO. (JOHN COWAN), Limited, The Vineyard, Garston, Liverpool.

WANTED, a young man, for general Outdoor Work. Must be accustomed to Scythe and Machine Mowing. Age about 22.—A. BULLEN, The Gardens, Wakehurst, Haywards Heath.

WANTED, TWO young MEN, accustomed to Cucumbers Work. Wages 21s. per week. State age and experience to W. H. & D. WHITE, Heath Park Nursery, Ramford.

WANTED, a good Outdoor Man.—Must be a successful Budder and Grafter of Roses, Fruit Trees, &c. Married man preferred. Wages, with small Cottage and garden, 41 per week, wages, with increase to a thoroughly trustworthy man.—Apply, giving full particulars, to H. ENGLISH, Clapton Nursery, near Clevedon, Somerset.

WANTED, a young MAN, used to Nursery Work, under Glass, to work under Foreman. Preference given to one with some experience of New Holland Plants.—Full particulars as to experience, wages required, &c., to RICHARD SMITH AND CO., Worcester.

WANTED, a respectable YOUTH, about 16, for Florist's Shop. Some knowledge Making-up of Flowers and Book-keeping.—Apply to F. G. MILLER, Florist, Eastbourne.

WANTED, a YOUNG MAN in Seed Shop, one used to making up flowers preferred.—CHARLES WHITING, Florist, Hereford.

WANTED, a MAN, who can make 5 Acres of Light Land profitable.—Mr. H. WILLS, Loughborough.

WANTED, a strong LAD, as IMPROVER, in the Houses in a Market Nursery; one wishing to learn. Wages, 14s.—H. HERBERT, Nurseryman, Wembley, Middlesex.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should Write for Prospectus of the Scientific Dress Cutting Association, 272, Regent Street, London, W. Situations found for all pupils at good salaries. No Lady's education is complete without a knowledge of Dressmaking.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

Head Gardeners.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BALIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

RICHARD SMITH AND CO.

Reg to announce that they are constantly receiving applications from Gentlemen seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Baliffs, Foresters, &c.
DICKSON'S (Limited), Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars apply to—
Telegraphic and Postal Address—"DICKSONS, CHESTER."

GARDENER (HEAD).—Age 39, married.—J. VERT, Audley End Gardens, Suffolk. Warden, will be pleased to recommend a thoroughly practical man as above. Over years' experience in some of the best establishments in England. Very successful Fruit and Vegetable Grower, and used to the Management and requirements of a large Garden. Eleven years' good recommendation from last situation.

GARDENER (HEAD), to any Lady, Nobleman, or Gentleman requiring the services of a thorough practical and energetic man, where not less than five or six are kept. Experienced in Growing Flowers and Fruits (including Pine-apples), Inside and Out, Flower and Kitchen Garden Work. Laying out Grounds, and their good keeping. Seventeen years' Head Gardener to the late J. Green, Esq. Changing through his death. Character will bear the strictest investigation.—JOSH. SMITH, Gardener, Aakett Hill, Rounday, Leeds.

GARDENER (HEAD), where two or three are kept; age 35, married, two children (youngest 5).—Gentleman wishes to recommend his late Head Gardener as above; thoroughly experienced in all branches. Can have excellent character for honesty and sobriety.—W. T., 3, Bath Place, Albert Road, Bexley, Kent.

GARDENER (HEAD).—Age 30.—Mr. A. HESSACK, Glynnllyn, Carnarvon, can with confidence recommend his late Foreman, where three or four are kept. Full particulars on application.

GARDENER (HEAD).—JAMES BAKER, for four and a half years Orchid Grower with Mr. Sillem, Sydenham—who has been compelled to relinquish his cultivation under doctor's order and previously General Head Gardener, near Great Grimby, Lincolnshire, is seeking an engagement as Head Gardener, in preference where Orchids are grown: he can rely on testimonials in every way satisfactory from Mr. Sillem, who will be pleased to answer any enquiries concerning him, and will also be able himself, to give full particulars as to his work in Lincolnshire, but he cannot refer to his employer there, who has left the locality, and J. B. not knowing his present address is unable to apply for permission to name him as a reference.—JAMES BAKER, Augustus Sillem, Esq., Laurie Park Avenue, Sydenham, S.W.

GARDENER (HEAD).—Age 34, married, three children. A Gentleman recommends his Head Gardener, who has been with him five and a half years, and who has had a thoroughly good training in all branches of his work. Sober and active.—G. BENFIELD, Saltcross Cottages, Swindon.

GARDENER (HEAD WORKING).—Age 35, married one, child; over twenty years' practical experience in all branches of gardening; good character.—G. WHITING, Basin Road, Chichester, Surrey.

GARDENER (HEAD), where two or more are kept, or good SINGLE-HANDED.—Age 32, married; eighteen years' experience in all branches. Two years' character.—M. H., Westbourne, Dorking.

GARDENER (HEAD).—Practically experienced in the requirements of a well-kept establishment, and has been and is well-known as an extensive Grower and successful Exhibitor of Orchids.—GARDENER, Hillingdon Heath, Middlesex.

GARDENER (HEAD); Married.—A Lady wishes to recommend her Head Gardener; leaving owing to death. Thoroughly experienced in every branch, including Orchids. Excellent character.—Mrs. WRIGHTLEY, Horwich, Preston.

GARDENER (HEAD WORKING).—Age 36, married, ten years' testimonials as a Gardener. Thorough practical experience. Estate changing hands. Shortly disengaged.—JAMES RUSE, Trematon Castle, Saltash, Cornwall.

GARDENER (HEAD WORKING), Land and Woods, if required.—Age 42, married; life experience in the profession. Upwards of twenty years as Head in good establishments; excellent references.—GARDENER, Messrs. Williams and Nicholson, Land Agents, Oswestry.

GARDENER (HEAD WORKING), other kept.—Age 26, married, no family; Forcing Fruit, Flowers, and Vegetables. Life experience. Suitable for large establishment; five years' character.—A. NEWTON, Tetbury, Glos.

GARDENER (HEAD WORKING), age 46, married, no family, abstainer, requires re-engagement.—Thirty years' practical experience in Growing and Forcing Grapes, Fenchs, Melons, Tomatoes, Cucumbers, Strawberries, Vegetables, and Mushrooms; also Kitchen and Flower Gardens, Pleasure Grounds, Land and Stock. Eight years' excellent character, and sixteen years' references.—J. D., Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING).—Thorough good all-round man. Very active and energetic. Twelve years' good character and testimonials. Family grown up.—W. P., 61, St. Road, Upper Holloway, N.

GARDENER (HEAD WORKING).—Age 20; married; excellent all-round man—Peaches, Grapes, Melons, Tomatoes, Cucumbers, Stove and Greenhouse Plants, Fruit, Flower, and Kitchen Gardens; fourteen years' experience; good references.—F. RIX, 15, Salisbury Road, Bournemouth, S. Leonards, Sussex.

GARDENER (HEAD WORKING), or good SINGLE-HANDED.—Age 34, married; sixteen years' experience in all branches. Three years' excellent personal character.—S. M., 3, Heustridge Place, St. John's Wood, N.W.

GARDENER (HEAD WORKING), where two or more are kept; age 31, married, no children.—E. J. PEARSON, Esq., is desirous of recommending his Gardener, who has been with him six years. Thoroughly understood Grapes, Peaches, Melons, Tomatoes, Greenhouse Plants, Chrysanthemums, Flower and Kitchen Gardens.—F. H., Pains Hill Park, Cobham, Surrey.

GARDENER (HEAD WORKING).—Single; trustworthy, intelligent, and thoroughly practical. Abstainer. High testimonials. Home Countries preferred.—J. H., 60, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING); age 28; good all-round experience.—W. BARKER, gardener to H. C. Stephenson, Esq., M.C., Avenue House, Finchley, N., will be pleased to recommend the above to any Lady or gentleman requiring the services of a steady reliable man.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, married; fifteen years' experience in all branches. Good character.—E. D., 14, Martindale Road, Balham, S.W.

GARDENER (HEAD, or SINGLE-HANDED).—Age 30, married; thoroughly practical in all branches. Understands the Management of Stock, Poultry, Pies, Lams, &c. Seven years' excellent character.—G. DINNAGE, Witham Post Office, Witham, Essex.

GARDENER (HEAD, or good SINGLE-HANDED).—Vine, Melons, Cucumbers, Tomatoes, &c.; Stove and Greenhouse Plants, Flower and Kitchen Garden. Good character.—A. BOOKER, 143, Steel Road, Acton Laue, Wiltshire.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 30, married, one child; thoroughly experienced. Good character.—X. Y. Z., 71, Danbrook Road, South Streatham, S.W.

GARDENER (SINGLE-HANDED).—Age 23; three years' in present situation. Good reference.—A. D., The Gardens, Albany Hill, near Hadham, Herts.

GARDENER (SINGLE-HANDED, or otherwise).—Age 40, married, no family; good all-round man. Also Management of Stock, if required. Wife Caretaker, or to attend Lodge Gate, if required. Abstainer. Both well recommended.—GARDENER, Bells Hill, High Barnet.

GARDENER (SINGLE-HANDED), or where help is given.—Age 30, married, no family; sixteen years' experience in Vines, Melons, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Gardens; also Land and Stock. Good character from previous employers.—A. W. MEECH, Beddington Lane, Mitcham.

GARDENER (SINGLE-HANDED, or where one is kept).—Age 29; well up in all branches; good references given.—C. G., 69, Greyhound Road, College Park, N.W.

GARDENER (SINGLE-HANDED, or UNDER).—Age 24; good knowledge of Vines, Cucumbers, Tomatoes, Greenhouse Plants, Flower and Kitchen Garden.—A. F., The Nursery, London Road, Peterboro.

GARDENER (SINGLE-HANDED, or SECOND), where three, or THIRD where four are kept.—Good character.—SANSON, 7, Sydney Terrace, Feltham, Middlesex.

GARDENER or ORCHID GROWER.—Age 23, single; has had good experience; five years in present situation. Good testimonials from present and previous employers.—BRIGGS, Gardener, 14, Highbury Terrace, London, N.

GARDENER (young man, age 26; married; two children; used to growing Plants for Market and Parcel Post), wants situation with plenty of Glass, where it is not required for the house. Could take management, and grow for pleasure and profit.—TURNER, Thatch Heath, St. Helens.

GARDENER.—Age 22, single; been used to the Pleasure Grounds and Kitchen Gardens. Good character from last place.—T. B., Stapley Gill, Jarvis' Brook, Sussex.

GARDENER.—Age 20; good experience of Grapes, and Kitchen Gardens. Two years' good character. Di-nagene now.—E. ROAD, Spring Cottage, Linsfield, Surrey.

GARDENER (SECOND), where two or more are kept.—Age 25; two years' good character from last situation. Year and a half previous.—R. GRIFFIN, Mount East Woodhay, Newbury, Berks.

GARDENER (SECOND); age 27.—H. UNDERWOOD, Gardener to S. Symington, Esq., Brooklands, Market Harborough, has confidence in recommending W. Owen as a thorough practical, trustworthy man, in Houses, or General. Fourteen years' experience in large establishments.

GARDENER (SECOND), Inside and Out.—Age 23; nearly three years in last situation. Other good references.—E. LETHBRIDGE, 40, Princes Road, Norbiton.

GARDENER (SECOND), where three or four are kept.—Age 27, single; four years in last place. Inside and Out. Good character.—A. CHAPMAN, 3, Lewis Road East, Loughborough Junction, S.E.

GARDENER (SECOND).—Mr. J. W. BREED, of Otlands Park, Weybridge, wishes to recommend a young man (age 25), where four or more are kept, as above, to any gardener requiring a good man, both Inside and Out.

GARDENER (UNDER).—Age 23; used to Inside and Outside work; also Painting, Glazing, and rough Carpentering; bachelor. Three years in last place with good character.—R. WOODMAN, Melrose, Goldsworth, Surrey.

GARDENER (UNDER), Inside, or Inside and Out.—Age 19. Four and a half years' experience. Good character.—H. CLARK, No. 1, Silver Cottage, South Ascot, Berks.

GARDENER (UNDER), in Gentleman's Garden or Nursery.—Age 24; near Windsor preferred. Good character.—W. S., 13, High Street, Chatham, Kent.

GARDENER (UNDER).—Age 22; abstainer. For reference, apply to Admiral Martin, Bitterne, Southampton.—E. HOUSE, Brook Road, Bitterne.

GARDENER (UNDER).—Age 20; seven years' experience, Inside and Out. Abstainer.—G. MILLS, The Gardens, St. Vincent's, Grantham, Lincs.

GARDENER (UNDER).—Age 20; seeks engagement in Gentleman's garden, where seven or more are kept. Inside and Out preferred.—B. B., The Lodge, Cuckley Cley, near Swaffham, Norfolk.

To Florists.

MANAGER of a first-class business of Paris wishes to find re-engagement as MANAGER or FIRST HAND. Fifteen years' experience; three years in London (West End). Well qualified in every branch of the business; several First Prizes. Indelible references.—WILLIAM, 38, Faubourg St. Honoré, Paris.

FOREMAN in the Houses, in private establishment.—Age 25; practical experience.—T. NOTLEY, Stoke, Norwich.

To Nurserymen.

FOREMAN (Indoors), MANAGER, or SALESMAN.—Age 29, single; fourteen years' experience in all branches. Could take a journey.—J. W., Plummer's Plain, Horsham, Sussex.

FOREMAN, Inside.—Mr. T. OSMAN, The Gardens, Ottershaw Park, Chertsey, would be pleased to recommend W. Shoesmith to anyone requiring a thoroughly practical man.

To the Trade.

FOREMAN (House), or PROPAGATOR and GROWER.—Age 37; thorough good all-round man.—H. MEADES, 7, Watford Cottages, Bayham Road, Tunbridge Wells.

FOREMAN, or MANAGER, in a small Nursery.—Age 30, married; experienced in Ferns, Grapes, Tomatoes, Cucumbers, Wreaths, &c. Abstainer.—A. W., 47, Cavendish Road, Aldershot, Hants.

FOREMAN, in a Large Establishment.—Good knowledge of Stove and Greenhouse Plant, Orchide, Fruit, &c. Good references.—S. CONN, Exotic Nursery, Queen's Road, Cheltenham.

FOREMAN (GENERAL).—Age 22; nine years' experience in all branches, and Table Decoration. Two and-a-half years last situation. Good references from last employer. Abstainer.—W. BOALCH, 3, Kenilford Road, Balham, S.W.

FOREMAN, in the Houses.—Age 25; over two years' good character as Foreman in last situation.—J. W. WOODHOUSE, Hordean, Hants.

PROPAGATOR and GROWER of Cut Flowers, Belding Plants, Ferns, &c.; Cucumbers, Tomatoes, &c.—Twenty years' London experience.—E. W., Mr. C. Doucette, 11, Birbeck Road, Acton, W.

JOURNEYMAN (First), in a good Establishment.—Age 24; excellent references. Two years last situation.—State particulars in first instance to GEORGE GROVES, Temple House Gardens, Great Marlow, Bucks.

JOURNEYMAN (First), in a good establishment.—Age 23; seven years' experience. Good character. Total abstainer.—J. CARTER, 11, Canterbury Terrace, Maida Vale, W.

JOURNEYMAN, under a good Foreman.—Age 20; nearly five years' character from present situation.—J. B., West Street, Ewell, Surrey.

JOURNEYMAN, in the Houses.—Six years' experience; two years in present situation; well recommended. Both preferred.—HEAD GARDENER, Pinkney Park, Malmesbury, Wilts.

JOURNEYMAN.—Mr. G. C. MAYNARD, Cole Orton Hall Gardens, Ashby de la Zouch, can very strongly recommend a young man (age 20) for the Plant House; has been with him two and-a-half years.

JOURNEYMAN, in the Houses in a good establishment, or SECOND where five or six are kept.—Age 24. Both preferred. Two and a half years' experience.—W. A., Little Linford, Newport Pagnell, Bucks.

JOURNEYMAN (SECOND), in a good establishment.—A young man, age 29; has had good practical experience, and can be well recommended. Both preferred.—GARDENER, Effingham Park, Crawley Down, Sussex.

JOURNEYMAN, in the Houses, in a good establishment.—Age 20; both preferred.—For particulars, apply to H. TAYLOR, Bytcock Gardens, Exmouth, Devon.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; good practical experience in both; abstainer; highly recommended.—SIDNEY AISH, Newnham Road, Binstead, Ryde, Isle of Wight.

JOURNEYMAN (First or SECOND), Inside.—Age 23; seven years' experience; good character. Strong and willing.—STEPHEN RICHARDSON, The Gardens, Fomret House, Sudbury-on-Thames.

JOURNEYMAN, Inside, or Inside and Out.—Age 24. W. WARD can with confidence recommend a steady and reliable young man as above. Abstainer.—Castle Malgwyn Gardens, Boncuth, K. S. O., South Wales.

JOURNEYMAN, for the Houses.—Five years' experience in Heaths, Orchids, Chrysanthemums, &c.; good recommendation.—F. MATTHEWS, 1, Albion Villas, Victoria Road, Trowbridge.

JOURNEYMAN, in the Houses, where three or four are kept.—Age 21; two years' good character from last place.—F. PIKE, Eping, Midhurst, Sussex.

IMPROVER.—Age 18; willing to pay £5 for two years' instruction in a good private place; has been two years in a private garden. Excellent character.—G. WILSON, Soumerleyton, Lowestoft.

IMPROVER, Inside, in a good private establishment.—Age 20; five years' good character; would pay a Premium; both preferred.—W. GATFORD, Holtye, Edenbridge, Kent.

IMPROVER, in a Gentleman's garden.—Strong, quick, willing Youth. Premium given to a suitable place.—JACKSON, Claydon, Winslow, Bucks.

IMPROVER, Inside, in a good Establishment.—Age 18; strong, and willing. Three years' experience, and good character. Both preferred.—ROBERT RICKARDS, Faldred, R.S.O., Gloucester.

IMPROVER.—A young man (age 18) wants a situation as above, under G lass. Two years' character.—HEAD GARDENER, Bedwelly Lodge, Tredegar, Mon.

GROOM (UNDER), or GARDENER.—A Youth (age 18) requires a situation as above. Little experience in both instances.—Particulars to ALFRED RUSSELL, 13, Molen Street, Redditch.

TO GARDENERS and OTHERS.—A youth (age 18) seeks a situation in a gentleman's garden; four years' good character; indoors preferred.—C. PHILLPOT, 2, Albert Place, Farnborough, Kent.

TO GARDENERS.—E. TROLOPE can recommend a smart Youth (age 18) to any Gardener. Quick, willing, and has a good knowledge of his work.—The First, Lee, Kent.

TO NURSERYMEN and FLORISTS.—Advertiser requires situation as GARMAN; thoroughly used to plants and horses; good reference.—H. FREEBAIRN, 15, Herbert Road, Page Green, Tottenham.

TO NURSERYMEN.—A young man, age 23, seeks permanent situation; six years' experience in Softwood Stuff; excellent character.—Apply, stating wages, to GROWER, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

SHOPMAN, or MANAGER.—Age 25; nine years in last situation; thorough knowledge of Wreaths, Bouquets, Plants, Furnishing, Decorating, &c. Good Salesman; highest references.—FLORIST, 22, Brecknock Road, N.

SHOPMAN, or MANAGER.—Age 23; thoroughly well-up in Wreaths, Bouquets, Plants, &c.; Balloons, Nursery Stock, Book-keeping, &c. Good Salesman. Excellent references.—FLORIST, 4, Ellerslie Rd., Clapham, S.W.

FLORIST'S ASSISTANT.—Age 23; eight years' experience; good hand in making up Wreaths, Crowns, and Flowers.—Good testimonials, and photograph, of BOOTY, Mr. Miller, Florist, Seaside Road, Eastbourne.

TO FLORISTS and FRUITERS.—Situation wanted by a young lady. Knowledge of the Fruit, Flower, and Seed Trade.—A. WHITING, 23, Eign Street, Hereford.

TO FLORISTS.—Situation wanted by a Youth. Used to First-class Trade.—C. H., The Floral Depot, 1, Broadway, Bromley, Kent.

HOLLOWAY'S PILLS.—Impurities of the Blood.—To ensure health, it is absolutely necessary that the fluids and solids of the human body should be kept free from those impurities which are continually getting admission into the system by erroneous living, unwholesome diet, or disordered stomach. The only safe and certain way to expel all impurities is to take Holloway's Pills, which have the power of cleansing the blood from all noxious matters, and at the same time removing any irregularities which their presence may have already produced in the organs. Holloway's Pills expel all humours which taint or impoverish the blood, which they purify and invigorate, and give general tone. They are applicable to all alike—young or old, robust or delicate.

AWARDED TWENTY PRIZE MEDALS

AT INTERNATIONAL EXHIBITIONS AT HOME AND ABROAD.

KEITH'S PATENT BOILERS, THE "CHALLENGE," "VIADUCT," "PYTHON," &c.,

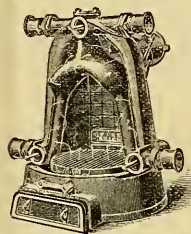
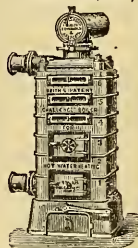
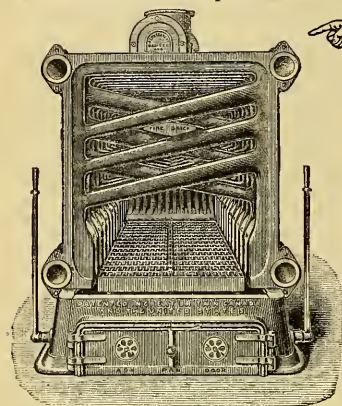
FOR HOT-WATER HEATING. "STAND FIRST," require no building work round them, are entirely water-jacketing, and heat from 50 feet up to 20,000 feet of 4-inch pipe respectively. Many thousands are in use all over the world, and the Boilers are unrivalled in power and economy.

KEITH'S "PYTHON" BOILER, as illustrated below, has 1000 square feet of effective heating surface, with 17½ square feet of fire-grate area; heats about 20,000 feet of 4-inch pipe, and is the Most Powerful and Complete Sectional "Special" Hot-water Heating Boiler in the World.

This Engraving "illustrates the most powerful form of Boiler that has yet been made for Hot-water Circulation."—Extract from Hoop, on *Warming by Hot-water*, New Edition, 1891.

KEITH'S BOILERS

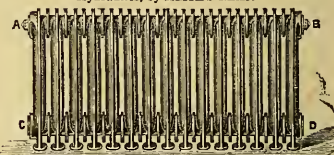
are almost exclusively used by Her Majesty's Government, at the Home Office, and for the Heating Work of the Prisons throughout the United Kingdom, in preference to all others.



KEITH'S PATENT RAMS & Self-acting, HYDRAULIC RAM-PUMPS, For Raising Water.



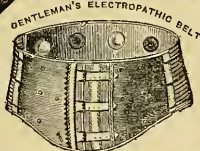
The very HIGHEST EFFICIENCY attained in Self-acting Hydraulics, by KEITH'S RAMS.



KEITH'S PATENT "UNIVERSAL" RADIATORS, For Hot-Water Heating. Made in One Piece, and in many Sizes and Modifications. No Joints to Leak. Thousands in use

Manufactured under thirty James Keith's Patents in Great Britain, United States, and Canada.

JAMES KEITH (C.E., Assoc. M.Inst.C.E.), Gas, Hydraulic, Heating, Ventilating, and Consulting Engineer. Established 1823. Contractor to Her Majesty's Government. 57, HOLBORN VIADUCT, LONDON, E.C., ALSO AT EDINBURGH AND ARBROATH.



RHEUMATIC & NERVOUS SUFFERERS

AND ALL WHO ARE TROUBLED WITH

INDIGESTION,
BRAIN FAG,
NERVOUS EXHAUSTION,
TORPID LIVER,
LUMBAGO,
GOUT

IMPAIRED VITALITY,
ORGANIC DISORDERS,
SLEEPLESSNESS,
SPINAL COMPLAINTS,
CONSTIPATION,
NEURALGIA,

SCIATICA,
WEAK BACK,
GENERAL DEBILITY,
DYSPEPSIA,
KIDNEY DISEASE,
HYSTERIA.

SHOULD WEAR

CALL
OR
WRITE

HARNESS' ELECTROPATHIC BELT

CALL
OR
WRITE

PROMOTES HEALTH STRENGTH & ENERGY

A BOON TO MEN

A BLESSING TO WOMEN

ADVICE & Pamphlet Free

HARNESS' ELECTROPATHIC BATTERY BELT.

THE MEDICAL BATTERY CO. LTD.

CURES BRUINISM, INDIGESTION, & ALL NERVOUS AFFECTIONS

52, Oxford St. London, W.

This genuine appliance is comfortable in wear, and will speedily invigorate the debilitated constitution, assist digestion, give strength to every nerve and muscle of the body, and effectually prevent chills and rheumatic pains. It is a simple remedy; but, nevertheless, a most reliable one; and the number of unsolicited testimonials we have received amply prove that we do not exaggerate when we say that HARNESS' ELECTROPATHIC BELTS have completely cured thousands of men and women in all parts of the world.

IT STRENGTHENS THE BACK.

NERVOUSNESS, DEBILITY, and RUPTURE—

Mr. M. LILLYSTOWE, 52A, Pollock Road, New Kent Road, S.E., writes:—"I purchased one of your Electropathic Belts on the 26th of May last, and have worn it constantly since. I have great confidence in it. I had been very bad for two years previous, but since wearing your Belt I have enjoyed better health in every way. All my nervousness and bad feelings are gone, and the rupture I have felt nothing of since. I am thankful to say that since the first week of wearing the belt I felt a great improvement in my health. I feel I cannot express the gratitude I owe to you."

CRAMP and CHILLS PREVENTED—Professor

MARCH, Putney Baths, writes:—"Please allow me to add my testimony of the value of using your Electropathic Belt, which has not only kept me from taking any chill, but also prevented all cramp and night sweats this season in my work as a professional swimmer, being constantly, in my profession, in the water. I can thoroughly recommend, and only wish I had used one in previous seasons. I believe also that the use of same greatly strengthens the spinal and cerebral vertebrae; in point of fact, it invigorates the whole frame."

PAMPHLETS FREE.

SOLE PROPRIETORS AND MANUFACTURERS—

CONSULTATION FREE

THE MEDICAL BATTERY CO., LIMITED, ELECTROPATHIC AND ZANDER INSTITUTE,

The Largest
Electro-Medical Institute
in the World.

52, OXFORD ST., LONDON, W.

CHEQUES and POSTAL
ORDERS should be Crossed
"London & County Bank."

The GARDENERS' CHRONICLE

ESTABLISHED 1841. No. 2683.

No. 283.—VOL. XI. {THIRD SERIES}

SATURDAY, May 28, 1892.

{Regt. as a Newspaper. {PRICE 3d.
WITH SUPPLEMENT. {POST-FREE, 34d.

CONTENTS.

Auriculas, white	694	Leguminous crops, as	691
Balsams in small pots	691	sources of nitrogen	691
Battersea Park in summer	693	Labæ, rare plants at	692
Beet, origin of cultivated	695	Mockham Woodford	693
Birthday honours	693	Green	692
Birthday honours	693	Mushrooms, outdoor	696
Birthday honours	693	Narcissus, basal not in	695
Books, notices of	693	Nebulosa	693
Handbook of Destructive	693	New or noteworthy plants	692
Insects of Victoria	693	Carnation Mrs. A.	692
Les Fleurs à Paris, Culture et Commerce	694	Hemley	692
Philosophical Notes on Botanical Subjects	694	Curcuma Bakeriana	692
The Apocryphal—Morphological Study	694	Cyrtanthus Galpinii	692
Botanical Congress, Geneva	693	Nursery gardening, now and then	697
Brussels Sprouts, Club in	693	Obituary	702
Caffine, a new use for	692	Plant portraits	693
Canary Islands, the	692	Polyanthus, yellow and white	694
Catherine Bell's	694	Rhododendron campanulatum	695
Caucasus, and its flora	695	Rhododendron Falconeri	695
Crop pavement	692	Rot, basal, in Narcissus	695
Dahlias, pompos	695	Royal Horticultural Society, Council of	690
Datura suaveolens	694	Scotland, the	701
Doronicums	695	Seed-trade, the	693
Flower, transpiration from the	691	Sisal grass	692
French Roses, new	687	Societies	691
Fruit exhibition, proposed	691	Linnean	691
Fruit trade, Colonial	698	Royal Horticultural	696
Gardeners' Association	691	Spring Grove House, Isleworth	698
Gardening, instruction in	691	Stray Lea, Harrogate	695
Gardeners' Orphan Fund	692, 693	Streptolobus (Bovallia)	695
Genoa Botanical Congress	693	Jamesoni	695
Hesperichiron californicus	694	Trillium grandiflorum	695
Holmes' memorial cups, proposed	691	Vegetables	693
Kew Gardens	691	Wallflowers	695
Land cleaning	692	Week's work, the	695
Leaves, acquisition of green colour in	691	Ajary	695

ILLUSTRATIONS.

Carpet bed in Battersea Park	693
Council of the Royal Horticultural Society (Supplement)	693
New self-hiver for bees	695
Professor Michael Foster	693
Tradescantia Reginea	699
William Marshall, Esq.	695

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

THE AMERICAN PLANTS at the Knap Hill Nursery will be IN BLOOM after June 1, and will be SEEN DAILY, Sundays excepted.

SILVER QUEEN.—Best Double White GERANIUMS, 600 for Sale. Splendid plants, 6s. p. doz. J. MAJOR, The Vicarage, Peckham Eye, S.E.

TROPEOLYUM SPECTOSUM (the well-known Hardy Scarlet Climber).—Strong Plants, in pots, 12s. 6d. doz., 1s. 3d. each. Out of pots, 9s. per doz.; 1s. each. Free and Safe by Post.

HOWDEN AND CO., The Nurseries, Inverness.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 6d. per 100.

RICHARD SMITH AND CO., Worcester.

ORCHIDS A SPECIALTY.—Please write for New Illustrated Price List of well-established, healthy, and easily-grown plants. W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

Sow in June.
SUTTON'S PERFECTION PANSY.—A magnificent strain of Pansy, saved from remarkably handsome flowers of excellent form and varied colours. Mrs. Luttrell, Banstead, says, "I have some beautiful Pansies from your Perfection. They are very large, good in shape, with a great variety of colours, and have stood the late severe weather admirably." Price of seed, 5s. and 2s. 6d. per packet, post-free.

SUTTON'S SEEDS GENUINE ONLY
DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

GILBERT'S DOUBLE PRIMULAS, Lord Beaconsfield and Marchioness of Exeter. They make unique pot plants. Cuttings, in small 60's, warranted hardy, and good plants, for potting on, well rooted; the former, 36s. per dozen, and the latter, 30s. No charge for Packing and Postage.—R. GILBERT, High Park, Stamford.

PRIMULAS—PRIMULAS—PRIMULAS.—21th year of distribution. Williams' Superb Strain, 1s. 6d. per dozen, 10s. per 100; P. OBSCURICA, 4d. each. CINERARIAS, same price; also double white PRIMULAS, 6d. each. Carriage free for cash with order.
JOHN STEVENS, The Nurseries, Coventry.

FOR SALE, two pairs of LATANIA BOR-
BONICA, 8 feet to 10 feet in diameter, in perfect condition. Twelve leaves each. Also, a pair of DICKSONIA ANTARTICA, with good heads of fronds and stems, 9 ft. high. MR. A. WRIGHT, 341, South Norwood Hill, S.E.

KENTIAS, in many useful sizes for furnishing, also large quantities in 60's, Cecos Weddelliana, and many other Palms. FERNS in many sizes, grown hardy for furnishing. Cheap for cash.
GEORGE CLARK, Clarence Lane, Putney, S.W.

CHOICE FRUIT!—CHOICE FRUIT!
Highest market prices guaranteed. Prompt cash. HENRY RIDES, Centre Avenue, Covent Garden, W.C.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPEs, &c. Good references.

JOHN COLLINGRIDGE is open to receive Consignments of Choice CUT FLOWERS for SALE, on COMMISSION. Highest references.
New Flower Market, and 5, Russell Court, Strand, W.C.

MESSRS. SQUELCH AND WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPEs, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE.

Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empty and labels supplied. Reference, London and County Bank, Covent Garden Branch.

Trade Offer of Large Palms.
W. ICKTON has a large Stock of the leading kinds of Decorative PALMS, from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, & Foliage Plants, in large quantities, on application.
W. ICKTON, Putney, S.W.

A GAVE AMERICAN.
A several very fine Specimen Plants for Sale, price £10 each. Apply—
T. GOSLING, 24, Miles Street, Hammersmith, W.

DAHLIAS.—White Dahlias, good strong plants, to offer cheap. Guiding Star and White Aster, 2s. 6d. per dozen, 17s. per 100; turned out of pots, 16s. Carefully packed (free). Strictly cash.
GRAVES AND HAYNES, Florists, Beeston, Notts.

GRAPE VINES.—Colmar, Alicante, &c. Fine Canes, 2s. 6d. and 3s. 6d. each; six, carriage paid. Young Vines in small pots in large quantities.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

THE Best Present for a Gardener.
VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
New Edition.
Price 5s. post-free, 5s. 6d.
A. F. BARRON, Royal Horticultural Society, Chiswick.

CARTERS'—THE BEST SEEDS.
CARTERS' HOLBORN PRIZE PRIMULA.
CARTERS' VICTORIA PRIZE CALCEOLARIA.
CARTERS' BRILLIANT PRIZE CINERARIA.
The finest strains in cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN.
237 and 238, HIGH HOLBORN, LONDON, W.C.

Many Acres of Lilies of the Valley!
T. JANNOCCH, Largest Grower of LILIES

OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.
T. JANNOCCH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

Seeds for Present Sowing.
DICKSON AND ROBINSON'S
Superb Strains of the following are unsurpassed:—
CALCEOLARIA, CINERARIA, GLOXINIA, and PRIMULA.
Red, White, and Mixed Colours, each 1s. 6d. and 2s. 6d. per packet, post-free.

EXHIBITION DWARF EVERGREEN LAWN GRASS, per lb. 1s., post-free, 1s. 3d.; per cwt., 100s., carriage paid. Descriptive Price CATALOGUE, post-free, on application.
Seed Warehouse, 12, Old Millgate, Manchester.

CLEARANCE SALE of BULBS for Summer and Autumn Flowering. Price LIST on application. Splendid mixed Gladioli, 2s. 3d. per doz.; Anemone fulgens, scarlet, 5s. 6d. per 100; Anemone Glory of the South, large scarlet, 5s. 6d. per 100; double fringed Anemone fulgens, 3s. 6d. per 100. Mixed Turban Ranunculus, from named sorts, 3s. per 100.
BARR AND SON, King Street, Covent Garden, W.C.

To the Trade.
MANGEL WURZEL and TURNIP SEEDS.
H. and F. SHARPE have very fine Stocks of the above-named Seeds of 1891 grown and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advantageous prices.

The quality is very fine and the growth strong. Samples and prices on application.
SEED GROWING ESTABLISHMENT, WISBECH.

FORMICACIDE ANT DESTROYER
thoroughly destroys all Ants and Insects in Greenhouses, and other places troubled with Ants. Sold in Bottles, 1s. 1s. 6d., 2s. 6d., and 4s. Full particulars from CORRY AND CO., Limited, 16, Finsbury Street, E.C., and to be obtained from all Seedsmen and Florists.

Boulton & Paul's Outdoor Requisites.
BOULTON AND PAUL,
MANUFACTURERS, NORWICH.

Every Requisite for the Kennel and Poultry Yard, Aviaries, Figeon Cotes, &c. &c. Fences, &c. &c.
Requisites for the Garden, Park, Pleasure Grounds. Wire Netting for Game and Sheep. Iron and Wire Fencing. Gates, &c.
Send for Illustrated CATALOGUES, post-free, on application.

THE CHADBORN AND COLDWELL
MFG. CO.,
Makers of the Patent "EXCELSIOR" LAWN MOWER,
223, UPPER THAMES STREET, LONDON, E.C.

Registered Telegraphic Address: "LAWN MOWERS, LONDON."

J. WEEKS AND CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.
King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE AND PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. Price, 1s. 6d. per cwt., over carriage paid. London Agent: Mr. GEORGE J. O. Victoria Road, Putney. W.M. THOMSON AND SONS, Clonfortons, Galashiels, N.B.

SALES.

TUESDAY, MAY 31 { The Logs collection of Orchids at Protheroe & Morris' Rooms.
 FRIDAY, JUNE 3 { Imported and established Orchids at Protheroe & Morris' Rooms.

SALES BY AUCTION.

Tuesday Next.
 The CELEBRATED "LOGS" COLLECTION OF ESTABLISHED ORCHIDS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on TUESDAY NEXT, May 31, at 12 o'clock, precisely, the whole of the valuable collection of ESTABLISHED ORCHIDS, by order of E. Gotto, Esq., who is disposing of them in consequence of having to winter abroad. The Plants are in capital condition, and comprise many special things that have been sent direct from the Brazils by a connoisseur out there, notably—

Laelia Guttoliana (believed to be unique), First-class Certificate, R.H.S.
Laelia grandis tenebrosa, fine examples
Laelia elegans Schilleriana, several magnificent pieces and fine varieties
Laelia elegans Turneri, specially dark variety
Laelia purpurata grande and *Edwardsi*, both wonderfully fine forms
Sophronitis grandiflora (supposed to be a yellow variety)
Cymbidium Lowii
Brassia laevis longissima
 Eight volumes bound of the *Orchid Album*, and the remaining ninth volume unbound, complete to date. Two volumes of the *Reichenbachia*, handsomely bound, completing the first series; also nine parts of vol. 1. of the second series, now in course of completion. After the Sale of the above, will be offered, 200 Imported pieces of ODONTOGLOSSUM CRISPUM and O. LUTEO-PURPUREUM, another property.
 On view morning of Sale, and Catalogues had.

Friday Next.

CYPRIPEDIUM SPECIOSUM MAGNIFICUM.
 Messrs. CHARLES WORTH, SHUTTLEWORTH AND CO., Heston, Bradford, and 213, Park Road, Clapham, S.W., have instructed

MESSRS. PROTHEROE AND MORRIS to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, June 3, at half-past 12 o'clock, a splendid consignment of

CYPRIPEDIUM SPECIOSUM MAGNIFICUM.
 Dried flowers will be in view at time of Sale.
 DENDROBIUM CAMBRIGEANUM.
 A new CYMBIDIUM, CATTLEYA LABIATA, and many VALUABLE ORCHIDS, ORCHIDS IN FLOWER.
 1000 FINE IMPORTED ODONTOGLOSSUM CRISPUM.
 On view morning of Sale, and Catalogues had.

Wednesday, June 8.

TWO ROYAL CATTLEYAS.

NOTICE of an Important UNRESERVED SALE, by order of Messrs. F. SANDER and Co., of St. Albans.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, June 8, at 12 for half-past 12 o'clock precisely, an exceptionally fine Importation of—

CATTLEYA VICTORIA REGINA,

One of our very finest discoveries. A plant was shown by us on May 3 in flower before the Committee of the Royal Horticultural Society, and it received the highest honours. It is a gorgeous Cattleya, and we warrant that every plant offered is absolutely true. This new Cattleya greatly resembles *Laelia elegans Blenheimensis*, but in place of bearing some five or six blooms on a stem, it frequently produces ten or twelve, and in some instances even as many as twenty; the flowers are individually of a large size.

Also a very great quantity of

CATTLEYA ALEXANDRE,

Comprising many splendid masses. Messrs. SANDER & Co. warrant every plant absolutely true. No reserve whatever will be placed upon a single plant.
 On the same day many other new and splendid ORCHIDS will be offered.

Thursday, June 9.

1,000,000 PALM SEEDS.

Undoubtedly the largest consignment ever submitted to Public Auction. The whole will be offered in one day, and the Consignment includes—

480,000 KENTIA FORTERIANA,
 315,000 ARECA BELTUCENS,
 And large quantities of COCOS, GEONOMAS, MARTINIESIA DISTICHA, CARYOTAS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Rooms on THURSDAY, June 9, instead of WEDNESDAY, June 8, as advertised last week.

The Auctioneers will be pleased to execute commissions for Provincial and Foreign Buyers.
 The Seeds are being sent by two well-known Firms direct to Messrs. PROTHEROE & MORRIS, and the whole will be sold absolutely without reserve.

Friday, June 10.

PRELIMINARY NOTICE.
IMPORTANT SALE.

ABSOLUTELY WITHOUT RESERVE.

By Order of Messrs. LINDEN, of BRUSSELS.
 EXTENSIVE IMPORTATIONS, in splendid condition, of CATTLEYA AUREA CHRYSOTOXA, C. ALEXANDRE, C. ACKLANDIA, ANGRÆCUM SRSQUEDALE, PHAIUS HUMBLIOTTI, VANDAS, SACCOLABIDUM, EPIDES, and other FINEST ORCHIDS.
 MESSRS. PROTHEROE AND MORRIS will sell the above by Auction at their Central Sale Rooms, 67 & 68, Cheapside, London, E.C., on FRIDAY, June 10, 1892.

On view morning of Sale, and Catalogues had.

Thursday Next, June 2.

TWO COLLECTIONS OF ESTABLISHED ORCHIDS, one formed by the late Henry Ford Barclay, Esq., of CATTLEYA AUREA CHRYSOTOXA, C. ALEXANDRE, C. ACKLANDIA, ANGRÆCUM SRSQUEDALE, PHAIUS HUMBLIOTTI, VANDAS, SACCOLABIDUM, EPIDES, and other FINEST ORCHIDS.
 MR. J. C. STEVENS has been favoured with instructions to SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, June 2, at half-past 12 o'clock precisely, the COLLECTION OF ESTABLISHED ORCHIDS, formed by the late Henry Ford Barclay, Esq., of Monkhams, Woodford, which includes fine EXHIBITION SPECIMENS of Vanda tricolor, V. suavis, and Angræcum sesquipedale, Cypripediums, Dendrobiums, Cattleyas, Phaius, Anthuriums, &c. Also another small Private Collection.
 On view morning of Sale, and Catalogues had.

Thursday Next, June 2.

A very fine COLLECTION OF ORCHIDS IN FLOWER and BUD, and an importation of ODONTOGLOSSUM CRISPUM, from Mr. F. Horsman.

MR. J. C. STEVENS will include in his SALE by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, June 2, a very fine COLLECTION OF ORCHIDS IN FLOWER and BUD, comprising ODONTOGLOSSUM Alexandriae, fine varieties; O. strepens, O. maculatum, O. trichophyllum, grand specimens; C. Mendellii, C. labiata Warneri, Oncidium macranthum, O. crispum, choice Dendrobiums, Masdevallias, &c.; also an importation of Odontoglossum crispum, from Mr. F. Horsman, in splendid condition; Trichophyllum species, &c.; 150 Lilium Species (gigantic Bulbs) just to hand. Each plant gives from 15 to 40 Blooms, &c.
 On view morning of Sale, and Catalogues had.

Glasgow.—Public Sale of a Collection of Orchids, at 72, Renfield Street, Glasgow, on WEDNESDAY, June 8, at 12 o'clock, by Messrs. Messrs. Charlesworth, Shuttleworth & Co., Heston, Bradford, including a fine lot of CATTLEYAS (mostly bought in bloom), by a Gentleman who is giving up their cultivation, consisting of such rare species as ODONTOGLOSSUM EXCELSUM, LELIA AUTUMNALIS ALBA, DENDROBIUM NOBILE ALBA, CATTLEYA TRIANE ALBA, LELIA ANCEPS ALBA, DENDROBIUM PHALANOPSIS SCHRODERIANUM, and other choice varieties.

MR. WALTER J. BUCHANAN has received instructions to SELL by PUBLIC AUCTION, the above. Particulars in Catalogues now in course of preparation. 72, Renfield Street, Glasgow, May 28, 1892.

WANTED TO RENT, with option of Purchase, a small Nursery, with about 1500 feet run of Glass, in a thriving country town.—H. HOPPE, Haslemere, Surrey.

London, S.W.

In main thoroughfare close to Station.
 FOR SALE, in consequence of ill-health, the LEASE of a prominent FLORIST'S SHOP and 8-roomed RESIDENCE, together with the GOODWILL. Good Trade attached. Leave sixty years. Low rent £65.
 Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

FOR SALE, a COMPACT NURSERY, well situated, good Jobbing Connection, 6 Greenhouses and Pits, 8-roomed House, fourteen years old to run of Lease. Shop near Station, doing good Cut Flower Trade. All on main road, and in good repair. In present hands 20 years. A Bargain; reason, ill health.
 Apply to R. HOLLOWAY, Florist, Herne Hill, S.E.

TO BE SOLD, a bargain, the LEASE of a compact MARKET NURSERY, well made, a good branch establishment; 15,000 feet of Glass in good order, well heated with 4-inch Hot-water Flipping, plenty of Water, good Stabling, Van Shed, Loft over; 7-room Dwelling House, with every convenience. Near London, Kent, only 10 miles.
 Apply, J. S., Elm Villa, Town Road, Lower Edmonton.

To Market Gardeners and Others.

TO BE SOLD, the unexpired term of a valuable LEASE of a MARKET GARDEN, situated within 5 miles of Covent Garden Market.—For particulars, apply to Mr. FRAS. ROBINSON, Solicitor, 36, Jernyn Street, St. James's.

SURREY.—In a first-class District not far from the Metropolis, TO BE SOLD, an OLD ESTABLISHED NURSERY, with large capital, Commodious Premises, Greenhouses, and Land. The Business can be sold at a price bringing it within the means of a Purchaser with moderate capital.
 Full particulars Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

To Nurserymen, Florists, &c.

SUBSTANTIAL NURSERY PREMISES, constructed at great cost (Leasehold—over 60 years to run), to be DISPOSED OF, by Executors, at a small nominal premium. The premises are in working order, and comprise Greenhouses, Dwelling-house, Garden, &c. &c., Stabling, &c., about 6 miles from Covent Garden, London.
 Particulars will be furnished upon application to A. Z., 2, Wisteria Road, Lewisham, S.E.

KENT.—TO BE SOLD, with immediate possession, COMPACT NURSERY near station. Several Greenhouses. Low rent. Any reasonable offer entertained. Apply to PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

TO BE LET, or SOLD, the PRIORY NURSERY, Acton, near to four Railway Stations, consisting of 3 Acres, with twenty-eight Greenhouses, Coach-house, Stables, Office, &c., in good working order, to be let (as a whole, or divided into two portions), on Moderate Terms; or Freehold will be Sold. Apply to—MR. HORSNAIL, 98, Newgate Street, City, London.

To Fruit Growers, Nurserymen, and Others.
 GOOD ARABLE and MEADOW LAND to be LET or SOLD. Close to the main road at Fonder's End (9 miles from London). Lenses granted, Rent, £12 per acre per annum, with option to purchase the Freehold any time during the first nine years. Several large Market Nurseries are established on the Estate. Full particulars of A. and G. GUIVER, Land Agents, Fonder's End.

Important to Market Gardeners.
 GARDENS to be LET WITHOUT RENT. The splendid Kitchen Gardens and Glass belonging to a Gentleman's Mansion, 11 miles from London, and one minute from station on the L. & N.W.R. to be let without rent, in return for the Plompey Grounds being kept in order. Both gardens and houses are well stocked and in good order. Can be seen at any time by appointment.
 Address, X. M., 41, Wellington Street, Strand, W.C.

FARM to LET, on High Road, 8 miles from London, 20 acres of Fruit Trees and Strawberry Plants, and four large Greenhouses. To be taken at valuation. Also FRUITERS and GREENHOUSES (old established). They can be let separately.
 Apply, J. HANCOCK, 66, Greenwood Road, Dalston, N.E.

Rempton, near Deddington, Oxfordshire.
 TO BE LET, with possession, at the low yearly Rental of £30, a DWELLING HOUSE, with Yard, Barn, Stabling; large GARDEN, GREENHOUSES and ORCHARD, in the village of Rempton, near Deddington, lately occupied by a Nursery Gardener.
 Apply to Messrs. KINCH and BROOKES, Solicitors, Deddington, Oxon.

THE TOWER FURNISHING COMPANY (Limited), SUPPLY GOODS ON HIRE, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.
 Address, SECRETARY, 43, Great Tower Street, E.C.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the Kingdom, including at Aldenham House, Epsom, so faithfully illustrated in this journal of November 21, executed by PULHAM and SON, 50, Finsbury Square, London, E.C., and Brouncker, Herts. Photo Illustrated Book sent for inspection on receipt of twelve stamps.

A. G. WATSON;

FRUIT & FLOWER SALESMAN, ABERDEEN.
 Sale Days, Tuesday and Friday, at 9 A.M.
 Consignments solicited of Fruit and Early Vegetables.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,
 Have just received
 LARGE and SPLENDID IMPORTATIONS
 of the following and other

ORCHIDS.

CATTLEYA TRIANE, Splendid gigantic-flowered, highly-coloured type from new district.

CATTLEYA MENDELLII, in fine masses.

CATTLEYA SKINNERI.

CYPRIPEDIUM INSIGNE var. EXUL.

DO. BELLATULUM type.

DO. INSIGNE.

PHALANOPSIS GRANDIFLORA AUREA.

EPIDENDRUM BICORNUTUM.

ONCIDIUM LURIDUM.

DENDROBIUMS in great variety, in grand masses.

ORCHIDS from Mexico, ORCHIDS from Guatemala, &c.

Prices and Full Particulars sent post-free on application.

THE VINEYARD AND NURSERIES,
 GARSTON, NEAR LIVERPOOL.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Garlickhron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines	.. £0 3 0	15 Lines	.. £0 8 6
5	" " 0 3 6	16	" " 0 9 0
6	" " 0 4 0	17	" " 0 9 6
7	" " 0 4 6	18	" " 0 10 0
8	" " 0 5 0	19	" " 0 10 6
9	" " 0 5 6	20	" " 0 11 0
10	" " 0 6 0	21	" " 0 11 6
11	" " 0 6 6	22	" " 0 12 0
12	" " 0 7 0	23	" " 0 12 6
13	" " 0 7 6	24	" " 0 13 0
14	" " 0 8 0	25	" " 0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s. If set across three Columns the lowest charge will be 30s. Page, 4s; Half Page, 2s 10s.; Column, 4s.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months; Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

THE "STOTT" PATENT SYRINGE.



With Patent "Sprayer" and Insecticide Chamber attached. 21s. complete.

THE "STOTT" PATENT SPRAYER.



GIVING A MIST-LIKE SPRAY. CANNOT CHOKE. 4s. to 6s. complete.

INSECTICIDE 'KILLMRIGHT.'

CERTAIN PREVENTIVE OF MILDEW, DEATH TO CATERPILLARS, and all INSECT PESTS on Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and other Plants. NON-POISONOUS. 2-lb. Tins, 1s. 4d.; 14-lb. Tins, 9s.; 56-lb. Kegs, 34s.

FERTILIZER 'FEEDMRIGHT.'

Most invaluable for Roses, Chrysanthemums, Greenhouse, & Stove Plants. 2-lb. Tins, 1s.; 14-lb. Bags, 4s. 6d.; 56-lb. Bags, 15s. PRICE LISTS and TESTIMONIALS on Application. 2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE AND RETAIL FROM THE "STOTT" FERTILIZER & INSECTICIDE Distributor Co., Ltd., MANCHESTER.

Retail from all Ironmongers, Seedsmen, &c. See Stand 54, Horticultural Exhibition, Earl's Court.

SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 8s. Stamp size, 24 for 16d.; 100 for 3s. 4d. Send note or Cabinet and Postal Order, and in about ten days you will receive highly-finished Copies, with Original.—FRANCIS AND CO., 29, Ludgate hill, London.

BOOKS ON ROSES, by WM. PAUL, F.L.S. THE ROSE GARDEN, 9th edition, 40, 360 pages, twenty coloured plates, numerous engravings, 17s. 6d. nett; the same, 5vo, without plates, 8s. 6d. nett. ROSES IN POTS, 7th edition, illustrated, post-free, 2s. ROSES AND ROSE CULTURE, 6th edition, illustrated, post-free, 1s. The Journal of Horticulture, says: "The best works on Roses are those by Mr. Wm. Paul."

WM. PAUL AND SON, Nurseries, Waltham Cross, Herts.

THE SYDNEY MAIL, AND NEW SOUTH WALES ADVERTISER.

CONTENTS:—

INTERCOLONIAL AND GENERAL NEWS. SPORTING and the FIELD, in which is incorporated BELL'S LIFE IN SYDNEY. RECORD OF RACES, and NOTES on the TURF. CRICKET and AQUATICS. THE FLORA OF AUSTRALIA. (Drawn and engraved especially for this Journal.) NATURAL HISTORY. (Original Articles.) AGRICULTURE, PASTORAL, HORTICULTURE. GOLD FIELDS and MINING generally. STOCK and SHARE REPORTS. ORIGINAL and SCIENTIFIC ARTICLES. TALES by POPULAR ENGLISH and AUSTRALIAN AUTHORS. THE FASHIONS. DOMESTIC ECONOMY. INDOOR AMUSEMENTS. THE CHESS PLAYER. THE HOME CIRCLE. COMMERCIAL NEWS. SHIPPING INTELLIGENCE.

The SYDNEY MAIL has a wide circulation throughout the Australian Colonies, New Zealand, Polynesia, &c. It contains a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.

Single Copies, 6d.; Stamped, 7d. Publishing Office—Hunter Street, Sydney, New South Wales.

ENGLAND.

The undermentioned Newspaper and Advertising Agents are authorized to receive ADVERTISEMENTS for the SYDNEY MORNING HERALD and SYDNEY MAIL:—

LONDON Messrs. Geo. Street & Co., 30, Cornhill, E.C. Mr. F. Algar, 8, Clement's Lane, Lombard Street, E.C. Messrs. Gordon & Gotch, St. Bride Street, Fleet Street, E.C. Messrs. W. H. Smith & Son, 126, Strand. BRISTOL James and Henry Grace, Royal Insurance Buildings. MANCHESTER James and Henry Grace, 73, Market Street. EDINBURGH Robertson & Scott, 13, Hanover Street. GLASGOW W. Forbush & Co., 15, Royal Exchange Place.

Copies of each Journal are filed at the above Offices for the use of Advertisers.

RICHARDS' NOTED ORCHID AND OTHER SELECTED PEATS,

Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco-Paper, Insecticides, Waxes, and all Garden Sundries, at the Shortest Notice. Special Railway Rates to all parts. The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Chief Peat Depot and Grounds—Ringwood, Hants. Samples and Price List post-free.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 3s. per sack; 5 for 15s. 6d. SECOND QUALITY, 5s. per sack; 5 for 25s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 15s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED FERTILIZING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack. Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

EPSS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS, Hardwood do, Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, SUPERIOR LEAF-MOULD, Coarse, Crystalline and FINE SILVER SAND, CHALK, and COARSE FIBRE REFUSE, fresh SPAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. PEAT Moss Litter. The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of WALKER AND CO., Farnborough, Hants.

SCOTT'S WASP DESTROYER has stood many years' test as the only effective Protection for Fruit Trees, &c., from Wasps and Flies. Prices, 1s. 6d. and 2s. 6d. per bottle. MACKENZIE AND CO., Limited, 16, Finsbury Street, E.C. Sold by all Nurserymen and Florists.

SLUGICIDE (REGISTERED).—Certain death to Slugs, fertilises the soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners ever invented. 1s. 6d. per box, of all Seedsmen. Trade terms. "THE SLUGICIDE CO.," 6, Maryleport Street, Bristol.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blight, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in latter from cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURST keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

GARDEN REQUISITES, as supplied to the Royal Gardens.—COCOA-NUT FIBRE REFUSE, 1s. 3d. per sack, 10 for 12s.; 20 for 24s.; sacks free; 2-ton truck, 30s. free on rail near works. FINE ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS DO, 5s. 6d. per sack; 22s. 6d. per ton. COARSE FIBROUS DO, 4s. 6d. per sack; 20s. per ton. LEAF-MOULD, 1s. 6d. per bushel, 14s. 3s. per sack. COARSE SILVER-SAND, 1s. 6d. per bushel, 14s. 2s. 6d. per ton. CHALK, 8s. per sack. SPAGNUM, 2s. 6d. per sack; all other bags, 2s. 6d. per sack. RUSK MATS, 10s. 6d. to 18s. per cozen. RAFFIA, VIRGIN CORK, STAKES, &c. BONES, 4-inch, 11s. per cwt. Pure BONE-DUST, 11s. 6d. TOBACCO-PAPER, Spécialité, 10d. per lb., 2s. 10d. for 21s. CLOTH, 1s. per lb., 2s. 10d. for 28s. Price List, free. W. HERBERT AND CO., Hop Exchange Warehouses, Southwark Street, London, S.E.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE, 4d. per bushel; 100 for 25s.; 2 truck (loose about 2 tons), 40s. 4d. per sack, 4s. 6d. per sack, 4s. 6d. per sack. LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks 25s.; sacks, 4d. each. BLACK FIBROUS PEAT, 5s. per sack, 5 sacks 25s.; sacks, 4d. each. COARSE SILVER-SAND, 1s. 6d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each. YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. 6d. per bushel, 14s. 3s. per sack. SPAGNUM MOSS, 8s. 6d. per sack. MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price List.—E. G. SMYTH, E.H. & Co., 10, Gresham's Street, Drury Lane (lately called 17, Coal Yard), W.C.

TANNED NETTING.—For Preserving Fruit Trees, Flower Beds, &c., from Frost and Blight. 35 square yards for 1s.; any width sent. Carriage paid on all orders over 5s.

HENRY JOHN GASSON, Fish Merchant, Rye, Sussex. THE FRUIT GARDEN OF THE UNIVERSE.—THE AUSTRALIAN IRRIGATION COLONIES (Chaffey Brothers), established and regulated by Government, offer an enjoyable life and OCCUPATION, a sunny and pleasant climate, and most highly remunerative returns to Cultivators with small or large capital; pamphlet free. CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street, London, E.C. J. E. M. Vincent, Chief Commissioner.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE

"HERCULES" BRAND (Regd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



"Are you not afraid these children will injure the Hose or stop the water?"

"Oh, no! This SPHINCTER GRIP ARMoured HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of."

Contractors to all Departments of Her Majesty's Government and the Horticultural and Agricultural Societies. Hundreds of Unsolicited Testimonials.

BEWARE OF WORTHLESS IMITATIONS, and send for ILLUSTRATED and DESCRIPTIVE CATALOGUE (post free on application) of HOSE and GARDEN WATERING APPLIANCES and FITTINGS of every kind.

MR. JOHN KNIGHT, Rose of Kent Nurseries, Dartford, writes, April 26, 1892, ordering a supply of our "A Quality" Hose—"I had no end of trouble with another firm's make of Garden Hose last year; it wore clean out in less than three months—went into hundreds of holes in this time—so that I do not want anything of the sort again."

HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891. No Exhibition Medal or Award has ever been secured by any other firm for Armoured Hose.

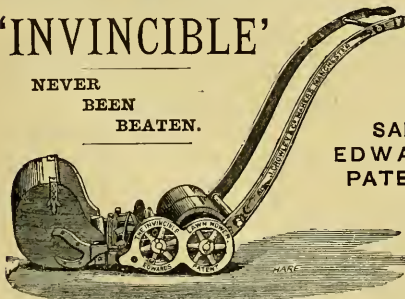
SPHINCTER GRIP ARMoured HOSE CO., Ltd.,
OFFICES and SHOW ROOMS—9, MOORFIELDS, LONDON, E.C. Works—LONDON and NORTHAMPTON.

GOLD MEDAL LAWN MOWERS 'INVINCIBLE' 'VICTOR'

NEVER
BEEN
BEATEN.

EASY
TO
WORK.

SAML.
EDWARDS'
PATENTS.



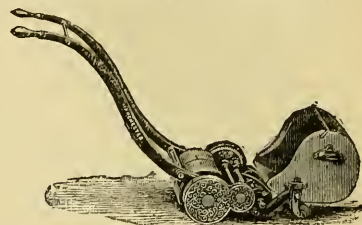
TWO HANDLES, same price.
Light in Construction.
Reverable Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

TRY THE "TENNIS" LAWN MOWER.

Awarded numerous National & International Prize Medals.



A beautifully designed, well constructed, highly finished, English made, and almost noiseless Machine. Durable, easy to work, and eminently suitable for the Tennis ground, and also for Ornamental Gardening. It has no equal. Thousands are in use, giving unqualified satisfaction. Every Machine guaranteed.

FOLLOWS & BATE LTD.,
ENGINEERS,
GORTON, MANCHESTER.

Patentees and Manufacturers of the Patent "CLIMAX," "MANCHESTER," and Royal "ANGLO-AMERICAN" LAWN MOWERS.

80,000 SOLD SINCE 1869.

£3 To be obtained promptly from all respectable Ironmongers and Stationers. PRICE LISTS POST FREE.

HILL & SMITH,
BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN

TREE GUARD, "The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Up-rights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

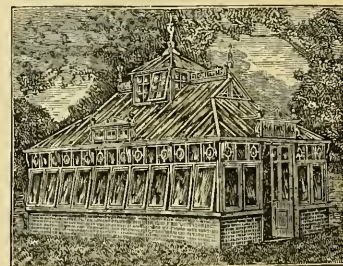
TESTIMONIAL.

"The Whittier, Herefordshire, Dec. 23, 1887."

"DEAR SIR,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 50 more as before. I enclose cheque for your account."

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.

BECKETT BROS., CHELMSFORD.



Thoroughly Practical and Experienced Horticultural Engineers in all branches connected therewith. Price LIST and Estimates free on application.

BOULTON & PAUL,

NORWICH,
Manufacturers
of
ALL KINDS
of

**GARDEN REQUISITES.**

Send for Illustrated Catalogue, free on application.

No. 22.
Force and
Lift-Pump,
on Barrow.

Cash Prices.—Carriage Paid.
With connections and strainer, but without hose, £1 10s.
Suction or delivery hose, carriage paid with pump, 2s. 3d. per foot.
Extreme width, outside wheels, 22 inches.

**EVERY REQUISITE
FOR THE
GARDEN, PARK,
AND
PLEASURE GROUNDS.**

Send for Catalogue.

BOULTON & PAUL, NORWICH.**HEATHMAN'S HOSE,**

ANTIMONIAL RED RUBBER.

Is Lightest in Weight, yet Strongest and Most Durable
FOR GARDENS.

220 Miles Sold the last Five Years. Price Lists from—
HEATHMAN'S HOSE FACTORY,
2 & 37, ENDELL STREET, LONDON, W.C.

BARB WIRE.

CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARINGTON.



The Original and Only Makers of the
GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).

These Boilers, after long experience, have
proved themselves the Most Efficient, Econo-
mical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges,
and Expansion-Joint Pipes and Fittings, for
all kinds of High and Low-Pressure Heating.



FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

GARDEN REQUISITES.
Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo
Canes, Rustic Work, Manures, &c. Cheapest Prices of—
WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

RANSOMES'

At the Jubilee Meeting of the R.A.S.E.,
Windsor, HER MAJESTY THE
QUEEN and H.R.H. PRINCESS
VICTORIA OF PRUSSIA each pur-
chased a RANSOMES' LAWN MOWER.

All
Mowers
sent on a
Month's
Trial,
Carriage Paid.

**LAWN MOWERS,**

The Best in the World.

In all sizes to meet every requirement.

"NEW AUTOMATON," the Best Gear Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"ANGLO-PARIS," the Best Small Machine.
"EDGE CUTTER," the only one of real service.
"BANK CUTTER," the Best for Cutting Slopes.

THE BEST PONY and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.

RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.**THE "CLIMAX" (CONCENTRATED) WEED KILLER**

Is Stronger and Superior to all rivals for permanently destroying all vegetation on Carriage Drives, Garden Walks, Stable Yards, Railway Stations, Ash Tennis Courts, Stonework, &c., &c. Saves many times its cost in labour, and will eradicate the weeds far more thoroughly than the most careful hand-weeding, keeping them away for a whole season.

Has no Smell.—Improves and Brightens the Gravel. Can be applied with an ordinary Watering-Can. Will not Injure the Skin or Clothing.

NOTE.—One Gallon makes 51 Gallons for Use.

PRICES—In $\frac{1}{2}$ -Gallon Tins, 1s. 9d.; 1 Gallon, 3s. (tins included); 5-Gallon Drums, 2s. 9d. per Gallon; 10 Gallons, 2s. 6d. per Gallon; 20 Gallons, 2s. 3d. per Gallon; 40-Gallon Casks, 2s. per Gallon. 5 Gallons and upwards sent Carriage Paid.

Drums Charged for, but Allowed when Returned in Good Order.

The "Climax" Insecticide.*The CHEAPEST of all INSECTICIDES. NON-POISONOUS, SAFE, & EFFECTIVE.*

The only Insecticide that Improves and Brightens the Foliage, while at the same time it completely destroys all Insects and Parasites which infest the Foliage and Roots of Plants.

It will not Injure the most Tender Foliage.

PRICES—In Tins, $\frac{1}{2}$ Pints, 1s. 3d.; Pints, 1s. 9d.; Quarts, 3s.; $\frac{1}{2}$ Gallon, 5s.; 1 Gallon, 9s.; 5 and 10-Gallon Drums, 8s. per Gallon, Carriage Paid.

THE MYTHE CASTLE GARDENS, TEWKESBURY, AUGUST 13, 1891.
GENTLEMEN,—I have given your "Climax" Insecticide a good trial on tender foliage—Orchids and Ferns—for Bug and Scale. In every instance I have found the Bug and Scale dead, and the foliage bright and clean. I found it most effectual for Black Fly on Peach Trees.

The "Climax" Insecticide ought to be better known; it is the only one I have found to kill Bug on tender plants without injury to the foliage.

I am, yours faithfully, W. MACKIE.

THE GARDENS, MOYALLON HOUSE, GILFORD, CO. DOWN.

DEAR SIR,—In reply to your inquiry, I found the "Climax" a really good and effective Insecticide, completely destroying Mealy Bug, Thrip, and Green Fly on the most tender plants, without the slightest injury to the Plant; in fact, it brightens and improves the appearance of Foliage Plants very much.

Yours, &c., J. LYNAS.

SOLELY PREPARED BY

THE BOUNDARY CHEMICAL COMPANY, LIMITED,

OFFICE:—211, GREAT HOWARD STREET, LIVERPOOL.

HORTICULTURAL BUILDER.Every description of **GREENHOUSES, LIGHTS, &c.****PIT LIGHTS.**

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron baracross and very strong, 4s. 6d. each, 50s. doz., £10 for 50 lights, free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 feet by 12 feet house, lights, door, &c. Put on rail in London. Price, £9 10s. Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.

Send for Illustrated Catalogue, just issued.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM

TO

THE PUBLISHER,

41, Wellington Street, Strand,
LONDON, W.C.

1892.

Please send me "THE GARDENERS' CHRONICLE" for _____ Months,
commencing _____, for which I enclose P.O.O.

☞ Please Note that all Copies sent Direct from this Office must be paid for in advance. ☞

THE UNITED KINGDOM.—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, Including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.,
May 28, 1892.

AWARDED TEN GOLD AND SILVER MEDALS.



REGISTERED NO. 13,195.

PRICES of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).

ARMOURD.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices:—
 1-in. dia., best quality ... 35/3 1-in. dia., ex. stout qual. 52/0
 „ ex. stout quality 43/7 „ best quality ... 32/0
 „ best quality ... 45/0 „ ex. stout qual. 60/7

PLAIN.—Unlinkable Smooth-Surface Hose, will not crack. Is made of pure rubber and canvas. Quality guaranteed.
 1-in. dia., specially cheap 19/3 1-in. dia., best quality ... 28/0
 „ best quality ... 21/5 „ ex. stout qual. 35/0
 „ ex. stout qual. 27/5 „ best quality ... 33/0
 1/2-inch diameter, ex. stout quality ... 40/10

Also Maker of Hose for Delivery, Steam, Fire, Suction, and Liquid Manures, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING, ROOFING FELTS, SACKING, &c., Post Free. **MAKER TO HER MAJESTY THE QUEEN.**

ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

WORKS FOR THE POSSESSORS OF GARDENS.

- MRS. LOUDON'S LADIES' COMPANION TO THE FLOWER GARDEN.** A Guide to the Management and Adornment of Gardens of every size. A New Edition. Fcap. cloth, price 7s.
- HIGH-CLASS KITCHEN GARDENING.** A Handy Manual for the Improved Cultivation of all Vegetables. By WILLIAM EARLEY, Author of "How to Grow Mushrooms," "How to Grow Asparagus," &c., &c. Crown 8vo, with Coloured Frontispiece, price 4s. 6d.
- HOW TO GROW MUSHROOMS.** By WILLIAM EARLEY. Price 1s. stitched.
- THE ART OF GROWING ROSES OUT-OF-DOORS.** By Rev. O. FISHER. Fourth Edition, revised and enlarged. Price 1s.
- HOW TO GROW ASPARAGUS.** A popular Explanation of the best Method of Culture. By WILLIAM EARLEY. Price 1s. stitched.
- LINDLEY'S SCHOOL BOTANY.** A Complete Manual of Rudimentary Botany for Students &c. With 400 Illustrations 8vo, cloth, price 5s. 6d.
- BOTANY FOR BEGINNERS.** An Introduction to the Study of Plants. By MAXWELL T. MASTERS, M.D., F.R.S., late Lecturer on Botany at St. George's Hospital. With upwards of 100 Illustrations. Price 3s. 6d.

London: Bradbury, Agnew, & Co. (Limited), Bouverie Street, E.C.

WORKS OF AUTHORITY ON BOTANY.

- SIR JOSEPH PAXTON'S BOTANICAL DICTIONARY.** Comprising the Names, History, and Culture of all Plants known in Britain, together with a full Explanation of Technical Terms. Medium 8vo, cloth, price 18s.
- LINDLEY'S DESCRIPTIVE BOTANY.** For Self-Instruction and the Use of Schools. Price 1s., sewed.
- LINDLEY'S ELEMENTS OF BOTANY.** With Illustrations. 8vo, cloth, price 9s.
- LINDLEY'S MEDICAL AND ECONOMICAL BOTANY.** With numerous Illustrations. 8vo, cloth, price 1s.

London: BRADBURY, AGNEW, & CO. (Limited), Bouverie Street, E.C.

THE BEDDING PLANT OF THE SEASON—GRAND NEW DWARF TROPÆOLUM, "MRS. CLIBRAN."

Colour, lovely shade of Orange-yellow; habit, compact, and about 6 inches high; free and continuous bloomer, producing a brilliant display.

Gardeners' Chronicle: "The colour is decidedly very good. An excellent bedder."
Journal of Horticulture: "The variety must be regarded as an acquisition."
Gardeners' Magazine: "A distinct bedding variety; will make a gay display in bed or border."
 Mr. D. MELVILLE, Darrobin Castle Gardens: "I think your Tropæolum should be most useful. An excellent substitute where Calceolarias die off."
 Mr. W. INGRAM, Belvoir Castle Gardens: "Seems to promise an effect not afforded by any Mr. W. EARLEY, Hford: "I am charmed with Mrs. Clibran Tropæolum."
 Mr. G. DOUGLAS, Great Geanies: "A very distinct novelty."

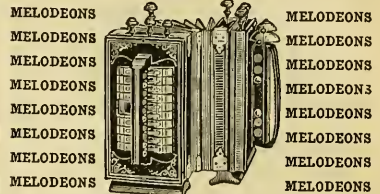
Mr. D. T. FISH, Bury St. Edmunds: "Mrs. Clibran Tropæolum is unique in its beauty."
 E. IRWIN LYNCH, Esq., Cambridge Botanical Gardens: A splendid novelty; perfectly charming in colour."
 Sir. H. W. WARD, Logford Castle Gardens: "The colour is quite distinct from any shade of golden I have hitherto seen."
 Mr. E. MOLYNEUX, Swaamore Park Gardens: "The colour, too, is so taking; it is sure to W. E. GUMBLETON, Esq., Queensdown: "The colour is bright and clear; it should be an acquisition."

This Splendid Novelty has been Awarded several Certificates. Plants ready end of May. Price, 1s. 6d. each; 6 for 7s. 6d.; per dozen, 12s.

For full Description of above, also other distinct Novelties and Specialities, including NEW BEDDING PELARGONIUMS, see NEW CATALOGUE (No. 115), Free on Application.

CLIBRAN & SON, Oldfield Nurseries, Altrincham; 10 & 12, Market Street, Manchester; and Principality Nurseries, Llandudno Junction, N. Wales.

CHEERFUL WINTER EVENINGS. CAMPBELL'S BROAD REED MELODEONS (Patent). GRAND NEW MODELS.



NO HOME SHOULD BE WITHOUT ONE. CAMPBELL'S world-famed MELODEONS have Organo and Celestial Tone and Charming Bell Accompaniment. The Solenn Psalm, the Soul-stirring Hymn, the Cheerful Song, and the Merry Dance can all be played on these charming Instruments. No knowledge of Music is required by the player.

GOOD NEWS!

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER. To readers of the *Gardeners' Chronicle*. **OUR GRAND PRIZE MEDAL "GEM" MELODEON.** 6s. 6d. With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 6s. 6d. Selling in thousands.

CAMPBELL'S GOLD MEDAL MELODEON.

AN UNPARALLELED OFFER. To readers of the *Gardeners' Chronicle*. **OUR GRAND PRIZE MEDAL "MINIATURE" MELODEON.** 10s. WORTH DOUBLE. 10s. With Two Sets of Broad Reeds, Organ and Celestial Tone, sent carefully packed and carriage paid to any address in Great Britain and Ireland on receipt of P.O.O. for 10s.

NO DECEPTION HERE. 100,000 TESTIMONIALS. Important Testimonial from Professor Brown, the Champion Melodeon Player of Great Britain, Ireland, and Wales: "Campbell's Patent Melodeons are the finest instruments that have ever come under my touch, and only require a trial to advertise themselves." Campbell's Patent Melodeons are the only genuine Melodeons in the market. Beware of worthless imitations.

N.B.—All lovers of music should at once send for our New Illustrated Privilege Price List for Season 1891-2, now ready. 100,000 of those valuable lists sent out yearly. Send 1d. stamp to

CAMPBELL & CO., MUSICAL INSTRUMENT MAKERS, 116, TRONGATE, GLASGOW. ESTABLISHED 50 YEARS.

EXTRA STOUT strong-tanned NET, 2 yards wide, 1 1/2 yard; 4 yards wide, 3 1/2 yard; or 2 yards wide, 10s. per 100; 4 yards wide, 20s. per 100 yards. NEW TWINE NETTING, 1 yard wide, 1 1/2 yard; 2 yards wide, 3 1/2 yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. COTTON NET, 10 meshes to square inch, 1 1/2 yard wide, 7d. yard run. W. CULLINGFORD, 24, Eastern Road, Plaistow, E.



And for all Glass Structures that require Shading. Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—CORY and CO. (Ld.), Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 18, Finsbury Street, London, E.C. Sold by all Seedsmen and Florists.

EARL'S COURT, LONDON.

INTERNATIONAL HORTICULTURAL EXHIBITION, And BUFFALO BILL'S WILD WEST.

Chairman of the Executive Committee—H. E. MILNER, F.L.S., Assoc. M.Inst.C.E.

A Floral Fairyland. All the Flowers that Grow.
The GARDENS of OLDEN TIMES Reproduced. Electric Fountains.
The Floral Maze. Leafy Avenues and Floral Bowers.
MAGNIFICENT BAND of the GARDE REPUBLICAINE (Seventy-five Performers),
May 26 till June 8. inclusive.

Brilliant Illuminations. Battles of Flowers.
THE MOST DELIGHTFUL PROMENADE IN LONDON.

All the LEADING NURSERYMEN will be represented by their FINEST SPECIMENS; EVERY DESCRIPTION of FLOWER and FOLIAGE being contributed, including Palms, Ferns, Flowering Shrubs, Insectivorous Plants, &c., from the RAREST TROPICAL EXAMPLES to the COMMONEST NATIVE PRODUCTIONS.

Admission—FRIDAY, MAY 27, 5/-, until 5 p.m., including one of 2,500 Free Seats at Buffalo Bill's Wild West. SATURDAY, MAY 28, One Shilling.
Season Tickets, 10/6, now ready. GATES OPEN from 11 a.m. to 11 p.m. Secretary—G. A. LOVEDAY, B.A.

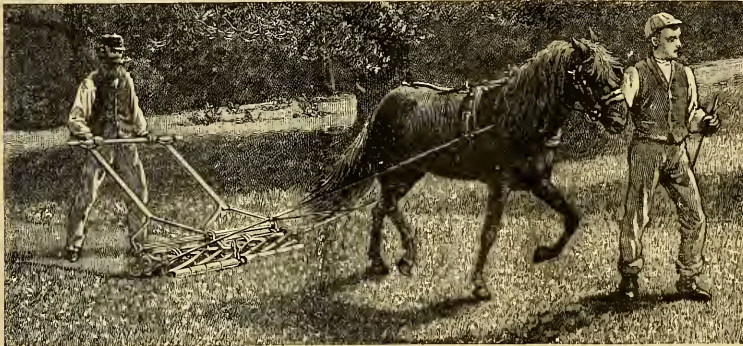
IMPORTANT ANNOUNCEMENT.

GREATEST SUMMER FLOWER SHOW

SINCE 1866.

FRIDAY and SATURDAY, MAY 27 and 28.

Money Prizes (over £800) and Medals for all Classes of Flowers.



THE

"NEW EASY" LAWN MOWER.

The **LIGHTEST RUNNING** and
CHEAPEST ROLLER Machine.

UNEXCELLED DURABILITY.

Made in all Sizes, from 10 to 24 inches.

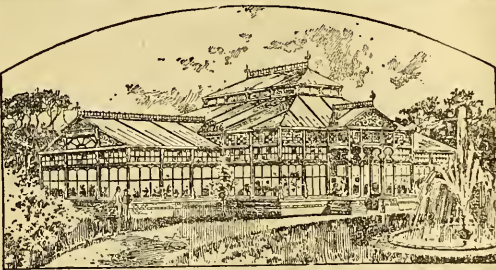
The **LARGEST SIZE EASILY WORKED BY ONE MAN.**

Illustration shows two 24-in. Machines coupled
together, doing the work of a 50-in. Horse
Machine, at one-third the initial cost.

SOLE LICENSEES—

SELIG, SONNENTHAL, & CO.,

85, Queen Victoria St., London, E.C.



No. 73.—New Span-roof GARDEN FRAME.



4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 14 0
8 ft. by 6 ft. 4 4 0 | 16 ft. by 6 ft. 7 4 0

All Frames made of selected Red Deal,
painted three times, and lights
glazed with 21-oz. sheet glass.

WINTER GARDENS, CONSERVATORIES,
ORCHID-HOUSES, PLANT-HOUSES,
FERNERIES, VINERIES,
And every description of
HORTICULTURAL
BUILDINGS and
APPLIANCES.

No. 75.—MELON and CUCUMBER
FRAME.

4 ft. by 6 ft. £2 0 0 | 12 ft. by 6 ft. £4 3 0
8 ft. by 6 ft. 3 0 0 | 16 ft. by 6 ft. 5 6 0
Wall Fruit Tree Protectors, Hand Lights,
Propagating Glasses, &c.

BOILERS

OF ALL MAKES
AND SIZES SUPPLIED
At the Cheapest Rates.

VALVES, PIPES,
AND

FITTINGS ALWAYS IN STOCK.

GARDEN FRAMES

In great variety.

CARRIAGE PAID ON ALL ORDERS of 40s.

CATALOGUES of all our Manufactures Free on application.



BOULTON & PAUL, NORWICH.

Williams'

WORLD-RENOVED
GOLD MEDAL STRAINS

Primula

Per Packet, 1/6, 2/6, 3/6, & 5/-

Cyclamen

Per Packet, 1/6, 2/6, 3/6, & 5/-

Calceolaria

Per Packet, 1/6, 2/6, 3/6, & 5/-

FLOWER SEEDS POST FREE.

Every Packet of above bears our Registered Trade Mark, without which none are genuine.

ILLUSTRATED SEED CATALOGUE, comprising everything necessary and requisite for the Garden, Gratis and Post-free on application.

B.S. Williams & Son,
UPPER HOLLOWAY,
LONDON. N.

PAUL & SON'S NEW CHESHUNT ROSES, 1892

Ready in Pots, May 20.

H.P. VIOLET QUEEN, a beautiful new colour in Show Roses, shaded violet (not purple), 7s. 6d. each.

HYBRID, FRANCES BLOXAM, the new, salmon-pink, constant-flowering Pillar Rose, 5s. each, And ready during summer.

SWEET BRIAR, JANET'S PRIDE, with semi-double, shaded with lake flowers. First-class Certificate R.H.S., 5s. each.

"OUR" NEW ROSES of 1891.

BOURBON MRS. PAUL, the most distinct break in light Rose obtained for years, and proving to be a fine pot Rose, 3s. 6d. each, 30s. per dozen.

H.P. BRUCE FINDLAY, the new "free as a China" autumnal Rose, 3s. 6d. each, 30s. per dozen.

The New Giant Indian Single Rose, **ROSA GIGANTEA**, with flowers 5½ inches across, and making in India and the Temperate House at Kew shoots of 50 feet, 3s. 6d. each.

New French and English Roses of three previous years, 18s. to 40s. per dozen.

NEW ROSE and SPRING LISTS Post-free, on application.

THE "OLD" NURSERIES, CHESHUNT, N.

SUPERB
STRAINS OF
FLORISTS'
FLOWERS.

PRIMULAS,
Single and Double,
CINERARIAS, CALCEOLARIAS,
GLOXINIAS,
and all others for present sowing.
All saved from the finest strains in existence.
Per packet, 1s. 6d., 2s. 6d., 3s. 6d., and 5s. each.

DICKSONS NURSERIES CHESTER
(LIMITED) (500 Acres)

WE ARE THE ONLY
LAWN MOWERS
BY ROYAL
MAKERS OF
APPOINTED
WARRANT.
MAKERS TO HER MAJESTY THE QUEEN AND HIS
ROYAL HIGHNESS THE PRINCE OF WALES.

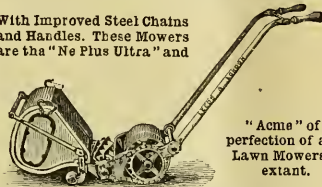
GREEN'S PATENT "SILENS MESSOR" LAWN MOWING MACHINES

ARE THE
FIRST, FOREMOST,
AND
BEST IN THE WORLD.

ALSO
TENNIS COURT MARKERS
AND
GRASS EDGE CLIPPERS.

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains
and Handles. These Mowers
are the "Ne Plus Ultra" and



"Acme" of
perfection of all
Lawn Mowers
extant.

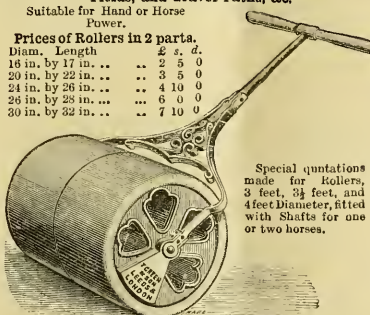
They have stood the test for upwards of thirty years, and have carried off EVERY HIGHEST PRIZE which has been given in all cases of competition.

GREEN'S Patent ROLLERS,
For Lawns, Drives, Bowling Greens, Cricket
Fields, and Gravel Paths, &c.

Suitable for Hand or Horse
Power.

Prices of Rollers in 2 parts.

Diam.	Length	£	s.	d.
16 in. by 17 in. ..		2	5	0
20 in. by 22 in. ..		3	5	0
24 in. by 26 in. ..		4	10	0
28 in. by 28 in. ..		6	0	0
30 in. by 32 in. ..		7	10	0



Special quotations
made for Rollers,
3 feet, 3½ feet, and
4 feet Diameter, fitted
with Shafts for one
or two horses.

Price Lists on Application.

They can also be had of any Ironmonger, Merchant, or Factor,
in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments
for the Trade, as well as Others.

THOMAS GREEN & SON,
LIMITED,
LEEDS and LONDON.



THE Gardeners' Chronicle.

SATURDAY, MAY 28, 1892.

INSTRUCTION IN GARDENING.

NO subject that has been broached of late years in our columns excited so much interest as the question of horticultural education. We infer this, not only from the large mass of correspondence that was published on the subject, but from the still larger amount of communications that we received, and which it became quite impossible to print, or even to deal with satisfactorily in any way. A few—a small proportion—doubted whether any good result could arise from what they called theoretical teaching. The vast majority saw things in a clearer light, and recognised that if good teachers could be found, there could be no question that satisfactory results would be attained. About that time many of the county councils took action in the matter by appointing itinerant lecturers and demonstrators (we designedly emphasise that word to mollify the "once of practice and ton of theory gentlemen"). These lecturers, following a plan long in use in France and Belgium, and one long advocated by us, visited numerous country districts, and gave information on points connected with practical horticulture. We have not space at the moment to go into detail on the matter, but we hope to do so on a future occasion, many of the lecturers having obligingly communicated to us a statement of their methods and of the results that followed. These, we may say in passing, were, as a rule, such as amply to justify the expectations of those who have sympathised with the movement from the first. Doubtless mistakes have been made, and some of the lecturers were not so efficient as others, or failed to hit the right nail on the head. In an experiment of this nature, somewhat suddenly begun and hastily acted on, such variations must have been expected, and they will be valuable for future guidance.

We are indebted to one who has taken a prominent part in this matter of gardening instruction for the following notes with reference to it:—

The publication of books bearing upon the subject is good, and the horticultural press is a powerful agent for the spread of useful knowledge; but we have had both for many years, and the people are still comparatively ignorant. Probably, it is their own fault that they have not laid hold of the knowledge which they might have obtained at a trifling expense, and with but little exertion on their part. Doubtless many have obtained some information through the medium of the gardening press, but their numbers are limited. It is quite evident, from the information before us, that the County Council lecturers have reached individuals who have so far been beyond the influence of the gardening press; but once set people thinking on things horticultural, and the gardening and horticultural papers will become part and parcel of their daily life. The work of the lecturer should be followed up by examinations on the subject-matter

of the lectures, and here the Royal Horticultural Society has been able, as in the case of the Surrey County Council, to do good work by aiding in the preparation of papers, finding examiners to adjudicate upon them, and the Society will, we believe, shortly present medals to the most successful candidates. When people begin to take sufficient interest in gardening matters to obtain a theoretical knowledge of it, they are likely to look around for an opportunity to put it into practice; and when people become interested, it is marvellous what they can accomplish even in the few hours they can spare from the work at which they earn their livelihood, and this not in growing ordinary garden crops, but even in the higher branches of gardening in glasshouses. We knew a surgical instrument maker who cultivated Orchids successfully within a few hundred yards of Shoreditch Church. A carpenter started to grow Grape Vines, and produced Grapes of the highest quality, good enough to win prizes at the leading horticultural exhibitions. Auriculas are supposed to be difficult plants to grow well, and few professional gardeners succeed perfectly in their culture, but there are members of the National Auricula Society who did not know an Auricula from a Cowslip a few years ago, and never had any practical gardening knowledge, who can now win the leading prizes at flower shows.

Those who know what good land is capable of producing, and daily see so much of it lying waste, or producing less than half what might easily be obtained from it in country places, will be pleased to know that there is a good prospect of better things. The Small Holdings and Allotment Act will, as a matter of course, be most beneficial where the knowledge of the cultivation of the ground and the treatment required for the various crops is greatest. Those who say that a theoretical knowledge of gardening is of no use, speak without thought. It is of no practical use until it is applied, but those who have been instructed by lectures, and have applied the knowledge they have gained there to answer questions at an examination, must be more competent to do practical garden-work than those who have not such theoretical knowledge. We have seen allotments in various parts of the country, and judged them for the purpose of awarding prizes, and others who have had similar opportunities of judging will bear us out when we say that in every district there is a sad lack of knowledge as to the practical treatment of the ground. A few get almost as much out of it as it is possible to obtain; but the many do not cultivate the ground, nor do they carry out a good system of alternate cropping. Near a large town in Essex, about 100 plots of land of various sizes were examined, and only about a tenth part of them could be said to be kept as a garden ought to be.

People with little knowledge of the work are generally so anxious to get their seeds sown, their Potatoes planted, or their Cabbage plants set out, that they do not take time to prepare the soil first, but the preparation of the ground should be done first, and is quite as important as laying well the foundation of a house. Trenching is usually recommended, but this is a garden operation that requires some thought. The ordinary labourer sets to work to trench his ground, say 18 inches deep, and, whatever may be the nature of the soil, he places the top spit in the bottom, and throws up perhaps some stiff unfertile clay on to the surface, but such stuff will not grow crops until the ground is retrenched the following season, and the top spit is returned to the top again. A correspondent informs us that he had to deal with an odd corner of a field intended to grow Mangel Wurzel for the cows, and Potatoes for household use, and saw that it was not large enough unless the maximum weight was obtained from it. When our friend took charge of it, it had merely been scratched about 4 or 5 inches deep with a small plough, which had formed a hard pan at the depth of 5 inches the first year. He worked the ground to the depth of a foot, breaking through the pan with the first spit to the depth of 6 inches; this was turned over, and 6 inches of the subsoil was

loosened up. He placed a good layer of manure over this subsoil, and turned the next top spit on to it; and when the work was finished, it came out in this form—6 inches of the subsoil loosened up, over this a dressing of good stable manure, and 6 inches of the good top soil over all. We alternate our crops year after year, but there is no change from Mangel and Potatoes. We weighed our crop last year, and the Mangel (Veitch's Yellow Globe) came out at 42 tons per acre, and the Potatoes about 10 tons. This simple system of working shallow-ploughed land is, probably, the best, when the plots are small. The steam cultivator is excellent when many acres are in question. Of course, for allotments, nothing is better than a good steel digging-fork to bring the subsoil into good working condition. When the ground has been prepared in the winter, or better still, in the autumn, all that is needed is to lightly fork up the surface to a depth of a few inches before putting in the crops, and it is well to take the chance of fine weather for this purpose, or for forking the ground over. Much mischief is done by treading upon the surface of the land when wet, especially on clay soil. It always pays, too, to take time and do the work well. When seeds are sown in drills, such as Peas, Onions, Carrots, &c., the drills should be drawn of an uniform depth and quite straight to a tightly drawn line. It is better to draw shallow drills in which to plant Cabbages, Cauliflowers, and other crops of this kind. The drills give the young plants much support, and protect the stems to a considerable extent from spring frosts and high winds. When they are well established the ground may be hoed, and this will fill in the drills, and answers the same purpose as earthing up. Earthing up a ridge round plants in the form of the letter A inverted is wrong, as it drains the rain water away from the roots. The earth should be drawn up so as to form a ridge on each side, and a depression where the stems of the plants are. It pays to sprinkle nitrate of soda around the roots to force Cabbages, Cauliflowers, &c., in early. The allotment holder can learn much of the application of manure from the farmer, especially those farmers who grow vegetables for market, but he ought to beat the farmers easily in the abundance and quality of the crop. For perfect cultivation the steel fork is far beyond the plough, or even the steel cultivator. The beneficial effects of stirring the surface of the ground with the hoe can scarcely be over-estimated. During the recent dry weather I have had all the ground hoed over twice; and will do it a third time if there is an opportunity. I did not think of the weeds at all, but the first hoeing was done to break the thin crust which is always formed upon the surface after rains, and when the work is being done do it well, not leaving an inch untouched. All recently dug or trenched ground should be stirred with the Dutch hoe, hard ground requires the swan-necked draw hoe. Perennial weeds of the most noxious character can be exterminated by merely keeping them well down with the hoe. Stop their growth and the roots will die out."

NEW OR NOTEWORTHY PLANTS.

CURCUMA (§ MESANTHA) BAKERIANA, Hemsl., n. sp.*

A HANDSOME species, closely allied to *C. australasica*, Hook. (*Botanical Magazine*, plate 5620), differing in having somewhat larger, orange-coloured flowers, and in floral details. The root, too, of *C.*

* *Curcuma* (§ *Mesantha*) *Bakeriana*, Hemsl., n. sp.—Ex affinitate *C. australasica*, differt tuberculis duratis (vel ovatois et stipitatis); foliis longe acuminatis, petiolis longioribus, spica brevi pauciflora; floribus paulo majoribus aurantiis. Planta circiter bipedalis, fere nudique glabra. Radices tubercula 3—2½ polli. longa, et 9 lines crassa. Folia disticha (petiolis arcte vaginantibus) spicam trifloram amplexicinctibus, oblongo-lanceolata, absque petiolo circiter 7 polli. longa. Spica vix triplicariter, bracteis ovatis recurvis superioribus vacuis pilulis roseis. Flores circiter bipedales; calyx pubescens, semi pilicaris, bilobatus; corollae lobis subaequalibus, ovato-oblongis, vix acuti, quam labellum breviores; staminodia lateralia oblonga, labellum sequantia; labellum latum, rotundatum, emarginatum, sinuatum. W.B.H.

australasica is described as consisting of bundles of cylindric white tubers, constricted here and there; whereas, in the present plant they are club-shaped, or egg-shaped and stalked, without any constrictions. In other respects, the two species are much alike. The only flower-spike seen of *C. Bakeriana* is, however, not so long as that depicted in the *Botanical Magazine*, but that may have been due to the conditions under which it grew; and there is little doubt that it will prove a very ornamental stove plant, of easy cultivation.

It was imported by Messrs. Sander & Co., of St. Albans, from "Islands off the coast of New Guinea;" and, at Mr. Sander's request it has been named after my friend and colleague, J. G. Baker, F.R.S., whose numerous works on plants of this and allied natural orders are of the greatest service, alike to botanists and horticulturists. W. Botting Hemsley.

CYRTANTHUS GALPINI.

This is a new species of the sub-genus *Gastro-nema*, with bright red flowers, flushed with yellow. Mr. Baker, who describes the plant in the April number of the *Kew Bulletin*, speaks of it as well worthy of being introduced into cultivation. It is a native of rocky hills in the Transvaal, flowering without the leaves in August.

CARNATION MRS. A. HEMSLEY.

This fine new Tree-Carnation has been blooming all the winter with Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, and there is still no lack of flowers to keep up a succession; indeed it seems equally good either as a winter or summer flowerer. It is in colour like the old Glove, and it has the fragrance of that old favourite flower, and the plant is as free to flower as Miss Jolliffe, and it will probably become equally popular, and be grown largely as a market plant.

BELGIUM.

NEW AND RARE PLANTS AT LIÈGE.

THE firm of Jacob Makoy et Cie. showed at the last exhibition of the Liège Royal Horticultural Society some interesting plants:—*Heliconia Lubberris*, quite new, leaves a peculiar metallic colour, shot, with a central band of rosy-lilac—a capital plant. *Maranta Leopoldi* from Brazil, 1892, a remarkable plant, leaves elongated, under surface lilac-purple, upper surface clear green, shading from olive to deep shining metallic green. *Nidularium rutilans* from Brazil, 1892, leaves large, of good habit, numerous bright pink bracts. *Alocasia memoria Parlouri*, 1892, leaves with metallic gloss on them, very dark and large, habit dwarf. *Echinostachys Pfitzeri*, Brazil, 1891, leaf bordered with white—very fine and ornamental plant. *Vriesia Closini*, 1891, hybrid between *V. Barilleti* and *V. psittacina Morreniana*, inflorescence yellow conspicuously marked with a red band. *Haplophytum Makoyanum*, 1891, leaf edged with white—an interesting novelty. *Vriesia Wiotti*, 1891, a fine hybrid. *V. Kittelliana* x, 1892, hybrid between *V. Barilleti* and *V. (Encholirion) Sanderi*, inflorescence branched, bracts deep ochre-yellow, flowers yellow. *V. conferta* (? species), scales very large, inflorescence rather close, colour, blood-red, merging into brown. *Doryopteris multi-gina*, Brazil, 1890, prolific, much branched, of medium height, with numerous bright but delicate green leaves, petiole black. *Carludovica elegans*, 1889, was effective beside the Palms, which it resembles, petiole long, blade prettily cut—an excellent plant.

Among the fine stove *Arancaria* from the same establishment, we must mention the rare *A. Neipraski*, the not less rare *A. Goldiana*, and a remarkable specimen of *A. elegans*. *Pandanus Legianus* is a fine plant. *Rhaphis flabelliformis* var., is remarkable; so are *Nepenthes picturata* from the Congo, and the splendid specimen of *Lilium Harrisonianum*, with four fine stems of bloom.

The forced *Cannas* were much admired, especially *Madame Crozy*, flower clear vermilion; *Souvenir de Madame Liabaud*, with cluster of bright crimson flowers; *Antonin Crozy*, flowers reddish-carmine;

Souvenir de François Gaulin, beautiful yellow, much spotted and streaked with carmine. Among the Orchids may be noted *Cypripedium Boxalli marginatum*, much yellower generally than the type, the standard evenly edged with white; *C. B. Kienasti*, standard greenish, petals much marked—a very distinct variety; *C. Godseffianum*, flower very pretty; *C. insignis Salieri*, yellow and very glossy flower; we must not omit also a fine *Lycaste Skinneri alba*.

We noticed in the houses of this firm, *Stenosperma vittata* from Kew, the bloom was very curious; a new strain of *Maranta*, sure of great popularity; *Anthurium Andreanum* Princess Clementine, with white spathe; and some *Adiantum cuneatum elegans*, an unusual variety, which is sometimes mistaken for Williams' *A. elegans*. *Ch. de B.*

BATTERSEA PARK IN SUMMER.

THIS public park covers an area of 190 acres, every part of which would appear to be made the most of, indeed it would be difficult to find a park of

or "carpet" bedding that were to be seen there last season, may be mentioned a circular bed (see fig. 98) about 12 feet in diameter, having six raised diamond-shaped pieces, about 5 feet long, and 16 inches high in the middle, and sloping sharply down on both sides and ends to the groundwork, with a like number of smaller ones (about 30 inches long) of the same shape between them, and then twelve similarly-shaped pieces, about 16 inches in length, in the middle, the centre valley being occupied with a good plant of a green *Dracena*, the other "dot" plants used being *Chamaepence diacantha*, in large panels, and *Echeveria metallica* in small ones. The alternate large divisions were covered with *Alternanthera paronychioides major*, with a line of *Echeveria secunda glauca* along the ridge and down the middle on both sides, the others being clothed with *Mesembryanthemum cordifolium variegatum* on the inner side, and the outer half with *Sedum glaucum*. The smaller diamonds were covered with the golden moss-like *Spergula*, which, with the "dot" plants of *Echeveria tabuliformis* interspersed in the slopes, showed to great advantage, the parting lines consisting of *Echeveria secunda glauca*, as in the

apart, and edged with *Sedum lydium*; *Ricinus Gibsoni*, planted thinly on a carpeting of Blue Viola, contrasted well with surrounding objects, and the same may be said of beds carpeted with *Colens Verschaffeltii*, and dotted with plants of *Abutilon Thomsonianum*, Blue Gum trees, Golden Bronze Pelargoniums, encircled by a good band of Swanley Blue Lobelia, with an equally good band of the silvery-foliated *Gnaphalium lanatum* as an outer edging. In conclusion, it is only right to say that the condition of all parts of the park were highly creditable to Mr. Coppin, the Superintendent. *H. W. W.*

VEGETABLES.

CAULIFLOWERS.

THOSE raised in heat which are fit to plant out should be attended to forthwith, and will be but a little later than others which may have been wintered in cold frames, and, moreover, they will not come in altogether like those. Deep drills or shallow trenches should be made on an open piece of ground in good heart, and the ball of earth held intact about the roots, planting being done with a trowel, setting the plants in the bottom of the drills. The plants should be watered when set out, and afterwards when necessary. Those who find a difficulty in keeping up a supply of nice small heads of Cauliflower after July, would do well to plant the Walcheren Broccoli; and if some of the strongest are pricked off, as was advised for early Cauliflowers, and due attention paid to watering, shading them for a day or two until they begin to make fresh roots, and planting them out when sufficiently large, there will be no break in the supply till the autumn crop turns in. The Walcheren Broccoli gives white heads of nice flavour, which do not bolt like the Cauliflower in hot weather, and caterpillars injure them less.

TOMATOS.

THOSE raised in March should now be progressing rapidly, and should be afforded plenty of air, keeping them near the light, so as to induce short sturdy growth, consequently but little heat should be afforded them. The largest plants may be shifted into bigger pots, more loam and less manure being employed in the potting soil. Tomatos should have stations prepared for them by incorporating some loam with the staple, and but little, if any, manure. When a good set of fruits is secured, liquid manure may be afforded with great advantage, and I have found that when some old mortar rubble, road scrapings, or burnt garden refuse is mixed with the soil, the Tomatos are not so liable to disease as when manures are used. *G. Wythes, Syon House, Brentford.*

SUTTON'S FORCING DWARF KIDNEY BEANS.

THIS is a valuable variety for early work, sown on the same day as Osborne's Early Forcing and Syon House, and treated alike. It was fit for table six days sooner than those. Being of short stature, it needs few, if any, supports; and for heavy cropping, and good table qualities, it is everything that could be wished. *R. Milner, Penrice Castle Gardens.*

NOTICES OF BOOKS.

A HANDBOOK OF THE DESTRUCTIVE INSECTS OF VICTORIA.

Under this title, Mr. French, the Government entomologist of Victoria, has published a very handy synopsis of the principal insects affecting fruit crops in general. The insects are described and figured, and the best methods of dealing with them pointed out. As is the case of the United States, the Australian colonies are much in advance of the old country in all such matters. The immobility and prejudice to be overcome here, familiar as they are, yet always excite astonishment when one sees what is done elsewhere.



FIG. 98.—CARPET BED IN BATTERSEA PARK.

like size which contains more charming variety of scenery and subject, and so admirably disposed as to prevent anything approaching crowding or incongruity of parts. Here are glades of tropical Ferns, the pots being buried under the green sod; there groups of Palms, in close proximity to which are a variety of sub-tropical plants occupying warm and sheltered nooks; while on the well-kept lawns, masses of colour and excellent examples of carpet-bedding abound, and every turn in the walks reveals some fresh object of interest; and bold and spacious belts of choice trees and shrubs bordered with foliage, and beds of flowering plants, edged with *Funkia grandiflora* and *F. marginata alba*, contribute not a little to the general effect.

Having given an outline of the bedding, &c., in Battersea Park, as seen the first week in September last, when it looked its best for the year, a few particulars as to the composition of a few of the most noteworthy beds may prove interesting to readers of the *Gardeners' Chronicle*, now, perhaps, exercising their minds as to the advisability of making a departure in the arrangements of their flower beds and borders for the summer and early autumn.

Among the several good examples of geometrical

large section. All the small (No. 3 size) diamonds were filled with *Sedum glaucum*, with lines of the last-mentioned *Echeveria* along the apex and down the sides midway. The scolloping in the space between diamond-shaped pieces and the two outer bands being composed of *Alternanthera amœna*, with "dot" plants of *Echeveria metallica*, &c., set therein at intervals of 20 inches, a 3-inch-wide band of *Pyrethrum* (Golden Feather) encircling the whole, with an outer edging 6 inches wide of *Antennaria tomentosa*. This simple, but nevertheless elegant, design, consisting, as it did, of a series of diamond-shaped hills and valleys, neatly executed, judiciously planted, and admirably kept, was very telling in effect.

In the sub-tropical department, circular beds having an outer edging of blue Lobelia, then a band of Golden *Spergula*, next *Echeveria tabuliformis*, followed by a band each of Creeds's Seedling (pink) Pelargonium, the centre being filled with a dark *Colens*, with "dot" plants of *Eucalyptus globulus*, had a good effect; as also had beds having a groundwork of blue *Ageratum*, and thinly planted with bronzy Castor-oils, *Abutilon Thomsonianum*, Golden Bronze Pelargonium, and *Echeveria glauca*, 8 inches

LES FLEURS À PARIS, CULTURE ET COMMERCE.
Par Philippe L. de Vilmorin. (Paris: Bail-
lière.)

We have already called attention to the publication of this work, but in justice, alike to our readers and to its author, we must now indicate more fully the nature of its contents than we were able to do at the time mentioned. In a short introduction, M. Henri de Vilmorin, the father of the author of the book, alludes to the great development of the trade in flowers, and consequent upon the increased fashion for these unrivalled adornments. Whence do all these flowers come? Who cultivates them? Who harks forward, receives, and distributes them? These and cognate questions are considered by M. Philippe de Vilmorin, acting as the deputy for his father, whose engagements prevented him from fulfilling the task himself.

In Paris, where the trade in flowers has attained such large dimensions, the want of a central flower-market, analogous to the Flower Market in Wellington Street, Covent Garden, is commented on. For lack of such a building, the market is held in a covered passage between the Rue Rambuteau and the Rue Berger. Here, beginning in the evening, and open to the icy winds, come first of all the railway waggons from the Southern Railway; these are followed by the local cultivators, who pay daily 30 to 40 centimes a square metre for their stand, according as it is under cover, or in the open. The accommodation is so inadequate, that in the winter the sellers suffer more than the plants, which are carefully protected by mats. The sales begin at 3 o'clock in the morning in summer, and at 4 a.m. in winter. M. de Vilmorin describes the work done by the several attendants—commission-agents, auctioneers, porters, &c.—at the market, and his account shows that, as with us, the middleman gets a share of the proceeds, which is disproportionately large.

At 9 o'clock in the morning the sales are finished, the "ambulants" ("costermongers") disperse in all directions, the growers sleep the sleep of the blessed under their green-covered carts, leaving their horses to find their way home, just as may be witnessed in any of the roads leading out of London. In addition to the great central wholesale market there are eleven separate flower-markets for retail purposes in different quarters of Paris. Many of our readers know how pictorial, but also how inconvenient, they are. Then there are the flower-shops, where the consummate taste of the artist may be witnessed in the making of bouquets and floral decorations. In the section relating to the sources whence all these come, the author draws a broad distinction between local products and those that come from the south. In the environs of Paris there are between 400 and 500 growers, devoting themselves to a few specialties, thus,—forced Roses are grown at Grenelle, Vauves, and Montrouge; Tulips and bulbous plants are grown at Montrouge; the Avenue de Chatillon has the monopoly for Orchids; Vauves and Grenelle supply Bouvardias; Charonne and the Boulevard d'Italie furnish Oranges; Picpus forced Mignonette and Wallflowers, and various suburban Communes each supply some specialty. This devotion to one or two specialties results in extraordinary perfection of cultivation, combined with the greatest economy of production.

As to the transport by rail from the Southern lines, this is described by M. de Vilmorin, who tells us that flowers gathered in the morning at Cannes or Nice, and sent off about 11 o'clock, arrive in Paris the next day at noon. The first part of M. de Vilmorin's book is full of interest to those who care to know how a great city is provisioned with flowers. The latter part of the book is devoted to the systematic description of the principal flowers, annuals, perennials, or bulbous, as well as stove plants, trees, and shrubs, that are used in gardens, and for decorative purposes. Indications for cultivation are also given. Of all this portion it is enough to say that it is the work of a de Vilmorin. More than 200 woodcuts illustrate the text, and render the book invaluable to the amateur.

PHILOSOPHICAL NOTES ON BOTANICAL SUBJECTS. By E. M. Bonavia, M.D. (Eyre & Spottiswoode.)

The author has not published his reflections for the reason so often assigned—that he has been induced to do so by his friends, but he tells us frankly that he has been so possessed of them, that it became necessary to give freedom to his soul, to take arms against a sea of troubles, and by making his woes public—end them. Let us hope that he has done so; and let us tender our sympathy the more sincerely, that we fear the author's method of presenting his subject, and his discursive rambling on things in general, will injure his book in the eyes of working naturalists, and lead them to grant it less attention than it really merits. The author is of opinion that unless botany be studied in an evolutionary sense, there can be but little interest in learning an infinite number of names as labels to certain forms of plants. Well, most people nowadays are of the same opinion. Dr. Bonavia's leading principle is that existing land plants are the modified descendants of plants lower down the scale, such as seaweeds. This is a speculation by no means peculiar to Dr. Bonavia. His critic, however, who asked him, "What is your authority for all this?" was quite justified. A speculation without a basis of fact to support it is worthless. Dr. Bonavia feels this, for he quotes with approbation Max Müller's dictum, wherein he says, "we must neither turn to the right nor to the left, but look at facts straight in the face to see whether they are facts or not, and if they are facts, to find out what they mean." In spite of this, the only answer he could give to his inquirer was "*l'autorité c'est moi*." We are not greatly surprised that another listener on a similar occasion "jumped off his chair in a fit of incredulity, took up his hat, and said 'Good-morning!'" The average Englishman, indeed, is greedy for facts. If he is not supplied with them, he asks for "authority," or he cuts short the discussion. The interpretation of facts, however, is every bit as important as the facts themselves. Unluckily, the average Englishman does not care so much for the interpretation, and is apt to run away when it is attempted. The mutual relation between fact and theory is, however, so intimate that no progress can be made where this is ignored. Under such circumstances we simply go round and round in the rut our forefathers made for us. Dr. Bonavia is not disposed to remain in the beaten tracks; he sees pastures ready for browsing beyond the limits of convention, and for our parts we sympathise with his wish to reach them. In addition to the supposed ascent of plants from aquatic forms of lower organisation, Dr. Bonavia attributes great importance to cross-fertilisation, to fusion, and to atrophy as factors in the modification of plants. When by fusion the author means in-separation from arrest of development, and when he speaks of atrophy as "modifying factors," it would seem to us that he is dealing with degeneration rather than with progress.

We cannot follow Dr. Bonavia through his book, as it deals with such a variety of matters of detail, the discussion of which would be tedious. Sometimes we sympathise, and then comes what we think a false note, and we mentally part company with the author, only to revert to his pages, for there is so much that interests the lover of plants, that whether the reader agrees or whether he disagrees with the author, he will be sure to obtain much information and some amusement from his pages. It must suffice to say that Dr. Bonavia deals in successive chapters with variation, natural selection, colour, evolution, the morphology of roots, stems, leaves, parts of the flower, hairs, glands, the genesis of the fibro-vascular system, the disc, the peel of the orange, and many other subjects. On these topics, Dr. Bonavia discourses pleasantly, but by no means in all cases convincingly. Critics with less highly-developed imaginative power see only analogies where the author contends for homologies, and some, whose endowments in the way of patience are not great, will repeat the performance of the one who

took up his hat, and said "good morning"—that is, if his impatience does not get the better of their politeness. Here, for instance, is a speculation, which we may express in the author's own words:—"Now bacteriologists have discovered spiral microbes, that is, cells, or strings of cells, which grow into a spiral. These can infiltrate themselves into the minutest tissue, or, at all events, their spores can do so. What wonder would it be, then, if the spiral vessels of plants owed their development to spiral microbes which gained admission into purely cellular plants as parasites, and occupied their intercellular spaces, thus becoming part and parcel of the cladophyll." It is such crude speculation as this that will, we fear, deter botanists from according to Dr. Bonavia such a patient hearing as on many other points he merits.

THE APODIDÆ: A MORPHOLOGICAL STUDY.
By H. M. Bernard. (Macmillan & Co.)

The main objects of this book is to ascertain the relationships between the Annelida and the Crustaceans, and by minute comparative study the author arrived at the conclusions that existing Crustaceans derived their origin from Annelids by successive modifications in the course of time; and, further, that the Trilobites and other archaic forms originated from the same source. The creature called *Apus* is then one of those missing links which were so mockingly called for in the early days of Darwinism, as if such links were not likely to be procurable. We now know that there is no lack of such intermediate forms, and according to Mr. Bernard the *Apus* is one of them. The mechanical causes of the transformation are also apparent. The Apodidæ, says our author, afford as the first complete illustration of the rise of one large animal class out of another by the simple and natural adaptation on the part of one single species of the latter to a new mode of life. It is not a new form, or one previously overlooked, that has been discovered, but a new explanation is afforded of one long known and often described; so far, this is more satisfactory than if the link had really been missing. There must be thousands of such links around us still, only awaiting the attention of our students. We cannot in these columns follow the author in the details he brings forward in support of his argument, but we can and do strongly commend his book to the consideration of philosophic naturalists.

CULTURAL NOTES.

BUSHY BALSAMS IN SMALL POTS.

THE most useful lot of Balsams I ever had were raised and grown as follows. Observing how very ornamental chance seedling Balsams often came in mixed flower borders and beds, and how vigorous and floriferous they came under such conditions, with fine foliage down to the ground, I sowed the plants on a warm border in the open the last week in May. So soon as large enough to handle, they were planted out 6 inches apart. There they made rapid progress, being of abnormal strength and breadth to the ratio of their height, and virtually feathered to the ground. So soon as the plants met, and began to show flower, they were potted up in 4-inch pots. They were potted so low, that the base leaves and branchlets rested on the soil. The pots and compost were taken to the plants, not the plants to the pots; this enabled the plants to be potted with a minimum of check or disturbance.

The compost used to fill in the small spaces, not filled with the small balls of roots and earth transferred from the borders to the pots, consisted of equal parts of one-year old cow-dung and leaf-soil, with a liberal dash of gritty silver-sand. One potsherd was placed over the hole at the bottom of the pot, and about three pieces of rough manure over the potsherd. To add to the food-supplies for the roots, the pots were heaped up with manure

and one inch bones. The plants were then placed for a few days in a close, cold pit, and the leaves sprinkled until the plants were established; they were then gradually inured to the air, and placed in a sunny, airy greenhouse. Occasionally, as the roots ran like thick threads of silver all over the surface, a few crumbs of cow-mauure were applied as a dressing; this was covered over with green moss and the plants were watered, twice, sometimes three times, a day, with a manorial stingo manufactured from cow-dung and soot, and soon the whole surface, moss and all, became a mass of root-fibres, and these latter produced such a profusion of flowers and branchlets, and of clean, healthy foliage, such as is seldom seen on Balsams in 8 or 10-inch pots.

For the many decorative purposes for which Balsams in pots are applicable, nothing can exceed in usefulness and beauty such stubby floriferous examples in 4-inch pots. I have also found plants similarly raised with stubby habits, most useful in Rose-beds and mixed beds and borders, throughout the late summer and autumn months. Where dinner-table decorative designs have to be changed daily, the flowers of fine Balsams placed on the cloth, in saucers, glass dishes, or shallow baskets, form a convenient and welcome change. *D. T. F.*

STREPTOSOLEN (BROWALLIA) JAMESONI.

The list of greenhouse plants that flower very early in the year is not an extensive one, but among them must be included the Streptosolen. I am very much surprised that it is not more frequently met with in collections of greenhouse plants, possessing, as it does, many desirable features. In the first place the pale yellow flowers, changing, as they do, to a deep orange-red, supply a colour but little represented among greenhouse plants at any time. The blooming season lasts for a long time, the flowers usually making their appearance in February, and continuing till the summer is well advanced. Grown in pots, it develops vigorously, and quickly forms neat compact specimens if stopped from time to time during the growing season. Careful attention must be exercised that the plants do not get pot-bound, for if starved in any way, a number of the leaves will fall. It is admirably adapted for training up pillars, &c., each branch bearing at its extremity dense clusters of from thirty to forty flowers, causing a very charming and effective display. A mixture of good fibry loam, leaf-soil, and a fair portion of silver-sand, with a little well-dried cow-mauure, forms a very suitable compost. Propagation may be effected by cuttings inserted in sand under a bell-glass. If propagated in May or June, capital plants for flowering the following spring may be obtained. *Geo. Parrant, Ashby St. Ledgers Lodge, near Rugby.*

TRILLIUM GRANDIFLORUM.

This is one of the choice things that is seldom seen in gardens, and yet in partial shade, and where there is good depth of light, leafy, or peaty soil, and no lack of moisture below, it is very easy to grow. In such a situation, the plant grows freely, and produces its snowy-white flowers numerously; but these should not be cut off, the loss of the foliage which goes with them greatly weakening the plant. The way to increase *Trillium grandiflorum* is by division of the root, just as growth commences, or when the leaves begin to change colour. *J. S.*

DORONICUMS.

Amongst the many good hardy perennials, the *Doronicums* take a high place as early-flowering plants, and clumps of them make a good show in the herbaceous border. The strongest species, *D. plantaginifolium*, is just the plant for the wild garden, and, it being robust and tenacious of life, it is able to hold its own in such a place, and so striking when in bloom as to compel admiration. Where cut flowers are required in large quantities, there is scarcely another plant that is more useful than this one, and of which a row should be planted in every garden for cut blooms, and thus save the clumps in the borders. Sunflowers of the kind referred to are general favourites, being effective when arranged

loosely in vases, where, if supplied with plenty of fresh water, and the ends of their stems are cut once or twice, they will last a long time in perfection. The *Doronicums* seed freely, and plants may be quickly raised in that way either by sowing under handlights in fine soil as soon as the seed is ripe, or by division of the roots, which may be effected at almost any season, but the best is in the early spring, when the plants are about to start into growth, when they may be dug up, and pulled apart; another good season is just as they go out of bloom, if dull or showery weather be chosen for the job. *J. Sheppard.*

THE APIARY.

SWARMING.

The season being so late, few swarms have been heard of as yet, and June will be on us before swarming becomes general. The most profitable way to treat a swarm is to return it to the hive from which it issued, after first taking out five or six of the frames containing brood and adhering bees, which place in a fresh hive. No queen cells must be left in the remaining combs, which should be alternated with frames containing worked-out comb, or whole sheets of foundation, before the

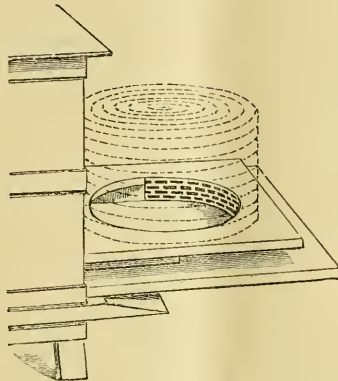


FIG. 99.—A NEW SELF-HIVER FOR BEES.

swarm is put back. Should increase of stocks be desired, the frames taken out of the old hive can be divided and made into two small colonies, or nuclei, as they are termed, taking care that each has a queen cell. These, soon having young queens, will build themselves up into quite good stocks by the end of the summer, especially if care is taken to keep them fed; dry Porto Rican sugar in a dummy feeder being the least trouble, and most stimulating. If increase is not wanted, the nucleus can be stood at the side of the old hive, to which it can be united in the autumn, first killing or otherwise disposing of the old queen.

SUPERING.

The coldness of the season is apparent, so far as honey is concerned. In none but very favoured districts at the time of writing has any surplus been secured from early fruit blossoms, such as Gooseberries. There are now, however, Apple, Pear, Hawthorn, Horse Chestnut, &c., and it is to be hoped that a spell of fine warm weather will come in time for the bees to take advantage of these. In working hives for extracted honey, it is a great advantage to the bees to provide them with worked-out combs in the super in preference to foundation, as they take to it quickly, and it also saves them a lot of time and labour, which might be more profitably employed. It is likewise always

advisable to place two or three sections containing worked-out comb in the centre of the first section crate that is put on, as it is an inducement to commence work therein more quickly.

TWO QUEENS IN ONE HIVE.

As sure as "there is nothing new under the sun," so it is with this idea, for bee-keepers are now coming forward who have previously tried experiments in the same direction. One states that he worked a hive on this principle five years ago, and never before or since had such slabs of comb perfectly filled and sealed. Another says that he tried it sixteen years ago, and abandoned it owing to the swarming difficulty, as when one half of the hive swarmed, the other followed suit.

A NEW SELF-HIVER FOR BEES.

Our illustration (fig. 99) shows a new apparatus for automatically having swarms. It consists of two boards about 18 inches square, in the upper of which is a round hole 12 inches in diameter. The two boards are spaced about an inch apart, so as to make a passage, one end of which is covered with queen-excluding zinc, the other being placed at the entrance to the hive. It is put in position a few days before a swarm is expected to issue, and when that takes place the worker-bees go out and cluster, but when they find that the queen does not join them they go back, and finding her in the straw skep placed over the hole in the upper board, which she ascends in her efforts to get out, remain there, and can be taken away and hived where required. It may be mentioned that the straw skep should have a hole in the top covered with perforated zinc. *Expert.*

FLORISTS' FLOWERS.

POMPON DAHLIAS.

As the season is now approaching when those who have gardens are looking around to see what flowers are worth cultivating, perhaps it would not be out of place to call the attention of those who have the necessary space to try some Pompon Dahlias, which, from the beginning of August until the frost comes, will afford a quantity of very useful and beautiful flowers of varied colours. There is no doubt they have greatly improved in habit and in colour since the National Dahlia and other societies began to offer prizes for them, for but a few years since, it was a matter of some difficulty to find a sufficient number of small-flowering varieties to make up a stand of twenty-four Pompons without the addition of some that would have been more properly classed with the bedding varieties, a class of Dahlias no longer so much required since the Pompons and Cactus section have become so popular. Where a constant supply of cut flowers during the autumn months is required, there is no flower that will furnish a greater abundance than these, and as they require nothing but ordinary care in their cultivation, they are the more likely to give satisfaction. Young plants should be obtained this month; these can either be sent by Parcel Post without pots or soil, or by rail if preferred in the pots they have grown in, or they can be turned out of pots and rolled in paper—a less expensive method. On arrival the sooner they are unpacked the better, when they should be kept shaded for a short time until they are recovered from the effects of the journey, which will be in a day or two, and as it is not safe to plant them out until the first week in June—a shift into a 5 or 6-inch pot will greatly help them. They should be kept close for a few days until they are rooted into the new soil, when they should be gradually hardened off, and, if the weather is favourable, they should stand in the open, day and night, for a few days before being planted out. As Dahlias delight in a rich soil, the ground should be well manured, and they should be planted about 3 or 4 feet from each other, and from 5 to 6 feet between each row, which will afford room to get amongst them during wet weather. During wet or showery weather, a slight

dusting of quicklime will destroy any slugs that are proving troublesome. After they are planted, they should be stacked and securely labelled; and after a rain, a good mulching will help to keep them moist. After the frost has cut them down, they should be taken up and put in a dry place secure from frost, and if plunged in rather dry cocoa-nut fibre or similar material, they will be found to keep all the better. *G. Barnes, The Park, Salisbury.*

[Our correspondent sent a list of varieties, but our readers will find the names of the best of these in any good florist's list. Ed.]

THE WESTERN CAUCASUS AND ITS FLORA.

(Concluded from p. 388.)

HAVING become acquainted with the climate and the character of the wild vegetation of Asia, we may say, *a priori*, that here horticulture ought to flourish. Indeed, Abasia presents to the eye of the traveller a true garden. Rambling about the country, he sees everywhere numberless fruit trees growing singly along plains and hills or in large groups. Everywhere Walnuts lift up their large shadowy crowns, and the Vine twines around trees. But it would be very erroneous to think that rational horticulture could be highly developed in the country. The lazy and careless Abasians are quite satisfied with what they have inherited from their fathers, and do not care a whit about the amelioration of their gardens. The consequence is that the trees grow without any order; wherever, indeed, the stone of a fruit happens to have been thrown, very often in company with common forest trees, as Chestnut, Alder, Hornbeam. This makes an Abasian fruit garden very much like a forest; the resemblance is all the more striking, as the latter sometimes (viz., in lower zones) contains a large proportion of the same fruit trees. The favourite kinds of fruit in Abasia are, various sorts of Apples, Pears, Peaches, Plums, Figs (*Ficus carica*), Khurmah (*Diospyros Lotus*), the two latter being rather forest trees than garden ones. All fruit is gathered in the most barbarous manner, namely, by breaking off the boughs, and is usually eaten in an immature state, the ripe fruit being considered by the natives as good for nothing. The Vine is very largely cultivated in the country, the Abasians being very fond of good wine. Till lately, very many sorts of Vine were in culture which produced excellent wines, having much strength and flavour, and tasting like the best wines of Bordeaux and Malaga; but after the final conquest of the country by the Russians, and consequent emigration of the greater part of the natives to Turkey, Vine culture, as likewise many other branches of horticulture, have been somewhat abandoned. Among the various sorts of Vine must be mentioned a curious early sort, which flowers in February or in the beginning of March, and ripens in the month of May. Everywhere in Abasia common Cotton (*Gossypium herbaceum*) is cultivated; this is a substitute for Flax in Abasian households. Among the kitchen garden plants worthy of remark is a peculiar sort of twining Cucumber, with very long fruit, which is usually allowed to grow along hedges.

Such is a picture of indigenous horticulture. As each will readily conceive, the state of it leaves much to be desired. So much more striking, when compared with it, is the success of horticulture in Sookhoom-kaleh, the principal town of the province. After the conquest of the country, many intelligent Russian people settled here. Under their hands horticulture in a short time made such progress, that the gardens of Sookhoom-kaleh must be considered now as the foremost in Russia, and may be compared with the best gardens of Southern Europe. The horticulturists of Sookhoom, being for the most part very rich men, spare neither efforts nor money in order to collect in their gardens the best specimens of decorative and fruit trees. Some of them particularly attend to the acclimatisation of various exotic plants, whilst others devote themselves to the organisation of excellent orchards. The very mild

climate of the country greatly favours the acclimatisation of many subtropical, and even tropical, plants in the gardens. The numerous representatives of the subtropical zone, viz., *Eucalyptus globulus*, *Albizia julibrissin*, *Catalpa syringifolia*, *Paulownia*, *Melia*, &c., may be seen everywhere along the streets of the town, where they form beautiful walks. Almost every garden of the town is adorned by stately shrubs of *Oleander*, *Hibiscus syriacus*, and *Lagerstromia indica*, richly covered with purple showy flowers, as well as by beautiful specimens of *Yucca*, *Agave*, *Myrtle*, *Tea-plant*, and *Opuntia*. In the magnificent garden of Mr. Voedenky one may admire some excellent *Camellias*, *Magnolias*, *Pittosporums*, *Sterculias*, as well as the richest collection of tropical Conifers (various *Cupressines*, *Araucarias*, *Podocarpus*, &c.).

Mr. Tatarinoff may well be proud of the great number and variety of acclimatised Palms (about fifty species), *Mueas*, *Bromelias*, *Cactus*, and other plants peculiar to tropical climates. (All the plants just mentioned successfully winter in the open ground without any sort of shelter. The best of all grow in the gardens of Sookhoom, the plants of Japan, Northern America, and Australia. Among them, *Eriobotrya japonica* has become the most favourite fruit tree of the country. The growth of *Camellias*, *Tea-plant*, and *Bamboo* leaves nothing to be desired. The American *Magnolias* and *Liriodendrons* are very common trees, occurring in every garden of the town. As for the representatives of Australian flora, they may be said to have found here a native country. Besides many sorts of *Eucalyptus*, in the gardens of Messrs. Voedenky and Tatarinoff, there grow in the greatest luxuriance Australian *Acacias*, *Casuarinas*, *Proteaceae*, *Metrosideros*, New Zealand *Flax* (*Phormium tenax*), the *Grass-tree* (*Xanthorrhoea hastilis*), &c. (All these plants yield ripe fruit each year.) In many gardens there are also little plantations of *Olive*, *Orange*, and *Lemon* trees. As for the two latter, they do not here yield any considerable profit, for they rarely exceed the size of a shrub, which produces only 600 to 800 fruit under the most favourable circumstances. *N. Aboff, University, Odessa.*

OUTDOOR MUSHROOMS.

FULLY half a mile, if the Mushroom-beds were all put end to end, is Mr. Warren's estimate of the length of his beds at Isleworth. It would seem almost as if this was rather an under-estimate, judging by the immense number of them of various lengths, covering fully 2 acres of ground. Although there is much diversity as to length, there is none whatever in regard to shape, or height, or breadth. The average breadth at the base seems to be about $3\frac{1}{2}$ feet, height about the same, and tapering up to a top breadth of about 20 inches. That just represents the average dimensions of market-garden Mushroom-beds outdoors, when they have fairly settled down. A good deal of fuss is often made as to the ability shown in getting a very good crop of Mushrooms in proper sheds, cellars, or houses. There is very much more of ability, as well as practical knowledge, required to grow crops in a profitable way out-of-doors, especially during hard winter weather. The earliest of Mr. Warren's beds were made up last October, and as under such conditions spawn does not move too freely, it is not a matter for surprise that the first week in January was reached before any Mushrooms were gathered. That first picking gave just 91 lb. When I was there to see the beds on February 25, the gathering reached the huge total of 661 lb., and gatherings went on from January twice and thrice a week, so that the entire produce from this half a mile of beds is during the season enormous. As to how many tons of stable-manure are employed in making the beds, how many loads of meadow-loam to surface them, or how many wagon-loads of long litter employed to cover them up some 15 inches thick all over, it is not possible to learn. But it is certain that fully 500

bushels of spawn are used, and this, too, fairly liberally, as the cakes are broken into pieces of six each, and are pressed into the manure at about 6 inches apart all over the surface. Only one firm of spawn makers is patronised, because their manufacture has ever proved to be fully reliable. The loam is obtained from a neighbouring meadow, and its place supplied by other soil as needed. To have plenty of manure for a good start in October, it is needful to begin collecting very early, and have huge heaps from which to draw the necessary supplies but the contiguity to London renders securing an abundance of manure, both for beds and covering, comparatively easy. The earliest beds will soon be done with, whilst the later ones will continue to supply Mushrooms up to the end of June. Later, they are apt to become infested with insects, and it is well to finish cutting in good time. The Mushrooms are all gathered into half-bushel baskets, taken into a big shed, and there trimmed and sorted by women, whilst men weigh and pack them. The cups, or half expanded ones, and the buttons, being all neatly tied up with blue paper in punnets, each of which holds 1 lb., whilst the larger ones are put into half sieves lined with blue paper, and so sent to market. It need hardly be said that the total produce of this half a mile of Mushroom beds is very heavy, and it would be exceedingly interesting to learn how much is the total for the season. Mushrooms so grown are invariably heavier than are those grown in sheds or houses. Mushroom beds do not present very nutritive matter for other crops, the fertility of the materials having been largely exhausted. Mr. Warren has very little of open land, as his ground is nearly all under fruit, especially Plums. Beneath these and old Apple and Pear trees, there are grown extensive breadths of the Grove End Scarlet Strawberry, and the Mushroom beds are largely used to dress these beds or rows of Strawberries after the fruit has been gathered. The course of culture is an odd one. Plants are put out into rows 3 feet apart. The dressing given encourages the free rooting and strong growth of runners. When the original plants have fruited, they are dug in, the runners on either side being saved for fruiting the following year; then the next season these are dug in, and their runners are saved, so that the plants practically are treated as annuals, the liberal dressings of the manure serving admirably to keep the rows in constant growth and fruiting for many years.

Where ordinary varieties of Strawberries will not thrive because of too dense tree growth above, the Grove End Scarlet will do so for many years, and it would seem as if, in these preserving days, there was hardly any limit to the demand for the fruit. The large quantity of litter required for the covering up of the Mushroom-beds naturally becomes half-decayed by the time it is no longer required, and it is then found to be of admirable service in smothering perennial weeds wherever they present themselves, as they will from year to year under the trees Should a patch of under-fruits become foul, they are grubbed out, and the entire piece in the spring smothered fully 9 inches thick with the Mushroom litter. The result is, that top growth is impossible, and the roots in consequence die. This top-dressing is forked in deeply during the winter, and more Strawberries or double white Narcissi or Wall-flowers are planted. It is not to be wondered at, that whilst Apples and Pears seem to have exhausted the soil of their natural requirements, Plums thrive and bloom luxuriantly, the trees this season being literally garlands of snowy whiteness. *A. D.*

SPRING GROVE HOUSE, ISLEWORTH.

This place is of supreme interest to those horticulturally inclined, as it was once the residence of Sir Joseph Banks; indeed, we are at once reminded of this eminent man by a glance at the gardener's cottage, on which is growing the original Banksian Rose introduced to this country by Sir Joseph.

Great alterations and improvements have been

effected in the grounds here since its present owner, Andrew Pears, Esq. (of Pears' soap fame), came into possession, a few years ago, rendering it a pleasant and picturesque rural retreat.

In the plant houses, which are well furnished, containing many examples of cultural skill, we noticed amongst others, fine specimens of *Alocasia metallica*, *Anthurium crystallinum*, and *Maranta zebra*. *Spiraea astilboides* is especially well-flowered here. A noble specimen, in flower, of *Anthurium Scherzerianum* var. *Wardianum* attracts attention by its being stated to be the parent plant of this fine variety. Some fine *Trea* Ferns, which Mr. Pears brought direct from Australia, impart a tropical effect to the structure in which they are located, associated as they are, with grand examples of Palms. A look into the Tomato and Melon-house afforded an interesting note; seed of Hackwood Park, Perfection, and Conference were all sown together in January last. Conference is by far the earliest variety, indeed some of the fruits are now colouring; the two others are not near this stage. This experiment has induced Mr. Debnam, the gardener, in the future to grow Conference largely as an early variety. It should be mentioned that the plants are subjected to the same temperature as Melons, in which house they are growing. Early Melons are made a feature of, and fruit will be ready shortly. A seedling between Hero of Lockinge and Scarlet Premier is grown which will doubtless be heard of later in the season. Bean Ne Plus Ultra is the favourite here for forcing purposes. Forcing Strawberries are represented by Vicomtesse Héricart du Thury and President, the first fruit being cut a month ago. A house of Black Hamburg Grapes is colouring well; some of the bunches, indeed, being of exhibition size. The Vines are thirty years old. A new range of late vineries, 90 feet in length, will shortly be erected. Early Louise Peach sets well, but its cropping capabilities are not good. The favourite Peaches are Dr. Hogg and Royal George, and both have a fine show of fruit. An orchard-house, some 240 feet in length, has Plums and Cherries trained as cordons to hang under the roof. Some trees of Pear Benrê Diel look well, as do the Apple trees in the same structure.

In the outside department the hardy fruit promises well, there being a good set. Cherries on walls also promise good results. Some rockeries have been formed under some grand old Elms, which it is intended to plant with British Ferns. An avenue of the double-flowered Cherry will be an attractive feature when in flower. The roseery, planted eighteen months ago, is now beginning to be established. It is pleasing to find that herbaceous plants are well cared for here, the various borders planted with them occupying about two-thirds of a mile. In what is called the Elizabethan garden a series of beds have been made, which will be filled with suitable plants as the season advances.

Hereabouts is of royal interest, for the story runs that one of the Georges died in "The Temple" which looks out on the Elizabethan garden.

A truly venerable Cedar in front of the mansion is of special interest to lovers of fine trees. A model farm, which is in course of formation, attests to the completeness of the improvements at Spring Grove House; whilst mention must be made of the care that has been taken by Mr. Pears for the comfort of the men employed who are resident on the place, the keep of which reflects great credit on Mr. Debnam. J. B.

THE ROSEERY.

NEW FRENCH ROSES.

THERE cannot be a more striking evidence of the change that has come over English Rose-growers with regard to the new Roses raised annually in France than the fact, that up to the present date (May 11) there has not been a single notice in any of our gardening papers of the novelties (?) announced

by French raisers for the autumn of 1891. I remember well with what feverish anxiety these lists used to be looked for in former years—how every scrap of news relative to them was eagerly welcomed, and he was considered an enviable person who had seen any of them, and could tell the world what he thought of them. But "nous avons changé tout cela," may be retorted of our neighbours, and we wait with the most stoical indifference for all their grand comments and plentiful supply of laudatory assertions which they heap on their new productions. The reasons for this change are not difficult to discover.

There is the old adage, that "A burnt child dreads the fire," which may to a great extent explain the matter. Roses have come from France, and home growers have hoped continually that the high-sounding appellations and grand descriptions given from year to year might in some cases tell the truth. Each year some sixty or seventy Roses have been brought out by the French raisers, and yet of the three or four hundred thus distributed during the last six years, I doubt very much whether there is a dozen which will bear the test of experience, and remain in our catalogue of exhibition Roses. In the year 1884, the National Rose Society published its catalogue of exhibition Roses; and in 1888 a supplement was published for the purpose of adding such Roses as, between those two periods (four years), might be considered worthy of the honour. Now, in that period there were but two hybrid perpetuals of French origin admitted into the catalogue, Madame Hériot Pereira and Madame Joseph Desbois, and I do not consider either of these first-rate Roses; while amongst the H.P.'s, one Rose of 1884 must be added, Victor Hugo. In the same period, two really valuable Tea Roses, Ernest Metz and Madame Hoste, have been added to our list, both from Gailliot; and this is surely a beggarly dish to set before the hungry devourers of novelties. Is it any wonder, then, with such facts as these before them, that English growers for sale should be very shy of the bait thrown to them? Of course, it is very nice to get 25 francs for a new Rose, and the raisers are so far apart that there is some excuse for this, in that they do not see one another's productions, and there are no such Rose shows abroad as are so frequent with us in England.

Then, again, the conviction has forced itself on many lovers of the Rose that we have pretty well reached as far as we are likely to do; it is true we should like to see a yellow hybrid perpetual of the same colour as *Maréchal Niel*, or a white one of the form of *A. K. Williams*; but as far as red and rose-coloured Roses are concerned, late years have not added much to them. Is there, for instance, any Rose of that colour that has been raised of recent years we should like to substitute for *Marie Baumann* or *Alfred Colomb*? What dark crimson would we prefer to *Camille de Rohan*? What Tea of recent years can surpass *Souvenir d'Elise*, or *Anna Olivier*, or *Catherine Mermet*? Yet the first of these has been nearly forty years in cultivation; the second, thirty; and the third, twenty-two years; and as yet they will hold their own against all comers. Then *Niphetos* has a record of nearly half a century, and many of our best Roses have almost similar records. There may be unlooked-for varieties to come, but I very much question whether, as in the case of the *Pelargonium*, the *Dahlia*, and other florists' flowers, we have not reached a point of perfection which it will be difficult to surpass. I know the same has been held with regard to other florists' flowers. Raisers have named their seedlings after their wives or daughters, thinking they were doing them great honour, and yet in a few years they have almost passed out of the lists, and been fairly outstripped by better sorts. It may be so with the Rose, but I do not think it, and it is this feeling which has led most of our rosarians to look with composure on the lists of new sorts.

Then, there is a third reason, and that is, that we are raising in these islands varieties which are quite equal to the French sorts, and which we have the opportunity of examining. During the same years that the French raisers have been pouring in their treasures, the English and Irish raisers have added

of really good flowers quite as many to our lists, and they are willing to bring their flowers to the most exacting tests; and we may safely say that in Earl of Dufferin, Lady Helen Stewart, Her Majesty, and Mrs. John Laing, we have four Roses equal—nay, superior to any that we have received from abroad during the same period; while amongst Teas, I think that Miss Ethel Brownlow is quite as good as either Ernest Metz or Madame Hoste of the same period.

And now, what have the French growers done for us this year? I have received, through the courtesy of Messrs. Ketton Frères, of Luxembourg, their list of forthcoming novelties, and I find, besides certain miscellaneous Roses, including a few English ones, there are thirty-eight Teas, eight hybrid Teas, and twenty hybrid perpetuals, and even then I do not think that the list can be exhausted. I do not see in it the names of either Nabonnaud or Eugène Verdier, but I do not think that they have given up the sending out of new flowers. As I have said, I have not seen their lists, and they are not included in those of either Ketton, or Souperet and Notting. The French have always been noted for their profuse descriptions, describing even the colour of the foliage, and thorns, and wood, and also for the names they have given to their Roses; but they have now surpassed themselves, for they give us a little history of the persons after whom the flowers are named—and as for names, here are a couple taken out of this year's list, "Grande Duchesse L'héritière Hilda de Bade," "Grand Duc L'héritier Guillaume de Luxembourg." "What can English gardeners make of such names? Many of the names of the raisers are comparatively unknown, so that trying to note what may be good is almost like dipping one's hand into a "lucky bag." There are, however, a few which bid fair from the names of their raisers and their descriptions to attract some attention, thus *Germaine de Mareste* (Tea), raised by that most successful raiser of Tea Roses, Gailliot, may be looked upon as promising. This raiser rarely sends out a bad Rose, and many of our very best exhibition Teas have come from him; but I fear it will be only a reproduction of *Madame Berard*, from which it is said to originate. Then there is *Generale Gonzou* (Widow Schwartz), which is said to be a seedling from *Beauté de l'Europe*, and so another of the Dijon race of rampant Tea or Noisette Roses. The Henry M. Stanley (Dingé et Conard), is said to be the issue of *Madame Lambert* and *Comtesse Riza du Parc*, both strong growers, said to be clear rose sometimes shaded with salmon; then we have a pink *Perle des Jardins*, which I should not regard in colour as an improvement on the older flower.

Amongst hybrid perpetuals, we have from *Madame Schwartz*, *De Morand*, which is described as a bright cherry-red shaded with purple, always a doubtful ingredient in a Rose of that colour, as it is apt to shade off to magenta. *Levêque* has *Belle Iryenne*, which he describes as a brilliant rose-red, shaded with white and carmine, a description which puzzles one's conception as to what the Rose really is. But after all it does not much signify, for it is hopeless to think of finding out the real character of the Roses announced. We may see them exhibited, and so be able to judge for ourselves. *Nous verrons. Wild Rose.*

NURSERY GARDENING, NOW AND THEN.

HAVING had occasion to visit the leading London nurseries, after an absence of upwards of a quarter of a century, I felt at the moment a very "Rip Van Winkle." Everything had so changed, not only names and neighbourhoods, but the nurseries themselves.

In many cases the ground had been built over, and the "old established" had not even left a rag of tradition behind. The prosperous neighbours, even "the pubs," knew them not; while those that survived had changed the entire character of their stock, and what were famous for, or had made a *specialité* of, was now simply ignored or neglected.

Others, wiser in their generation, had "gone with the times," but finding their old-fashioned houses not

adapted to grow "market stuff," had submitted with a wry face to patronise "those market fellows," whom in their palmy days they had simply ignored. We thus had in one of the very exclusive establishments in the north of London, a grand show-house, still rich in new, scarce, and well-done plants—a front bench filled with Mignonette, Genistas, early Pelargoniums, and Rhodanthe, flanked by "choice bits" in Palms, Crotons, and Dracaenas, while the beautiful but now neglected New Holland plants were but represented by a few solitary specimens, scattered among the crowd.

Oh, shade of Mrs. Lawrence! what must you think if you visit the scenes of your former triumphs, or the nurseries where you were always a most welcome visitor; where are your perfect yet monster specimen Pimeles, Aphelexis, Chorozeas? where your *Leschenaultias*, especially the lovely blue biloba? where your fragrant *Adenandras*? Where are your grand specimens (now degraded to pieces) of stove plants and Orchids, that used to be the glory of Chiswick and the Botanic, when royalty patronised such things, and Hurlingham was not so much as thought of? A gardener who could do such things well, was then a rare find, but now like the great auk's egg, rare and above price—in fact almost extinct. Alas! we are now content with foliage plants, got up in a season; or worse still, bought as half-specimens of the florists, and pushed on for the shows, the only art being heat and moisture, with judicious—often injudicious shade.

But enough of retrospect, and sighing over the past; for the present I must admit, has its great compensations, in many grand novelties in all classes of plants, many due, as of old, to the painstaking and successful ardour of collectors, and others to the careful and scientific work of the hybridist.

Among the former I place that unique Protead, *Grevillea Manglesii*, with its pretty Fern-like foliage and fringe-like white flowers, admirably adapted for suspended baskets, or to grow *au naturel* in the winter garden. Surpassing the old *Spiraea* (now *Hoteia japonica*), we have the two Japanese *Astilbes*, *A. astilboides* and *A. Thunbergii*, with their curiously erect, and angularly-branched inflorescence; both are easily forced, and will in time take the place of *Spiraea*. How popular and common too are Palms, due in a great measure I think to our gardening intercourse with Belgium and the Continent. When I was a boy, one heard of the Palm-house at Kew, and saw a few of the commoner and hardier kinds about, but now they are as plentiful in the market as Ferns were then, and are highly appreciated by an educated public.

Among new Palms, Phoenix Röbelini runs *Cocos Weddelliana* close in grace and elegance, and is doubtless more hardy, while some of the new *Arecas* and *Dæmonorops* are lovely in a small state.

Journeying south, the unique establishments at Chelsea claim careful attention, but so numerous are the gems there that I must merely give a list:—*Anthurium Rothschildianum*, *A. Scherzerianum* × *Williamsii*, with a large spathe, creamy-white, splashed scarlet; *Asparagus retrofractus* arboreus, a robust-growing form, with very light feathery foliage, which is most gracefully pendulous; a new *Epiphyllum*—*E. Russelianum* Gertneri, demands attention, its intense scarlet flowers glowing like a danger-signal among its leaf-like branches; the flower, too, has the form and appearance of a *Cereus* (Cactus).

Among many new Aroids, a fresh break of dwarf *Caladiums* will find much favour with decorators, the most striking among which must be named *Souvenir de Paro*, which was awarded a First-class Certificate at the Drill Hall on May 3 last.

And now for the hybrid *Streptocarpus*. I only remember uniform and *Rhexis*, which are associated in my memories of the past as being among the first plants I propagated from leaves; but now Messrs. Veitch & Son have a wonderful batch of hybrids, of very free flowering habit, varying in colour from white, through all shades of pale lilac and mauve to dark violet, and one with a decided sug-

gestion of red. These, too, make flowering plants the second season after the seed is sown, some even flowering the first year.

Orchids are above my flight, but I could but note the greatly improved forms of *Odontoglossum crispum* or *Alexandria* among other cool subjects at the Exotic Nursery, while the hybrid *Cypripediums* were legion. How widely some depart from the well-known old species, such as *insigne*, *Lawrenceanum*, and *barbatum*, and how much more interesting in colour and form—one London firm alone growing upwards of 150 species and varieties.

Foliage plants have made great advances in variety and beauty, thanks to Mr. Bause and our Continental friends, but I have only space to name two—*Aglaonema costatum*, a new Aroid from South America; and a very distinct *Bromeliad*, *Tillandsia Massangana* *superba*. And passing through the cool-house before venturing into the cold north-east wind, I can but stay to admire the new *Cytisus scoparius Andreanus* that caused such a sensation at the Paris Exposition, and must be the proverbial new broom that is said to sweep clean; at any rate, a great advance on this useful class of hardy shrubs.

How unique in colour, too, are the Chinese *Pæonies* and *Cherries*, so easily forced, and associated with other subjects, as the *Eulalia japonica*, and such elegant and graceful *Reeds*, give a character to our spring stages that in the past they greatly lacked. *Senec.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By H. WYTHES, Gardener, Syon House, Brentford.

GENERAL WORK.—The hoe will require to be kept going on all kinds of soils, to prevent the growth of weeds. The thinning of the Onions, Carrots, Turnips, &c., should obtain attention, and if the hoe is kept going close up to the rows, the thinning will be much easier performed. Crops intended for early consumption will not require so much thinning as others. Asparagus, when grown from seed, is often left too thick; this should receive attention. The older beds should be dressed with agricultural salt or fish-manure in showery weather; the latter manure is excellent for this vegetable. The early-planted *Scakale* will now be pushing above-ground, and no time should be lost in removing all the growths but one, and dressing the ground as advised for Asparagus.

Leeks sown in heat should be transplanted into trenches having plenty of rotted manure at the bottom, and watered freely in dry weather. As a variety for early use, I do not think that the Lyons Leek can be beaten. The early-sown Cabbager, Broccolis, and Cauliflowers will be ready to transplant to their permanent quarters, care being taken to get as much soil to adhere to the roots as possible, and doing the planting with a trowel. Now, is often a critical time with the Onion crop, as often after the thinning the fly attacks the growth. As a remedy, it is best to encourage growth to the full extent, and dress the beds with fish-manure or guano. Soot is also of use, and all or any of these should be applied in a dry state in showery weather, or be followed with a watering. There are some substances equally as effective as sulphate of potassium, but these require more care in the quantities used and the methods of application, whilst manures, such as fish manure, feed the plants as well as prevent an attack.

BRUSSELS SPROUTS.—Those raised in heat will be ready to transplant into their quarters, which should be done after the manner of Cauliflowers. The Aigburth Sprouts should not be planted at less distance apart in the rows than 3 feet, the dwarfier kinds being put closer. Paris Market is an excellent early Sprout, more to be trusted than the imported, and it has a very firm, not too large Sprout.

LETTUCE.—To keep up a supply, seeds must be sown at intervals of three weeks, putting the seed in drills thinly, which saves transplanting them. It is advisable after this date to sow on a north border for a time, so as to prolong the season for Lettuce, and there the plants do better and come succulent. Summer Lettuce should always be sown in highly manured ground.

PARSLEY.—Sow now thinly for autumn use on fresh ground, dressing it with soot before making the sowing; and as a manure for Parsley, wood ashes and manure garden refuse is preferable to any kind of rank manure. The earlier-sown plants should be thinned, and a dressing of soot afforded in showery weather.

VEGETABLE MARROWS.—Plant out Marrows in warm and sheltered quarters, and screen them from the sun and cold for a short time afterwards. Either plant on disused hot-beds, or failing these a place on a south border will do, if a hole be dug to hold two or three barrowloads of warm dung and leaves. The old-fashioned mound is all very well in cold soils, but I find it best to plant on the level, the manure being kept warm for a longer period, and the roots suffer less in dry weather. The shoots of plants in frames should be stopped to induce an early set of fruit.

OPEN-AIR CUCUMBERS.—These, if raised in pots, should now be planted out, and as there are usually some spare frames to be had at this season, these should be utilised. Stockwood Long Ridge is still the best out-of-door variety, being very prolific, and having good long fruits. Sow the seeds in the frames if a suitable amount of heat is still to be found in the bed, or, if the heat is low, mix some fresh material with the old to give the plants a start, and let the soil get warm before sowing. Sow the seeds three in a patch, 3 feet apart, and thin out the weaker ones when they are a few inches high. See that no snails and slugs hide in the soil, as they are very troublesome. When Cucumbers are grown on ridges of warm litter, under hand-lights, the mode of sowing is as described above.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, Gardener, Mere worth Castle, Maidstone.

JUDGING from the marvellous wealth of blossom on Apples, we may surely hope to have a very heavy crop in this part of the country, and from information received, the promise seems to be equally good throughout Kent. What we now stand in need of most, are heavy rains, which would cleanse the foliage, and warm nights to hasten growth, otherwise the maggot will severely injure both flowers and leaves. [It is then that the spraying solution should be employed. En.]

Pears flowered irregularly, some varieties having a fairly good sprinkling of fruit, whilst others set but few, so that the crop will not be a plentiful one, with the exception of some of those which did not fruit last year.

Cherries, notwithstanding the late frosts, present a brighter prospect now than earlier, and those trees whose flowers were not fully expanded at the time of the severe frosts, will yield a fine lot of fruit. Standard Cherries hereabouts are full of promise.

Of bush fruits, Gooseberries show fairly good crops in some gardens; but Currants, both black and red, are very thin.

The Strawberry crop, judging from the strength and quantity of the bloom, will be one of the heaviest that we have had for some years; but rain is now badly needed, and in its absence artificial watering will have to be done ere the plants suffer, and become infested with red-spider and mildew.

ORCHARDS.—Young trees, late planted, and secured temporarily to take to prevent injury from wind-waving, should now be examined, and the fastenings renewed, should the soil have settled much. These trees must be watered forthwith if no rain has fallen recently, or growth will be poor. The watering must be thoroughly done, remembering that one good watering of the soil is of more use than a dozen dribbles. Those trees which were planted last October will be in full leaf, and should have all blooms that may have opened removed, with the exception of a few, which may be allowed to set, the fruits being reduced to two or three at a later date. Keep the grass closely grazed by stock in all orchards under grass, the laying down of orchards for hay being ruinous to the fruit trees. Some means must be adopted to protect the latter from being barked by the animals put into the orchard to feed.

Cuttings of bush fruits should be watered, and the soil trodden firmly afterwards, passing the Dutch-hoe between the rows to destroy weeds and fill up the cracks caused by the drought. Seedling Crab stocks, also the Paradise from cuttings, may be grown for grafting or budding purposes; these will always be found useful. Plum, Cherry, and Quince stocks, should always find a place in a good fruit-garden.

GRAFTS should be examined at short intervals, and the cracked clay coverings filled up by smearing them with thin slip or puddle. Large trees which may have been headed back and grafted last year, should have their stems kept clear of young shoots, but any trees grafted this year should be left alone; see that grafts are made secure against wind.

VINES on open walls may be disbudded, and when fruit shows, the bearing-shoot should be stopped at one or two leaves above the bunch. Attend to keeping the shoots thinly distributed, overcrowding always leading to the ill-ripening of the wood, and do not let them grow into a thicket before taking them in hand. Pinch back the laterals to one leaf.

GOOSEBERRIES.—Where fine dessert fruit is required, the bushes should be mulched with long litter for the purpose of keeping the fruits clean, and these bushes should always be kept apart from those whose fruits will be used in the green state, the bushes with ripe fruit being more readily protected with nets. For the caterpillar, dust with Hellebore powder, but this should be thoroughly washed off the berries before they are used.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Castle Howard, York.*

PEACHES AND NECTARINES.—Trees in late houses should now have their final thinning, selecting those fruits to remain which grow on the sunny sides of the shoots whenever possible, as fruits in this position colour higher than the less-exposed ones, or those that are merely exposed to the sun from the time they commence to ripen. Stop all useless shoots, and get others into their proper places. Very strong shoots may be stopped; this will equalise the general growth of the trees, and the second breaks may be laid in to fill up vacant spaces. Old trees in partially worn out borders are benefited by a liberal top-dressing with some one of the many manures now obtainable, washing the manure into the soil at any time when the border needs watering. I have found both superphosphate of lime and kainit valuable in Peach and Nectarine houses, the former especially, when the borders contain a large percentage of lime. Peaches and Nectarines whose fruits are stoning should not be subjected to a high temperature until this stage is passed, and due care must be bestowed in the way of regulating the admission of air, so as to prevent sudden changes during this critical period, or some of the fruits will drop off; 55° to 60° should be the degree of warmth aimed at, at night; and air admitted in the daytime whenever the warmth reaches the higher figure named. In houses where the fruits are stoned, from 5° to 10° more warmth may be maintained, and the glass allowed to run up to 95° by shutting up the house early in the afternoon, when the plants should be thoroughly syringed, and the borders and paths damped. Discontinue the syringing of trees when the fruits begin to ripen, but do not let the borders lack water. Trees from which the crop is gathered should be well syringed with force sufficient to dislodge red-spider and other insects. Weakly trees may be assisted with liquid manure when watering has become necessary. Keep doors, front sashes, and ventilators standing open day and night in bright weather, and if the lights can be entirely removed, this should be done.

FIGS that have not been forced into growth, but allowed to start naturally under glass, will now require to have the shoots stopped, and all weak ones, save those required to fill up blank spaces removed. When shoots are laid in from 4 to 6 inches apart, it is quite near enough together for light and air to reach them. Heavily-cropped plants should be freely supplied with manure, and a saturated atmosphere afforded them. Plants propagated this year may be repotted in a similar compost to that recommended for Vines. By growing these plants in a mild bottom-heat, and when the pots are full of roots feeding them liberally, good crops may be gathered from them in the early autumn. Strong shoots must be stopped at the fifth or sixth leaf—this will secure bushiness in the plants. Syringe them twice daily, and keep all available surfaces moist in dry weather. A warmth of 65° to 75° at night, according to external conditions, may be kept up, the higher degree of warmth without hard firing.

THE FLOWER GARDEN.

By H. W. WAID, *Gardener, Longford Castle, Salisbury.*

ARRANGING THE BEDS.—In continuation of my remarks of last week on this subject, I may mention that beds filled with Madame Crousse Ivy-leaf Pelar-

gonium, and edged with Tom Thumb, or some other good dwarf-growing Ageratum, are very pretty, the quiet combination of soft pink and delicate grey being both pleasing and effective; and, by way of change, or convenience as regards the number of plants of the respective kinds at hand, the centre of the bed might be planted with the Ageratum named, and edged with Madame Crousse, keeping the shoots pegged into position, and the points pinched out.

TUBEROUS-ROOTED BEGONIAS.—Tuberous-rooted Begonias are increasing in favour as bedding plants, which is not to be wondered at, seeing that they are profuse flowerers, have great variety of colour, and are capital wet-weather plants, that is to say, the blooms are uninjured by rains which beat those of Pelargoniums to pieces.

Whether the beds be planted with mixed Begonias, or separate colours, the effect when in full flower is very good indeed. Begonia beds should be planted with a groundwork of silvery Sedum, which will save the flowers from being splashed with soil during heavy rains. Small tufts of the Sedum planted about 3 inches apart with a small setting-stick, pressing the soil about them in planting, and then watering to settle the soil, will speedily cover the ground.

SUBTROPICAL PLANTS: WHERE AND HOW TO PLANT THEM.—Subtropical plants should be given sheltered positions from the north and west in recesses formed by trees and shrubs of sufficient height to break the force of the wind, but still it should be open to the south and east. In such places the large foliage of Castor Oils, Cannas, and Nicotianas (tobaccoes), are less likely to get rent by the first rough wind that blows. Cannas and Castor Oils look best when planted thinly in beds by themselves on a groundwork of blue or golden Viola, *Mossbryanthemum cordifolium variegatum*, golden Pyrethrum, or Mignonette, placing the dwarfier varieties of the respective kinds round the outside. Beds look very well planted with Solanums, Nicotianas, Wigandias, Melianthus major, variegated Maize, and Salvia argentea. *Acacia lophantha* and *Grevillea robusta*, intermixed with the striped Japanese Maize and *Abutilon Thompsonianum variegatum*, and edged with *Perilla nankinensis*, also make pretty beds.

GENERAL WORK.—This will consist mainly in the potting out of all kinds of bedding plants, mulching, and watering the same, mowing, trimming grass verges, brushing up the same, and the dividing of old plants of Violets, and the planting them in patches near walks and drives, affording water to settle the soil about them, and repeating the watering to all newly-planted subjects every afternoon, in the absence of rain, and until the plants are well established.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Portico Castle, Swansea.*

POINSETTIA.—To have large bracts of this most useful winter-flowering plant, it is necessary to propagate the required number of young plants as early in the season as possible, so as to admit of the plants getting strong and well established before the autumn. Take the cuttings off with a heel when they are from 4 to 5 inches in length; have the required number of 4-inch pots cleaned and well drained, then fill them to half their depth with a mixture of sifted loam and silver-sand, and the other half with clear sand. Insert one cutting in the centre of each pot, and afterwards place them in the propagating-frame or under a hand-glass in the stove; keep them close, and shade them when necessary, to prevent the cuttings from flagging. When the cuttings are well rooted, they should be shifted into 6 or 7-inch pots, keeping them close for a few days, until the roots begin to penetrate the fresh soil. A low house or pit, where the temperature can be kept during the night from 65° to 75°, with a corresponding rise by day, will suit them well, always making it a rule to keep the plants well up to the glass, to encourage a sturdy growth. When the requisite number of cuttings has been obtained, the old stock plants may be turned out, shaking away the greater portion of the old material, when they may be repotted into pots two sizes larger than they had previously.

EUPHORBIA JACQUINIEFLORA.—Cuttings of these which were inserted in 4-inch pots, when well-rooted should be moved into 6 or 7-inch pots, without separating them or disturbing the roots. Grow them in a house or pit where a stove temperature can be maintained, keeping the heads of the plants well up to the glass, using a light shading during the

hotter part of the day if the sun is strong. When the pots get fairly filled with roots, apply light surface dressings of some well-tried fertiliser about once in three weeks, and an occasional application of weak soot-water may be afforded with advantage. By no means should the young plants be stopped, but place a neat stick to each pot, to which the young plants should be supported as growth proceeds. Plants from which the cuttings were obtained, and afterwards shaken out of the soil and placed in the same sized pots, may, when well-rooted, be shifted into pots two sizes larger. They may be allowed from three to four shoots each.

WINTER-FLOWERING CARNATIONS.—Cuttings struck last autumn or early this spring, and at the present time occupying small pots, if they have been stopped, will have formed from three to four shoots each. Those intended to be grown in pots may be shifted into 6 or 7-inch pots, a size which will generally be found large enough for them, as there is nothing to be gained by over-potting them. A good compost is rich loam to which has been added a little decayed manure, and sufficient sand to keep the soil porous. Perfect drainage and firm potting are very essential, and when the young growths have attained about 4 inches in length, the points may be pinched out, which will give the required number of shoots to furnish the plants. When the plants are required to bloom during the early part of the winter, they must not be stopped late in the season.

After the potting is completed, stand them on a bed of coal-ashes, or on boards, in an open, but sheltered position. Keep a sharp look-out for aphides, and on their first appearance, dip the plants in a weak solution of tobacco-water. When the pots get well filled with roots they will require a plentiful supply of water, and occasional applications of weak manure-water.

THE ORCHID HOUSES.

By H. A. BURBERRY, *Orchid Grower, Highbury, Birmingham.*

THE CATTLEYA-HOUSE.—The various species of Sobralia are best suited, and make the healthiest growth, if they can be kept in this house. The plants should be potted in a rich yellow loam, and the watering of the plants, as well as the mode of potting, is similar to that of any ordinary stove-plant. The greatest drawback of a Sobralia are the short time that a flower remains fresh, and the fact of their having no stalks, which prevents their being used as cut flowers; still, in spite of these, the Sobralias hold their own in the show-house, and rival the most beautiful of the Cattleyas of the labiate section. *S. macrantha* is, perhaps, the best known and the most showy species, and whose flowers are at the present time commencing to expand—the colours of the varieties ranging from light pink to deep rich purple. There are other species in cultivation, all of which are beautiful, and amongst them the yellow-flowered *S. xantholeuca*, and the smaller (white) *S. liliustrum* and *S. leucanthra*. *S. Cattleya* seems to be an Orchid exceedingly shy to flower. We have it here planted out in a large box in the warm-greenhouse, where it gets a great deal of sunshine, and we hope under this kind of treatment to flower it well. I may mention that weak liquid-manure is very beneficial to all the Sobralias when their pots have become full of roots.

THE COOL-HOUSE.—Now that cold weather and the east wind have given way to milder breezes and a more genial condition, ventilation at night may be afforded to a greater amount, and it will be found very beneficial if it be afforded with some regard to the prevailing condition of the weather, to remark that applies to the ventilation by day; for example, at times when a high dry wind is blowing, less air will be required, and it will be necessary to constantly damp down the paths, &c., and keep the plants well-shaded, as much will depend on the amount of attention given to these matters, although soil, aspect, locality, and the construction of the floors under the stages, whether of cement or tiles, sand, or coal ashes, must all be considered, the last two being, in my opinion, the most suitable, taking up and giving off moisture freely as they do; besides coal-ashes make good paths. I have often wondered why certain Orchids do better in one part of the country than another, and *vice versa*; but that it is so is certain, and we have much to learn about it. The space allowed for calendarial remarks upon Orchids is small, and I am therefore unable to express my views at greater length, still it is my impression that a discussion on these points, small as the item may appear, would tend to a better knowledge of the needs of the Orchids in this particular.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see. Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY, JUNE 1—Royal Botanic Society: Promenade.
THURSDAY, JUNE 2—Linnean Society meets.
FRIDAY, JUNE 3—Dundee Horticultural.
Manchester Royal Botanic Society:
Special Exhibition of Orchids.
SATURDAY, JUNE 4—Manchester Royal Botanic Society:
Orchid Conference.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—58°.5.

The Council of
the Royal Horti-
cultural Society.

We avail ourselves of the opportunity afforded us by the Temple Show to publish the portraits of the present rulers of the Royal Horticultural Society. They are, for the most part, such well-known personages in the horticultural world, that, even if our space permitted, it would be unnecessary to enter at length into the details of their career as horticulturists. It will be seen, however, that, as is fitting, all classes of horticulturists are represented. The practical, the scientific, the amateur, the commercial, the general, the special departments—all have their representatives, and prove how comprehensive the society is.

The centre of the group is occupied by the portrait of the President, Sir TREVOR LAWRENCE, an instance of hereditary transmission, for our predecessors had as frequent occasion to chronicle the successes of his mother in the exhibition tent as we have those of the son. Sir TREVOR ascended the throne in troublous times, he stuck to the Society when it was sore oppressed—he guided and directed its struggles with unflinching tact and temper, he never quailed in the presence of adversity or showed the least tendency to desert what at one time was thought to be a sinking ship, and now he has his reward in presiding over a united and flourishing Society, devoted, once again, to horticulture in all its breadth and variety, but still to horticulture only.

Sir TREVOR'S portrait is flanked on the right by that of the Treasurer, Mr. PHILIP CROWLEY. He succeeded to the Chancellorship of the Exchequer at a period when in the re-organisation of the Society the greatest importance attached to the thorough overhauling of the finances by his predecessor, Mr. D. MORRIS. Thanks to Mr. MORRIS' unswerving perseverance, the finances were in a comparatively short time thoroughly set straight, and put on a firm basis. The process was about as agreeable as a surgical operation, but the successful results are apparent on all hands. Mr. CROWLEY, the present trea-

surer, is in the happy position of being able to say "Yes," where his predecessor was obliged to say "No," even when the object sought was in itself most desirable. Mr. CROWLEY is himself an ardent horticulturist; he knows what are the requirements of the Society, and what is expected of it by its constituents, so that he may be trusted to guide the spending department with judgment and experience, and with a due regard to caution. The rehabilitation of Chiswick is only one of the good deeds rendered possible by the work of the Treasurer, and the sympathetic aid of his associates.

On the left of the President is the portrait of the Hon. Secretary, Rev. W. WILKS. It is a standing rule in the editorial department of this journal to dispense as much as possible with the use of superlatives—they are relegated to the advertising columns!—but, if ever there was a case for the use of appreciative epithets, it is in that of the present Hon. Secretary. In a time of great stress and wild turmoil, he suddenly appeared on the scene, was found willing to take office, and by his splendid powers of organisation, indefatigable zeal, untiring labour, keen tact, and gentle courtesy, contributed very specially to the rehabilitation of the Society after the disastrous régime at South Kensington. If we do not speak of some others who were associated with him at the time, but who are no longer members of the council, it is because they are the very people who acknowledge the most heartily the supreme services rendered by the Secretary.

Baron SCHRÖDER is known as a zealous and keenly appreciative horticulturist. The show at the Temple affords proof of what he can do in the way of Orchid culture, and ere long we hope to see him carry out his for the present suspended scheme for the erection of a horticultural institute worthy of the country. Sir HERBERT MAXWELL is well known in natural history and parliamentary circles, as well as in literature and arboriculture, so that we may fairly hope for great things from him at the council table of the Royal Horticultural Society.

Looking now to the top line of our gallery, and going from left to right, we have the commercial element represented by two such excellent representatives as Mr. SHERWOOD, the head of the great seed house of HURST & SONS; and the genial rosarian, and liberal-minded nurseryman, GEORGE PAUL.

In the centre is Mr. D. MORRIS, the Assistant Director of the Royal Gardens, Kew, a man of administrative detail, of whose services to the Society we have already spoken, and who, by his personal exertions, has done excellent work in many of our colonies, and has welded the agricultural and horticultural departments of our Colonial Empire into even closer fusion with Kew than before, to the great profit of the peoples.

Mr. JAMES DOUGLAS, together with Mr. OWEN THOMAS, is a worthy representative of the practical gardener class. A very wide knowledge of all branches of gardening—a special leaning towards florists' flowers, and much natural sagacity render Mr. DOUGLAS an ideal member of Council.

Mr. GEO. BUNYARD is another representative of the commercial element. Those who know how he has built up his nurseries at Maidstone, and pushed his way by steady righteous effort into the foremost rank as a pomologist, will admit how, independently of his personal qualities, Mr. BUNYARD is eminently fitted as a counsellor.

Mr. H. J. PEARSON is another shrewd man of business, whose presence on the Council is a

matter of congratulation. The fact that he lives at Nottingham seems to be no bar to his attendance, and is a proof that the Society is no mere metropolitan association. Mr. SYDNEY COURTAULD, Mr. T. B. HAYWOOD, Mr. C. J. LUCAS, and Mr. O. THOMAS furnish other illustrations of the same circumstances. All of them, like several of those whom we have already spoken, live beyond the metropolitan area. Mr. COURTAULD'S name is well known among Orchid growers, and his personal qualities render him a most useful and efficient member.

Mr. T. B. HAYWOOD is another zealous horticulturist, who may be said to represent the Rosarian element on the Council, but, in truth, his sympathies are not limited to Roses, for Orchids, Chrysanthemums, and we know not what besides engage his attention, and this fact, combined to his business capabilities, amply justify his position on the Council. Mr. C. J. LUCAS is a comparatively new comer on the Council. His garden at Warnham Court, near Horsham, is achieving celebrity for Orchid culture.

Lastly, we have to mention Mr. OWEN THOMAS, the QUEEN'S Gardener, erst of Chatsworth, now of Frogmore. Of him and his work we have spoken not long since in terms of appreciation; suffice it now to say, that since his assumption of office at Frogmore, Mr. THOMAS has been a welcome visitor and a successful exhibitor, so that his presence on the Council must be very serviceable.

Two other portraits demand attention. We have not inserted them on our Supplementary Sheet, because that was reserved exclusively for the existing members of Council. But no collection of portraits of active men connected with the Royal Horticultural Society would be complete without the portraits of Professor FOSTER and of Mr. W. MARSHALL. Professor MICHAEL FOSTER is too famous a man to need any introduction. But it is not everyone who knows that the Cambridge professor, who has brought such good work to bear in the medical and scientific schools of his university, who has achieved such very high repute as a physiologist and a tutor, and rendered such service as one of the secretaries to the Royal Society—it is not everyone, we repeat, who knows that so busy a man is likewise a zealous gardener with a speciality. None contest his supremacy either in the knowledge or the cultivation of Irids. Professor FOSTER was one of those who, with Mr. WILKS, Mr. DYER, and some others, took office in those turbulent times we have spoken of, and who raised the society from a state of despair and despondency to its present condition; but it is hardly to be wondered at that, with his many avocations, he has been compelled to resign the office of Councilor, though still retaining that of President of the Narcissus Committee, in which capacity his portrait is here given.

The President of the Fruit Committee is Mr. PHILIP CROWLEY, of whom we have already spoken.

The Floral Committee has for its President the genial and very competent WILLIAM MARSHALL. For a longer period than we can tell, he has been associated with the Society. His broad sympathies, extensive knowledge of the subject, genial manner, and straightforward character, render him an admirable chairman.

This completes our portrait gallery of the Members of the Council and Chairmen of the Departmental Committees of the Royal Horticultural Society. We have not on this occasion included the paid officers; but no one who



N. N. SHERWOOD.



GEORGE PAUL.



D. HARRIS.



JAMES DOUGLAS.



GEORGE BUNYARD.



BARON SCHRÖDER.



REV. W. WILKS, *Hon. Secretary.*



SIR TREVOR LAWRENCE BART., M.P., *President.*



PHILIP CROWLEY, *Treasurer.*



SIR HERBERT MAXWELL, BART., M.P.



H. J. PEARSON.



SYDNEY COURTAULD.



T. B. JAYWOOD.



C. J. LUCAS.



OWEN THOMAS.

knows Mr. BARRON or Mr. WEATHERS will doubt that the Society is as well served by its paid as by its honorary officers. The horticulturalists of the kingdom will, we feel sure, feel that, whatever changes in detail they might think desirable, no better or more thoroughly representative body of men could be found in any Society.

THE TEMPLE SHOW is being held as these pages are passing through the Press. A full report will be found in another column. Here we can only say that it is quite a first-class Exhibition, well worthy of the traditions of the Society. The Orchids from Sir TREVOR LAWRENCE and Baron SCHROEDER are *hors de ligne*. The new plants sent by Messrs. LINDEN are remarkable; the alpine plants from Messrs. BACKHOUSE delightful; the pruned Dendrobies from Buxted Park very noteworthy; the— but the printer stops us—with "See Report."

KEW GARDENS.—In the House of Commons on May 19, Mr. PLUNKET, in answer to Mr. CHAMBERLAIN, said it was the intention of the Government to continue the publication of the *Kew Bulletin*. Replying to Mr. E. HOLDEN, Mr. PLUNKET said that the reason why Kew Gardens were not open to the public till noon was that the earlier hours were regarded as set apart for botanical students. However, any person who desired to obtain admission for scientific, artistic, or professional purposes, could easily obtain an order from the director. The new edition of the official guide to the Arboretum and Botanical Gardens at Kew was in preparation. It was almost ready, and they hoped to have it out during the summer.

THE LINNEAN SOCIETY.—The annual meeting was held on the 24th inst., when the election for Council and officers took place. The address of the President consisted of a very interesting account of the reciprocal relations between different animals and plants, one living under the protection of another (commensalism), or actually receiving benefit and conferring it in its turn (symbiosis). The examples given strikingly illustrated by black-board diagrams, were very felicitous. The Gold Medal of the Society was presented to ALFRED RUSSET WALLACE in very appropriate terms by the President, who pointed out the analogies between the discoveries and inferences of ADAMS and of LEVEHIER respectively with those of DARWIN and WALLACE. Dr. WALLACE, in replying, alluded to his researches into the phenomena of variation and natural selection as witnessed by him in the Amazons and the Malay Archipelago.

THE PROPOSED FRUIT EXHIBITION.—On Monday last, at a meeting at the Guildhall, at which Alderman Sir JAMES WHITEHEAD presided, of the provisional committee of the proposed International Fruit Show in London, it was resolved, that in view of the concentration of public interest in the coming General Election, and the consequent difficulty of making adequate arrangements for holding the exhibition this year, and also in consideration of the representations made by intending exhibitors that sufficient notice had not been given for preparations, the exhibition should be held in the autumn of 1893, and not this year.

METROPOLITAN PUBLIC GARDENS' ASSOCIATION.—A public recreation ground will be opened at De Beauvoir Square, Kingsland Road, N., at 3.30 this day (Saturday). Mrs. TYSSEN AMHERST will perform the dedication ceremony.

THE BARR MEDAL FOR THE BEST SEEDLING DAFFODIL.—The large Barr Medal, for the best seedling Daffodil shown at the Royal Horticultural Society's spring meetings, has been awarded to the Rev. G. II. ENGLEHEART, for his Trumpet Daffodil Golden Bell, which was exhibited and obtained a First-class Certificate on April 12. Mr. ENGLEHEART also gained the Medal last year.

NATIONAL CHRYSANTHEMUM SOCIETY: HOLMES' MEMORIAL CHALLENGE CUPS.—Mr. W. HERRERT FOWLER, F.N.C.S., Claremont, Tauton;

and Mr. NORMAN DAVIS, F.N.C.S., Lilford Road, Camberwell, London, send us the following letter in reference to the Holmes' Memorial Challenge Cups:—It has long been felt that, in order to stamp the character of the National Chrysanthemum Society as more distinctly National, something beyond mere monetary prizes are desirable, in order to awaken additional interest in the Society's work. The late Secretary, Mr. W. HOLMES, inaugurated a new departure in this sense by organising the Affiliated Societies' National Challenge Trophy, which has answered beyond the most sanguine expectations. In instituting the Holmes' Memorial Fund, it was the desire of the promoters that some portion of the money subscribed should commemorate Mr. HOLMES' work in connection with the Society, in the form, if possible, of special prizes bearing his name. The Trustees of the Fund have devoted a certain portion of the Fund to this purpose, which is inadequate to provide prizes of sufficient value to worthily commemorate Mr. HOLMES' name and labour. A number of gentlemen have volunteered to subscribe with a view of augmenting the amount, and it is intended, with the sanction of the committee of the Society, to provide two National Chrysanthemum Society's Holmes' Memorial Challenge Cups, one for incurred and one for Japanese blooms, full particulars of which will be found in the schedule of prizes for this year. The winners in the present year will be looked upon as the champions for 1892, and will have their names engraved on the Cups accordingly. That these Memorial Cups may be of considerable value and worthy of the Society, is highly desirable, and it is earnestly hoped that members having the future interests of the Society at heart, will not allow this opportunity to pass without making every effort to insure the undertaking being distinctly successful. Promises have already been received to the amount of £15, and it is earnestly hoped the desired sum of £100 may be obtained. A meeting of the subscribers will be called at an early date to make final arrangements for the purchase of the Memorial Cups, so that they may be ready for presentation to the Society previous to the November show, at which the Cups are offered for competition.

NITRIFICATION.—The results of the recent researches on nitrification by Schloßing and Müntz, Frank, Adametz, Warington, Frankland, Winogradsky, and others, are summed up in a paper by Herr J. WORMANN, in the *Landwirthsch. Jahrbuch*, xx., pp. 175–181. He states that in his opinion Winogradsky's observations have had, as one of their results, to overthrow at a blow one of the generally-accepted theories of vegetable physiology, that it is only the chlorophyll-containing cells that are able to assimilate carbonic acid gas.

THE ACQUISITION OF GREEN COLOUR BY LEAVES.—In a recent investigation by W. PALLADIN, which is described at length in *Biedemann's Centralblatt* (vide xx., pp. 756–760), the amount of proteins in green and etiolated leaves was estimated, and an inquiry was made concerning the acquisition of green colour and growth of etiolated leaves. Most of the results are rather wide of our province, but we may notice the following conclusions:—1, Chlorophyll cannot be formed without sugar; 2, The chlorophyll first formed in leaves of germinating plants is formed at the expense of the sugar supplied to them by the acid; 3, Absence of lime is one reason why etiolated leaves do not develop.

TRANSPIRATION FROM THE FLOWER.—In the *Comptes Rendus de l'Académie des Sciences* (April 4), M. G. CURTEL details the results of his experiments on the variations of transpiration in a plant during its growth, and arrives at the following conclusions:— "The transpirational activity of a flower is very vigorous in its early stages, while it still possesses soft tissues only, very rich in water; transpiration diminishes with growth, and is least when the bud is half grown. During this time, indeed, the epidermis is thickening; a more or less impermeable cuticle is developed, both of which conditions tend to a dimi-

nution of transpirational activity. Then, as the bud grows, its surface increases rapidly. The stomata, if the plant should have them, appear, and the amount of water secreted increases. Later on, when the flower opens, increase still continues for the same reasons. This increase is continuous until the death of the flower. This is very easily to be explained. Soon after opening, the bloom reaches the end of the term of its existence. The tissues begin to decay, and the water which is found in the cells in a more or less stable state of combination, owing to the activity of the protoplasm, is set free on the death of the latter, and evaporates; hence the rapidity with which the flower fades. Hence the transpiration of a flower varies with the stage of development of it. Most active in the very young bud, it decreases little by little, then again becomes active, until the bud has reached its greatest size, and is just about to open. From this time, transpiration continues in full activity until the death of the flower."

ENGLISH-GROWN TEA.—We read that during their visit to Exeter Hall, on Tuesday evening, May 17, Princess LOUISE and the Marquess of LORNE were regaled with tea made from leaf grown in this country, and prepared by Mr. JOHN ROGER, who was formerly a tea planter in Ceylon. The plants from which the leaf was obtained were reared in Mr. W. ICBOTON'S Palm Nurseries at Putney. Mr. ROGER had some of the plants on view at the hall, and also a quantity of the prepared tea. He believes that this is the first occasion on which a cup of tea has been made from English-grown leaf.

NURSERYMEN'S EXCURSION.—On Wednesday last, the employés of Messrs. J. BACKHOUSE & SON, York, had their annual excursion; the party, numbering about eighty, going to Scarborough. The trip was somewhat marred by the unsettled weather, some heavy rain falling at times during the day.

SEEDS FROM RUSSIA.—It is stated in *Moller's Deutsche Gärtner Zeitung* that the export of the following articles is permitted by the Russian Government, they not coming under the grain export prohibition, viz., Peas, Turkish Beans, other Beans, Lentils, and Earth-nuts; also the seeds of fodder-grasses, vegetables, and ornamental plants.

SPRING BEDDING AT HAMPTON COURT.—It appears late to talk about spring bedding at the end of May, and yet we have just observed, on a call at Hampton, some good examples of it. A series of bold beds, 27 feet by 15 feet, facing the Palace, were gay with grand clumps of Polyanthes—yellow and white strains of fine quality, which Mr. GRAHAM has carefully selected and interspersed with scarlet-flowered Tulips, the beds being edged with white Daisies.

IN THE AQUATIC-HOUSE AT THE BOTANIC GARDENS, OXFORD, the beautifully-fragrant Nymphaea Daubeniana was recently noted in flower. This plant has the singular characteristic of throwing out young plants from the centre of the leaves. In the same structure stands a fine plant of Arundo donax variegata, growing admirably in a mixture of rough fibry loam.

GARDENERS' ASSOCIATIONS.—We have received a copy of the programme of the Delegate Conference to be held on Wednesday, July 6, at The Friendly Societies Institute, Camden Road, Tunbridge Wells. Cheap tickets will be issued from London, Maidstone, Hastings, Brighton, and all stations on the L. B. & S. C., and S. E. Railways to Tunbridge Wells. A luncheon will be provided at the Institute (which will be decorated for the occasion) at 12 noon, free to Delegates. Visitors' luncheon-tickets, 2s. each. The Conference of Delegates and friends will be held at 1.30 p.m. Amongst those who have promised to attend are:—Mr. George Gordon, Editor *Gardeners' Magazine*; Mr. A. G. Boscawen, Miss Cripps, Messrs. T. Cripps & Sons' Nurseries; Mr. Mark Longhurst, Secretary, Brighton Association; Mr. H. Jupp, Secretary, Tunbridge Association; Mr. W. Webber, The Nurseries, Tonbridge; Mr. J.

Frost, The Borough Nurseries, Maidstone; Mr. W. Chandler, Secretary, Pembury Association; Mr. W. C. Norman, Secretary, Elenbridge Association; Mr. B. S. Wilnot, Representative Agricultural Bureau, Eridge House; Mr. S. Pope, Head Gardener, J. J. Barrow, Esq.; Mr. R. Severson, Sec., Tunbridge Wells Tradesmen's Association; Mr. F. Bridger, Head Gardener, Lord de Lisle and Dudley, Fenshurst; Mr. S. Cooke, Secretary, Sevenoaks Association; Mr. J. Roberts, Head Gardener, Sir David L. Salomons, Broomhill; Messrs. E. & A. Charlton, The Pantiles and Eridge Road Nurseries; Mr. W. Wiseman, P.P.G.M., Oddfellows. After the Conference, visits can be made to some of the most picturesque scenery of the neighbourhood, for which cheap drives will be arranged, all within half-an-hour's walk of the Institute—Messrs. Cripps & Sons' Nurseries, Messrs. Charltons' Nurseries, Eridge Road; the Toad and Rasthall Rocks, the High Rocks, the Pantiles and Mineral Springs, and other places of interest. The dinner will be served at 6.30 p.m. in the large hall of the Institute, free to Delegates. Visitors' tickets, 3s. each. A smoking concert will follow at 8 p.m. We cordially sympathise with this attempt to federalise the scattered Societies, feeling that much loss of power and waste of opportunity occur from the present isolated action of the several Societies.

GARDENERS' ORPHAN FUND.—We have the pleasure to announce the receipt by the Secretary of the following donations to the Gardeners' Orphan Fund—viz., £10 from the Ealing Gardeners' Mutual Improvement Society, the proceeds of a lecture given by the Rev. THOMAS DAVIDSON to that body; and £20, the proceeds of a concert held at Altrincham, under the auspices of the Manchester Local Committee of the Gardeners' Orphan Fund. Such efforts are most praiseworthy.

CORK PAVEMENT.—Our contemporary, *Land and Water*, draws attention to an application of cork which is new to us, though it seems to have been in use in London for more than a year as a durable paving material. This new paving is described as consisting of granulated cork, heated with mineral asphalt, and compressed into bricks of convenient size. The company claims for this substance, that it affords an absolutely secure foothold for horse and man in all weathers; that it is extremely durable and quite noiseless; that it forms a non-absorbent and inodorous roadway. As a proof of the durability of this paving, it is said that Messrs. Pickforn & Co. have the gateway of their premises in Gresham Street laid with cork pavement. This gateway is only 8 feet wide, and upwards of one thousand tons have passed over it daily for eighteen months without producing any appreciable signs of wear. It is used in many streets and railway stations in Australian towns, notably, Sydney, and is uniformly well spoken of. As a flooring for stables and kennels, it is peculiarly suitable. It has been for twelve months laid down in some of the stalls in the Life Guards' stables at Knightsbridge, where, we understand, it has given great satisfaction. It possesses great elasticity, saving wear and tear to feet and legs caused by unyielding asphalt or granite. Altogether moderate cost, combined with striking advantages, make the cork pavement a discovery of genuine value, and we cannot doubt but that it will be the pavement of the future. It does not appear in what proportion cork is used in this manufacture, but if it is used to any extent, the question naturally arises as to the supply.

LAND CLEANING.—It is said that a Mr. BURGESS has invented a new land-cleaning machine, says *Invention*, the principle being to root up all weeds, &c., and pass at once through a double-blast fire by means of a travelling engine. The frame is mounted on four travelling wheels. On the frame a small steam engine is fixed. On the right side of the engine is a blower. On the left side of the engine is a brick hearth, fitted in an iron frame, which forms a fire retainer. In the front of the machine is a screen, and, by a gradual incline leading up to the

fire, the weeds, &c., are elevated to the fire retainer, which is kept up to a great heat by the blast from the blower. The weeds pass through the fire, and are deposited in soil. The engine, which is said to be capable of cleaning 4 to 8 acres a day, is from six to eight horse-power, and with the machine, would require two men when in operation.

NEBRASKA.—We have before us the Annual Report of the State Horticultural Society, which shows how serviceable such a society may be. Prof. BASSER's lecture on "Fertilisation" is well adapted for its purpose, and the same may be said of Mr. BRUNER's paper on "Insects." In judging collections of fruits, the points laid down are: 1, Number of varieties; 2, Quality; 3, Condition; 4, Taste in the display. Special rules are laid down as follows:—

"The judges shall have an ideal standard of perfection in all cases, made up of the following particulars:—

"1st. The condition and general appearance of the fruit, which must be in its natural state, not rubbed or polished, nor specked, bruised, wormy, nor corroded; with all its parts, stem and calyx-segments well preserved, not wilted nor shrivelled, clean.

"2nd. The size, in Apples and Pears particularly, should be average, and neither overgrown nor small. The specimens should be even in size.

"3rd. The form should be regular, or normal to the variety, and the lot even.

"4th. The colour and markings, or the surface, to be in character, not blotched nor scrubby.

"5th. When comparing different varieties, and even the same kind grown on different soils, the texture and flavour are important elements in coming to a decision. Five points.

"In the class for Peaches, Plums, &c., the important are size, form, colour, flavour, and condition. Five points.

"In Grapes, we must consider and compare the form and size of the bunches, the size of the berries, their colour, ripeness, flavour, and condition. Five points.

"In Currants we shall have to examine the perfection and size of the bunches, and of the berries, their flavour and condition. Three points.

"In Gooseberries we shall look at the size, colour, flavour, and condition. Four points.

"In judging Cherries, we have as our guide the size and form, colour, flavour, and condition. Four points.

"In judging Strawberries, we shall compare the size and form, colour, flavour, firmness, and condition. Five points.

"They should be shown with stem and calyx.

"Raspberries may be shown with or without the calyx. In this fruit we shall have to judge of the size, colour, flavour, and condition. Four points.

"Blackberries must have size, colour, flavour, and condition. Four points.

"Blackberries must be tested according as they present size, colour and form, flavour and texture, and condition. Four points.

"In all cases, it is well to have a convenient scale of comparison, for which the number 10 is found to be easily managed. The highest figure denotes perfection for the variety, and five is mediocre; below that is unsatisfactory. The total of the marks should exceed 50 per cent. of the possible number, or the entry must be passed as unworthy of reward.

"Seeding: having once been presented, and failing recognition under the rules of the Society, shall not again be presented."

THE CANARY ISLANDS.—A correspondent of the *Standard*, writing from Tenerife, states that with the practical disappearance of the cochineal industry, killed as it was by the discovery of aniline dyes from coal tar, the commercial prosperity of the Canary Islands received a blow which for many long years it never recovered. The adaptability of the soil and climate to the growing of Tomatoes, many hundreds of tons of which leave the islands every season, must have compensated largely for the loss occasioned by the failure of the cochineal trade. For a considerable time past, however, rumours have been rife concerning a disease which has attacked the plant, rendering its produce in many instances quite unfit for exportation. Every endeavour has been made to localise the mischief, but without success, and it is reported that crops in all parts of the Canary Islands are seriously affected, and that growers view the prospect of the approaching season with considerable apprehension.

BURMESE VANILLA.—Our contemporary, the *Chemist and Druggist*, are told by Mr. J. R. JACKSON, of Kew, says that Vanilla is now being cultivated at Mergui, British Burma, under the superintendence of the Conservator of Forests in the South Tacasserim Division. The first crop, which was cured last autumn, consisted of 253 pods. There

is some trouble with the drying, as the pods ripen in August and September, just at the height of the rainy season.

A NEW USE FOR CAFFEINE.—Caffeine, the active principle of Coffee, has recently been recommended as an excellent local anæsthetic, and is said may, for many purposes, at least advantageously replace Cocaine, the use of which is not altogether liked by many medical men. If Caffeine should, to any extent, become of use in this connection, it will considerably affect the trade that is now established in Coca leaves.

HOW TO EAT STRAWBERRIES.—The very height of Strawberry-eating is with coffee. Nobody ever really tasted coffee who has not drunk it in alternate mouthfuls with Strawberries, and nobody knows the Strawberry flavour excepting immediately after the clearing of the taste which comes from drinking coffee, says the *New York Post*. The clearing property of coffee is familiar enough, but there is strange ignorance of this special application of it. The best of Strawberries with the best of coffee makes the supreme refinement of indulgence in the fruit.

SISAL GRASS.—Sisal Hemp, according to a Mexican authority quoted in the new number of the *Board of Trade Journal*, is likely to prove a very important source of wealth for Mexico. It grows in long, narrow blades, often to the length of 4 or 5 feet, and these, when dry, curl up from side to side, forming a flexible string, stronger than any cotton cord of the same size ever manufactured. It is in great demand among florists and among manufacturers of various kinds of grass goods; and it is said to be capable of being applied to many new uses. Ropes, cords, lines of any description and any size, may be manufactured of it, and a ship's cable of Sisal Grass is one of the possibilities of the future. It is almost impervious to the action of salt water, and is not readily decayed or disintegrated by moisture and heat. It takes its name from the port of Sisal, in Yucatan, through which it was formerly exported. Sisal Grass, so-called, is the produce of Agave 1887, p. 3.

A NEW STRAIN OF IVY-LEAF PELARGONIUM.—We have received from Messrs. H. CANNELL & SONS, Swanley, one of the handsomest double-flowered Ivy-leaf Pelargoniums, so far as we know of, existing. The truss of bloom consisted of six or eight flowers, $2\frac{1}{2}$ to 3 inches in diameter, very double, and of a soft shade of reddish-crimson. Each bloom would make a very pretty button-hole flower, and the entire truss a coachman's nosegay on the occasion of a drawing-room. The bouquetist will rare about it.

DIANTHUS FREYNI.—This is a charming little alpine, which lovers of rock-plants should be on the look-out for. It is of dwarf habit, with linear glaucous leaves. Flower-stalks 2 to 3 inches high. Flowers purple, $\frac{3}{4}$ inch in diameter. It is a native of the mountains of Bosnia. It was originally described by VANDAS, and is now figured in the *Annalen des K. K. Naturhist. Hof-Museum* of Vienna, Band vi. p. 332.

MONKHAMS, WOODFORD GREEN.—The contents of this large mansion and grounds, the residence of the late HENRY FORD BARCLAY, Esq., are to be offered for sale by public auction the first week in July next, and in all probability the entire estate of about 100 acres will be sold at a later date for building purposes. The conservatory is noted for a good specimen of the night-flowering Cereus, which fills a large part of the roof, and for an effective example of Messrs. PULHAM's work in Derbyshire limestone.

VEGETABLE PERFUMES.—BUCHNER has recently described the method of obtaining the fragrant vegetable essential oils in exhausted vessels at the ordinary or at any low temperatures (vide *M. T. Naturm. ver. Steiermark*, pp. 64–71). He has come to the conclusion that most of these oils consist of the greater part of either terpenes or of polyterpenes.

INTERNATIONAL BOTANICAL CONGRESS OF GENOA.—The following is the official programme:—Sunday, September 4, at 8 P.M., reception of foreign botanists (municipal hall). Monday, September 5, at 9.30 A.M., inauguration of the congress (great hall of the university); at 2 P.M., first scientific sitting (great hall). Tuesday, September 6, at 10 A.M., inauguration of the Hanbury Institute (botanical garden); at 2 P.M., second scientific sitting (great hall). Wednesday, September 7, at 9 A.M., third scientific sitting (great hall); at 2 P.M., visit to the exhibition and to the town. Thursday, September 8, at 8 A.M., trip by sea to Portofino, thence by carriage to St. Margherita, Rapallo, Rata, and Recco, returning by steamer. Friday, September 9, at 9 A.M., fourth scientific sitting (great hall); at 2 P.M., fifth (and last) scientific sitting (great hall). Saturday, September 10, at 7 A.M., excursion to Ventimiglia and to Mortola; visit to Mr. TH. HANBURY'S garden. Sunday, September 11, excursion from Ventimiglia to the Col di Tenda. The following are among the principal regulations:—

Anybody occupied in botanical study, or cultivating any special branch of botany, will be entitled to take part in the Congress.

To be inscribed as member of the Congress, it will be necessary to sign and forward to the Secretary of the organizing committee (Prof. O. PENZIG, R. Università, Genoa) the printed form distributed for this purpose by the Committee, or to inscribe oneself during the period of the Congress in a book provided for the purpose.

Every member of the Congress will pay a fee of ten francs on receiving his admission card, which gives the right of entry to museums, libraries, excursions, &c. The members of the Italian Botanical Society will be exempt from this fee.

All the sittings of the Congress will be held in public, but the right to speak and take active part in the discussions and voting will be reserved for members only.

The official language of the Congress will be Italian, but it will be free to anybody when speaking or in discussions to use whatever language he may be most familiar with.

It is not considered advisable to fix any special subjects for discussion, but it is as well to mention from the first that the reform of botanical nomenclature will be treated, in accordance with O. KUNTZE'S recent book, and that lectures are already announced on the theories of F. DELPINO respecting Phyllo-taxis and Pseudanthia.

The subjects to be proposed for discussion during the scientific sittings, must be notified to the secretary of the committee not later than August 15, 1892.

After the Congress the committee will print a brief account of the meetings, and will publish also the original memorials presented at the Congress.

Every member of the Congress will be entitled gratis to a copy of these "Proceedings of the Botanical Congress of 1892."

The seat of the Congress will be in the palace of the Royal University of Genoa (Via Balbi), where all the meetings will be held, and where will be found the receiving office (for the delivery of admission tickets, inscriptions, &c.), the meeting room of the committee, the writing rooms, buffet, post office, telephone, &c., reserved for members of the Congress.

An office, where information concerning lodgings will be obtainable, will be opened at the Municipality of Genoa. Signed, for the Committee, the Secretary, Prof. O. PENZIG.

PROHIBITION OF THE IMPORT OF AMERICAN VINES INTO FRANCE.—In consequence of the appearance of the Phylloxera in California, the Minister of Agriculture of France has decided, in accordance with the terms of the Conference of Berne, May 15, 1882, that under no circumstances whatever shall Vine-cuttings or plants from North America be permitted to enter France.

BIRTHDAY HONOURS.—Among the names or those whom the QUEEN has honoured on this occa-

sion, we note that of Mr. W. T. THISELTON DYER, Director of the Royal Gardens, Kew, who receives the honour of C.I.E., in addition to that of C.M.G., of which he was already in possession. Mr. EVERARD THORN, known to botanists and horticulturists for his explorations in British Guiana, receives the same honour.

LINEAN SOCIETY.—At an evening meeting to be held on Thursday, June 2, 1892, at 8 P.M., the following papers will be read:—I. "On the Disappearance of Desert Plants in Egypt," by E. A. FLOYER, F.L.S. II. "On Insect Colours," by F. H. PERRY COSTE, F.L.S.; III. "Lantern Demonstration."

LADY GOLDSMID.—The death is announced of Lady GOLDSMID, wife of Sir JULIAN GOLDSMID, M.P., which took place at Cannes on Monday, May 23.

PUBLICATIONS RECEIVED.—*The National Boiler and General Insurance Company Limited, Chief Engineer's Report.*



PROFESSOR MICHAEL FOSTER, R.S.,
And Vice-Chairman of the Scientific Committee of the Royal
Horticultural Society.
(SEE P. 693.)

PLANT PORTRAITS.

BOMAREA FRONDEA, *Garden*, May 14.

CATTLEYA VELUTINA, *Westnik*, May.

CHYSIS BRATESCENS, *Orchid Album*, t. 446.

CYPRIPEDIUM INSIGNE MOOREANUM, *Orchid Album*, t. 445.

CYPRIPEDIUM YEXILLARIUM, *Orchid Album*, t. 447.

DENDROBIUM INFUNDIBULUM, *Orchid Album*, t. 448.

THE SEED TRADE.

ENDIVE.—When we remember that Ovid mentions Endive, Radishes, and Succory as forming part of a garden salad, and Pliny states that Endive was eaten in his time, both as a salad and a pot-herb, we gain some idea that it is an ancient plant. Abundantly cultivated, it is said, in China and Japan, the Endive is supposed to have been introduced to the West about the early part of the sixteenth century; and from that time to this, it has been cultivated more or less extensively, and generally used in the same manner. Possibly the original form has changed but little, but many varieties have been obtained, either as natural sports, by seed, and by selection. As in the case of the Cabbage and Cos Lettuces, there is reason to believe all the varied types of the Endive have sprang from one source, although they differ as widely in character as the broad-leaved Batavian and the Moss Curled. Like the Lettuce, its leaves are used in various ways; but, unless subject to some degree of blanching, they are harsh and bitter. The Endive is a plant of rapid growth, and requiring less

heat than the Lettuce; it is, therefore, a hardy salad-plant, capable of standing a somewhat severe winter. It is mainly used for salads and stews, though we do not appear to consume Endive boiled nearly so much as our neighbours on the other side of the Channel.

About three-quarters of a century ago, our cultivated Endives were the Green Curled, the White Curled, and the Batavian. Thirty years later, the Batavian appeared in two varieties—the green and the white. We may be said at the present time to have some seven or eight distinct types in cultivation, but the French and Germans, who are much larger consumers of Endive than ourselves, make a dozen or more varieties. The Broad Lettuce-leaved Batavian, with its green and white varieties, are well known. They resemble somewhat coarse growing, loose Cabbage Lettuces. The seeds of these are sown in June and July, in most cases on the ground where the plants are to grow; though at times the seeds are sown in beds, and the plants transplanted to the open, as is frequently done with Lettuces. The White Batavian is of a somewhat pale green colour, becoming quite pale when blanched. It differs from the Green Batavian in having more pale colour in the centre, and a rather greyer tint in the leaves. One of the finest types of the Batavian is the Limay, larger than the common Broad-leaved, crisp and solid.

Of the narrow-leaved curled types, there are several handsome forms. One of the smallest is the moss curled, the leaves of which are sharply cut, the growth dense and compact. One of the best of the large-growing curled varieties is the Raffae, large green curled, a variety which grows to a considerable size. A sort which appears to be much esteemed in Germany, is the Pancalère, like the Raffae, but yet distinct enough to be classed as a separate variety. Then there is the Meaux, small fine curled, which is highly esteemed also; but the three last named are only partially cultivated in this country.

In the market gardens where Endive is grown, a sowing is sometimes made in May. One main point with early-sown Endive is to keep the plants growing freely, as a check will cause them to bolt, instead of forming heart-like rosettes of leaves.

There is always a tendency to bolt on the part of early-sown Endive, hence the caution just given. The principal sowings are made in June and July, and it is sometimes the practice to make plantations of Lettuce and Endive alternately, the former being the crop first pulled. Blanching is done by tying up the hearts, as in the case of Lettuce, and they are ready for market in from twelve to fifteen days after. In private gardens, the culture of Endive runs pretty much upon the lines followed in the market gardens. *Pisum.*

SHORT NOTES FROM BLENHEIM PALACE GARDENS.

CARNATIONS.—These are wonderfully well done here, and in great quantities, and have been flowering since last September. For instance, one structure, 118 feet by 24 feet, was crowded with beautiful stuff. Miss Joliffe is one of the favourite kinds, and all the popular varieties are cultivated. A Heliotrope-coloured seedling named Lady Rosamond may be numbered amongst the "good things." Mr. Whillans says it is quite decided in colour, one or two of this colour in commerce "run." He states flowers as big as those of the Malmaison type were grown of this variety last year.

DISA GRANDIFLORA.

The secret of success in flowering this plant here is that it is kept cool and moist summer and winter in frames—a hint that may be useful to some cultivators of the species and of the genus.

ORCHIDS.

It would fill a page to write about these in any adequate manner, suffice it to call attention to one or two genera. About 16,000 *Odontoglossums* are

grown, 8000 *O. Alexandra* being planted out. A grand batch of *Cattleya Mendelii* was noted, plants with twenty-six and twenty-eight sheaths each. *Cymbidium eburneum*, plants, 4 to 5 feet across. The prettiest *Cypripedium* is considered to be *C. Morganæ*. Five hundred *Phalenopsis* in variety were in admirable condition.

CHRYSANTHEMUMS, &c.

About 11,000 of these in all the popular sorts are grown, and the plants are in rude health, giving promise of good results in the flowering season. Mr. Whillans recommends every one to grow Chambers' Victoria Violet. Some beds of it outside are now in flower, whilst all the others are over.

ROSES.

The principal varieties grown for cut work are *Souvenir d'un Ami*, *Perle des Jardins*, and *Niphetos*. Some American Roses are planted out on what is called "Henderson's plan," but they are not approved of. Mr. Whillans thinks if the roof of the structure in which they are grown were removed, and the plants "rested" in summer time, they might give satisfaction. Several houses of large dimensions are devoted to Palms, Ferns, and other foliage plants.

STRAWBERRIES, &c.

Noble is considered here excellent for forcing, some 4000 pots of it being grown for this purpose; *La Grosse Sucrée* and *President* are also favourites. In the Melon-house, Vines struck twelvemonths last January from eyes were carrying from three to four bunches.

Some Melons, planted in turves turned upside down, are doing splendidly. A hole is cut in the centre, and filled with strong manure-water three or four times, the edges being filled in with a little fine soil. The sorts grown are *Blenheim Orange*, *Hero of Lockinge*, and *High Cross Hybrid*. Some 200 fruits have been cut from this house.

A house, 158 feet by 16 feet, is devoted to *Royal George Peach*; the trees have lost a lot of flowers, but still there will be a good crop of fruit.

Tomato Blackwood Park is considered the best *Tomato* here. Canadian Wonder Bean is esteemed by reason of its growing quickly, and good bearing qualities.

Ellam's Cabbage had been in cutting ten days (this was on May 17). It is not a big Cabbage, but very solid and good. *J. H.*

HOME CORRESPONDENCE.

LEGUMINOUS CROPS AS SOURCES OF NITROGEN.—Probably in few parts of the world has the amelioration of sterile soils, by means of leguminous plants, received practical attention for so long a period as in Tuscany and some other provinces of Italy. It is a gently progressive, economical system, adapted to the genius of the people. Moreover, a great many estates consist wholly, or in part, of hill lands, suitable for the cultivation of the Olive and Vine, but very thin for Wheat, for which otherwise the climate is eminently adapted. On rich soils, the exigencies of the *Mezzadra* system demand that Wheat should be grown, and stable-manure being both scarce and dear, efforts have been naturally made in every direction to find substitutes. The system of ploughing-in green crops, such as Beans, termed "Sovescio," is certainly of high antiquity. In 1857, that distinguished agriculturist, Marquis Cosimo Ridolfi, in a series of lectures delivered to the cultivators of the Val d'Arno at Empoli (taken down in shorthand, and published in Florence), fully discussed the subject in its practical and scientific aspect, in so far, that is, as the science of it was then known. He was very desirous of extending the culture of good forages, such as *Lupinella*, *Hedysarum Onobrychia*, identical, I think, with *Sainfoin*, *Medicago sativa* and clovers, and he was very careful to point out that all these, like other leguminous plants, improved the fertility of the soil. *Lupinella*, he said, improved the "initial fertility" of the soil where it was in itself cultivated well, and sufficiently aided by manure, about one-third. "Dimodoché dove il grano potrebbe fare delle 9 farenbe delle 12," that is to say, "Wheat, which previously yielded nine

bushels, would give twelve for one sown." The present writer, like most of his neighbours in the province of Siena, has been engaged for some years in cultivating this, the finest of all fodders for working cattle, to a considerable extent, and his experience, and that of others, confirms that of the distinguished lecturer of thirty-five years ago, with regard to the increased fertility of the soil. It should be pointed out, however, that the land dealt with is of a cretaceous nature ("creta" being the name for that particular marl or clay used by sculptors to model with), and is highly adapted to the growth of leguminous forages, *Lupinella* above others, and naturally poor, or, as the expression is here, frigid, for Wheat. But, as the Marquis Ridolfi cautioned his hearers, *Lupinella* does not appreciably affect the fertility of the soil, unless it has itself been well manured. The practice adopted is to sow the seed among Oats, to cut the forage for three years, and on the fourth to dig or plough it in. The theory of the lecturer was that the plant, when it attained a certain development, was capable of drawing from the air what he called "azoto," and communicating it in increased quantities to the soil; but that it could not do this, at any rate to any appreciable extent, unless it first found that quality itself in the soil, and therefore that the land previous to sowing should, if possible, be liberally manured. Since the date of these lectures, the use of superphosphates has very much extended in Italy, but as a matter of economy, the writer has not found that they can be profitably employed on *Lupinella* crops. A much more initially expensive but speedier way of improving the fertility of the earth, is to sow Beans (the ordinary "fava") liberally treated with superphosphate. It is a remarkable circumstance that Beans when manured even highly with stable manure in these soils, even if they yield well in themselves, do but little good to the following cereals. Whereas in favourable seasons, Beans fertilised with chemical manure not only find their own yield doubled and even trebled, but actually double, and more than double that of the succeeding crop of Wheat. So profitable and secure seems the use of these manures in the way described, that certain small neighbouring proprietors of the writer who would not previously spend one centime as a rule upon "letame" to save their eye-teeth, and regarded the phenomenon of a "forestiére" sowing his Beans with pinches of black powder with amused contempt, now willingly pay good round sums even for the despised compound. *F. C. H., Firenze.*

WHITE AURICULAS.—I am sometimes applied to for white Auriculas, and I occasionally see a white form advertised, only, to my regret, to find that it is *Primula nivea*. Last autumn I saw in a Continental catalogue *Auricula Boule de Neige*, and obtained plants of it, wondering if it was the snowy alpine *Primrose* over again. To my delight it proved to be a plant with decided Auricula foliage, and mealed. The flowers are similar in appearance to those of *P. nivea*, but they open sulphur-coloured, changing to white as they age; it is a form later in blooming, and the flowers possess a certain amount of fragrance. I have tried on several occasions to get a pod of seed from *P. nivea*, but I have never succeeded. Whether I shall be more successful in the case of the *Boule de Neige* remains to be seen. I used to possess a large creamy-coloured Auricula with mealed foliage, which was sent to me from the Continent as a double white, but which proved to be only poorly semi-double, and somewhat disappointing. I tried seeding it for several years, in the hope of securing a double white, but failed. I unfortunately lost it through an accident, but it was only valuable as a curiosity among Auriculas. This season I have bloomed a variety which comes nearer to a true double white Auricula than anything I have before seen; the flowers are of good size, fully double, of good shape, the petals round; it opens of a pale sulphur-yellow, and pales to a very slight creamy-white. I think it must have come from a pale buff semi-double seedling I bloomed two years ago, and from which I managed to get a little seed. The leaves are destitute of meal. It is a good grower, and I shall look forward with much interest to what it will do another season. The double varieties are all late in blooming, and are rarely in flower at the time of the Auricula show. To do them full justice, they should be well grown, and would be helped by a little artificial warmth, to assist them in expanding their blossoms. *R. D.*

YELLOW AND WHITE POLYANTHUS.—Those who have never grown these in a mass should lose no time in setting about preparing a stock of plants for

next year. At the present time we have large beds wholly filled with them in separate colours, and a grand display they make. True, the yellow has two shades, deep and pale; but they harmonise so well that the combination is a gain rather than otherwise. They all have a good constitution, and make large robust foliage which covers the soil, thus tending to prevent the flowers being despatched with the soil from heavy rains. The flowers are borne profusely, twelve to twenty pips on one stork stalk which stands boldly erect, displaying the foliage to the fullest advantage. Although the colours come fairly true from seed, it is necessary to make a selection the first year of flowering, as some are inferior in quality, having very small flowers, and the colour may not be quite so clean as desirable. Seed should be sown in sandy soil in a cold frame at the end of June; if the frame be stood at the back of a north wall, the trouble of shading will be avoided. When the plants are large enough to handle, prick them out into light soil in a frame again, which should be lifted off them when they are thoroughly established in their new quarters. From here the plants will lift with a good ball of earth about the roots for planting in the beds, which is best done as early in October as possible, allowing 6 inches of space each way between the plants. When the plants have done flowering, take them up at once, remove the flower-stems, and divide the roots according to the number of plants required for the next season. A border behind a north wall will be suitable summer quarters for the plants, which we lay in rows 1 foot apart, and each plant 6 inches distance from the other. By dividing the roots at this season instead of the autumn, they will be in a much better condition to make a satisfactory start in their new quarters. *E. M.*

DATURA SUAVEOLENS.—The best specimen of this species that I know of is growing in a bed in the conservatory at Kooksbury Park, Fareham. It is fully 25 feet high, and when in full leaf measures 15 feet across. The branches are cut close in to the main stem in February every year, and a dressing of partly-decomposed farmyard-manure is forked in about the roots. Growth soon commences, and it flowers on continuously until Christmas, and sometimes even longer. I have tried both this and *D. Knightii* out-of-doors in the summer, but in consequence of the cold winds which often prevail after they are put out, the leaves get badly pruned, and the growth receives a check, which they seldom recover during the whole of the summer. It is only in extremely sheltered spots that they will succeed. *S.*

CANTERBURY BELLS.—These are highly esteemed in some gardens; and I find them useful for filling up bare spaces in the herbaceous borders. We have the plant set out in rows in the front of shrubberies, and a capital show they make, the flowers last a long time in a fresh state, and are useful for cutting. From the middle to the end of May is a suitable time to sow the seed, which may be sown on a vest border, first watering the soil if necessary; when the plants are large enough to handle, prick them out in an open piece of ground to become established. They should then be ready for their permanent place by October. *E. M.*

HESPEROCHIRON CALIFORNICUS.—This is the long name of a very short plant, which does not rise an inch from the ground. It makes a small ring of leaves, inside of which come thirty or forty short-stalked white flowers, something in the form of *Gentian* flowers, but the general appearance of the plant is that of a miniature *Primrose*, being about 4 inches across. It entirely disappears in July, reappears in April, flowers in May, and does not seem to get any bigger. This one plant has done this for ten years at least, and it is very pretty. I bought it of Mr. Ware, and two or three years afterwards, when I wanted more, he said he had lost it all. It grows in a sunny spot in a fine peat; once or twice it has ripened seed, which came up, but I lost all the seedlings but one, which is now flowering near its parent, and is about half the size. If I thought anyone else in England had the plant, it would give me less anxiety. My old plant settles the question of its character as regards duration, as *Asa Gray* says it is perhaps only a biennial. *C. Wolley Dod, Edgely Hall.*

PELARGONIUM ROLLISSON'S UNIQUE.—I observed a fine plant of this now seldom seen old favourite in flower recently at Highclere Castle, Newbury, the Earl of Carnarvon's fine seat. It occupies about 30 feet of wall space in one of the plant-houses, and was flowering most profusely—a perfect sheet of bloom, Mr. Pope, the gardener, informing me that it does so annually. *B.*

BASAL ROT IN NARCISSUS.—In a communication on this subject to the Scientific Committee of the Royal Horticultural Society, I appear to say that I lose thousands of the variety called *Troilus* every year by basal rot. This is a mistake, as I do not think I ever had a hundred *Troilus* in my garden. I meant to say, that thousands of Trumpet *Daffodils* of different varieties die in my garden every year, showing the symptoms of which I sent bulbs of *Troilus* as an illustration. *Daffodils* are planted in clumps in the mixed borders, and in three years have become so crowded as to be uncomfortable; it is impossible to find time to transplant them all, so the less choice are left to their fate, which, in the case of some varieties, is to die at once of this mysterious basal rot, and in others to pine away gradually year after year until they die out of starvation. *C. Wolley Dod, Edge Hall, Malpas.*

THE COLONIAL FRUIT TRADE.—A recent issue of the Hobart (Tasmania) *Mercury*, just to hand, contains an article of interest on the home and colonial fruit trade, and notable as having special reference to a well-known gentleman of Aberdeen, Mr. A. R. Gray. The writer discusses the encouraging nature of communications that have taken place on the subject with leading firms in several of the densely-populated centres in Great Britain, and continuing, says:—"But personal interviews with principals make the way much easier, and, quite unexpectedly, an opportunity for consulting a gentleman who is engaged in trade in Aberdeen, and a portion of whose business is devoted to handling fruit, has been afforded us through the courtesy of Mr. Connacher, Manager of the Tasmanian Fruit Growers' Company. Mr. A. R. Gray is the name of the visitor, and he is on a tour round the world in search of health. During his stay in Hobart, his attention has been attracted by the energy displayed over the shipment of fruit to the old country, and he has also remarked the prime quality of the Tasmanian fruit. He has heard of one or two instances in which our fruit has reached Aberdeen, but it is not generally known there, and by the time it has arrived in that city it has passed through many hands. As the city has a population of over 120,000, and forms the central distributing depot for the North of Scotland, it will be readily admitted that Aberdeen should be able to take a fair quantity of our fruit. Mr. Gray tells us that he places about 500 barrels of Canadian fruit per week in the season, and as at this time the home-grown fruit is in the market, Aberdeen must be a good consumer. The Canadian barrels contain about four times the quantity held by our fruit cases; therefore 500 of them would represent about 2000 cases. It may be supposed that Aberdeen could take from 500 to 1000 cases of Tasmanian fruit per week, and Mr. Gray considers that Glasgow could do with a very much larger quantity. Fast steamers trade between Aberdeen and London, and the fruit could be transhipped at the docks at a trifling cost. It would be much better that consignments should be made direct to agents in such centres as those mentioned, rather than let them be supplied by London buyers, who simply look for a profit in passing from one hand to another. We do not go into the details of cost of handling, commission, &c., but Mr. Gray thinks the charge for freight needs reduction in order to secure better returns to the growers. *W. K.*

THE FRUIT CROP.—The general fruit harvest, judging from present appearances, will be, I fear, a very disappointing one, as I find that our Pears are falling off wholesale, and that but few Cherries or Plums are swelling, which shows clearly that the frost of 10° destroyed them in embryo. The Apple blossom looks strong, and we may hope that has escaped injury; but in the forward state it was at the time the frosts came, we can hardly expect it to be so, as the buds must have been frozen hard, the effects of which must be bad. *J. Sheppard.*

THE ORIGIN OF CULTIVATED BEET.—I observe in the *Gardeners' Chronicle*, p. 626, May 14, a note on the "Origin of the Cultivated Beet," condensed from the *Annales Agronomiques*, and tracing it to Beta maritima, which is indigenous on the borders of the Mediterranean. I write to mention that Sea Beet grows wild on one or three places on the East Coast of Scotland—one is somewhere near Aberdeen—but another known to me for two years in a sunny corner of the garden of my coast-house in life. In the old Burgh of Craill, just under the Castle cliff, once inhabited by the Scottish kings. There are at east a dozen wild Beet plants growing there on a

steep rough bank of clayey soil, from 10 to 20 feet above high water mark, and with a south-easterly exposure. The plants remain green over winter, and seed themselves year by year. I have possessed the garden only for two years, and when I was rearranging the slope, a neighbour kindly told me what the plant was, and its extreme rarity. Whereupon I undertook not to disturb it, and to allow any botanist to come in and inspect it. *James Rankin, D.D., Manse of Muthill, Perthshire.* [Beta maritima is a common plant in most localities round the coast of these islands. *Ed.*]

WALLFLOWERS.—Very soon preparation will need to be made to raise a stock of plants for next year's flowering. One of the chief causes of failure with these deliciously-scented biennials is late sowing. In the southern counties, June 1 is a good time to sow the seed, and ten days earlier for the north is not too soon at all. The best plan I find is to well water the soil the day before sowing the seed, which is generally done on a border facing west. This is much better than having to water the beds after sowing the seed. In fact, I prefer to apply some shade for a week or so over the beds to maintain the moisture in the soil. Many make a mistake in allowing them to become drawn up



WILLIAM MARSHALL, Esq.,
Chairman of the Floral Committee, Royal Horticultural Society.
(SEE P. 690.)

weakly in the beds, owing to neglect in pricking them off directly they are large enough to handle. What is wanted is dwarf bushy plants, with numerous side-shoots, which will give spikes of flower, as well as the central one. Those plants which are crowded together in the seed-bed have seldom but one stem or growth. As to variety, this, of course, depends upon personal taste; for a dark colour, I find none to equal Veitch's strain, having tried many others, but all fail so much in colour compared to this. They do not appear to have that deep velvety tinge which is so pleasing in a dark Wallflower. There is no retention of colour, and they are a dingy brown directly the blossoms expand. The best yellow I know is Belvoir Castle, and it is not necessary to grow more sorts than the best one of each colour, except, of course, where double flowers are required. *E. M.*

RHODODENDRON FALCONERI.—We have had this species in our hardy fernery for years, and the plant has grown to be a bush, more than 12 feet high, but this is the first year that it has flowered, and I expected to see big blossoms, but they do not at all correspond with the size of the leaf, being small and bell-shaped. The colour is shaded lilac. This species of *Rhododendron*, however, is worth growing for its foliage alone, which is highly ornamental, the leaves being from 6 to 9 inches long, and half that in width, and coated beneath with a thick ferruginous down, and the upper surface is rugged and of a dull shade of

green, and the bark is smooth and polished, the whole plant having a striking appearance. As the plant has now lived in the open air in these gardens for so many years, there can be no question as to its hardiness, but it is worth mention that the spot where it stands is sheltered and not open to the early morning sun, which often does injury if it follows on a sharp frost, the thawing of the buds being then rapid. *J. Sheppard, Woolverstone Park, Ipswich.*

RHODODENDRON CAMPANULATUM.—Herewith are enclosed three small bits of *Rhododendron campanulatum*—the three are just about the size of one truss, and the blooms only half-size. The recent rain has destroyed the finest head, which I intended to send you, and to draw your attention to the fact that the plant is growing in the flower garden, with no protection, but well sheltered, not a mile from the sea. The plant is about 12 feet high, and nearly as much through, and flowers regularly, and about one month earlier than is the case this season, and, in consequence, it is liable to get its flowers frozen. In all probability, the plant has been in this garden for forty or fifty years. I saw a correspondent in your paper, a year or two ago, writing on this *Rhododendron*, saying that it was hardy in the south of England, and a grand conservatory plant. *J. F. Smith, gardener to the Countess of Seafeld.* [The pure white bell-shaped flowers, and dark green foliage, with light brown tomentum on the underside, make this species a very attractive plant, indoors or out. *Ed.*]

GARDENERS' ORPHAN FUND.—I must first apologise to you for encroaching on your valuable time and space, but as I am most anxious about the welfare of our Orphan Fund, I must ask you to give publicity to a few of my ideas. I was indeed surprised, on reading the account of it in your recent issue, to find the committee, on the strength of a very good dinner subscription, propose at once to place other children on the list of pensioners. It seems to me it would be far better to have a yearly ballot, and if our funds more than a rainy day, when we are not able to get a chairman who brings such good help to our need. I am sure the committee will forgive my airing my opinion, knowing how narrowly I watch the progress of the institution. *Charles Penny, Belle Vue, Salt Hill, Slough.*

STRAY LEA, HARROGATE.

THERE is always something good to be seen in flower at the above place, the residence of E. Beckett Faber, Esq., who is himself an ardent Orchid grower, and possesses some very fine specimens of many of the choicest varieties.

On a recent visit I noticed in flower some grand masses of *Cattleya Mendelii* and *Mossii*; also, in the same house (though not in flower) were nice pieces of *C. aurea*, *C. Gaskelliana*, *C. Dowiana*, *C. Lawrenceana*, and other leading varieties; also a splendid plant of *Vanda suavis*, with two lovely spikes, an excellent variety, this being the second time of flowering in twelve months. Some grand masses of *Lælia purpurata* were noticeable also.

In the *Cypripedium* house was a fine specimen of *C. grande* just passing out of flower, the remains of four spikes still being present, each of which had borne three flowers. The foliage was a perfect picture, being so gross, the whole forming a mass 3 feet across; also in the same house were three plants of *C. venustum*, each with two blooms; *C. hirsutissimum*, a fine plant just going over, but with two flowers remaining, showing it to be a good variety; *C. Lathomianum*, a fine specimen with eight strong leads and four flowers, was also noted. In the same house was a plant of *Anthurium Duvivierianum*, a variety of Continental origin—spathe pure white.

The chief feature among the Orchids was the *Odontoglossums*, of which there is a grand lot, nothing but varieties of sterling merit being retained. There are at present some charming varieties of *O. crispum* in bloom, and specially noteworthy were two, on account of the heavy blotches evenly distributed over the flower. Others, also very pleasing, were of a rosy tinge, all the flowers were of good size,

and of great substance; there were a quantity of others in bloom and spike, so there will undoubtedly be a grand show for some time to come. Others were also noticed, namely, *O. Uro Skinneri*, a good variety; *O. Halli*, with eleven flowers, well marked, a charming variety. In the same house were *Cymbidium Lowianum superbum*, a grand piece with three spikes, fifteen flowers on a spike; and *Oncidium macranthum*, a fine piece, with eleven blooms open, an excellent variety. A splendid basket of *Asparagus deflexus* (new) was hanging from the roof, and was exceedingly graceful-looking.

In another house was a splendid specimen of *Cypripedium villosum splendens* in a 15-inch pan, and carrying twenty-four blooms, and just now at its best. *C. Boxalli stratum*, just passing out of flower, had carried seventeen blooms. Passing on to the next house, I noticed a good collection of stove plants, including specimens of *Anthurium Scherzerianum* var. *grandiflorum*, *A. Andreanum*, *A. Madame E. Pynaert*, *Pandanus Veitchii*, *Bougainvillea glabra*; also nice plants of *Kentia Fostieriana* and *Belmoreana*, also *Geonoma gracilis*. The above were arranged most tastefully.

In the Croton-house were nice plants of *C. Heathii*, *Countess*, *Flambean*, *Queen Victoria*, *Prince of Wales*, *Warrenii*, *Lady Zeland*, and others; also a good collection of useful varieties of stove plants, especially adapted for grouping at exhibitions, in which Mr. Townsend, the head gardener, has for some years taken an active part; and the general healthy and clean appearance of the plants fully testify to the careful attention bestowed on them by Mr. Townsend. *Jno. Clayton, May 20.*

CLUB IN BRUSSELS SPROUTS.

Your correspondent, "R. D.," relates a remedy for this disease which is new to me, viz., a gardener practised the most successful way he knew by putting the plants in trenches 4 or 5 inches deep, and earthing up the stems of them as soon as the slightest sign of the disease manifested itself. A second production of roots, it is said, is thus induced to take the place of the first growth as they become destroyed by disease. But this surely cannot be more than a half remedy, and the crop must be much smaller than it would have been had the disease been entirely prevented.

As preventive agents, "R. D." quotes the favourite one, lime, and also wood-ashes, lime and soot, nitrate of soda, and common salt. In my youthful days, after I had studied Johnstone's *Agricultural Chemistry* and Carpenter's *Animal and Vegetable Physiology*, I pinned my faith to lime, as it was likely to neutralise the excess of vegetable acid of a low order which had been left in the soil by the decomposed roots of a succession of crops of the Cabbage family. But in practice this was found to be only a partial preventive. By placing a given quantity of lime in the soil in juxtaposition with the moisture containing the above-mentioned acid in solution, the strong affinity of the lime for the carbon of it caused the lime to partly return again to carbonate of lime or chalk, whereby a large portion of the acid was made inert or inactive, and, therefore, harmless so far to a future crop of Brussels Sprouts or any other kind of the Cabbage family. But to completely neutralise the amount of acid which accumulates during several crops of these plants in succession would be to commit the error of "over-liming," as Johnstone terms it; or to make the last state of the soil worse than the first, for hardly any crop would then grow vigorously on it.

The other articles mentioned, excepting perhaps the salt, and that cannot be relied on, as to use enough would be worse than over-liming the soil; but excepting the salt as only a partial preventive, the other agents come under the head of stimulants, and merely act by helping the plants to withstand the disease in the same way as the life of a patient suffering from consumption, or other wasting disease, is prolonged by an abundance of palatable and nutritious food, and stimulants.

Now the only expeditions, certain, and complete remedy for this disease, is to grow a cereal crop when it occurs. Wheat is the preferable kind of cereal, as it is a large feeder, and has a great capacity for digesting and converting into starch the carbonaceous acid mentioned. Sometimes, where the soil is low-lying, and naturally damp, even if well-drained, this acid may be so abundant in it that it would be advisable to grow a second cereal crop, as of Rye, after the Wheat. Plots or fields of soil so treated will then produce for several years crops of the Cabbage tribe, if alternated with Beans, Peas, Potatoes, and so on, without the least sign of club being developed on their roots. Cobbett's Maize, or Indian Corn, which I have grown to perfection in Surrey, other southern counties, and in the eastern counties, is an excellent preventive crop for this disease, but it is not so efficient as Wheat. It has a more horticultural appearance in a garden, however.

Apart from my own experience, I have had many opportunities—some made intentionally—for talking with market gardeners, and observing their crops as grown around London after heavy dressings of manure. The more highly crops of the Cabbage family are manured, the fewer crops of them can be grown in succession before clubbing becomes ruinous. This is because, the more a crop is forced into rapid and heavy growth, the more numerous and the larger their roots; and, therefore, the more of the carbonaceous acid in question is deposited in the soil.

As much complaint of this disease as I ever heard made was in a large market garden through which the Southend Railway runs at East Ham, Essex. This farm, too, was mostly light gravelly and sandy soils. The occupier gave deplorable accounts of his losses in past years. I suggested an abundance of lime, as I still had faith in it then. The occupier said, "That is very little use to me now, I have used it so often." I suggested stimulants, among which were some of the above. "They are no use, except to keep the plants just alive, and produce, what I call, a quarter of a crop." "But," I continued, "I saw your large field by the railway crossing, which is producing the cleanest, heaviest, and prettiest crop of Cabbages I ever saw growing." "Ah," he rejoined, "there is the evidence of the only perfect remedy for club. That field had two crops of cereals, Wheat first and Rye next, and this is only the second crop of the kind since. I can go on growing then at frequent intervals heavy crops of Cabbages, Broccoli, Savoy, Collards, and so on, for two or three years, when another crop or two of cereals must be grown." I said, "I suppose you do not care to grow cereals at present prices?" "Care to!" he shouted; "why, you see that field of Wheat and the Rye next to it, when I have cut, harvested, thrashed, and taken them to market, they will make from £10 to £14 perhaps, straw and all, but if I can make sure of crops of clean green stuff they will make £40, £50, or £60 a year."

I had a few more words to say, but I find I have written a long letter. But from what I have said, I trust my readers will be able to draw some definite and useful conclusions. I may add, that I have met with many similar cases to the above, where land has been cultivated as much as possible for producing green crops for the London and other markets.

As to the maggots mentioned, let me add, they are often taken for the cause, but they are only an effect. The slime-fungus mentioned in brackets is the first visible cause; but this, according to my observations, is the result of the acid acid acting on the delicate skin of the roots. When the club-roots begin to decompose, they stink like rotten Turnips, and in bad cases a plot may be smelt roots away. This foul scent attracts flies, which lay their eggs; and hence maggots are always present in advanced stages of this disease. *W. H. G.* [May not the old-fashioned plan of dipping the roots in clay puddle, i.e., fresh unmanured soil, before setting-out the plants have had the effect of preserving them for a time from the acid present in the soil, and in that way have proved an efficient palliative. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL.

Show in the Temple Gardens.

MAY 25, 26.—We are pleased to have to record another well-earned, genuine success for the representative Society of the Empire. The weather was favourable, the company large, and not only numerous, but, what is far better, appreciative. The exhibition was of a very high-class character, and so large, that, in spite of the four large tents, dense packing and overcrowding were unavoidable. There was a lack of fine specimen tree-Ferns, Palms, and Cycas, so that, as usual, the lines were somewhat monotonous. There were, however, some good groups of Palms at the end of the large tent. The Orchids were especially numerous and interesting. The huge bushes of pruned *Dendrobium nobile*, of which we hope to give an illustration in our next, excited lively interest amongst the fraternity. Messrs. Backhouse's rock-garden in miniature was a veritable gem that superlatives would spoil. Roses, Pæonies, and Ferns were well shown; and M. Linden contributed from Brussels a group of twelve new foliage plants, of great beauty and interest.

Bouquets and table decorations were neither numerous nor remarkable. The exhibits were far too numerous for us to notice more than a small proportion of them, but the following columns contain notes as to the more prominent and important of them.

The first tent coming from the Embankment Gate, contained Hardy plants, *Petunias*, *Gloxinias*, *Sprentocarps* and Ferns.

The second tent was filled with Orchids, *Begonias*, *Amaryllis*, *Gloxinias*, *Pelargoniums*, *Ericas* and Ferns.

The third tent contained Orchids, Roses, Palms, Azaleas, and miscellaneous Groups.

The fourth contained Bouquets, Table Decorations, Lilies, Tulips, Violas, Alpine Plants, Fruits, Vegetables, and New Plants.

NEW PLANTS.

The Horticulture Internationale (M. Lucien Linden), Brussels, exhibited a group of new variegated-leaved stove plants of more than ordinary interest. *Labisia smaragdina* is a Boreana plant, closely allied to *Ardisia*, and already represented in gardens by several pretty species introduced by the same firm. This new one is a dwarf plant with oblong obovate leaves, coloured dark olive-green, with the midrib and veins of a darker shade. It is an effective little plant. *Caladium sagittatum* has leaves shaped like those of the common Arrowhead (*Sagittaria*), coloured deep green, with a broad band of dull rose extending along the midrib, and a few grey blotches. *Dichorisandra angustifolia*, from Ecuador, is a pretty addition to this genus. It has leaves coloured like those of *D. muscica*, but narrower and longer. *Heliconia spectabilis* is like *H. metallica*; it has green leaves, with a chocolate-red midrib, and dark brown petioles. *Dieffenbachia melegria* has dark green leaves, with a few blotches of creamy-white, and the petioles thickly mottled with the same colour. The name is particularly apt, the marking of the petioles being very much like that of the Soake-head Frillfairy. *Stenandrium Lindenii*, named by Mr. N. E. Brown, is remarkably like a *Cyrtodeira* in general appearance, though quite distinct from any species of that genus in cultivation. It is dwarf and tufted in habit, with oblong dark green leaves, the midrib and principal veins lined with greenish-yellow. (First-class Certificate.) *Dichorisandra muscica* var. *gigantea* is a great improvement on the type. The specimen exhibited is a magnificent one, with stems 2 feet high, and leaves 9 inches by 5 inches, coloured exactly as in the type. (First-class Certificate.) *Tradescantia Regina*, from Peru, is evidently a free-growing plant, with lanceolate leaves 5 inches long, purple below the upper surface, banded with grey, as in *T. zebrina*. (First-class Certificate.)

Cyrtosperma ferox is exactly like *C. Johnstoni*, sometimes called *Alcaocia*, but the blade is uniformly green; the basal lobes, too, are exceptionally long (Botanical Certificate). *Peperomia metallica*, another new introduction from Peru, is a compact plant, with small oblong-lanceolate leaves, coloured like those of *Pellionia Daveauiana*. It may be *Pellionia*. *Smilax argyrea* from Peru, is an improvement on that pretty little greenhouse climber, *S. maculata*, The former has leaves 6 inches by 2

inches, green, heavily marbled with grey (First-class Certificate). *Tradescantia superba* is like *T. Regina*, but the leaves are not marbled (fig. 102).

Calla Eliottiana. This plant is one of the attractions of the exhibition. It has already been certificated, and Captain Elliott, the lucky owner, has frequently exhibited it. Evidently, the plant behaves well under cultivation. The scapes this year are fully 2 feet high, and the rich yellow spathe as large as those of a good *C. ethiopica*. No doubt, Captain Elliott's plant is a variety of *C. maculata*. By the way, we learn that others have recently become possessed of tubers of this *Calla*, and we may, therefore, shortly hear of its being procurable from the nurseries. So far, Captain Elliott has been the sole possessor of this really beautiful yellow-flowered *Calla*.

THE GROUPS.

The various groups of plants in the central and larger tent formed an important part of the whole, and in them were included a good many new or rare plants, which we shall mention in the places in which they occur. In the smaller tent, where fruits and miscellaneous articles were displayed, a part of the middle tables was filled by Mr. B. S. Williams, Victoria and Paradise Nurseries, Holloway, N., with many plants of the finest varieties of *Clivia* minists, of which we name some of the best, in Meteor, a rich vermilion-orange; *Ambrose Vieschaffelt Marie Reimers*, and *Van Houtte*.

This group contained some pretty double-flowered Ghent Azaleas and *A. mollis*, beautifully flowered, and in much variety of colour.

In the large tent, Messrs. Shuttleworth & Co., Albert Nurseries, Peckham Rye, S.E., occupied a good deal of the space at one end; a group of theirs occupying the space between the doorways, consisted of large and small *Cocos*, *Weddellias* and other species of Palms; some *Dieffenbachias*, *Dracenas*, *Crotons*, *Tillandsia masaiica*, *Acalypha*, *Pandanas*, with a number of *Lilium longiflorum* occupying the middle distance. These were clean, useful, well-grown decorative plants, that would have pleased better had they had a little more space. By the side of this, and separated from it by the path, was a corner group of *Cocos*, *Rhipsis*, and many young plants of *Cycas revoluta*, in very robust health, and ranging in height from 2½ to 4 feet.

Messrs. J. Peed & Son, Ruppell Park Nurseries, Ruppell Park, Norwood, put up a group in which *Anthuriums* in variety formed a large proportion, and amongst them we noticed *Ronpelli*, *Jeffersii*, *anguineum*, and *John Peed*, all of which are improvements, as regards size of spathe, on the type, *A. Scherzerianum*. The group was arranged in a sloping manner from the front to the back, the foreground consisting of *Caladium argyrites*, *Panicum variegatum*, *Crotons*, *Ferns*, &c.

To the right of this group, and apart from it, they had arranged a group of fine-looking *Caladiums*, consisting of some older and some new varieties. We remarked *C. Reine de Danemark*, *Gustave Chandon*, with a greenish-white leaf; *Mons. A. Hardy*, *Madame Groul*, with a very nice bronzy-green and crimson leaf; *Salvator Rosa*, *La Perle de Bresil*, white, with green veins; *John R. Box*, and *Excellent*, a fine bold, stiff leaf, with rich markings of crimson and white.

Messrs. W. Cutbush & Son, The Nurseries, Highgate Hill, staged a large and miscellaneous group, a little too much variety in it to look really satisfactory, albeit the quality of the materials was good. *Azalea indica* in variety, *Spiraea astilboidea*, *Hydrangea paniculata*, *H. Dr. Hogg*, *Rhododendrons*, *Lilies*, *Saxifraga pyramidalis*, the new *Epiphyllum Gaertneri*, *Erica ventricosa*, and others; *Kalsanthus jasmiflora*, pretty freely-flowered examples; and *Mignonette*, *Cutbush's Crimson*, formed the major part.

Messrs. R. Smith & Co., nurserymen, Worcester, came out well with *Clematis* in pots, and showed first-class well-bloomed plants of the following single-flowered varieties, *Blue Gem*, *Marie Lefebvre*, *Ed. Desfosse*, a small flower of light purple; *Purpurea elegans*, *Lady Dorothy Neville*, and *Sensation*, a lovely showy violet flower. The front of this group was filled with Japanese Maples, that helped to mask the big pots of the *Clematis*. Other plants observed in the group were *Boronia heterophylla*, full of its rosy-purple bells; various *Ericas*, *Pteris tremula densa*, with fronds 1 foot high, like the "best curled Parley."

The group exhibited by Messrs. J. Veitch & Son, Chelsea, was composed of new or rare plants mostly. We noted *Azalea "rustica"* flore-pleno Milton, with trusses of white flowers, and very free; it seemed like

a small-flowered Ghent Azalea. Of *Azalea mollis*, *Mons. Arthur Varelles* was good; also several *Moutan Paeonies*. *Hydrangea Hortense rosea* is a fresh-looking and compact growing plant, with its very large trusses of bright pink blooms sitting close down on the foliage. *H. Madame Schwartz* has large corymbs of pink flowers changing to white, and a habit that is very compact. Several species of *Cytisus*, viz., *C. filipes*, *C. scoparius*, *Andreas*, and *C. s. pendulus*; and *Acer palmatum septemlobum purpureum*, and *A. p. sanguineum*, gave a welcome relief in dark purplish-brown to the prevailing brightness. *Ribes pumilum aureum* is a miniature plant with small leaves of a yellowish colour.

Messrs. J. Laing & Sons, Stanstead Park, Nurseries, Forest Hill, S.E., contributed a group of plants that consisted chiefly of variegated-leaved *Crotons*, *Caladiums*, and *Coleus*, associated with *Lælia purpurata* in some variety, *Cattleyas*, *Vanda*, *Odontoglossum crispum*, and *Dendrobis*. *Croton Karreni* was the one distinct and fine variety shown. It has long strap-shaped, pendulous leaves, dark green and marbled with yellow and red. *Coleus Stanstead Beauty* may prove a good plant for the greenhouse. A few excellent *Cliveas*, *Anthuriums*, *Ericas*, and general decorative materials were included in the group.

ORCHIDS.

The exhibition of Orchids on this occasion, must, taken as a whole, certainly be considered the finest yet seen at these annual gatherings; not so much, perhaps, from the point of large specimens, although many were shown, as from the superiority of the varieties of many well-known species shown by various exhibitors. The arrangement also, speaking generally of the Orchids, was superior to any previous attempt, there being more harmony displayed throughout. *Lælias*, *Cattleyas*, *Odontoglossums*, and *Dendrobis* constituted the chief genera exhibited, whilst a few good *Vandas* were included, but, singular to say, few plants of *Saccolabium* or *Aërides* were shown, and these only the minor species.

Baron Schroder's (Mr. Ballantine, gr.) large and choice collection contained many fine grown specimens, being particularly strong in *Lælias*, *Cattleyas*, *Odontoglossums*, *Dendrobis*, and East Indian genera. In the centre of the group was a grand specimen of *Cymbidium Lowianum* with fourteen spikes. *Celogyne Dayana* (the necklace Orchid) was another remarkable specimen with twelve spikes, the longest between three and four feet in length. *Cattleya Skinneri* was a grand specimen with about a dozen spikes, with nearly as many blooms on each variety, one of the best being rich in colour. *Lælia purpurata* was well represented by the pure white forms with the rich purple lip; *Cattleya Mendelii* and *C. Mossie* were present here in the best forms; the *Odontoglossums* were shown in the finest varieties to be found in cultivation, most noteworthy being *O. Wilkeanum* (a superb spike), *O. cirrosum*, *O. Pescatorei* (the yellow variety) a delicately beautiful form; *O. crispum xanthotes* (a pure white flower with pale golden blotches); *O. cuspidatum xanthoglossum*; *O. Hallii xanthobon*, with fine forms; *O. crispum apium*, one of the very finest, with extra large flowers with dark chocolate blotches; *O. Pescatorei leucoxantha* (a pure white var. with golden lip), *O. vexillarium*, and *O. v. Cobbiana* (one of the largest forms). *Dendrobis* are well shown in *D. Jamesianum* and *D. nobile nobilis*; *Madevallias* by *M. ignea*, *M. Veitchii grandiflora* (extra fine); *M. Harryana splendens* and *M. H. armenica*; *Cypripedium grande* and *C. caudatum* with *C. selligerum majus* were all in fine form. Of the *Aërides*, *A. Savageanum* calls for particular notice, being of a deep crimson purple. This collection was too much crowded to do the choice exhibits the justice they deserved. A Silver Cup was awarded to the collection.

From C. J. Lucas, Esq., Warnham Court, Horsham (Mr. Duncan, gr.), came a varied group of choice varieties, the *Cattleyas* and *Lælias* being particularly fine forms. *C. gigas Sanderiana* with the lip of rich colour, *C. Mendelii* delicata, and *C. Mossie* in the best condition, *C. Leopoldi* (seldom seen). *Lælia purpurata* was here shown in several varieties with much variation in colour; *Miltonia vexillaria* was present in highly coloured forms, with several plants of *O. crispum*, *Dendrobium Phalaenopsis* var. *Schroderiana*, *Madevallia chimera* and *Dendrobium Dearii* also call for special notice. A Silver Cup was awarded.

From Sir Trevor Lawrence, Bart. (gr., Mr. W. White), came a most noteworthy and grand display, like that from Baron Schroder, in many points of a unique character. This collection was particularly strong in *Madevallias* (for which Sir Trevor

is famous), and many *Odontoglossums*, in the finest forms. *Cypripediums* were also shown here, in the very best and choicest kinds; *Madevallia Harryana sanguinea* (very bright in colour), *M. Harryana* (several specimens), and many of the smaller species were well represented. *Odontoglossum citrosum* here shown in profuse bloom, the paler forms being remarkably fine and particularly chaste in colour; *O. luteo-purpureum radiatum*, *O. crispum*, in choice variety, and *O. excellens* also call for special notice. Of *Cattleyas*, *C. Mossie* Wagerii, the pure white form with an inner marking of pale golden-yellow in the lip, was here seen in splendid form; *C. Mendelii* and *C. Mossie* being also well represented. Of *Dendrobiums*, the finest were *D. thysiflorum*, and *D. Dearii*, whilst *Cattleya Mendelii* were shown in splendid condition. *C. Lawrenceanum*, *C. Veitchianum*, *C. Curtisii* (extra fine blooms), *C. levigatum*, and *C. Schroderae*, all call for special notice, the cultivation being of the finest possible character. *Phalaenopsis grandiflora* was also staged here as it is now rarely seen, the spike bearing ten extra fine flowers. *Vanda teres* and *V. suavis* were both shown in good flower; also *Acridis falcatum Leonis*, and *A. f. Houtianum* (both fine forms), other good things were *Dendrobium Lowii* (a beautiful yellow species), *Cattleya citrina*, and *Odontoglossum maculatum*. This collection was not so much crowded, and being backed by graceful Palms, presented an imposing display. A Silver Cup was also awarded this collection.

From F. Wigan, Esq., Clare Lawn, East Sheen (gr. Mr. J. H. Young), came a small group of well-grown plants, included amongst which were fine plants of *Lælia purpurata* and *Cattleya Mendelii* (the latter another fine variety with high-coloured lip), with some twenty or more flowers; *Grammotophyllum multiflorum* (2 bore two strong spikes, one fully developed flowers of a pale green colour, spotted with dark brown. *Dendrobium suavisimum*, *Cypripedium* in variety and *Phalaenopsis speciosa*, completed an excellent group. A Silver-gilt Flora Medal was awarded to it.

F. C. Jacob, Esq., Cheam Park, Surrey, showed a capital group of *Cattleyas*, amongst which were very fine varieties of *C. Mossie*, *C. Mendelii*, and *C. gigas*, all bearing blooms of extra size and vigour; *Dendrobium thysiflorum* and *Miltonia vexillaria* being also shown in good form. A Silver Flora Medal was awarded.

From Viscountess Portman, Buxted Park, Sussex (Mr. Prior, sp. gr.), came three of the finest plants of *Dendrobium nobile* probably ever seen at any show; these are specimens some 6 or 7 feet through, in the highest degree of health, with flowers upon the bulbs throughout their entire length, this in many instances being quite 4 feet, bearing one mass of bloom. To these grand plants a Silver Banksian Medal was awarded, the award being hardly commensurate to their merits as a whole. This exhibit is all the more interesting from the fact of the discussion upon the merits and demerits of the pruning system, these being the plants grown upon the pruning principle advocated by Mr. Princeps, which is with him certainly a great success.

Amongst trade exhibits, Messrs. B. S. Williams & Son showed a large group; included in this collection were several extra-fine plants of *Vanda*, *V. suavis* being staged in profusion, and *V. tricolor formosa* (a fine form), very distinct. These were the best *Vandas* in the exhibition. A fine specimen of *Cymbidium Lowianum* formed a central object, being flanked by *Calanthe masuca*, now seldom seen in such fine condition as this one, the spikes being of extra vigour; *Miltonia vexillaria*, and fine varieties of *Odontoglossum crispum*, helped greatly to make a fine display; *Oncidium concolor* stood out distinct by reason of its colour; *Dendrobium thysiflorum* *Walkerianum*, with extra long spikes, was a distinct variety; *Lælia purpurata* was staged here with strong growths and large trusses; this collection also embraced *Cypripedium selligerum majus*, *C. grande*, *C. caudatum roseum*, and *C. Morganiæ*, all in the best of health, with several *Odontoglossums*, *O. luteo-purpureum* and vars. *O. Hallii*, and *Miltonia strelata* (a distinct acquisition). An award of a Silver-gilt Flora Medal was made.

Messrs. Sander & Co.'s exhibit was remarkable for the many unique examples of new and rare kinds, amongst these were *Odontoglossum Pescatorei* *aplatum*, a pale form, with fine blooms, and a strong spike; *O. excellens*, a pale variety; *O. Amesie*, a variety with large and distinct blotches, resembling *O. crispum*, but is more vigorous; *O. crispum Sanderi*, a highly-coloured form, rich in its markings; *O. crispum Wellsianum*, the petals pure

white, the sepals blotched, and both of extra breadth; *O. Bleii* splendidissimum, after the best types of *Miltoia vexillaria*; *O. Pescatorei* Schroderae, pure white; *O. Andersonianum* virginalis, pure white ground, with faint markings; *O. Lowianum*, very distinct. *Miltoia vexillaria* was present in many fine forms. Of *Dendrobiums*, *D. Phalaenopsis* Schroderiana stood out remarkably distinct, both pale and dark varieties being represented. Amongst *Cypripediums*, note should be taken of *C. Chamberlainianum*, of which several plants were shown in good form; also *C. Chamberlainianum* excellens, a variety with a lighter dorsal sepal, otherwise not distinct from the type. *C. bellatulum* with extra fine flowers was also shown. *Cypripedium Wallisii*, of the *Selenipedium* group; *Oncidium Gravesianum*, a promising addition to its class; *Epidendrum Godseffianum* and *E. Randii*, *Phaius Sanderiana*, and several fine forms of *Cattleyas* were also staged. Among the latter were *C. Mendelii* (Cookson's var.), with flowers of remarkable size, the lip equal to the best variety of *C. gigas*. *Vanda Sanderiana* bore a spike of eight fine blooms; whilst *Dendrobium Desei* was in its best character. This collection gained an award of a Silver Cup.

Messrs. Charlesworth, Shuttleworth & Co., Bradford, &c., staged an excellent group of great variety, here were to be seen *Oncidium macranthum* in grand form; *O. Wilckeanum* nobilior, with paler-coloured flowers than the type; *Cymbidium Lowianum*, *Odontoglossum triumphans*, *O. crispum*, extra; *O. Harryanum*, a strong spike; *Oncidium crispum* grandiflorum, a fine specimen of cultural skill; *Laelias* and *Cattleyas* in profusion, with *L. grandis tenebrosa* besides *L. purpurata* and *C. Mendelii*. This group was remarkable for many fine plants of *Oncidium macranthum* which it contained, and if more space had been afforded it would have added to the effect as a whole. It well merited the award of a Silver Cup.

Messrs. H. Low & Co., Clapton, staged a grand group, chiefly consisting of *Cattleyas* and *Laelias*, which in point of numbers and excellence as a collection was second to none in the show, occupying two-thirds of the centre along one side in one marquee. Here were some splendid varieties of *C. Mossie* and *C. Mendelii*, in some instances the colours in both being very rich. One form of *C. Mossie*, called *Venus*, has a well-defined margin of pure white upon the lip. *Cypripedium voluteum*, singularly distinct, and *C. Lawrenceanum* are shown well, likewise *Dendrobium macranthum* in profusion. *Cattleya citrina* and varieties of *Phalaenopsis* were also included with several well-grown *Odontoglossums*. A Silver-gilt Flora Medal was allotted to this group.

Mr. James Cypher, Cheltenham, staged a collection of plants denoting the highest cultural skill. Here were *Cypripedium caudatum* (in grand form, rich in colour), *Dendrobium devonianum*, and *D. Bensoni*. *Laelia purpurata* was represented by many fine varieties, of *C. Mossie grandis*, a good plant, was shown. *Miltoia vexillaria* and *M. v. gigantea* were remarkably fine; *Cymbidium Lowianum*, *Oncidium spheculatum*, with *O. concolor*, made a good show; *Epidendrum radicans* also being shown in the best of health; *Cypripedium caudatum* roseum was here to be seen, with tails some 2 feet in length. Award, a Silver Cup.

Messrs. Lewis & Co., Southgate, staged a small group of choice kinds, including *Oncidium macranthum*, *Cypripediums* in variety, embracing *C. caudatum* in fine form, and *C. Southgatense*, a variety with extremely dark flowers, slightly past its best, but evidently a good variety; also *C. Haynaldianum* virens, a pale form, with *Cymbidium Lowianum* viride, in which the lip is destitute of the dark markings. Award, Silver-gilt Flora Medal.

Messrs. Heath & Co., Cheltenham, showed a good group, amongst which was a grand specimen of *Cypripedium Lawrenceanum* and another of *Cattleya intermedia* with the same of *Cymbidium Lowianum*, and smaller plants of *Cattleyas* and *Laelias*; of the latter, *L. purpurata magnifica* is a noteworthy form. *Cattleya Schroderae* and *C. Mossie Hardyana* are also in fine order. A Silver-gilt Flora Medal was adjudged to this group.

CERTIFICATED ORCHIDS.

Messrs. Sander & Co., received a Certificate for *Odontoglossum crispum Sanderi*, a dark form, the colour chiefly a rich rosey-crimson on a pale ground; for *O. Lowianum*, a natural hybrid, apparently between *O. triumphans* and *O. luteo-purpureum*; the ground colour a pale brown, in form of flower

not unlike *O. grande*, but smaller. For *O. Bleii* splendidissimum, a hybrid between *O. vexillarium* and *O. Roelzii*, being intermediate between the two, having flowers the size of the former parent, with the character of the latter; for *Phaius Sanderiana*, now in much better form than when recently shown, and then given an Award of Merit.

Messrs. Lewis & Co., Southgate, received a Certificate for *Cypripedium southgatense*, a dark-coloured hybrid, and a near neighbour to *C. bellatulum*.

To Captain Vipan, Steppington Hall, Wansford, was awarded a Certificate for *Cypripedium Vipan*, a hybrid between *C. levigatum* and *C. niveum*, in which the character of the flower is after the latter parent, but the size considerably increased; this is one of the lightest-coloured hybrids yet raised, being nearly of a pure white, with rosy purple veining.

Awards of Merit were assigned to Messrs. Sander & Co. for *Cattleya Mendelii* (Cookson's var.); this is quite a major form, with bluish coloured sepals and petals; the lip extra fine, more after *C. gigas* in colour and size, also deeply fringed. *Cypripedium Chamberlainianum* excellens; a lighter coloured variety of this now well-known Orchid, the dorsal sepal being its distinctive feature.

Messrs. Lewis & Co. secured a certificate for *Cymbidium Lowianum* viride, a form with the lip void of the dark pencillings of dark bronzy-crimson as seen in the type.

Messrs. Charlesworth, Shuttleworth, & Co. were adjudged a First-class certificate for *Odontoglossum Wilckeanum* nobilior, a pale form best described as *O. triumphans*, with much lighter colours in its blossoms.

Mr. James Cypher received a similar award for *Laelia purpurata Handleyana*, a variety in which the distinguishing characteristic is the intense colouring of the lip, a deep rich vinous purple.

Botanical certificates were awarded to C. J. Lucas, Esq., for *Zygopetalum graminifolium*, a small growing species with a pale purple lip and darker sepals and petals, and grass-like growth; to Messrs. Sander and Co. for *Epidendrum Godseffianum*, a strong growing species with rather loose spikes, and flowers of a yellowish-brown, and a light lip; and for *Oncidium Rolfeanum*, after *O. crispum*, but with smaller flowers, also lighter in colour.

A Silver Banksian Medal was awarded to the remarkably fine specimen of *Coleogyne Dayana*, to which allusion was made in the collection of Baron Schroder.

ERICAS.

One sees now, nothing more than small plants of *Ericas*, the show specimen being almost universally absent in competitions; and Messrs. Hugh Low & Co.'s group, admirable as it was, in other respects, contained only plants of market size, capably bloomed certainly. The group consisted of *E. ventricosa rosea*, *E. v. grandiflora*, *E. v. globosa alba*, *E. v. superba*, *E. v. coccinea*, *E. v. magnifica*, *E. v. Bothwelliana*, *E. v. tincta*, *E. hybrida*, *E. perspicua*, *E. Cavendishiana*, &c. Associated with the *Ericas* were plants of *Pimelea Hendersoni*, *Cestrum* (*Habrothamnus*) *aurantiacum*, rarely seen in flower of such small size; *Polygala Dalmaisiana*, &c.

AMARYLLIS.

Messrs. B. S. Williams showed a group of *Amaryllis* of their usual good quality, the flowers small, but of good form and colour. Dr. Masters is still one of the best of its kind. Other good varieties were Morning Star, Distinction, Empress of India, Lothair, and Junius, a fine dark-coloured flower with distinct green star.

Messrs. Kelway & Son also showed cut blooms of *Amaryllis*, among various other subjects.

GLOXINIAS.

These were shown to the best advantage by Messrs. Veitch & Sons, Exotic Nursery, Chelsea, who staged a collection in the full flush of their beauty, rich carmine-coloured varieties being very prominent. Of netted and margined varieties, there were a few very fine ones, among them *Cicely*, *Ariadne*, *Clio*, and *Orion*.

Messrs. J. Peed & Sons, Roupell Park Nurseries, Brixton, had a large collection also of good quality, varied in colour, but which had suffered somewhat in journeying to the show. A pure white variety was very good. Messrs. James Carter & Co. also had a large collection, many of them exceedingly rich in colour, and all of fine quality. They were set up in a tasteful manner, intermixed with Ferns and small Palms.

HARDY HERBACEOUS AND ALPINE AND OTHER PLANTS.

These formed a somewhat extensive feature, and greatly helped to fill some of the tents. Plants in pots were furnished by the Hardy Plant Nursery Company, Milford, Guildford, who had a collection largely consisting of alpine arranged in a tasteful manner in baskets, as is their wont; and they were backed by dwarf plants of *Daphne*, *Rhododendron*, *Azalea*, &c. The leading subjects in the collection were *Ramondia pyrenaica* in variety, *Cypripedium pubescens*, *C. acaule*, *Dianthus* in variety, *Viola pictata alba*, *Gem montanum*, &c.

Mr. M. Pritchard, nurseryman, Southborne, Christchurch, had a collection which included *Anthericum*, *Lilium*, *Tulips*, *Aquilegia*, the *Edelweiss*, *Doronicum plantaginaceum* excelsum, *Papaver nudicaule*, in variety; *Iberis gibraltarica*, *Gentiana verna*, &c. The choicest exhibition of this character was that set up by Messrs. Backhouse & Son, nurserymen, York, and arranged as a piece of alpine rockery. It was backed by *Filmy* and other Ferns, *Bamboos*, &c., and the subjects were arranged so that the individuality of each was well displayed. The leading plants were *Dianthus alpinus*, *Gentiana verna*, *Trollius* in variety, *Lychnis virginea*, *Anemone alpina*, *Dodecatheon integrifolia*, *Gentiana picea*, &c.

Messrs. Paul & Son, The Old Nurseries, Chesnut, also set up a large collection in pans and pots, and in addition a group of cut flowers, among them *Trollius*, *Paeonies*, *Lupines*, *Phlox frondosa*, *P. setacea atropurpurea*, *Edraianthus serpyllifolius*, *Tulips*, *Narcissus*, *Doronicum*, &c.

Messrs. Wallace & Co., nurserymen, Colchester, had a fine group of *Lilium eximium giganteum*, finely grown and flowered.

Messrs. W. Cutbush & Sons, The Nurseries, Highbate, had a large collection, mainly of cut flowers, which included handsome bunches of *Centaureas*, *Narcissus*, *Paeonies*, *Doronicums*, *Gladioli*, *Trollius*, *Anemone*, *Poppies*, *Liliums*, *Pyrethrums*, &c., set up with foliaged plants.

Messrs. Kelway & Son, Langport, sent one of their highly-meritorious and well-arranged collections, comprising *Canas*, generally of dwarf character; *Paeonies*, *Pyrethrums*, and *Iris*; among the *Canas* were *C. Marquet*, orange red; and *M. Duterail*, orange scarlet. Among the *Paeonies* (single) were *James Kelway*, deep scarlet; *Rev. W. Wilks*, bluish; *Orme*, crimson-maroon; *Pearl*, white; *Prince George*, purple; the old species *Corallines*, said to have been found on Sheep Holmes, an island in the Bristol Channel; *Will*, delicate pink; *A. J. Balfour*, carmine; and *Mr. Stuckey*, white. Single *Pyrethrums* also made a very pretty feature; *Ayrshire*, bright crimson; *Carnea stylosa*, bluish; *Albert Victor*, brilliant deep crimson; *Mary Anderson*, large bluish, &c. There were also collections of cut *Iris* from the same exhibitor.

TREE-PEONIES.

A large collection of these from Mr. T. S. Ware, Tottenham, found a place in the large tent. They were represented to be importations from Japan, and were generally of good character, *Snowflake* a beautiful and finely formed white variety found many admirers. *Reine Elizabeth*, an old crimson form, is still one of the best.

CALCEOLARIAS.

made a good feature, and some very dwarf but admirably grown and flowered plants of a very fine strain, came from Messrs. J. James & Son, Florists, Farnham Royal, Slough. The strain is famous for its dwarf compact habit, and high quality. From the gardens of Elmstead, Streatham Hill, the residence of Thomas Gabriel, Esq., came a collection of well-grown plants, of taller growth, clean, well-bloomed, and of excellent quality. Messrs. James Carter & Co., Seed Merchants, Holborn, contributed from their Forest Hill Nurseries, a collection of a very good strain, which were seen to the best advantage, nicely arranged with Palms, Ferns, &c.

CARNATIONS.

It was a little too late to have the winter-flowering varieties, and too early for those which bloom in the summer. In the large tent, Mr. Jennings, gr. to Leopold de Rothschild, Esq., Ascot, Leighton Buzzard, had a group of some two dozen plants of that fine yellow ground, *Almira*, the plants admirably grown, and carrying good heads of fine flowers.

From Mr. Ralph Crossing, Penarth, came plants of a flesh-coloured seedling from *Souvenir de la Malmaison*.

TULIPS.

Two collections of these were staged, one by Mr.

James Douglas, gr. to Mrs. Whitbourn, Great Gearies, Ilford, who had of bizarres, Everard, Dr. Hardy, Victor Emanuel, and Sir Joseph Paxton; of Roses, Sarah Heady, Charmer, and Aglaia; of byblomems, Mr. Jackson, Talisman, and Duchess of Sutherland. Dr. Hogg, Stillyans, Sussex, also had a collection, which like Mr. Douglas's flowers, lacked perfect marking; these included, of bizarres, Sir J. Paxton and George Hayward; Byblomems, Duchess of Sutherland, Sarah Heady, and Rose Apollo. Some pretty rose breeders were also found in this collection.

ROSES.

Messrs. William Paul & Son, Waltham Cross Nurseries, Herts, had a large group of pot roses and magnificent cut blossoms, which bore evidences of good culture and selection. Amongst the many striking varieties, we noticed Paul Neyron, an immense pink variety; Merveille de Lyon, almost white; La France; Princess May, a beautiful Tea, which was awarded an Award of Merit; Zenobia, a very excellent hybrid perpetual; Clio, a very light flesh colour; and Spencer, a new hybrid perpetual, flowers very large and pink.

Another good collection of Roses in pots came

Azaleas in white, yellow, and many degrees of pink and red.

Messrs. Paul & Son, Old Nurseries, Cheshunt, had a box of cut bloom of a variety of Rhododendron Fortunei (Mrs. Chas. Butler), a sweet-scented hardy variety with large blooms of very faint pink. Another seedling had much deeper coloured blooms. Some good blooms of seedling Azalea mollis were included with this exhibit.

BEGONIAS.

An immense group of double and single-flowered varieties of Begonia were exhibited by Messrs. Cannell & Sons, Swanley, Kent, and amongst good varieties too numerous to mention, the following each obtained an Award of Merit:—Duchess of Westminster, single and large, of a rich coral colour, rather deeper at centre; Leopold de Rothschild, a large bright rosy-crimson double—this variety had flowers as large as those of a good Camellia.

Messrs. John Laing & Sons had an equally meritorious collection, where the visitor could also see the remarkable perfection to which this flower has now been brought. This exhibit consisted mostly of double varieties, although there were some good single ones also. Laing's Triumph, good large

with a crimson spot; Compactum, a free, fine variety; Volonté alba, Radiant Rose, Bard, Fimbriata alba, Mr. Stanley, and Sir Trevor Lawrence.

Mr. H. J. Jones, Ryecroft Nursery, Hither Lane, Lewisham, contributed a large group of small plants, wonderfully well-bloomed. We mention a few of his most telling novelties and others. Jos Blake, a glowing crimson; Maréchal, a dark flower; Princess of Orange, not new, but nice; Jules Ferry, Marie Malet, a fine white-ground flower; Mrs. Stone, rosy-purple, and very pretty; Duchesa of Bedford, white.

Messrs. H. Low & Co., Clapton, showed a small lot of finely-bloomed stuff, in which Princessa Beatrice, a semi-double white, with a pinkish suffusion; Prince of Pelargoniums, a brilliant flower of the decorative type; and Bush lilil, a semi-double flower, striped with rose; Prince Henry, a bright decorative kind; and St. Blaize, a glowing crimson flower, with a black spot, stood out pre-eminently.

FLORAL DECORATIONS.

Messrs. Perkins & Sons, Coventry, had a very large and beautiful collection of floral decoration, including bouquets, sprays, wreaths, baskets of flowers, glasses arranged specially for table decoration, &c. A floral arrangement representing a harp attracted considerable attention, but such designs are not to be commended on the score of good taste. The framework was composed of Eucharis, Lilies, Roses, Stephanotis, &c., on a ground-work of Ferns, and the strings were represented by small blooms of Bouvardias strung together on slender strings of Asparagus.

Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, had a display of his arcadian floral decoration, which were of a tasteful and light appearance. Some of these were composed of flowers all of one colour, whilst others were of mixed flowers interspersed with the whole were Ferns and grasses,

CUT FLOWERS.

Iris.—These were shown in several collections of hardy flowers, and are mentioned under that heading. It is yet too early, owing to the retarding character of the season, to have them in quantity.

MISCELLANEOUS.

The hybrid Streptocarpus of Messrs. J. Veitch & Sons, Chelsea, of which a large number were shown, excited much attention from the visitors, many of whom at first sight supposed them to be Gloxinias. The plants were nicely-grown, well-bloomed, and in great variety.

Messrs. Veitch also showed a group of the hybrid *Dian Veitchii*, raised between *D. grandiflora* and *D. racemosa*. The flowers are of a beautiful shade of rose.

Messrs. Carter & Co., seed merchants and nurserymen, High Holborn, London, exhibited what is with them a new departure—a collection of Cacti, Mamillaria, Epiphyllum, Cereus, Gasteria, Aloe, Euphorbia, Phyllocactus, &c. The collection consisted of small plants chiefly, but it was of interest to lovers of these plants, from its great variety. This firm also showed a pretty lot of *Petunia*, both double and single-flowered—those named Emperor with double flowers being exceedingly showy, having large, rich-coloured flowers. The double Rosette *Petunia* were likewise admirable. The Mimulus, Queen's Prize, shown by this firm, still holds its own as one of the best obtainable from the trade.

A pretty group of *Viola* blooms, and cut blossoms of Sweet Peas, the whole of good merit, was exhibited by Messrs. Dobbie, Rothesay, Scotland, and was awarded a Silver Medal.

Captain Elliott, of Farnborough Park, showed plants of a (so-called) seedling *Calla*, with leaves of a deep green colour, fully marked with small white spots. The spathe is of a rich yellow. We should be glad to know the history of the plant.

FERNS.

In Messrs. Birkenhead's exhibit were represented all the various classes. Among the *Adiantum* were *A. Veitchii*, *A. fabellatum*, *A. excisum nanum* (a very pretty compact form), and the beautiful North American *A. pedatum*, a deciduous species. On the Continent this is used extensively for decoration, imported clumps being started early in the season in warmth. It has not yet come into use for our London markets.

Platycerium were well represented, and included *Willinkii grande*, *Wallichii*, and *Stemmaria*. *Davallias* included *Veitchii retusa*, *pentaphylla elegans*, *pycnolepis*, &c. *Gymnogrammas* comprised some rare and distinct species, *triangularis rufa*



FIG. 102.—TRADESCANTIA VIRGINICA, L. Lind. and Rod.

from Messrs. Paul & Son, Old Nurseries, Cheshunt, and which were grouped together in a corner in a tasteful manner. These included standard and other trained plants, of excellent quality. Amongst the different varieties, we noticed Céline Forestier, Hon. Ella Gordon, Chas. Lawson, Caroline Kuster, Etoile de Lyon, Beauty of Waltham, &c.

H. V. Collins, Esq., Field Lane, Alvaston, near Derby, exhibited something over 100 cut blooms of Maréchal Niel, all of which had been cut from one plant. A group of Roses in pots came from Mr. Wm. Rumsey, Joyning's Nurseries, Waltham Cross, including Niphetos, Madame Hoste, Madame de Wateville, General Jacqueminot, Dr. Andry, &c.

AZALEAS AND RHODODENDRONS.

Messrs. B. S. Williams & Son, Upper Holloway, had groups of the following:—Azalea mollis, with some very pretty colours; Ghent Azaleas (seedlings), in semi-double forms, such as Byron, white, with a tinge of yellow; Apollo, a very pale bronze; Ribéron, white, with a little pink; and Virgile, the older blooms of which were quite white. Rhododendron Williamsii, a good greenhouse variety with white flowers.

From Mr. Anthony Waterer, Knap Hill Nursery, Woking, Surrey, came a magnificent group of Ghent Azaleas, containing some of the most exquisite shades. Mrs. Anthony Waterer, a new seedling of this group was awarded a 1st class certificate. This exhibit also included a number of double hardy

double bright coral variety, obtained an Award of Merit, as did also another double variety called Picotee, with flowers of a light pink colour, but the tips of the florets, a rosy pink, thus giving the bloom an appearance somewhat like a Picotee, a very distinct variety. A similar award fell to Duchess of Westminster, a single flower, bright carmine with white eye.

Mr. T. S. Ware, Hale Farm Nurseries, also staged a group of Begonias, double and single, including some new seedlings. Bexley Gem is a good close flower, of a bright rose colour, and double.

PELARGONIUMS.

As befits the season of the year, these were largely shown; but few were of large size, and those few came from such a well-known exhibitor as Mr. C. Turner, Slough. Mr. Charles Turner, Royal Nurseries, Slough, had a large group of plants, of show size, and also small. Amongst the former, mention should be made of Cloth of Silver, Mona Desmoulins, Princess of Teck, Alice, Rosetta and Excellent, all of these being beautiful varieties, flowered in Mr. Turner's usually good style. The desirable and pretty varieties, Blue Beard, with a decided shade of blue colour in the flower, Mountain and Ruth were among the small plants.

Messrs. J. & J. Hayes, Lower Edmonton, well maintained their position as market growers by the number and good quality of their exhibits. They showed Pelargonium Princess May, a flower of a warm pink,

being among them. *Pellea ornithopus* a very elegant little Fern, *Nothochloa rufa*, another handsome little species, *Lygodium palmatum*, *Cheilanthes viscosum*, *Nothochloa Newberryi*, *N. cordata*; *Asplenium prolifans* are interesting Ferns of the smaller growing forms, *Polystichum concavum*, a bold and effective Fern; *Lomaria fluviatilis*, some nice examples of the filmy Ferns, and a great number of other choice Ferns, the whole forming a most interesting and attractive exhibit.

The hardy Ferns which were arranged separately, formed a most important exhibit, being remarkably bright and fresh in appearance, and including a great number of beautiful varieties, *Athyrium f. f. plumosum elegans*, *A. f. f. Pritchardi*, *A. f. f. Craigii*, *A. f. f. kalothrix*, *A. f. f. plumosum multifidum*, *A. f. f. Friezelia coronata*, *A. f. f. corymbiferum purpureum*, *Scolopendrium digitatum majus* (a very fine form), *ramo-cristatum*, *grandiceps*, *Lactaria cristata fimbriata*, *Polystichum angulare Pateyi*, *Asplenium lanceolatum*, *microdon*, some very pretty crested and tasselled varieties of *Blechnum* and many others would be worthy of note if space would allow.

Mr. H. B. May, of Edmonton, showed an extensive group, representing all the most useful decorative Ferns. *Adiantum* included about fifty species and varieties of *aculeum* and *elegans*; there were several distinct forms, one named *excellum* was the most distinct; *curvatum*, *Veitchii*, *macrophyllum*, *bipinnatum*, *glacophyllum*, *venustum*, and several forms of *A. capillare* - *venustum* were among the most conspicuous. Crested *Pteris* were represented by some of the most distinct forms, *nobilis* being the most noteworthy, *P. tricolor*, *P. moluccana*, *P. serrulata gracilis*, *P. s. gigas*, *P. f. tremula grandiceps*, *P. f. Smithiana*, and *P. Victoria*, are worthy of note; *Nephrolepis* included some effective varieties, among them being a very pretty seedling called *N. recurvata*, somewhat intermediate between *N. tuberosa* and *N. philippensis*. *Gymnogrammas* included the best gold and silver forms, both normal and crested forms; also the curious *G. trifoliata*, the fronds of which attain to a great length. The group included, besides the decorative forms, many choice species. Among the smaller-growing sorts may be noted *Hemionitis cordata*, *Actinopteris radiata*, *Asplenium formosum*, *Cheilanthes Eckenlonia*, *Pellea ternifolia*, *Pteris geminifolia*, *Anemia collina*, and several pretty *Davallias*. Among the more conspicuous *Acrostichum drynarioides* (a fine specimen), *Platynerium grande*, *Marattia Cooperi*, *Cyathea Hookeri*, and others. The group also included some very pretty *S-laginelias*, *S. elegans* to which a first-class certificate was awarded, is a compact growing form, forming little cup-like growths somewhat like *S. Browni*, but more compact in habit.

Messrs. R. Smith & Co. showed *Pteris tremula densa*, a densely crested form of *P. t. Smithiana*. This Fern could hardly be identified with the type, the ordinary pinnæ being entirely suppressed, the fronds terminating in a dense tuft of finely cut midrib growths; in general appearance it somewhat resembles *Athyrium f. f. acrocladon*.

Fruits and Vegetables.

A very fine exhibit of picked fruits of Strawberries in boxes, also plants of the same sorts in pots very finely fruiting, were staged by Mr. Norman, gr. to the Marquis of Salisbury, Hatfield, and to which a large Silver-gilt medal was awarded. The sorts were *Vicomtesse Hélicart de Thury*, very good; *Auguste Nicaise*, twenty-five wonderful fruits, averaging two ounces each, and specially high coloured and handsome; *Sir C. Napier*, very fine also; *Marguerite*, *President*, and *Noble*. It is doubtful if finer samples of any pot-grown fruits have ever been shown than were some of those from Hatfield. The pot-plants had ripe from eight to ten fruits each. A capital sample of *Sir C. Napier*, rich in colour, came from Mr. Thompson, gr. to Messrs. W. & E. Wells, Hounslow, to which a Cultural Commendation was awarded.

From Mr. E. Peters, gr. to J. L. Mansell, Esq., Guernsey, came six very good bunches of Muscat of Alexandria Grapes, fairly ripe and sweet, but still green, and devoid of flavour. A Cultural Commendation was given, but not unanimously. A superbly-coloured dish of Hale's Early Peach was sent by Mr. W. Armstrong, Toddington Nursery, Winchcomb, Gloucester, which obtained a Cultural Commendation. A dish of Brown Turkey Figs, from Nostell Priory Gardens, obtained a Vote of Thanks. Six Hero of Lockinge Melons were shown by Mr. T. Bowie, Netherlands, Reading, but the tasted fruit lacked flavour. A Vote of Thanks was awarded.

Four fine Melons, of an unnamed variety, shown by Mr. Henderson, gr. to Earl Manvers, Thoresby Gardens, secured a Cultural Commendation, but, because unnamed, were not tasted.

A very fine collection of 40 fruit trees in pots, including 18 plants of a fine new unnamed seedling Nectarine, from Lord Napier, the fruits large, and of rich colour, coming in one month before its parents; also Early Beatrice Peach, with ripe fruit; Alexander Peach, Parrot, Beacon, and other early Peaches; ripe Mayduke Cherries, Oranges in fruit and flower, &c., came from Messrs. Rivers & Son, Sawbridgeforth, and very deservedly secured the award of a Silver-gilt Medal; with these also were four dishes of fine Apples, Belle de Pontoise, very large; Buckingham, Jacquin, and Allen's Everlasting.

A First-class Certificate was awarded to Mr. C. Ross, Welford Park Gardens, for Armored dessert Apples, yellow skin, russety, flattish-round, handsome, and of very pleasing flavour. This variety had previously received an Award of Merit. The same exhibitor also showed two dishes of seedling Apples of inferior merit.

From Mr. G. W. Cummins, gr. to A. H. Smee, Esq., Hackbridge, came a very nice collection of twenty good dishes of Apples and ten of Peaches. The former included Lord Derby, Wellington, Wadhurst Pippin, Hoary Morning, Norfolk Bearer, and Claygate Pearmain; and of Peaches, there were good samples of Catillac, Uredale's St. Germain, Plus the Ninth, Water Rance, and Ballissime d'Hiver. A Silver Banksian Medal was awarded.

Messrs. Jas. Veitch & Sons, Chelsea, staged a fine collection of sixty dishes of Apples, with a few Peaches. Of Apples, there were Northern Pippin, Barnack Beauty, Grand Duke Constantine, Newtown Pippin, Alfriston, Duke of Banfort, extra fine; Seaton House, Lane's Prince Albert, &c.; also fine Catillac Peaches. A Silver Medal was awarded.

Some forty varieties of Apples in single fruits were sent by the Agricultural Department of Victoria, but many were small and had become somewhat disfigured by bruises. The best were Gooseberry, a handsome greenish-cold variety, Munibois Favorite, Fallwater, and Capper's Pearmain. A Vote of Thanks was awarded.

A similar award was made to Mr. Müller, gr. to Lord Foley, Ruxley Lodge, Essex, for two baskets of Apples, Beefing and Yorkshire Greening, and a large quantity of Mushrooms. A remarkably fine exhibit, that attracted special attention was to a grand lot of Cucumbers, some sixty fruits in boxes, and four fine boxes of Tomatoes from Mr. Mortimer, Swiss Nursery, Farnham. The Tomatoes included Perfection, very fine; Large Red, and Conqueror. The Cucumbers comprised Success, a very handsome smooth deep green sample, 20 inches in length—one of the most perfect sorts seen. This unanimously received a First-class Certificate, and, like all Mr. Mortimer's varieties, will be sent out by Messrs. Sutton & Sons, Reading. Also was there very handsome Matchless, Certificated last year; Sutton's A I, Lockie's Perfection, and Improved Telegraph. A Silver Banksian Medal was awarded to the collection.

Mr. Burton, Upper Courts, Slough, showed rather coarse fruits of Lockie's Perfection, to which a vote of thanks was awarded.

A quantity of a strong growing curled Cabbage Lettuce, growing in boxes, came from Mr. Beckett, gr. to H. H. Gibbs, Esq., Aldenham House, Elstree; it was named Harbinger, and was exhibited as suitable for forcing. The sample was not regarded as suitably blanched, and it was hoped that stock would be tried at Chiswick next year.

Official List of Awards.

FIRST-CLASS CERTIFICATE.

To *Pteris tremula densa*, from R. Smith & Co.
To *Dichozandra muscica gigantea*, *Labisia amarantifolia*, *Smilax argentea*, *Stenandrium Lindeni*, *Tridacantha Regine*, *T. superba*, all from M. J. Linden of Brussels.
To *Azalea*, Mrs. Anthony Waterer, from Anthony Waterer.
To *Pteris serrulata gracilis*, from H. B. May.
To *Scolopendrium crispum fimbriatum* and *digitatum majus* from J. F. Rickard.
To *Selaginella elegans*, from H. B. May.

Awards of Merit.

To Begonia, Leopold Rothschild, from H. Canell & Sons.
To Begonia, Duchess of Westminster (Lainé & Son), from J. Lainé & Son.
To Begonia, Picotee, from J. Lainé & Son.
To Begonia, Lainé's Triumph, from J. Lainé & Son.
To Tree Peony, Snowflake, from Thos. S. Ware.
To Tree Peony, Crane, from Messrs. Kelway & Son.
To Tea Rose, Princess May, from W. Paul & Son.
To Gloxinias, Clio, Cicely, and Charibel, from J. Veitch & Sons.
To Carnation, Mrs. H. Canell, from H. Canell & Sons.
To Dracena Bartlettii, from J. Lainé & Son.

To Croton, Reidii, from J. Lainé & Son.
To Seedling Lobelia, Barnard's Perpetual, from H. Barnard.
To Pelargonium, Princess May, from J. & F. Haye.
To Carnation, Mr. G. Devas, from Maria R. Smith.

AWARDS OF THE ORCHID COMMITTEE.

First-class Certificates.

To Messrs. F. Sander & Co., St. Albans, for *Odontoglossum crispum Sanderi Tourjanum*; *Bleu's Splendissimum*, and *Phaius Sanderianus*.
To Messrs. Lewis & Co., Southgate, for *Cypripedium Southgatei*.
To Captain Vipan, Slippington Hall, Wandsford, for *Cypripedium hybridum Vipan*.

Awards of Merit.

To Messrs. F. Sander & Co., St. Albans, for *Cattleya Mendelii*, *Cookson's var.*; and *Cypripedium Chamberlainianum* *excellent*.
To Messrs. Lewis & Co., for *Cymbidium Lowianum viride*.
To Messrs. James Cypher, Cheltenham, for *Laelia purpurata Handleyana*.
To Messrs. Charlesworth, Shuttleworth, & Co., Hinton, Bradford, for *Odontoglossum Wilckeanum nobilior*.

Botanical Certificates.

To Messrs. F. Sander & Co., for *Epiliden from Goleffium*, and *Oncidium Rolfeanum*.
To C. J. Lucas, Esq., Warrham Court, for *Zygopetalum geminiflorum*.

Silver Banksian Medal.

To Baron Schroder, for *Coleogyne Dayana*.

SILVER FLORA MEDALS.

To Messrs. G. Paul & Son, for Alpines and Cut Flowers.
To Messrs. Laing, for Hardy Cut Flowers.
To Messrs. Dobbie, for Sweet Peas, &c.
To Messrs. Shuttleworth, for Ferns and Foliage.
To Messrs. Jas. Veitch, for Gloxinias and Streptocarpus.
To J. C. Jombag, Esq., for Orchids.
To Leopold de Rothschild, Esq., for Carnations.
To Messrs. Rumsey, for Roses.
To Mr. J. Haye, for Pelargoniums.
To Messrs. Low, for Ericas and Pelargoniums.
To Messrs. Peed & Sons, for Cut Flowers.
To Messrs. Wallace, for Lilies.

SILVER GILT FLORA MEDALS.

To Messrs. Carter, for Gloxinias, Calceolarias, Pelargoniums and Mimulus.
To the Earl of Portman, for Orchids.
To F. Wigan, Esq., for Orchids.
To Messrs. B. S. Williams, for Azaleas and Amaryllis.
To Messrs. H. Low, for Orchids.
To Messrs. Hea & Co., for Orchids.
To Messrs. Lewis & Co., for Orchids.
To Mr. H. B. May, for Ferns.
To Messrs. Backhouse, for Alpine Plants.
To the Guildford Hardy Plant Co., for Alpine Plants.
To Messrs. Barr, for Cut Flowers.
To Messrs. Kelway, for Peonies.
To Messrs. Laing, for Begonias.
To Messrs. Canell, for Begonias.
To Mr. Ware, for Peonies and Cut Flowers.
To Messrs. G. Paul, for Roses.
To Messrs. Turner, for Pelargoniums.
To Messrs. James, for Calceolarias and Pelargoniums.
To Messrs. Shuttleworth, for a Mixed Group.
To Mr. Ware, for Begonias.
To Messrs. Perkins, for Bouquets.
To Messrs. B. S. Williams, for Orchids.
To Mr. G. F. Huggins, for a Group of Plants.
To Messrs. J. Peed & Sons, for a Group of Foliage Plants, Caladiums, and Anthuriums.
To Mr. H. Jones, for Pelargoniums.

SILVER BANKSIAN MEDALS.

To H. Mayhew, Esq., for Foliage Plants.
To Messrs. Reid & Borneemann, for Group of Plants.
To Mr. M. Pritchard, for Alpine Plants.
To Messrs. Cutler & Co., for Hardy Cut Flowers.
To Messrs. Chard & Sons, for Table Decoration.
To Miss Hassell, for Table Decoration.
To Messrs. Peed & Son, for Ferns and Foliage.
To Capt. Elliott, for Calceolarias.
To Mr. J. Gabriel, for Calceolarias.
To Mr. S. Mortimer, for Tomatoes and Cucumbers.

SILVER KNIGHTIAN MEDALS.

To Messrs. J. Veitch & Sons, for Apples and Pears.
To A. Smee, Esq., for 23 dishes of Apples and 1 Pears.

SILVER CUPS.

To Baron Schroder (an Williams Memorial Medal), for Orchids.

To Messrs. Sander & Co., for Orchids.
To Sir Trevor Lawrence, Bart., M.P., for Orchids.
To Messrs. Cypher, for Orchids.
To C. J. Lucas, Esq., for Orchids.
To Messrs. Shuttleworth, for Orchids.
To Messrs. Laing, for Mixed Group.
To Messrs. James Veitch & Sons, for Mixed Group.
To Messrs. W. Paul, for Roses.
To Messrs. Rivers, for Fruit Trees.
To Mr. A. Waterer, for Azaleas.
To Messrs. Cutler, for Mixed Group.
To Messrs. Birkenhead, for Ferns.
To Messrs. Smith, for Clematis.
To the Marquis of Salisbury, for Strawberries.

FRUIT AND VEGETABLE COMMITTEE.

To Mr. S. Mortimer, Surrey, for a Collection of Cucumbers and Tomatoes.
To Messrs. J. Veitch & Sons, Chelsea, for a Collection of Apples and Peaches.

Silver-gilt Flora Medal.

To Lord Salisbury, Hert's, for Strawberries.

To Mr. T. F. Rivers, Sawbridgeforth, for Fruit Trees in P.t.s.

First-class Certificates.

To Mr. S. Mortimer, Surrey, for Seedling Cucumber, "Success."
To Colonel Archer, Hounslow, Newbury, for Apple "Amoua."

Cultural Commendations.

To T. L. Mansell, Esq., Guernsey, for Muscat Grapes.
To Mr. A. Henderson, for Melons.
To Messrs. W. & E. Wells, Bournemouth, for Strawberries.
To W. Armstrong, Gloucester, for Peaches.

Scientific Committee.

MAY 17.—Present: Dr. M. T. Masters, in the chair; Mr. Morris, Mr. McLachlan, the Rev. W. Wilks, and the Rev. G. Henslow, Hon. Sec.

Orchids Attacked by Beetles.—With reference to the case brought before the last meeting, Mr. Pascoe reported that the beetles were *Phytophaga*, belonging, he believed, to the genus *Galeruca*. Although they were on imported *O. chidis*, he considered them like an English species.

Basal Rot.—Mr. Michael reported on this subject as follows:—"I have examined the *Narcissus bulb* sent up by Mr. W. Dod, and affected with 'basal rot.' The bulbs looked rather gnawed, and I found one or two *Rhizoglyphus echinopus* on one of them; but, in spite of the destructive character of this mite, it hardly seemed to me that there were enough to have done the damage. The bulbs were decayed just at the base, and nowhere else. There was fungus there, and they looked to me rather as if from some cause water had collected just round the base of the bulb, and had caused a sodden and unhealthy condition. I also examined some 'rusty' *Narcissus bulb*s, sent by Mr. Hlaydon, of Hatfield Vicarage, Doncaster, and received by me from Mr. Morris, of Kew. These bulbs were awarming with the same *Acarus* (*Rhizoglyphus echinopus*), which is quite capable of originating the destruction seen in the bulbs, and of carrying it out, with the assistance of the decay which naturally sets in on the wounded surfaces where the mites have been eating. The bulbs also contained *Anguillula*. I believe some species of these are originators, some followers of decay. The *Rhizoglyphus*, however, is quite sufficient to have done the damage, whether the worms assisted or not." Mr. Morris observed that, in the case of the "rusty" bulbs forwarded to Mr. Michael by him, they were carefully examined by fungologists at Kew, and no fungus was present, as in those sent by Mr. Doi. Mr. Haydon mentions in his letter to Mr. Morris that three were seedlings from Cambricus; the others were a variety called *Miriam Barton*. The rusted *Cernuus* had been all burnt. Mr. W. Dod has written to observe that there was a mistake in the report of the last meeting, in that *Trilium* is not a variety which is subject to basal rot. His words were:—"I enclose specimens belonging, in this case, to the variety *Trilium*, which show how thousands go off with me every year." He now writes:—"I meant to say that thousands of Trumpet *Daffodils* of different varieties die in my garden every year, showing the symptoms, of which I sent bulbs of *Trilium* as an illustration."

China Silk.—Mr. Morris exhibited a specimen of this so-called material having the appearance of fine cat-gut, and read a report from the Foreign Office as follows:—"A very strong 'silk' (t'yn tam), or locally 'paddy insect' (din tang). This grub is found on a sort of Maple, the Fong tree, or *Liquidambar formosana*, Salisb. When the insect is full grown it is thrown into boiling vinegar, on which the 'head' of the gut or 'silk' appears. This is sharply torn out with both hands drawn apart, and is as long as the space between them—say 5 feet. It is so strong that one single thread of it is sufficient to make a line with which to catch the smaller kinds of fish."

Hellebore with Curled Leaves.—Mr. Dod sent leaves of *H. niger* var. *maximus* with the segments of the leaves inrolled, so as to form closed tubes. He writes as follows:—"Can you suggest any reason for the curling up of the leaves? It takes place every year, and in some plants it seems to be spreading. They do not recover from it; the whole growth, including the flowering, is deteriorated. The plants most affected are in a border under glass, but not heated, but it occurs on those out-of-doors as well. I have tried more water, less water, top-dressing, syringing, fungicides, anti-mildew, smoking, &c., but ineffectually. I can never see any insects on the leaves." The only suggestions the committee could offer were, either the possible attempt to protect the upper surfaces from the chill due to radiation, as is the prevailing habit with leaves generally when unfolding from the buds; or, since the undeveloped leaves of some other *Ranunculaceae* plants, as *Pæonia Moutan*, have the edges of the segments partially inverted, it may arise from an arrested condition of growth, the margin becoming more and more inrolled as they grow.

Monstrous Fuchsia.—Mr. Morris exhibited a spray from Kew, one flower being hypertrophied, apparently from synanthry or a fusion with another, while the other was somewhat atrophied in having only

three sepals, as is often the case with the first flowers that expand in the *Fuchsia*.

Tea-plant Diseased.—Mr. McLachlan showed a specimen badly attacked by some mycelium received from Assam. It was forwarded to Kew for examination.

Ficus elastica Fruiting.—Mr. Wythes sent a fine spray of this plant with several fruits upon it. Unlike ordinary *Ficus* this species bears very diminutive fruit. It is not often known to produce them in this country.

Cephalotaxus.—Dr. M. T. Masters exhibited, on behalf of Mr. G. Croucher, a bough, showing the leaves partly spreading around the stem in all directions, and partly pseudo-dictyous; the first form has been called *Taxus* 'Harringtoni,' &c., but it is (like the Irish Yew) merely an accidental occurrence.

Tsuga Mertensiana.—He also showed a bough of this plant bearing male flowers, which are not often to be seen.

Odontoglossum crispum.—A flowering branch was received from Mr. Bull, all the flowers being apparently abnormal. In one examined by the Secretary the two posterior sepals were coherent, the third was wanting; the three petals were present, but all alike except in size. The two posterior of the three stamens of the outer whorl were present; but the anterior, and all three of the inner whorl, were suppressed. The three carpels were present, but the ovary chamber was greatly distorted, the placentae, usually prominent, not being traceable; the stigmatic depression was nearly obsolete. The above details were traceable by means of the distribution of the vascular cords. There appeared, therefore, to have been a tendency to suppression along the median plane.

Cypripedium caudatum Reversed.—Mr. Douglas sent a branch with two blossoms; one was normal, the other completely reversed, showing the correct position of the labellum, which is ordinarily upside down.

Tulip Fasciated.—A specimen of a Tulip was exhibited, having three smaller-flowered peduncles adherent to it. Not having the bulb, it could not be seen whether the smaller Tulips arose from lateral bulbs, or whether the whole was a multiplication of the main stem.

SCOTLAND.

BOTANICAL SOCIETY OF EDINBURGH.

THURSDAY: May 12.—This Society met in the evening at the Royal Botanic Garden, Dr. Christian, President, occupied the chair.

Professor Balfour intimated that Dr. George Watt intended soon to present his very extensive collection of the economic and other plants of India to the herbarium.

Mr. William Sanderson exhibited the following *Orchids*, *Oncidium phymatocaulum*, *Miltonia Warcewiczii*, *Dendrobium Bensoniae*, *D. Dalhousianum*, *Oncoglossum nebulosum*, *Masdevallia Shuttleworthii*, *M. coriacea*, *M. ignea*, *Lælia cinnabarina*, &c.

Mr. Neill Fraser showed fine strains of *Polyanthus* from selected seed.

A large number of plants were shown from the Royal Botanic Garden, including *Daphne rupestris*, *Erpeticon reniforme*, *Gentiana verna*, *Primula alida*, *P. intricata*, *P. longiflora*, *P. reticulata*, *Ranunculus Trautvetterii*, *Saxifraga arctioides*, *S. flagellaris*, *S. virginensis*, *Darlingtonia californica*, *Drosera auriculata*, *D. binata*, *D. dichotoma*, *D. filiformis*, *Masdevallia leontoglossa*, *Rhododendron lepidotum*, *R. Nuttallii*, and *Xanthoxia rotundifolia*.

Dr. Sprague exhibited closely felted balls of *Posidonia*, found by himself near Antibes. They are formed by the motion of the water in which they lie. Similar *Algoid* and *Pine-needle* balls were shown from the class museum.

A number of models of the vascular tissues of flowering plants, and a series illustrating various methods of grafting, were described by Professor Balfour.

Mr. A. N. M'Alpine, B.Sc., described an improved germinating apparatus, and gave the results of his experience of its utility in the case of agricultural seeds sent to him as botanist to the Highland Society. In the discussion which followed, objections were

taken by Mr. A. Mackenzie and Mr. J. Grieve as to the results obtained in such an apparatus being a true indication of the capability of the seed to produce healthy plants if put in the ground, and advocated a return to pot culture. Mr. M'Alpine replied by pointing out that the apparatus was used by him simply to find out what percentage did germinate at all, but that, nevertheless, it was quite easy to tell by observation of seeds so germinated whether they were capable or not of producing healthy plants.

Mr. James Terras, B.Sc., sent a paper on "The Occurrence of Tannin in *Dacrydium Franklinii* and *D. cupressinum*."

Dr. Wilson submitted observations on the structure of the flower, and the method of dissemination of the fruit of *Barnadesia rosea*.

Report on Temperature, &c., for April at the Royal Botanic Garden, by Robert Lindsay, Curator.—The month of April was for the most part excessively cold and dry. Vegetation in consequence is in a very backward condition. Hardy spring flowers are late, and many of them injured by frost. Most forest trees were still in their winter condition at the close of the month. The thermometer was at or below the freezing point on eleven occasions; the total amount of frost registered for the month was 72° as against 56° for April, 1891. The lowest readings were on the mornings of the 14th, 22°, 12th, 21°, 16th, 23°, 17th, 22°, 18th, 23°. The total amount of frost registered this season up to the end of April is 630°, as against 611° for the same period last year. The following is the distribution for each month:—October, 20° of frost; November, 41°; December, 83°; January, 136°; February, 112°; March, 156°; April, 72°. The lowest point reached this season was 7° Fahr., or 25° of frost, which occurred on February 19 last.

On the rock garden, 119 species and varieties came into flower during the month, the same number as for last April. Among the more interesting were *Andromeda fastigiata*, *Arnebia echinoides*, *Draba aizoides*, *Dentaria enneaphylla*, *D. pentaphylla*, *Epigaea repens*, *Erythronium giganteum*, *Pachystigma Canbyi*, *Petrocallis pyrenaica*, *Primula cashemiriana*, *P. rosea*, *Ranunculus montanus*, *Ranunculus chamaecistus*, *Salix Sadlerii*, *Saxifraga Boydii*, *S. retusa*, *Trillium grandiflorum*, *Xanthorrhiza apitifolia*. Of the forty spring-flowering plants whose dates of flowering are annually recorded, the following came into flower:—*Draba aizoides*, on April 3; *Omphalodes verna*, April 4; *Adonis vernalis*, April 9; *Aubrietia grandiflora*, April 9; *Narcissus Pseudo-Narcissus*, April 11; *Corydalis solida*, April 10; *Hyocyamus Scopolia*, *Symphytum caucasicum*, April 25.

On Temperature, &c., at the Botanic Garden, Glasgow, during April. By Robert Bullen, Curator.—Another unusually cold wintry month falls to be recorded. Frost was registered on ten mornings, the total readings for the month being 56°, but frequently the temperature was at or little above the freezing-point, probably owing to the distant hills being heavily clad with snow, which fell frequently on a few days about the middle of the month. Apart from the snow, the rainfall was very light. Vegetation is in a backward state; the hardest kinds of herbaceous plants and the earliest-leaving deciduous trees are equally backward with more tender subjects. An old plant of *Cydonia japonica* which I have had occasion to note in former years as being in bloom in January and February, is only in bloom at the end of this month.

PRESENTATION.

On Friday evening, Mr. Cameron, gardener, Farglen House, N.B., was presented by a few of his friends with a handsome marble clock and silver watch and chain. The clock bore the following inscription:—"Presented to Mr. Robert Cameron, gardener, by a few of his friends, as a mark of their respect, on his leaving the employment of the Abercromby family at Farglen, after a service of thirty years, May, 1892." Mrs. Cameron was also pre-

sented with a beautiful tea service, and Miss Cameron with a silver brooch. Mr. Marr, gardener, Hatton Castle, made the presentations. Mr. Cameron feelingly acknowledged the gifts.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.

A well-attended meeting of this Association was held in the Young Men's Christian Institute, Aberdeen, on Wednesday evening, the 18th inst., Mr. France, President, in the chair. A committee, appointed on a suggestion by the President to consider the advisability of altering the name of the Association, reported that they had resolved unanimously to recommend to the annual meeting that the Association be designated in future, "The North of Scotland Horticultural and Arborescent Association." Further, the committee reported that they had under consideration the question of differential rates of subscription, and considered that the only change necessary was that suggested at the last general meeting, viz., to fix the subscriptions of apprentices at 1s. per annum, and give awards for essays, &c. It was decided to recommend the adoption of the proposals to the annual meeting. The Secretary reported that he had communicated with Sir Arthur Grant, of Monymusk, asking that the members of the Association be permitted to visit Monymusk on June 2. Sir Arthur had replied that he would be glad to see the members on the date mentioned. The next business on the card was a paper on "Daffodils and Narcissi," by Mr. A. Hope, of Exeter, and which was read by the Secretary, Mr. G. C. Minty. The paper was much appreciated, and a hearty vote of thanks passed to Mr. Hope. A fine display of Daffodils and Narcissi and other spring flowers was on view in the room.

THE CLOVE TRADE OF ZANZIBAR.

The importance of Zanzibar as a commercial centre has attracted a good deal of attention of late, and the development of its resources naturally led us to consider the value of its vegetable products; among these gum anime from *Trachylobium vernicosum*, of course, takes a prominent position as being the gum or resin which fetches by far the highest price of any similar gum for varnish making, and considering that at the present time varnish makers are paying as much as 2s. 5d. per lb. for cleaned Sierra Leone copal, and this in quantities of a ton or so at a time, there would seem to be a good chance for developing the anime regions not only of Zanzibar, but of any other locality where fossil or good hard resins can be found.

With Zanzibar, however, there is another product closely associated with its welfare, namely, the Clove, and our contemporary the *Chemist and Druggist*, has some interesting remarks on the subject. As a proof of the rapid growth of the trade of Zanzibar, it is stated that our imports from thence in 1886 were worth only £120,222, but that in 1890, they had grown to £722,893, while the exports in the same period advanced from £251,421 to £521,190. Since the publication of those figures, a new British Political Officer, Mr. Portas, has been sent to Zanzibar, and has assumed practically the government of that island. The city has been declared a free port, and sundry other reforms have been initiated, which will, no doubt, contribute largely to its commercial importance. A big cloud, however, obscures the commercial sky of Zanzibar at this moment, namely, the over-production of Cloves, its staple article of trade. Since the Clove tree was first introduced in the islands, about sixty years ago, it has been an enormous source of wealth to the Arab landowners and to the Sultan. There have been periodical depressions in the price before, but until about three years ago, 6d. to 7d. per lb. was considered a very low quotation, and once, after a hurricane which destroyed the greater part of the plantations, the value of Cloves rose to 1s. 7d. per lb. in the London market. Lately, however, the Clove crops have become larger and

larger, and they are now almost every season greatly in excess of the world's estimated annual consumption, which is about 80,000 bales, of 140 lb. each. As a result, the price (3½d. per lb.) has fallen within measurable distance of the lowest point it has ever touched—namely, 2½d., in 1860—when, however, there was no export duty, or, at any rate, a much smaller one than at present.

The London warehouses are burdened at this moment with a stock of not less than 31,000 bales, and the quantities warehoused in America and on the continent are also known to be exceedingly heavy. The cause of the present depreciation of Cloves lies exclusively in the short-sighted policy of the Arab plantation owners in the islands of Pemba and Zanzibar, who have neglected the culture of all other products which they might have reared with profit upon their fertile soil, and turned every available acre of land into a Clove plantation, without the least thought of the inevitable effect of their action. Telegraphic information received this week states, that the Arab landowners have presented petitions to Mr. Portal, declaring that they are ruined by the low price of Cloves and the scarcity of labour, and asking for a reduction of the Clove tax. There is no doubt that, sooner or later, these demands, so far as the reduction of the export duty is concerned, will have to be granted—the puzzle will be, where to find a source of revenue which will recoup the Sultan, to whom Mr. Portal stands in the relation of a kind of *maître du palais*, for the loss of the mainspring of his income. The reduction of the 25 per cent. export duty the growers probably think would give them a fair margin of profit; but there is no doubt that if it were abolished to-morrow, it is not the Zanzibar Arabs, but the European Spice dealers and oil-distillers who would profit, for quotations here would certainly answer with a corresponding fall. The scarcity of labour of which the Arabs complain is probably traceable to the abolition of slavery by the late Sultan. It must be remembered, that at the time of the budding of the Clove tree there is a sudden demand for labour upon the plantations, for if the buds are not promptly picked, they burst into flower, and become valueless. In the London market, in the early part of the present month, Zanzibar Cloves showed a further decline, being quoted at 3½d. per lb.; while picked Penang Cloves commanded 11½d. to 12½d. per lb.

NEWLY-PLANTED TREES AND SHRUBS.

The spring has been one of the most trying for freshly-moved trees and shrubs that I ever remember, and deciduous things had to be planted later than usual on account of the frost, which necessitated increased care and attention in looking after them, as April was mostly very warm and dry during the day, and the effect was that newly-moved plants got their bark shrivelled. This should be prevented if possible, as contraction of the bark is bad for them, and when it takes place the sap vessels become closed, and it is a long time before a tree or shrub that has suffered in that way recovers. Experienced planters knowing this, take precautions against shrivelling of the bark, as may be seen by the binding up of the stems and branches with moss or other materials, which are kept moist by syringing, the result being that a tree so treated has a good chance of establishing itself. Although this binding up of the stems cannot in all cases be carried out, the damping overhead may, and the latter is essential as regards all large evergreens that have been recently transplanted, as they have an extensive leaf-surface that the dry air is continually acting upon, causing great evaporation of moisture. This action of the leaves cannot be kept up and supported by the roots, be they ever so many, as they are not then sufficiently active, and the plants must therefore be assisted by sprinkling them, which, in weather such as we are now having at the time of writing, should be done at least twice a day, which will contract some of the mischief that would otherwise

result to the trees. If we had experienced the usual kind of spring weather, sunshine and showers, or frequent rain, evergreen and deciduous subjects would be able to start at once.

In addition to the means already referred to, mulching is highly beneficial, by keeping the ground uniformly moist, and when water is afforded it tells, and there is no washing or cracking of the surface, such as always takes place when there is no mulching. The mulch, consisting of half-rotted manure, should be laid round each plant, moderately thick, extending some 2 feet or more, according to their sizes, and each watering or shower of rain will carry some of the properties of the manure down to the roots. *J. Sheppard.*

VARIORUM.

RINGLEADER POTATOS AND WHITE KIDNEY.—For years we have depended upon Myatt's Ash-leaf to give us the first early Potatoes, but we shall not grow it after the present season, for there are varieties which are not only much earlier, but better in quality, and more abundant croppers. For frame use, we find Ringleader fully three weeks earlier than Myatt's, and White Kidney quite a fortnight, all having had the same treatment in every respect. These two varieties, which are introductions of the Messrs. Sutton, are a boon to a gardener on account of the extra early date when they are ready for use. *E. Molynceux.*

Obituary.

EDMUND COLE.—The death of Mr. Cole took place at Cole Park, Northampton, at the age of fifty-two, from disease of the kidneys. This well-known gardener entered the service of F. W. Dolman, Esq., of Alverstoke House, Gosport, in 1871, where he proved himself a successful grower and exhibitor of plants, fruit, and vegetables, in the neighbourhood of Gosport, Portsmouth, and Fareham, his most successful exhibits being stove plants. He was also very successful with Grapes, and was the first to exhibit pot-Vines at the Southsea exhibition; his black and white Grapes in pots on arches being the principal feature of the show on one occasion. In January, 1878, he entered the service of Earl Spencer as gardener at Althorp Park, where he spent much labour in remodelling the extensive pleasure grounds from plans of his own, also the fruit and plant houses. In 1882 he introduced into commerce the fine Potato, Cole's Favourite, which took the prize of ten guineas at the Northampton Seedling Potato Exhibition, and an Award of Merit from the Royal Horticultural Society. Mr. Cole had gained a wide circle of friends in the gardening world, he was much valued and respected by his employer and those employed under him. He leaves a widow and six children to mourn his loss.

MARKETS.

COVENT GARDEN, May 26.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate, not only from day to day, but often several times in one day. Ed.]

MARKET heavily supplied, and with a moderate business doing, prices keep low. *James Webber, Wholesale Apple Market.*

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, ½-sieve	10-40	Lemons, per case	80-140
Apples, Tasmanian,		Pine-apples, St. Mi-	
per case	7-0-14	chael, each	20-60
Grapes, new, per lb.	2-0-4	Strawberries, per lb.	16-40

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Anemone, 12 bunches 1 6-3 0	Narcissus (various), 2 0-4 0
Bachelor's button, doz. 1 6-3 0	Orchids:—
Azalea, 12 doz. 1 6-3 0	Cattleya, 12 bunches 1 6-3 0
Bluebells, 12 bunches 1 6-3 0	Odonoglossum
Carnations, 12 blms. 1 6-3 0	crispum, 12 blms. 2 0-6 0
Clematis, 12 bunches 1 6-3 0	Polyanthus, 12 bunches 1 6-3 0
Cowslips, 12 bunches 1 6-3 0	Primroses, doz. 1 6-3 0
Daffodils, single 2 0-6 0	Primula, doz. 1 6-3 0
Eucharis, per dozen 2 0-6 0	Roses, 12 doz. 1 6-3 0
Gardenias, per dozen 1 6-3 0	— yellow (Mare-
Heliotrope, 12 sprays 0 6-9 0	chals), per doz. 1 6-4 0
Jonquils, per dozen 1 6-3 0	— red, per dozen 2 0-6 0
Lilac white (French), 1 0-3 0	Spiraea, 12 bunches 4 0-6 0
— per bunch 4 0-6 0	Tuberose, 12 blms. 0 6-1 6
Lilium Harrisii, doz. 2 6-4 0	Tulips, p. doz. 2 0-6 0
Lily of the Valley, per doz. bunches 3 0-9 0	Violets, Parma, per doz. bunches 2 0-3 0
Maiden Hair Fern, 12 bunches 4 0-6 0	— English, 12 bunches 1 0-1 6
Marguerites, per doz. bunches 3 0-4 0	Wallflowers, per doz. bunches 2 0-4 0
Mignonne, 12 bun. 4 0-6 0	
Myosotis, or Forget-me-not, 12 bunches 2 0-4 0	

ORCHID-BLOOM IN VARIETY.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantum, per doz. 4 0-12 0	Genistas, per dozen 6 0 10 0
Arum, per dozen 6 0-9 0	Heliotrope, per doz. 6 0-9 0
Aspidistra, per doz. 18 0-53 0	Ivy, Geniunus, doz. 6 0-9 0
Azalea, per doz. 24 0-53 0	Lilium Harrisii, 12 0-53 0
Begonias, per doz. 6 0-12 0	Lobelia, per doz. 4 0-6 0
Calceolarias, per doz. 6 0-9 0	Marguerites, per doz. 6 0-12 0
Cinerarias, per doz. 4 0-9 0	Mignonne, doz. pots 6 0-10 0
Cyclamen, per doz. 1 6-7 6	Musk, per doz. 2 0-6 0
Cyperus, per dozen 4 0-10 0	Palms, various, each 2 0-10 0
Dracenas, each 1 0-5 0	— specimens, each 6 8 4 0
Echeveria pyramidalis	Pellargonium, p. doz. 9 18 0
— scarlet, p. doz. 3 0-6 0	— white, p. doz. 3 0-6 0
Ericas, various, doz. 12 0-24 0	Primulas, sinensis, doz. 4 0-6 0
Ferns, various, doz. 4 0-9 0	Roses, Fairy, p. doz. 5 0-8 0
— per 100 8 0-15 0	— vars., per doz. 10 0-24 0
Ficus elastica, each 1 6-7 6	Spiraea, per doz. 6 0-12 0
Fuchsia, per doz. 6 0-9 0	

Bedding plants, various, in boxes, 1s. to 3s.

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.	s. d. s. d.
Artichokes Globe, ea. 0 4-0 6	Lettuces, per doz. 1 6-2 0
Asparagus, per bundle 2 6-3 0	— Bushman's, packet 2 0-3 0
Beans, French, lb. 2 6-3 0	Mustard and Cress
Beet, red, per dozen 2 0-3 0	punnet 0 4-0 0
Carrots, per bunch 0 4-0 6	Parsley, per bunch 0 3-0 6
Cauliflowers, each 0 4-0 6	— per lb. 3 6-4 0
Celery, per bundle 1 0-3 0	Spinach, per bushel 3 6-4 0
Cucumbers, each 0 6-9 0	Tomatoes, per lb. 1 6-2 6
Endive, per dozen 2 0-3 0	Turnips, per bunch 0 4-0 6
Herbs, per bunch 0 9-1 0	

POTATOS.

NEW POTATOS.—Arrivals of potatoes during the week before.
Prices rather lower. Kidneys, supply short, prices firm.
OLD POTATOS.—Firm. *J. H. Thomas.*

SEEDS.

LONDON: May 25.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., write that the present remarkably late season is now naturally drawing to a close. A good downpour of rain is greatly needed, and would probably bring to hand, to farmers, what a rotten crop of small sowing oats. For Tares there is a fair request, at the tempting rates current. Mustard and Rape seed meet an improved inquiry. Canary seed is without any striking or novel feature; the recent speculative excitement has fortunately died away; but, holders, in view of the bad reports from Turkey, maintain extreme firmness. There is no change in Hemp-seed. Blue Peas and Haricot Beans meet an improved inquiry.

FRUITS AND VEGETABLES.

SPITALFIELDS, May 24.—Quotations:—English Apples, 2s. 6d. to 5s. per bushel; American do., 10s. to 20s. per barrel; New Zealand do., 6s. 6d. to 10s. 6d. per box; foreign Tomatoes, 1s. to 1s. 6d. doz.; forced Rhubarb, 1s. 3d. to 1s. 6d.; natural do., 1s. 6d. to 2s. 6d. per dozen bunches; Asparagus, 9d. to 2s. per bundle of 100 heads; Seakale, 1s. to 1s. 3d. per punnet; Cabbages, 2s. 9d. to 5s. 6d.; Cauliflowers, 4s. to 7s. per punnet; Radishes, 4s. to 5s. doz.; Greens, 2s. 6d. to 4s.; French Turnips, 2s. 6d. to 3s.; Chervil, 2s. 6d. to 3s.; Spring Onions, 4s. to 5s.; Parsley, 2s. to 3s. per dozen bunches; Spinach, 1s. 9d. to 2s. 6d. per bushel; Endive, 1s. to 1s. 6d.; Cabbage Lettuce, 9d. to 1s.; Leeks, 2s. 6d. to 3s.; France Cucumbers, 2s. to 3s.; natural do., 1s. 3d. to 1s. 9d.; Beet-roots, 4d. to 6d. per dozen; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; English Onions, 5s. 9d. to 6s. 6d. per cwt. Horseradish, 1s. to 1s. 1d. per bundle.

BOROUGH, May 24.—Quotations:—Broccoli, 5s. to 7s. 6d.; Cabbage, 3s. 6d. to 6s. per tally; Spinach, 2s. to 3s.; per bushel; Greens, 3s. to 4s.; Carrots, 1s. 3d. to 1s. 9d.; Spring Onions, 4s. per dozen bunches; Egyptian do., 5s. to 6s. per cwt.; English Apples, 5s. to 10s. per bushel; Canadian do., 12s. to 20s.; and Newtown Pippins, 15s. to 25s. per barrel.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80s. to 102s.; inferior, do., 46s. to 75s.; hay, best, 60s. to 95s.; inferior, do., 26s. to 50s.; and straw, 20s. to 35s. per load.

POTATOS.

SPITALFIELDS: May 21.—Quotations:—Magnums, 65s. to 90s.; Imperators, 60s. to 90s.; Hebrons, 65s. to 90s.; Bruce Magnums, 65s. to 85s.; Snowdrops, 70s. to 90s.; Sutton's Abundance, 70s. to 85s.; Main Crop, 80s. to 110s. per ton.
BOROUGH: May 24, quotations:—Bruce Magnums, 70s. to 95s.; Dunbar do., 95s. to 105s.; Penfold do., 65s. to 70s. per ton.

GENERAL MARKET AVERAGES: May 25.—Quotations:—Magnums, 65s. to 95s.; Dunbar do., 95s. to 105s.; Hebrons, 65s. to 95s.; Snowdrops, 70s. to 90s.; Imperators, 60s. to 90s. per ton. New—English, 2d. to 5d.; Jersey, do., 3d. to 4d. per lb.; Lisbon, 8s. 6d. to 10s. per cwt.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure, for the week ending May 21, and for the corresponding period last year:—1892: Wheat, 31s. 6d.; Barley, 21s. 10d.; Oats, 21s. 3d. 1891: Wheat, 39s. 6d.; Barley, 27s. 1d.; Oats, 20s. 11d.

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees:—A "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.				RAINFALL.		BRIGHT SUN.		
	ACCUMULATED.								
	MEAN.								
	Above (+) or below (—) the Mean for the week ending May 21.	Above 42° for the week.	Below 42° for the week.	Above 42°, difference from Mean since Jan. 3, 1892.	Below 42°, difference from Mean since Jan. 3, 1892.	More (+) or less (—) than Mean for the week.	No. of Rainy Days since Jan. 3, 1892.	Total Fall since Jan. 3, 1892.	Percentage of possible Duration for the week.	Percentage of possible Duration since Jan. 3, 1892.
Deg.	Deg.	Deg.	Deg.	10ths Inch.	in.	in.	in.		
0 3	31	7	7	+ 225	8	94	155	26	31
1 1	45	4	2	+ 245	3	68	74	32	35
2 0	52	0	23	+ 192	0	71	65	31	34
3 0	61	0	46	+ 216	1	71	64	34	35
4 0	63	0	1	+ 255	2	61	60	35	35
5 0	72	0	36	+ 141	4	52	49	39	38
6 1	50	0	5	+ 220	9	71	118	38	33
7 1	53	0	23	+ 199	7	70	98	27	37
8 0	61	0	13	+ 119	2	68	84	40	43
9 1	55	0	19	+ 127	6	74	93	26	32
10 1	76	0	15	+ 135	3	68	101	29	37
0 0	77	0	23	+ 42	4	70	91	61	44

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts:—0, Scotland, N.; 1, Scotland, E.; 2, Scotland, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.
Principal Grazing, &c., Districts:—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending May 21, is furnished from the Meteorological Office:—

"The weather during this period was unsettled in the extreme north and north-west, with frequent and rather heavy falls of rain. In the more southern and south-eastern districts, however, the conditions remained generally fair, although more cloud prevailed than of late, and some slight showers occurred from time to time.

"The temperature was a little below the mean in 'Scotland,' as well as in 'England, N.W.,' and 'Ireland, N.,' in nearly all other parts of the kingdom it just equalled the normal value. The highest of the maxima, which were recorded on somewhat irregular dates, ranged from 67° in 'England, S.,' to 59° in 'England, N.W.,' and to 58° in 'Scotland, N.' The lowest of the minima were registered on the 15th at most of the English and Irish stations, and on the 18th or 21st in Scotland. They ranged from 30° in 'Scotland, N.,' and 31° in 'Scotland, E.,' to 38° in 'Ireland, S.,' and to 45° in 'the Channel Islands.'"

"The rainfall was again less than the mean over most parts of England, and also in the 'Channel

Islands' and 'Ireland, S.,' in Scotland, 'England, N.W.,' and 'Ireland, N.,' however, there was a considerable excess.

"The bright sunshine was less prevalent than of late, and was below the mean for the time year in all districts, except the 'Channel Islands.' The percentage of the possible duration ranged from 26 in 'Scotland, N.' and 'Ireland, N.,' 27 in 'England, N.W.,' and 29 in 'Ireland, S.,' to 40 in 'England, S.W.,' and to 61 in the 'Channel Islands.'"

HALIMODENDRON ARGENTEUM.—This is a Siberian shrub of great merit, and, as its name implies, is a maritime plant, being found in the salt fields of Siberia. It shows off to much greater advantage when grafted on the Laburnum, and having a pendulous habit of growth, forms a handsome and graceful subject. The leaves are alternate, abruptly pinnate, with two pairs of leaflets covered with a soft white down. The flowering season is from June to August. Its inflorescence is borne in two and three-flowered peduncles, Pea-shaped, fragrant, and of a lively purple colour. The seed-pods are inflated, very hard, colour dull brown. I believe it was introduced in 1777. *W. H. Aggett.*

NOTICES TO CORRESPONDENTS.

* PHOTOGRAPHS, DRAWINGS, OR SPECIMENS.—We shall be pleased to receive from our Correspondents notes relating to interesting Gardens, together with Specimens or Illustrations of interesting Plants. Although circumstances prevent us in all cases from reproducing them, we are nevertheless glad to receive them, and as far as possible to utilise them for the benefit of our readers.

ANTS IN PEACH HOUSE: Subscriber. If a little petroleum be poured into their runs and nests, or some carbolic acid distributed about, the ants will soon desert the house. If chalk be rubbed on the stems and larger branches, say as bands a inch broad, the ants will not pass over them. A thin line of gas tar poured on the soil round the stem, and some distance away from, and against the wall will prevent them ascending the trees.

APPLE-SHOOTS BARKED BY SOME INSECTS: Thomson & Co. The insects sent were fine lively specimens of *Otiorynchus picipes*, the clay-coloured weevil, very destructive to vegetation. They must be caught at night; how, has often been described in these pages. See "Roses" on p. 666 in our last issue.

BEES—FOUL BROOD: R. H. If but little of the comb is affected, cut it out and replace it with pieces of healthy comb. For a bad case there is no cure short of destroying it, and if it be a straw skep, that also. New stocks, or stocks that are not prevented from swarming in a natural manner, seldom have foul brood. Artificial combs may be obtained of any firm dealing in articles for the Apiary.

CUCUMBERS: Hall. Yes, a marked case of eel-worm; they come in the soil. It will be better to turn out the soil, and start with fresh soil.

FRUITS: H. A. Apply to the Secretary of the Royal Horticultural Society for their pamphlet on Apples.

HEATING GREENHOUSE: P. G. The wrought iron pipe will answer for heating the greenhouse, but you must employ twice or thrice as much more of it than would be necessary with any 4½-inch cast-iron pipe, the radiating surface being less. Paint them outside with lamp-black and linseed oil, and always keep them full of water to prevent rusting. Do not use iron filings and sal ammoniac, as these will at last burst the joints.

JARGONELLE PEAR: Ross. The leaves are infested with *Phytoptus Firi*, a gall mite. Collect affected leaves, and burn them. You might try, another year, spraying the foliage quite early in the season with Paris Green.

LAURELS: W. M. Park Harbor. What you take to be fungi are air-roots, such as form on Vines. They occur in Laurels when they grow in thick damp shrubberies where the air is stagnant and moist. They will do no harm, but are an indication that the shrubs need pruning and thinning out.

NAMES OF PLANTS: G. C. Ribes alpinum.—W. Cann. *Gentiana acaulis.—W. H. D.* *Polygala chamaebuxus, var. purpurea.—S. G. H.* *Pyrus Aria, an*

excellent town tree.—*D. J. Amygdalus nana*.—*W. K. Prunus Padus*. Brindle Beauty moth, very destructive.—*G. H. E. Pyrus arsa*, the White Beam.—*M. C. 1. A Birch*, Betula sp.; 2, *Lonicera Ledebouri*; 3, *Ranunculus bulbosus*; 4 and 5, *Begonia*; 6, *Martensia sibirica*.—*G. H. K. A fungus*, *Pholobus*; will do little harm. *W. Elliott*, *Ribes aureum*.—*E. M. C. Maxillaria picta*.—*J. S. & Sons*, *Ranunculus acris* fl.-pen, so far as we can tell.—*F. L. "Grass"*, if wild, *Carex pendula*; 2, *Dendrobium Dahnoussianum*; 3, *Maxillaria picta*.—*J. T. L. 1*, send it when in flower; 2, *Lonicera Ledebouri*; 3, *Gaultheria shallon*; 4, next week.—*W. S. E. Zephyranthes atamasco*.—*H. S.* The leaf is that of *Farfugium grande*. The Pansy leaves show that the plants have been rapidly pushed on with rich soil, &c., and then suddenly checked by cold.

NARCISSES: *J. R. H.* The bulbs are affected with "hasal rot," about which so much has been written of late. See *Gardeners' Chronicle*, May 14, p. 631.

PALM DYING BACK: *W. R.* Too low a temperature, aggravated by a wet soil. The Pine shortly.

PANCRATUM FRAGRANS: *W. G.* West Indies. Introduced in 1759.

PEONIES: *W. C. D.* I can make nothing of these. The injury appears to me to be mechanical, or caused by frost, perhaps, when the leaves were much smaller; but this explanation does not seem to agree with Mr. Dod's description. There are no Nematodes, and no trace whatever of any fungus. I have only a record of one fungus on Peonia, *Cronartium Peoniae*, and there is nothing of the kind here. *W. G. S.* [The plant is probably planted where the early morning sun reaches it suddenly, then, after sharp frosts, this kind of injury to the leaves occurs. Ed.]

PARIS GREEN: *F. B.* Blundell, Spence & Co., Limited, 9, Upper Thames Street, London; and Hull.

SASH-BARS, PUBLICES, &c.: *F. W.* We have no knowledge of the kind of material, strength, &c., of the articles supplied by the persons you mention. Generally, that which is much cheaper than other person's wares will be found wanting in some essential points, and, as you are going to the expense of obtaining good ones from England, you should get the best in the market.

SCALE INSECT ON PEACH: *Robert Bell*. The species infesting your tree is a very large kind—at least the female which came was—but the male which is winged may be very small. The young are very minute, and it would be advisable to wipe them off the shoots and branches with a cloth dipped in some kind of insecticide. If the trees after the leaves are fallen are syringed with clean water at a temperature of 145° Fahrenheit, the insects will perish; still, to make sure that none escape, dress the trees in winter with a thick wash, consisting of water, cal, crowding, flowers-of-sulphur, and a little petroleum, say a wine-glass full to a gallon of the mixture. With this mixture the trees after pruning should be painted in every part, using a moderately stiff brush, which should be in a general way drawn upwards, towards the end of shoots which have buds. A sheet should be spread under the trees when pruning them to receive the prunings, and everything which falls on it should be burnt.

THE TOMATO FUNGUS: *R. S.* Spray the leaves and young green fruits with sulphate of copper, taking care not to use it on the fruit when ripening.

VINES: *J. R. R.* The leaves and berries are affected with the Vine mildew, which has been brought on, probably, by some faults in management, although Vines in some localities are liable to it under any kind of management. Coolness, damp, with air admitted by the front sashes or ventilators, and not warmed by the hot-water pipes before it reaches the Vines. You may check it this time by keeping the Vines somewhat warmer and drier. Keep pans filled with water in which sulphur is mixed. There is a mildew-destroyer sold by nurserymen which you should also make use of.—*G. M.* The leaves have been scorched by the sun while wet. Give more air.

COMMUNICATIONS RECEIVED:—*R. G.*, Sydney.—*F. W.*, Lancashire.—*C. A.*, Forest Hill.—*E. F. C.*, Toronto.—*G. H.*, London.—*S. J. P.*, O.—*R. S. M. C.*, Chicago.—*R. M. G.*, Hawkins & Bonner.—*W. G. S.*, W.—*T. C. D.*, J.—*J. R.*, J.—*S. R.*, D.—*H. W. W.*, J.—*L. R.*, A.—*R. J.*, J.—*W. D. T. E.*, St. J.—*C. W. S.*, & Co.

PHOTOGRAPHS, RECEIVED WITH THANKS:—*J. F.*, Gourco.—*E. F.*, Lunenburg.—*G. Storey*, Odeybury.—*Lucien*, Liden, Brussels.

BENTLEY'S—BENTLEY'S

WEED DESTROYER

Has paved the way for many imitators, but maintains its position of superiority, and acknowledges no equal. Has the largest sale, and the confidence of the leading gardeners. 3 gallons, 5s. 6d.; 6 gallons, 10s.; 12 gallons, 18s.; 18 gallons, 27s. 6d.; 40 gallons, 50s. Carriage paid.

SOLE INVENTOR—

JOSEPH BENTLEY,

CHEMICAL WORKS,

BARROW-ON-HUMBER, HULL.



FOR DESTROYING WEEDS, MOSS, &c.

ON CARRIAGE DRIVES,

GARDEN WALKS, ROADS, STABLE-YARDS, WALLS, STONEMASONRY, &c.

Saves more than twice its cost in Labour. No Smell. One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every confidence in recommending it."

Mr. B. IRWIN LYNCH, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy."

Prices:—In 1 and 2-gallon Tins. 2s. per gal. (Tins included): in 5-gallon Drums, 18. 6d. per gallon; 10, 15, and 20 gallons, 18. 4d. per gallon. Special quotation for larger quantities. Carriage paid on 10 gal. and upwards.

Used in the proportion of one gallon to twenty-five gallons of water.

THE ACME SUMMER SHADING, White and Green.

For SHADING GREENHOUSES, CONSERVATORIES, &c. Does not wash off with the rain. Can be used WARM or COLD. 1 lb. makes ½ gal. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 6d.

For particulars of **ANTI-FUNGI POWDER** for Tomato Disease, Mould and Mildew on Roses, Vines, &c.; **KENTISH PLANT MANURE**, **SOLUBLE MANURE**, **ZINC LABELS**, **NEW METALLIC INK**, &c., apply to the Sole Proprietors and Manufacturers.

THE "ACME" CHEMICAL CO., Ltd., Tunbridge, Kent; and Carlton Street, Bolton, Lancashire.

FOWLER'S LAWN SAND.—For destroying Daisies and other Weeds on Lawns, &c., at the same time acting as a Fertiliser, and improving the growth and colour of the grass. Price, in tins, 1s., 2s., 6d., and 5s.; kegs, 8s., 10s., and 30s.

CORRY AND CO., LTD., 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

HORTICULTURAL SHADINGS and **NETTINGS**, TIFFANY, COTTON WOOLS, and **WADDINGS**. Supplied Wholesale by—**JOSEPH COOKSON**, 21, New Cannon Street, Manchester.

STOCK	SIZES
Jeches.	Inches.
14x12	20x15
18x12	20x18
18x16	22x18
20x12	24x16
16x14	20x18
18x14	22x18
20x14	24x18

21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."

GEORGE FARMILOE & SONS, LEAD, GLASS, OIL, and COLOUR MERCHANTS, 34, St. John Street, West Smithfield, London, E.C. Stock Lists and Prices on application. Please quote *Chronicle*.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt. and Oil Mixture, Free to all Stations. Liquid Non-Poisonous Paint for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W. 15, VICTORIA STREET, WESTMINSTER, S.W.; and BACHELOE'S WALK, DUBLIN.—Discount for Cash.

THE PATENT

SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatos, Peaches, &c., beyond any other Manure.

If you Try It Now
You will Order later on.

Cambridge, September 12, 1891. "I have formed a very high opinion of the value of the Patent Silicate Manure, especially for Tomatos, Grapes, and Peaches. (Signed) E. HOBDAV."

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¼ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,

THE CHEMICAL WORKS,

HEMEL HEMPSTEAD, HERTS.

NATIVE GUANO.—BEST AND CHEAPEST MANURE FOR GARDEN USE. Price 40s. per ton, in bags. Lots under 10 cwt., 4s. per cwt.; 1 cwt., Sample lot sent Carriage Paid to any Station in England, on receipt of P.O. for 5s. Extracts from 16th Annual Collection of Reports:—

NATIVE GUANO, FOR POTATOS, VEGETABLES, &c. H. BRINKWORTH, Potato Grower, Reading, used for Potatoes, Onions, and Carrots, results:—"Very good; never had better crops."—*J. BUTLER*, Sittingbourne:—"Used for Potato, Celery, and other Market Garden Crops, with very good results; Potatoes large, clean, and free from disease. Best and Cheapest Manure in the Market."

NATIVE GUANO, FOR FRUIT, ROSES, TOMATOS, &c. J. PEEB & SONS, Streatham, used for Fruit Trees and Roses, results:—"Very satisfactory: we use no other Guano now; consider yours preferable to Peruvian."—*J. FINCH*, Orrell Gardens:—"Used for Vegetables, Tomatoes, Grapes, Cucumbers, and Flowers, with satisfactory results. Most excellent for Potatoes, and many other things. The Cheapest Manure in the Market."

Orders to the **Native Guano Co., Ltd.**, 29, New Bridge Street, Blackfriars, London, where Pamphlet of Testimonials, &c., may be obtained. AGENTS WANTED.

ALBERT'S

HIGHLY CONCENTRATED

HORTICULTURAL MANURE.

A Chemically Pure Plant Food.

UNPARALLELED FOR ITS RAPID ACTION AND FRUITIFYING PROPERTIES.

BEST and ONLY RELIABLE COMPLETE FERTILISER for all VEGETABLES, FRUIT TREES, VINES, FLOWERS, LAWNS, &c.

UNPRECEDENTED RESULTS obtained by its use.

For Prices and Descriptive Pamphlet, apply to—

H. & E. ALBERT,

17, GRACECHURCH STREET, LONDON, E.C.

Responsible Agents wanted.

LETHORION (VAPOUR CONE). PATENT.



They are now universally admitted to be thoroughly effective in strength, and safe for any plant or flower, even if four times the quantity are used. Scale and manly-buds may be completely eradicated by using the Cones double strength.

PRICES.—For frames of 50 to 100 cubic feet, No. 1 reduced to 6d. each; 500 feet, No. 2, 1s.; 1000 feet, No. 3, 1s. 6d.; 4000 feet, No. 4, 5s.

The house should be well secured.

CORRY & CO., LIMITED.

13, 15, & 16, Finsbury Street, London, E.C.

PATENT DANDELION, PLANTAIN, DOCK

and DAISY ERADICATORS. By this simple and efficient invention, the time and expense usually involved in removal of these noxious weeds is reduced to a minimum. No digging up the turf. A long-felt want supplied.

Price, 4s. 6d. Postage and package, 6d. extra. Of all Ironmongers, Seedsmen, Florists, &c., &c. **WILKES AND SONS**, Ironmongers, Salisbury.

72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

Send for a copy of our interesting Catalogue. It contains lists of the best of everything required for the garden at this season.

BOILING WATER OR MILK. E.P.P.'S GRATEFUL-COMFORTING. C O C O A BREAKFAST-SUPPER.

GARDENING APPOINTMENTS.

MR. EARP, lately Head Gardener to Sir W.M. EDEN, Bart., Windlesstone, Ferry Hill, as Head Gardener to the Right Hon. J. CHAMBERLAIN, M.P., Highbury, Birmingham.

MR. F. CLIFTON, until lately Foreman in the Gardens of the EARL OF ERNE, Crom Castle, co. Fermanagh, Ireland, as Gardener to the VISCOUNT DOWNE, Dingley Park, Market Harborough.

MR. C. J. LOVE, formerly Gardener at Compton House, Stockbridge, Hants., as Head Gardener to HERMAN HODGE, Esq., M.P., Wyfold Court, Reading.

MR. WRIGHT having left the Gardens at Hitchin Priory through ill-health, wishes senders of Catalogues to note the fact, and cease from sending, as he finds the extra postage which he has to pay for forwarding the same to his present address a serious tax on his resources.

MR. BEEVERS, until recently the Gardener at Farnham Chase, as Gardener to H. E. ALTHOUSE, Esq., Stoke Court, Stoke Poges, Slough, succeeding Mr. MARER, who is retiring after 33 years' service. Mr. REID, the Gardener recently at Priddy, Maidenhead, Bucks, succeeding Mr. BEEVERS at Farnham Chase.

PARTNERSHIP.—Advertiser, having a SEED and FLORIST'S BUSINESS in London, wishes to meet with some one having a SMALL NURSERY within easy distance of town, where could be grown Flowers, Heriaceous Plants, &c., which find a ready sale in London. Full particulars given and required.—ALPHA, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

PARTNERSHIP.—A Gentleman, about to START A MARKET NURSERY near London, wishes to meet with a PARTNER with a few hundred pounds.—Addres H. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

To the Seed Trade.
PARTNERSHIP or MANAGERSHIP wanted by a young Man.—Twelve years' thorough experience in all branches. Has a good connection, and could invest £500 or £600.—L. L. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WM. TAYLOR THANKS THE NUMEROUS APPLICANTS for the situation advertised by him on May 14, and begs to say the VACANCY IS NOW FILLED. Bentley Priory Gardens, Stanmore.

EXPERIENCED GARDENERS REQUIRED IMMEDIATELY.—Good wages to competent men. Those accustomed to a Glass Window Box and Furnishing only need apply. Apply personally to THE CRICHTON FLORAL COMPANY, 37, Sloane Street, S.W.

Propagator Wanted.
MESSRS. THOMAS CRIPPS AND SON, Tunbridge Wells Nurseries, Kent, require above a MAN thoroughly well up in Clematis, Rhododendrons, Ivies, Roses, Japanese Maples, Conifers, Bedding Plants, &c. Apply, enclosing testimonials and wages, to 49, High Street, Tunbridge Wells.

WANTED, a young MAN as PROPAGATOR and ASSISTANT SALESMAN.—WIMSETT and SON, Ashburnham Park Nursery, Chelsea, S.W.

WANTED, a PROPAGATOR, or PROPAGATOR and GROWER, of Soft-wooded and General Market Plants. State age and wages expected, with experience, to WM. TROUGHTON, Nurseryman, Preston, Lancashire.

WANTED, as FERN and PALM GROWER, an experienced MAN.—Must be a successful raiser from Spores and Seed, and a good grower of both classes of plants.—State age and references, to CLIBRAN and SON, Nurserymen, Atricham.

WANTED, a GARDENER and WIFE (no children) to take charge of Country House; must be trustworthy. Wife to give assistance when family is in residence.—Apply, Mr. H. The Elms, Clapham Common, S.W.

WANTED, a GARDENER and his WIFE, not over 35 years old, for country place. Man must have had experience with Cattle, and be willing to Milk. Wife to Manage Small Dairy and the Poultry. No children. Lodge, &c. Write, with full particulars, to R. R., 8, Collingham Gardens, London, S.W.

WANTED, a GARDENER and his WIFE, age, 35 to 40, without children, to live in the house in an eastern suburb of London, to attend to small garden and greenhouse, and to make himself useful; wife to act as good plain cook; a housemaid kept. Family consists of two ladies.—Apply to T. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a good JOBBING GARDENER.—Board and Lodging in House. None but good characters need apply. H. WRIGHT, 41, Station Terrace, Walm Lane, Willesden Green, Middlesex.

WANTED, in Surrey.—An UNDER GARDENER, with good knowledge of Glass-work. Must be single, sober, and industrious. Wages 15s. a week, and lodging, lighting, and firing. Only those with good personal characters need apply, by letter only, to H. E. W., Thatched House Club, St. James's, S.W.

WANTED, a good ALL-ROUND MAN, as WORKING FOREMAN for a Small Nursery. Must be a good Budder and Grafter of Fruit Trees, Roses, &c., and be able to take entire Working Management of the Nursery, both Indoor and Out. Abstainer preferred. Also WANTED, a YOUNG MAN, for the Houses, used to Propagating and Working Plants for Markets.—Apply, stating wages required, and names of last employers, to YARDE and CO., Northampton.

WANTED, a WORKING FOREMAN, to Manage a Market Garden, with Youths under him. Not under 30.—State wages and experience to W. COMPTON, Lambley, Notes.

WANTED, a good SECOND MAN, or ASSISTANT FOREMAN, for the outside Nursery Department.—State particulars, age, and wages, to W. TROUGHTON, Nurseryman, Preston, Lancs.

WANTED, GRAPE THINNERS.—TWO or THREE good hands, at once. Men waiting for situation would suit.—Apply, TITE, Hampton-n-Thames. Also WANTED, TWO respectable MEN, quick at POTTING. Apply as above.

WANTED, GRAPE THINNERS, AT ONCE. Only good quick hands apply.—STEPHEN CASTLE, F.R.H.S., Manager, Ashford Vineyard, Fordingbridge, Salisbury.

WANTED, good GRAPE THINNERS.—LADD'S Nursery, Swanley Junction, Kent.

WANTED, a good INDOOR MAN, one who can take Management of six Houses. General Soft-wooded Staff. Wages 15s.—H. ENGLISH, Clapton Nursery, near Clevedon.

WANTED, for a Market Nursery, a young MAN. Well up at Potting and Watering. State experience, age, and wages required.—TURNER BROS., Nurserymen, Garston, Liverpool.

WANTED, a pushing young MAN, as FOREMAN. Wages 15s. per week, with bothy and vegetables. Church of England.—Apply, stating age and experience, to HALL, Bolton Hall, Bedale, Yorks.

WANTED, a young MAN, used to Nursery Work, under Glass, to work under Foreman. Preference given to one with some experience of New Holland Plants.—Full particulars as to experience, wages required, &c., to RICHARD SMITH and CO., Worcester.

WANTED, a good handy married MAN, accustomed to Painting, Glazing, &c. Wages, 20s. per week, to live in one of the lodges. Wife to attend table. Good characters indispensable.—Mr. SLADE, Clumber Gardens, Worksop, Notts.

WANTED, TWO good SPADESMEN used to general Nursery work; constant employment to suitable men. Apply to CUNNINGHAM, FRASER, and CO., Comely Bank Nursery, Edinburgh.

WANTED, a good Outdoor MAN.—Must be a successful Budder and Grafter of Roses, Fruit Trees, &c. Married man preferred. Wages, with small Cottage and Garden, 41 per week to commence with, with increase to a trustworthy man.—Apply, giving fullest particulars, to H. ENGLISH, Clapton Nursery, near Clevedon, Somerset.

WANTED, TWO respectable young MEN, used to Potting, Tying, and Watering.—Apply, with reference, JOHN TURTLE, The Nurseries, Welling, Kent.

WANTED, a young MAN, quick at Potting, Watering, and Tying, and to make himself generally useful. Wages, 41 per week to a competent man.—Attend personally to T. BALDWIN and SON'S, Edith Nursery, Burchall Road, Leyton.

WANTED, at ONCE, a young Man from Nursery, principally for growing Soft-wooded Staff under Foreman. Good Rose Budder preferred. Wages 15s.—Address, with age and reference to G. H. GORINGE, Roselands Nursery, Seaside, Eastbourne.

WANTED, a HANDY MAN, to look after Horse and Van, attend to Fires, able to Glaze and Paint, and accustomed to out-door Nursery work. Must be well recommended.—Apply, stating age and wages expected, to G. BENNETT, Florist, Hanwell.

To Florists.
WANTED, at ONCE, for Florist's Shop, a young MAN as CARMAN and PORTER. Must Drive and be a good driver, and have a good knowledge of Window Boring and Furnishing Work. One who is accustomed to the Flower Market preferred. Must have good references.—Apply to Messrs. J. W. SILVER and Co., 95, Victoria Street, Westminster, S.W.

WANTED, at ONCE, a respectable MAN, a good Mower, and understanding large Mowing machine. Wages, 15s. a week.—Apply, HEAD GARDENER, Stanmore Park Gardens, Stanmore.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should Write for Prospectus of the Scientific Dress Cutting Association, 272, Regent Street, London, W. Situations found for all pupils at a good salary. No Lady of education is complete without a knowledge of Dressmaking.

WANT PLACES.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BALIFFS, or GARDENERS.

JAMES CARTER and CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 257 and 235, High Holborn, W.C.

Head Gardeners.

JOHN LAING and SONS can at present recommend with every confidence several energetic and practical Men of first-class ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BALIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

RICHARD SMITH and CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Baliffs, Foresters, &c.
DICKSON'S (Limited), Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at the business. All particulars on application. Telegraphic and Postal Address: "DICKSONS, CHESTER."

GARDENER (HEAD), or GARDENER and FARM STEWARD.—Married; thoroughly experienced in Gardening; Land and Stock. Good References from present employer. Rather than be out of situation, advertiser will give £5 on engagement to introducer of a genuine situation.—BONA FIDE, Head Gardener, Halesworth, Suffolk.

GARDENER (HEAD); Married.—A Lady wishes to recommend her Head Gardener; leaving owing to a death. Thoroughly experienced in every branch, including Orchids. Excellent character.—Mrs. WIGLEY, Howick House, Preston.

GARDENER (HEAD); age 37, married.—Mrs. CROSTON, Copley Dene, Highgate, wishes to recommend her Head Gardener. Thoroughly efficient in all branches. Twelve years' good character.

GARDENER (HEAD).—Middle-aged practical Man; understands Stock. Five years' last situation, left in consequence of death of employer. Good character; terms moderate.—J. MOBBES, 199, Ball's Pond Road, N.

GARDENER (HEAD).—Age 39, married.—J. VERT, Audley End Gardens, Saffron Walden, will be pleased to recommend a thoroughly practical man as above. Over twenty years' experience in some of the best establishments in England. Very successful in Fruit and Vegetable Growing, and used to the Management and requirements of a large Garden. Eleven years' good recommendation from last situation.

GARDENER (HEAD WORKING).—Age 32, married; thoroughly understands Grapes, Peaches, Stove and Greenhouse Plants of all kinds; has taken many prizes. Nearly six years with Mrs. E. L. Hawkins, Esq., Bedford; good references from Mrs. Hawkins. Life experience.—R. DAY, The Gardens, Sunnyside, Bedford.

GARDENER (HEAD WORKING), Land and Woods, if required.—Age 42, married; life experience in the profession. Upwards of twenty years as Head in good establishments; excellent references.—GARDNER, Messrs. Williams and Nicholson, Land Agents, Oswestry.

GARDENER (HEAD WORKING), age 46, [where others are kept.—Married, no family; abstainer; life experience in Early and Late Forcing of all kinds of Fruit, Flowers, Vegetables, and Mushrooms; also Kitchen and Flower Gardens and Pleasure Grounds. Eight years' good character from late employer, and sixteen years' references.—J. D., Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 43, married; twenty years' experience in all branches.—J. H., 12, Devonshire Terrace, Herford Road, Lower Edmonton, N.

GARDENER (HEAD WORKING), where two or three are kept.—Age 38, married; twelve years' practical experience in all branches of the business.—R. WILKINSON, Barwick-in-Elmet, near Leeds.

GARDENER (HEAD WORKING).—Age 40, married, no family; experience in Forcing Vines, Peaches, Stove and Greenhouse Plants, also Kitchen and Flower Garden; good references (two and a half years, and eleven years previous).—J. L., St. Ann's Villa, Holdenhurst Road, Bournemouth.

GARDENER (HEAD WORKING).—Single; trustworthy, intelligent, and thoroughly practical. Abstainer. Eight testimonials. Home Counties preferred.—J. H., 69, Gordon Place, Kensington, W.

GARDENER (HEAD WORKING), others kept.—Age 36, married, no family; Forcing Fruit, Flowers, and Vegetables. Life experience. Suitable for large establishment; five years' character.—A. NEWTON, Tetbury, Glos.

GARDENER (HEAD WORKING).—Age 35, married, one child; over twenty years' practical experience in all branches of gardening; good character.—G. WHITTING, Basin Road, Chichester, Sussex.

GARDENER (HEAD WORKING), where two are kept; age 17.—J. ANDERSON, Charman Dean, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD WORKING); age 33, married; thoroughly practical in all branches. Excellent references from present and past employers. Two years from present.—11, Cemetery Road, Wellington, Salop.

GARDENER (HEAD WORKING), where several are kept.—Age 34; life experience in all branches. Seven years in present situation. Leaving through reducing establishment.—Address, with particulars, A. STEVENS, The Gardens, Northfleet House, No. 11, Kent.

GARDENER (HEAD WORKING).—Age 35, married, one child; over twenty years' practical experience in all branches of Gardening. Good character.—G. WHITING, Basin Road, Clobchester, Surrey.

GARDENER (HEAD, or SINGLE-HANDED).—Married, no family at home; seeks re-engagement with any Lady or Gentleman in want of a good all-round man as above. Twenty years' experience in all branches of Gardening. Good references from previous employers.—E. BROWN, Gardener to F. Knight, Bobbing Court, Sittingbourne, Kent.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 36, married, no family; understands Vines, Stove and Greenhouse Plants, and Kitchen Garden. Two years' good character, five years previous.—W. D., 8, Elcher Cottage, Stanley Road, Sheen, Surrey.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 39, married, one child; thoroughly experienced. Good character.—X. Y. Z., 71, Danbrook Road, South Streatham, S.W.

GARDENER (HEAD, or good SINGLE-HANDED).—Vines, Melons, Cucumbers, Tomatoes, &c.; Stove and Greenhouse Plants, Flower and Kitchen Garden. Good character.—A. BOOKER, 143, Steel Road, Acton Lane, Willesden.

GARDENER (SINGLE-HANDED).—Age 29, married; thoroughly experienced in all branches. Eleven years' good character. Disengaged now.—W. FLEET, 2, Sherwood Road, Harrow.

GARDENER (SINGLE-HANDED), country preferred.—Age 27, married, one child. Good character. A. W. M., 1, Percy Terrace, King's Road, Mordlake, Surrey.

GARDENER (SINGLE-HANDED), or KITCHEN and PLEASURE-GROUND MAN.—No abode in London.—Thap.—H. HERBERT, Fitcham Post Office, Leatherhead, Surrey.

GARDENER (SINGLE-HANDED), or where one is kept.—Age 26; understands Greenhouse, Flower and Kitchen Garden. Three years' good character.—E. L., 3, Sole-child Cottages, Bromley, Kent.

GARDENER (good SINGLE-HANDED), or with help.—Well up in Flower and Kitchen Garden. Seven years' personal character.—G. B., The Rise, Abbey Wood, Kent.

GARDENER (SINGLE-HANDED, or UNDER).—Age 24; good knowledge of Vines, Cucumbers, Tomatoes, Greenhouse Plants, Flower and Kitchen Garden.—A. F., The Nursery, London Road, Peterboro.

GARDENER (good SINGLE-HANDED, or where help is given).—Age 27, married; thoroughly practical in all branches. Four years in present situation. Abstainer.—A. MENY, 2, South Row, Voluntary Place, New Winstead, Essex.

GARDENER (SINGLE-HANDED, or good UNDER where three or four are kept).—W. SANSON, 7, Sydney Terrace, Feltham, Middlesex.

GARDENER (WORKING).—Age 45; two girls. Scotch. Can be highly recommended by late employer, now in town. Life experience. Early Fencing, Orchard &c. With good Landress.—5, 1, Vauxhall Street, Astwood Road, Worcester.

Orchid Grower, &c.

GARDENER, where assistance is given.—Will be shortly disengaged through employer leaving the estate. Good all-round Gardener. Skilful Orchard, Grape, Pine, and Peach Grower. Twenty years' character from three employers.—J. HOWARD, 2, Tennent Street, Edgbaston, Birmingham.

GARDENER (SECOND).—Age 25; ten years' experience inside and out. Good references.—P. A., New Lodge, Rowfant, near Crawley, Sussex.

GARDENER (SECOND), Inside and Out.—Age 23; nearly three years in last situation. Other good references.—H. LETHBRIDGE, 40, Princes Road, Norbiton.

GARDENER (SECOND), seeks engagement.—Used to both Indoor and Outdoor Work; age 20; seven years' good references from present situation.—L. HALLETT, Charlton Gardens, Ludwell, Salisbury, Wilts.

GARDENER (SECOND, or good THIRD).—Age 23, single; London or Suburbs preferred. Good references from previous situations. Leaving through death of employer.—E. B., 257, Kalliton Road, Herne Hill, S.E.

GARDENER (UNDER, or SINGLE-HANDED).—Age 45, one boy aged 10. Four and a half years' good character.—A. G., 3, Avoca Cottage, Eareth Road, Bexley Heath, Kent.

GARDENER (UNDER), Inside and Out.—Age 21; fifteen months' experience. Willing to make himself generally useful. Good character.—G. FOSTER, The Gardens, Burrow Point, Pinner, Middlesex.

GARDENER (UNDER).—Age 22; abstainer. For reference, apply to Admiral Martin, Bitterne, Southampton.—E. HOUSE, Brook Road, Bitterne.

GARDENER (UNDER).—Age 20; used to Indoors and Out; strong, active, and willing; good references.—H. BATES, The Gardens, Barlow Hall, near Leicester.

GARDENER (UNDER), in Gentleman's garden character.—W. S., 13, High Street, Chatham, Kent.

GARDENER (UNDER), Outdoor preferred.—Age 22, single; five years' good character.—J. PAYNE, 1, Napper's Cottages, Arkley, Barret.

GARDENER (UNDER), Inside and Out.—Age 18; four years' good character. Bothy preferred.—J. STENNING, Compton's Lea, Horsham, Sussex.

GARDENER (UNDER).—Age 20; two years' experience; strong, active, and willing. No objection to two or three cows.—L. BUTLER, Sand Hill Farm, Kogate, Sussex.

GARDENER (UNDER).—Age 20; one year's good character.—W. BARTER, Chidcock, Bridport, Dorset.

GARDENER (UNDER), Inside, or Inside and Out.—Age 19. Four and a half years' experience. Good character.—H. CLARK, No. 1, Silven Cottage, South Ascot, Berks.

GARDENER (UNDER), Inside.—A young Man, age 18, anxious to improve, seeks situation in a Gentleman's garden. Two years' good character; no bothy.—A. H., Watlington Park, Downham, Norfolk.

GARDENER (UNDER), Inside, or Inside and Out, where others are kept.—Age 21; five years' experience.—DAVID BOUTHORN, Wernolee, Ammanford, R.S.O., South Wales.

GARDENER, Inside, or Inside and Out, where two or three are kept.—Age 21; good references from previous places.—F. PIKE, The Cottage, Iping, Midhurst, Sussex.

To Nurserymen.

GROWER or FOREMAN, in a Small Nursery, south coast preferred.—Age 24; ten years' experience in London and Provinces. Excellent references. Good salesman.—WILD, Old Dutton, Northampton.

To Nurserymen.

GROWER.—Fourteen years' experience in Palms, Draecenas, Aspidistras, Ferns, Cyclamens, Primulas, Cactuses, Roses, Grapes, Cucumbers, Tomatoes, Strawberries, Mushrooms, and General Market Stuff.—W. J. GARDENERS' Chronicle Office, 41, Wellington Street Strand, W.C.

TO THE TRADE.—HENRY MEADES, late with Messrs. Thomas Cripps & Son, seeks situation as HOUSE FOREMAN, PROPAGATOR, and GROWER; thoroughly practical in Hard and Soft-wooded Stove and Greenhouse Plants, Nursery Trade or Market; also Clematis, Rhododendrons, Japanese Maples, general Hardy Climbers, &c.—7, Waterson Cottages, Bayham Road, Tunbridge Wells.

FOREMAN, or PROPAGATOR and GROWER of Plants for Market.—Well up in Aspidistras and Palms, Tuberoses, Bayrads, Double Primulas, &c. Thirteen years' experience with Covent Garden Market.—CLAYAM, Beechfield Cottages, Bromley, Kent.

To Nurserymen.

FOREMAN (Indoors), MANAGER, or SALESMAN.—Age 29, single; fourteen years' experience in all branches. Could take a journey.—J. W., Plummer's Plain, Horsham, Sussex.

FOREMAN, or MANAGER, in a small Nursery.—Age 30, married; experienced in Ferns, Grapes, Tomatoes, Cucumbers, Vines, &c. Abstainer.—A. W., 47, Cavendish Road, Aldershot, Hants.

FOREMAN.—Age 39; Plants and Cut Flowers for Market; has practical knowledge of Outdoor Nursery Stock.—T. SMITH, 5, Coach Terrace, Stockport Road, Manchester.

FOREMAN, in a good establishment.—Age 26; twelve years' experience in good places.—Cuth Howard, Stoke Edith Park, also Ireland.—H. BELL, Sewerby, Hull, Yorks.

To Nurserymen.

FOREMAN (GENERAL WORKING).—Life experience in growing Flowers, Fruit, Vegetables, &c.; also Salesman. Can Build, Glaze, Fix Hot-water. Good references as to capabilities.—E. 2, Bourne Cottages, Bourne Street, Eastbourne, Sussex.

FOREMAN, in the Houses, in a good establishment.—Eleven years' practical experience. Four years as Foreman. Excellent references.—ERNEST ARCHER, 33, Ryland Street, Stratford-on-Avon, Warwickshire.

FOREMAN, in a Large Establishment.—Good knowledge of Stove and Greenhouse Plants, Orchide, Fruit, &c. Good references.—S. CONN, Exotic Nursery, Queen's Road, Cheltenham.

FOREMAN, in the Houses.—Age 25; over two years as Foreman in last situation; good character from present and previous employers.—J. W. WOODHOUSE, Hornenden, Hants.

BUDDER, GRAFTER, and FRUIT TREE FOREMAN.—Good experience and reference.—E. K., *Gardeners' Chronicle* Office, 41, Wellington St., Strand, W.C.

JOURNEYMAN.—Mr. G. C. MAYNARD, Cole Ortoe Hall Gardens, Ashby-de-la-Zouch, can very strongly recommend a young man (age 20) for the Plant Houses; has been with him two and a-half years.

JOURNEYMAN (FIRST), in the Houses;—Age 24.—Mr. FOWELL, Head Gardener, Blatherwyck Park, near Wansford, North Hants, wishes to recommend one of his young men, who has lived under him for the past two years as above. Excellent recommendations, &c.

JOURNEYMAN, Inside.—Age 21. Mr. SELDEN, Head Gardener at the Gardens, Coombe Cottage, Kingston-on-Thames, wishes to recommend E. PINOCK to any Gardener wanting a young man for the Houses. Two years' character, three previous.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; five years' experience. Bothy preferred. Excellent references.—H. R., 24, Ardenham Street, Aylesbury.

JOURNEYMAN, in the Houses.—Six years' experience; two years in present situation; well recommended. Bothy preferred.—HEAD GARDENER, Pinkney Park, Malmesbury, Wilts.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 19; bothy preferred. Two years' good character.—G. J. LIVINGTON, Petworth.

JOURNEYMAN, Inside, under a Foreman.—Age 20; six years' experience in good Gardens. Can be well recommended.—E. WICKS, Stockcross, near Newbury, Berks.

JOURNEYMAN, in the Houses, in a good Establishment.—Age 22; seven years' experience. Good references.—J. GILES, Eastwell Park Gardens, Ashford, Kent.

JOURNEYMAN (FIRST), in the Houses in a good establishment.—Age 23; seven years' experience. Good character. Testimonials.—J. CARTER, 11, Canterbury Terrace, Maiden Vale, London, W.

IMPROVER.—A young man (age 18) wants a situation, Inside and Out. Two years' character from present place, and two years previous. Bothy preferred.—HEAD GARDENER, Bedwellty Lodge, Teddgar, Mon.

IMPROVER, in a good private place.—Age 19; six years in a Nursery. Five pounds for two years' instruction.—H. COUPLAND, Hull Road, Hessele, Hull.

IMPROVER (age 20) desires to learn under a good Gardener.—Two years' experience, principally outside. Good character. Can pay premium.—F. IRWIN, Harton Colliery, South Shields.

IMPROVER, Inside, in a good Establishment.—Age 18; strong, and willing. Three years' experience, and good character. Bothy preferred.—ROBERT RICKARDS, Faldick, R.S.O., Gloucester.

TO GARDENERS, &c.—A young man (age 22), single; has been used to the Pleasure Grounds and Kitchen Garden. Good character.—T. R., Staphor's Gill, Jarvis Brook, Sussex.

TO NURSERYMEN.—Situation wanted in a good Nursery; good Plantman; can do Wreaths, Crosses, &c.; six years' good reference; married.—C. I., Edon Road, Riverside, Cardiff.

TO NURSERYMEN.—Permanent situation required in a good Market Nursery (age 23).—W. B., 4, Gabriel Terrace, Hextable, Kent.

TO NURSERYMEN.—Situation wanted, age 26. Used to Growing Palms, Ferns, Tomatoes, Cucumbers, and Soft-wooded Plants for Market. Good references.—M. S., 7, Bridge Road, Vauxhall, Great Yarmouth.

TO NURSERYMEN.—Situation wanted, by a married man.—Well up in Tomatoes, Vines, Cucumbers, and Plant Growing. Good references.—W. J. GARDENERS' Chronicle Office, 41, Wellington Street, Strand, W.C.

SALESMAN, in Nursery or at Florist's.—Re-engagement by a young man (age 26) as above. Eleven years' experience in different branches. Good testimonials.—GEARREN, 5, Southdown Terrace, Oakley, Eastbourne.

SHOPMAN.—Ten years' experience in First-class Houses.—SEEDSMAN, 11, South Street, Stourbridge.

COWMAN.—A Gentleman wishes to recommend a middle-aged Man as practical Cowman. Height, 5 feet, 10 inches; ten years' testimonials. Willing to make himself generally useful in garden or house if required.—E. ELCOCK, French's Nursery, Camberwell Green, S.E.

HOLLOWAYS' PILLS.—Indigestion, Stomach and Liver Complaints.—Persons suffering from any derangements of the liver, stomach, or the organs of digestion, should have recourse to Holloway's Pills, as there is no medicine known that acts on these particular complaints with such certain success. Its peculiar properties strengthen the stomach, increase the appetite, and rouse the sluggish liver. For bowel complaints it is invaluable, as it removes every primary derangement, thereby restoring the patient to the soundest health and strength. These preparations may be used at all times and in all climates by persons affected by biliousness, nausea, or disordered liver; for flatulency and heartburn they are specific. Indeed, no ailment of the digestive organs can long resist their purifying and corrective powers.

HIGHEST

HONOURS

DIPLOMAS,
GOLD MEDALS,
SPECIAL
CERTIFICATES of MERIT,



AT ALL THE
GREAT
EXHIBITIONS
OF THE WORLD.

PEARS

SOAP MAKERS,

BY SPECIAL APPOINTMENT

TO

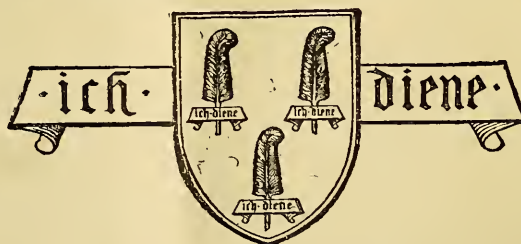
HER MAJESTY

The Queen.

AND

HIS ROYAL HIGHNESS THE

Prince of Wales.



The GARDENER'S CHRONICLE

ESTABLISHED 1841. No. 2684.

No. 284.—VOL. XI. {THIRD SERIES}

SATURDAY, JUNE 4, 1892.

{Regt. as a Newspaper. PRICE 3d. POST-FREE, 34d.

CONTENTS.

Aloe aristata	730	Larch fungus	729
Alpine garden, the	734	Mascarene Island, the	717
Beet, diseases of	726	Plants, greening of	726
Begonia "Princess Beatrice"	734	Pollen: what it is made of	736
Berberis Darwinii and B. stenophylla	728	Presentations to Mr. David Syme	723
Books, notices of	727	Rock plants in flower	729
Traité de Chimie	727	Rosa gigantea	724
Revision der Arten von Trollius	727	Societies—	
Bourvillias	710	International Horticultural	731
Clematis from seed	729	Royal Horticultural	724
Dendrobium nobile	728	Steam-heating in horticulture	729
Egypt, rural industries of	730	Sweet Chestnuts	720
Erigeron	727	Thalictrum raijnchocarpum	732
Foreign correspondence	727	Trees and shrubs	729
Forestry	721	Tropæolums	725
Fruit crops, and the weather	728	United States, commercial floriculture, &c.	725
Ardoe's Orphan fund	729	Week's work	722
Gardeners' notes	730	Flower Garden	723
Heredity	724	Fruits under glass	724
Hints to Emigrants	724	Hardy fruit garden	722
New or noteworthy plants		Kitchen garden	722
Dendrobium x Nestor	718	Orchid-houses	723
Ureana Penzance	719	Plants under glass	723
Orepanax Sandersonianum	718	Wistaria sinensis	729

ILLUSTRATIONS.

Bouvardia, a specimen	719
Dendrobium nobile	725
Perfidium pini	734
Phoenix Rebellii	731

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

"Paxton's Calendar." New Edition, "The Cottagers' Calendar of Garden Operations," Price 3d., post-free, 34d. 41, Wellington Street, Strand, London, W.C.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

"The Gardeners' Chronicle" in America. The Subscription to America, including Postage, is \$4.80 for 12 months. Agent for America, E. H. LIBBY, Manager, The Rural Publishing Co., Times Building, New York, to whom American orders may be sent.

THE RHODODENDRONS and AZALEAS in ROTTEN ROW, HYDE PARK, are supplied by ANTHONY WATERER.

THE EXHIBITION OF RHODODENDRONS by ANTHONY WATERER in the Royal Botanic Gardens, Regent's Park, will be on view during JUNE.

ANTHONY WATERER, Knapp Hill Nursery, Woking, Surrey.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free—P. MCARTHUR, The London Nursery, 4, Maids Vale, London, W.

TWO EUCHARIS AMAZONICA, in 14-inch pots, in good health. Exchange large Palms, or what others?—H. C. TUCKER, 4, Springfield Terrace, Ilfracombe, 150, 150.—Special Offer of Kentias.

W. ICETON has a large quantity of the above to offer, very reasonable, at from 47 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £20 per 1000.

W. ICETON, Putney, S.W.

CARTERS'—THE BEST SEEDS.

CARTERS' HOLBORN PRIZE PRIMULA.
CARTERS' VICTORIA PRIZE CALCEOLARIA.
CARTERS' BRILLIANT PRIZE CINERARIA.
The finest strains in cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN,
237 and 238, HIGH HOLBORN, LONDON, W.C.

FLORICULTURA FRANCO-BRAZILEIRA.
Orchids and Palms a specialty.—Viscount de Saint-Léger & Co., Rue du Dr. Garnier, No. 61, Rio de Janeiro, Brazil.

ORCHIDS A SPECIALTY.—
Please write for New Illustrated Price List of well-established, healthy, and easily-grown plants.
W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

KENTIAS, in many useful sizes for furnishing, also large quantities in 60's, Cocos Weddelliana, and many other Palms. FERNS in many sizes, grow hardy for furnishing. Cheap for cash.
GEORGE CLARK, Clarence Lane, Putney, S.W.

CHOICE FRUIT!—CHOICE FRUIT!
Highest market prices guaranteed. Prompt cash.

HENRY RIDES, Centre Avenue, Covent Garden, W.C.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOS, GRAPES, &c. Good references.

JOHN COLLINGRIDGE is open to receive Consignments of Choice CUT FLOWERS for SALE, on COMMISSION. Highest references.
New Flower Market, and 5, Russell Court, Strand, W.C.

Hooper's Flower and Fruit Agency.

MESSRS. HOOPER and CO. (LIMITED), will be pleased to RECEIVE CONSIGNMENTS of CHOICE CUT FLOWERS and FRUIT for SALE, on COMMISSION. Having been established in Covent Garden for upwards of half a century, they have a very large connection, which affords them great facility in the disposal of choice stuff. Account Sales, with Remittance, posted same day as Sale.
HOOPER'S Flower and Fruit Agency, Covent Garden, W.C.

MESSRS. SQUELCH and WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOS, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE.

Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. References, London and County Bank, Covent Garden Branch.

GILBERT'S DOUBLE PRIMULAS, Lord Beaconsfield and Marchioness of Exeter. They make unique pot plants. Cuttings, in small 60's, warranted hardy, and good plants, for potting on, well rooted; the former, 36s. per dozen, and the latter, 30s. No charge for Packing and Package.—R. GILBERT, High Park, Stamford.

PRIMULAS! PRIMULAS! PRIMULAS!
24th year of distribution.

Williams' Superb Strain, 1s. 6d. per dozen, 10s. per 100. CINERARIAS, same price; also PRIMULA OBOVATE, 4d. each. Carriage free for cash with order.

JOHN STEVENS, The Nurseries, Coventry.

Now seen for early flowering in Spring.

ROEMER'S SUPERB PRIZE PANSIES.

The finest strain of Pansies in the World. 4d. Introducing and Grower of all the leading Novelties. CATALOGUE free, on application.

FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

Many Acres of Lilies of the Valley!

T. JANNOCCH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNOCCH (Lily of the Valley Grower) by special appointment to H.R.H. the Prince of Wales, Dersingham, King's Lynn, Norfolk.

Sow in June.
SUTTON'S SUPERB SINGLE WALLFLOWER.—Our strain of Single Wallflower is unsurpassed for variety of colour, size of the spikes of bloom, and robust free-flowering habit. Mr. E. WILKINSON, Farnham, says:—"Our show of Wallflowers has been considered by all the experts to be the best in Lancashire. Many of the plants were 18 inches across and only a foot high: Price of Seed, mixed colours, 1s. per packet, post free.

SUTTON'S SEEDS GENUINE ONLY
DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

DAHLIAS.—White Dahlias, good strong plants, to offer cheap. Guiding Star and White Aster, 2s. 6d. per dozen, 17s. per 100; turned out pots, 16s. Carefully packed (free). Strictly cash.

GRAVES and HAYNES, Florists, Beeston, Notts.

CLEARANCE SALE of BULBS for Summer and Autumn Flowering. Price LIST on application. Splendid mixed Gladioli, 2s. 3d. per doz.; Anemone fulgens, scarlet, 5s. 6d. per 100; Anemone Glory of the South, large scarlet, 5s. 6d. per 100; double-tasseled Anemone fulgens, 3s. 6d. per 100. Mixed Turban Ranunculus, from named sorts, 3s. per 100.

BARR and SON, King Street, Covent Garden, W.C.

To the Trade.

MANGEL WURZEL and TURNIP SEEDS.
H. and F. SHARPE have very fine Stocks of the above-named Seeds of 1891 growth, and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advantageous prices.

The quality is very fine and the growth strong. Samples and prices on application.

SEED GROWING ESTABLISHMENT, WISBECH.

Seeds for Present Sowing.

DICKSON and ROBINSON'S
Superb Strains of the following are unsurpassed:—CALCEOLARIA, CINERARIA, GLOXINIA, and PRIMULA, Red, White, and Mixed Colours, each 1s. 6d. and 2s. 6d. per packet, post-free.

EXHIBITION DWARF EVERGREEN LAWN GRASS, per lb. 1s. post-free, 1s. 3d.; per cwt., 100s., carriage paid. Descriptive Priced CATALOGUE, post-free, on application. Seed Warehouse, 12, Old Millgate, Manchester.

FOWLER'S MEALY BUG DESTROYER,
For the eradication of this most troublesome pest. It is easily applied, is instant destruction to both insect and egg, and does not stain or injure the foliage. In Bottles, 1s., 2s. 6d., 5s., and 10s.; half gallon, 21s.; one gallon, 42s. each. CORRY and CO., Limited, 13, 15, 16, Finsbury Street, E.C. Sold by all Seedsmen.

Boulton & Paul's Outdoor Requisites.

BOULTON and PAUL, MANUFACTURERS, NORWICH.

Every Requisite for the Kennel and Poultry Yard, Aviaries, Figen, and all other purposes.

Requisites for the Garden, Park, Pleasure Grounds.

Wire Netting for Game and Sheep. Iron and Wire Fencing, Gates, &c.

Send for Illustrated CATALOGUES, post-free, on application.

THE CHADBORN and COLDWELL

MFG. CO.,

Makers of the Patent "EXCELSIOR" LAWN MOWER,

223, UPPER THAMES STREET, LONDON, E.C.

Registered Telegraphic Address: "LAWN MOWERS, LONDON."

J. WEEKS and CO., HORTICULTURAL

ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT

MANURE.—This valuable Manure is made only by us. Every bag and tie has our name on it. To be had of all Nursery and Seedsmen, and direct from Son, 1 cwt. and over carriage paid. London Agent: Mr. GEORGE 10, Victoria Road, Putney.

W.M. THOMSON and SONS, Clonsfield, Galashiels, N.B.

THE AMERICAN PLANTS at the Knap Hill Nursery will be IN BLOOM after June 1, and may be SEEN DAILY. Snaps excepted.
ANTHONY WATERER, Knap Hill Nursery, Woking, Surrey.

GRAPE VINES, leading kinds. Healthy plants, in small pots, 30s. per 100. **FRUIT TREES** of all kinds, **FIGS,** and **CLIMBING ROSES** in pots.
WILL TAYLER, Osborn Nursery, Hampton, Middlesex.

Ficus elastica variegata.
H. B. MAY offers the above, of which he now has a fine stock of the best variety; well-furnished, healthy plants, of various sizes. Prices on application.
Dyson's Lane Nurseries, Upper Edmonton.

CHEAP OFFER—CLEARANCE SALE of **CHRYSANTHEMUMS.** Choice sorts, good stuff, at £2 5s. per 1000. **TOMATOES,** Hackwood Park Trophy, 6s. per 100. **CUCUMBER,** Covent Garden Strain, 4s. per dozen. Packing included. Cash with Order.
E. L. JONES, Clayton Nursery, Peckham, S.E.

TROPÆOLUM SPECIOSUM (the well-known Hardy Scarlet Climber).—Strong Plants, in pots, 12s. per doz.; 1s. 3d. each. Out of pots, 9s. per doz.; 1s. 5d. each. Free and Safe by Post.
HOWDEN AND CO., The Nurseries, Inverness.

Rape Seed and White Mustard.
H. AND F. SHARPE have fine clean samples of the above; suitable for sowing, and will be pleased to submit samples and quote prices.
Seed Growing Establishment, Wisbech.

ASPARAGUS.—This delicious vegetable does not require half the expense often incurred. For directions see Illustrated Seed List, free. Strong roots, 2s. 6d. per 100; extra strong ditto, two years old, 4s. 9d. per 100.
RICHARD SMITH AND CO., Worcester.

200,000 CELERY PLANTS, Clayworth Pride, all transplanted and strong, 6s. 6d. per 1000; for 5000 and over 6s. per 1000. Cash with order. Also, Robinson's Ox CABBAGE PLANTS, 2s. 6d. per 1000.
GEO. YORKE, Seedman, Retford.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.
(JOHN COWAN), Limited,
Have just received
LARGE and SPLENDID IMPORTATIONS
of the following and other

ORCHIDS.

CATTLEYA TRIANÆ,
Splendid gigantic-flowered, highly-coloured type from new district.
CATTLEYA MENDELII, in fine masses.
CATTLEYA SKINNERI.
CYPRIPEDIUM INSIGNE VAR. EXUL.
DO. **BELLATULUM** type.
DO. **INSIGNE.**
PHALÆNOPSIS GRANDIFLORA AUREA.
EPIDENDRUM BICORNUTUM.
ONCIDIUM LURIDUM.
DENDROBIUMS in great variety, in grand masses.
ORCHIDS from Mexico, ORCHIDS from Guatemala, &c.

Prices and Full Particulars sent post-free on application.

THE VINEYARD AND NURSERIES,
CARSTON, NEAR LIVERPOOL.

Cattleya Mossiæ in bloom!

OVER 1000 FLOWERS NOW OPEN.

HUGH LOW and CO. cordially invite inspection of the above, and many other CHOICE ORCHIDS NOW IN FLOWER, by all Gentlemen interested in their culture.

CLAPTON NURSERY, LONDON, N.E.

FOR ORCHIDS, and GARDENERS to Grow Them, apply to **SANDERS, St. Albans.** The finest stock of Orchids in the World.—30 minutes from St. Pancras.

33 ORCHIDS, in 7 sorts, all clean, healthy, vigorous plants. To be sold for £2.
Mr. KIRBY, 15, Spencer's Road, Mitcham, Surrey.

TROPÆOLUM SPECIOSUM.—This magnificent perennial Climber—strong roots, 7s. 6d. per dozen, 9d. each.—T. W. SHORR, Ganwick, near Barnet.

EWING'S MILDEW COMPOSITION.—The original certain and safe remedy. 1s. bottles, 1s. 6d. and 3s.; per gallon, 12s. **CORRY AND CO., Limited,** 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

Trade Offer of Large Palms.

W. ICETON has a large Stock of the leading kinds of Decorative PALMS from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracænas, Bamboos, and Foliage Plants. Lowest Prices quoted on application.
W. ICETON, Putney, S.W.

FOR SALE.—Pair of **LATANIA BORBONICA**, 8 feet through, 13 leaves, price £4 4s.; larger pair 10 feet through, 13 leaves, price £5 5s. Also a pair of **DICKSONIA ANTARTICA** with good head of fronds, and stems 9 feet high, price £10 10s. All in splendid condition.
Mr. A. WRIGHT, 241, South Norwood Hill, S.E.

FERNS! FERNS!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large **Adiantum cucuatum**, **Aralias**, **Cyperus**, **Rhodanthe**, all in 4s. 6s. per doz. **Palms**, **Ficus**, **Hydrangea**, 1s. each. Large **Ferns**, 10 best sorts 8s. 6d. per doz. in 4s. 6s. **Spiræas**, **Marguerites**, and **Pelargoniums**, in bloom, 8s. per dozen, in 4s. 6s. **Adiantum cucuatum** and **P. tremula**, extra size, in 2s. 6d. per 100, 16s. and 30s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Longbore Junction, S.W.

BARR'S SEEDS, BULBS AND PLANTS.
VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.
BULBS.—Gladioli, Lilies, Anemones, Ranunculus, Hyacinthus candicans, Tigrids, &c., for Spring Planting. LISTS ON APPLICATION.
PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.
BARR AND SON, 12, King Street, Covent Garden, London.

PAUL & SON'S NEW CHESHUNT ROSES, 1892

Ready in Pots, May 20.

H.P. VIOLET QUEEN, 7s. 6d. each.
HYBRID, FRANCES BLOXAM, 5s. each.
And ready during summer,
SWEET BRIAR, JANET'S PRIDE, with semi-double, shaded with lake, flowers. First-class Certificate R.H.S., 5s. each.

"OUR" NEW ROSES OF 1891.
BOURBON MRS. PAUL, 3s. 6d. each, 30s. per dozen.
H.P. BRUCE FINDLAY, 3s. 6d. each, 30s. per dozen.

The New Giant Indian Single Rose, **ROSA GIGANTEA**, with flowers 6½ inches across, and making in India and the Temperate House at Kew shoots of 50 feet, 3s. 6d. each.

New French and English Roses of three previous years, 18s. to 40s. per dozen.

CACTUS DAHLIA, Claxton's Harlequin. Three First-class Certificates. "Yellow striped with crimson." A first-class novelty. 3s. 6d. each.
NEW ROSE and SPRING LISTS Post-free, on application.

THE "OLD" NURSERIES, CHESHUNT, N.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY,
GARDENS, REGENT'S PARK.
SPECIAL FLORAL FÊTE, and CHILDREN'S FLORAL PARADE, WEDNESDAY, JUNE 22.
Prizes Offered for Children's Mail Cards, Fancies, Goat Chaises, &c., decorated with Flowers; also Plants and Flowers arranged for effect, and all kinds of Outdoor Flower Decoration. Schedule of Prizes and Regulations to be obtained from the Office of the Gardens.

NUNEATON FLORAL and HORTICULTURAL SOCIETY.
ANNUAL EXHIBITION in WEDDINGTON PARK, on MONDAY, JULY 18, 1892.
PRIZES NEARLY £100. SPECIAL PRIZES FOR ROSES. Schedules on application to—
MARK T. BLACK, Secretary.

WOLVERHAMPTON FLORAL FETE.

JULY 12, 13, & 14, 1892. IN THE PUBLIC PARK.
OPEN CLASSES for PLANTS, ROSES, FRUIT, &c.
OPEN AMATEUR CLASSES for ROSES.
ROSE PRIZES on the First and Last Days.

Open Air Space to Let, for Horticultural Sundries.

For SCHEDULES, FORMS OF ENTRY, and INFORMATION, apply—
W. A. GREEN, JUNR., Horticultural Secretary.

EDWARD LEIGH, Cranleigh, Surrey, will supply the next few weeks, plants at the following low rates, carriage paid, for cash with order:—Double **CARTAGONS**, **PICOTEES**, **PANSIES**, splendid show varieties (sample blooms, 6d.), 1s. per doz., 5s. per 100, 4s. per 1000. Longfield Double DAISY, **FURLEA ARBIS**, **PLANTUS HEDWIGII**, **VIOLAS** (Black, White, Sky-blue, Yellow), also Mixed, 1s. per dozen, 4s. per 100, 30s. per 1000. **ALYSSUM SAXATILE**, **SWEET WILLIAM** (choicest varieties), 9d. per dozen, 3s. per 100, 20s. per 1000. **WALLFLOWERS** (many best varieties), 9d. per dozen, 2s. per 100, 15s. per 1000. **HERB PLANTS**, **Surge**, **Winter Thyme**, **Winter Savory**, 1s. 6d. per dozen, 3s. per 50, 5s. per 100. Above are good year-old plants, from open ground. Send for LIST of Flower, Vegetable, and Herb Plants.
EDWARD LEIGH, Cranleigh, Surrey.

P E L A R G O N I U M S.
CLEARANCE SALE.
A magnificent collection, including the newest and finest varieties of Double and Single-flowered Zonal and Ivy-leaved Pelargoniums. Flowers of immense size, and of the most brilliant and charming colours. Splendid for pot culture. Per dozen, 3s. 6d.; six for 2s.; twenty-five for 6s.; or 21s. per 100, all correctly named and carriage free for cash.
DANIELS BROS., Town Close Nurseries, Norwich.

F U C H S I A S.
CLEARANCE SALE.
A magnificent collection of superb Double and Single-flowered varieties, including the newest and most beautiful sorts in cultivation. Splendid for pot culture or the garden. Strong young plants from single pots, correctly named, per dozen, 2s. 6d.; six for 1s. 6d.; or, twenty-five for 4s. 6d. Extra choice sorts, per dozen, 3s. 6d.; six for 2s.; or, twenty-five for 6s. 6d., post-free.

DANIELS BROS., Town Close Nurseries, Norwich.

C H R Y S A N T H E M U M S.
CLEARANCE SALE.
A splendid collection, including all the most beautiful and popular of the Japanese, Icurved, and Pomponé Varieties, strong, well-rooted cuttings, correctly named, per dozen, 1s. 6d.; per 100, 10s. 6d. Extra choice sorts, per doz., 2s. 6d.; per 100, 16s. Six grand new exhibition varieties, splendid, the set, 3s. 6d. All post-free.

DANIELS BROS., Town Close Nurseries, Norwich.

L'HORTICULTURE INTERNATIONALE
(Orchid Emporium), Leopold Park, Brussels.
THE GRANDEST COLLECTION OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will read at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

PRIZE MEDAL PELARGONIUMS.

H. J. JONES,
Of Ryecroft Nursery, Court Hill, and Hither Green Lane, Lewisham, S.E.

Is desirous of drawing the attention of the Public in general, and the Trade, to his fine and extensive Stock of **DECORATIVE PELARGONIUMS**, For which he was awarded the Silver-gilt Medal of the Royal Horticultural Society at their Great Show, held on May 26, at the Temple Gardens.

Fine strong Plants, just coming in Flower, in 5-inch pots, 12s. per dozen.
Send to H. J. JONES for CATALOGUE of all the best ZONAL PELARGONIUMS, DAHLIAS, COLEUS, FUCHSIAS, BIGNONIAS, &c., at lowest prices.

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

ARTHUR FLINSCH,
LOSCHWITZ, near DRESDEN.



LARGE PEACH GROWER

In Hothouses and Open Air.
Export of Fruit to All Parts.

FERNS
(If you wish to have
a CHOICE, VARIED & BEAUTIFUL
COLLECTION OF FERNS
different from those commonly seen
you can obtain such from
W & J. BIRKENHEAD.
FERN NURSERIES SALE, MANCHESTER
Who have 1400 DIFFERENT KINDS TO
SELECT FROM. CATALOGUE ON APPLICATION.



JAS. BOYD & SONS,

HORTICULTURAL BUILDERS
and HEATING ENGINEERS,

PAISLEY.

HORTICULTURAL

STRUCTURES

of every description,
in either Wood or Iron,
or both combined.



Wooden Chapels,
Shooting Lodges,
Tennis Courts,
Cottages, &c.



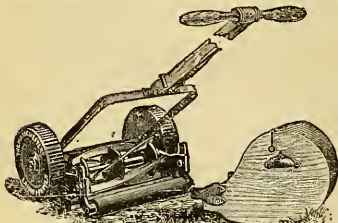
Hot-water Apparatus
for warming
Buildings of every
description.

Illustrated Circulars
Post-free.

Complete Catalogue, 3s.

TRY THE PATENT
"MANCHESTER"
LAWN MOWER.

Awarded numerous National & International Prize Medals.



Many thousands of these excellent English made
Machines in use, giving unqualified satisfaction. Easy
to work on uneven ground, and cut long or short
grass, wet or dry, and give the turf a beautiful
velvety appearance.

FOLLOWES & BATE Ltd.,
ENGINEERS,
GORTON, MANCHESTER.

Patentees and Manufacturers of the Royal "ANGLO-AMERICAN,"
"FENNIS," and "CLIX" LAWN MOWERS.

80,000 SOLD SINCE 1869.

To be obtained promptly from all respectable Ironmongers
and Seedsmen. PRICE LISTS POST FREE.

AWARDED TEN GOLD AND SILVER MEDALS.



REGISTERED NO. 13,195.

PRICES of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).

ARMOURD.—The Excelsior Wire-Armoured Hose secures
a Perfect grip, will not uncoil when cut at any part, stands
enormous pressure, and wears for years. Prices:—
1-in. dia., best quality ... 38/3 " in. dia., ex. stout qual. 52/0
" ex. stout quality 43/7 " best quality ... 52/0
" best quality ... 45/0 " ex. stout qual. 60/7

All Hose Carriage Paid and despatched same day as order is received.

Also Maker of Hose for Delivery, Steam, Fire, Suction, and Liquid
Manures, &c. Supplied to all the Principal Corporations,
Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING,
ROOFING FELTS, SACKING, &c., Post Free. MAKER TO HER MAJESTY THE QUEEN.

PLAIN.—Unkinkable Smooth-Surface Hose, will not
crack. Is made of pure rubber and canvas. Quality guaranteed.
1-in. dia., specially cheap 19/3 1/2-in. dia., best quality ... 28/0
" best quality ... 21/5 " ex. stout qual. 33/0
" ex. stout qual. 27/5 " best quality ... 33/0
2-inch diameter, ex. stout quality ... 40/0

Oldest and Most Reliable House in the Trade.
Manures, &c. Supplied to all the Principal Corporations,
Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING,
ROOFING FELTS, SACKING, &c., Post Free. MAKER TO HER MAJESTY THE QUEEN.

ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

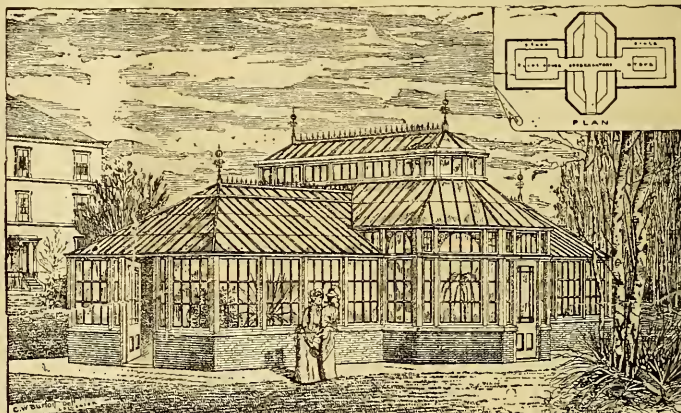
SANKEYS' famous GARDEN POTS
* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong
and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden
Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your
'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10
Orders. Half Carriage on £5 Orders. Samples Free.



MESSINGER & CO.'S New CATALOGUE of Greenhouses and Heating Apparatus,

Just issued, will be found the most complete, practical, and reliable guide to all about to build, alter, or heat Greenhouses.
Illustrations of every description of Glasshouse, from the largest range or Winter Gardens to the simplest forms of Portable
Greenhouses, Plant Protectors, and Garden Frames; also of all the best kind of Boilers, Hot-water Pipes, and all appliances for
heating. This Catalogue, possessing hundreds of illustrations of all the latest improvements in greenhouse building and heating,
is on a scale never before attempted. It should be in the hands of every one interested in gardening, as it contains many practical
hints on the subjects of which it treats, the result of many years' experience. Price, 2s. post-free.

A large number of the illustrations are taken from greenhouses erected by us in various parts of the country; an inspection of
this Catalogue shows, therefore, buildings the efficiency of which has been well tested by actual use. The advantages possessed by
us enable us to carry out work with the utmost promptness, and in the very best style, at prices which defy competition. Surveys
made, and gentlemen waited on in any part of the country. Plans and Estimates free on application.

MESSINGER & COMPANY, LOUGHBOROUGH.

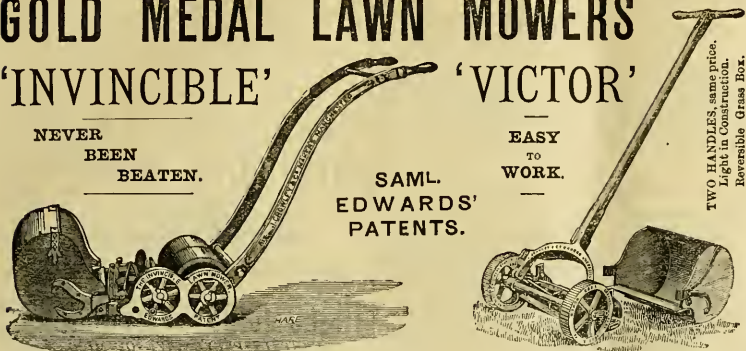
London Office:—163, Palmerston Buildings, Old Broad Street, E.C.

GOLD MEDAL LAWN MOWERS 'INVINCIBLE' 'VICTOR'

NEVER
BEEN
BEATEN.

EASY
TO
WORK.

SAML.
EDWARDS'
PATENTS.



TWO HANDLES, same price.
Light in construction.
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE

"HERCULES" BRAND (Regtd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



"Are you not afraid those children will injure the Hose or stop the water?"

"Oh, no! This SPHINCTER GRIP ARMoured HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of."

Contractors to all Departments of Her Majesty's Government and the Horticultural and Agricultural Societies. Hundreds of Unsolicited Testimonials.

BWARE OF WORTHLESS IMITATIONS, and send for **ILLUSTRATED and DESCRIPTIVE CATALOGUE** (post free on application) of HOSE and GARDEN WATERING APPLIANCES and FITTINGS of every kind.

MR. JOHN KNIGHT, Rose of Kent Nurseries, Dartford, writes, April 26, 1892, ordering a supply of our "A Quality" Hose:—"I had no end of trouble with another firm's make of Garden Hose last year; it wore clean out in less than three months—went into hundreds of holes in this time—so that I do not want anything of the sort again."

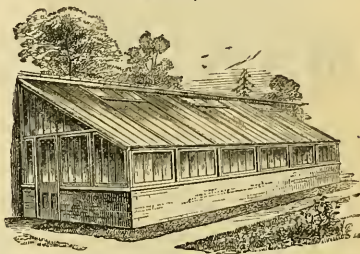
HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891. No Exhibition Medal or Award has ever been secured by any other firm for Armoured Hose.

SPHINCTER GRIP ARMoured HOSE CO., Ltd.,

OFFICES and SHOW ROOMS—9, MOORFIELDS, LONDON, E.C. Works—LONDON and NORTHAMPTON.

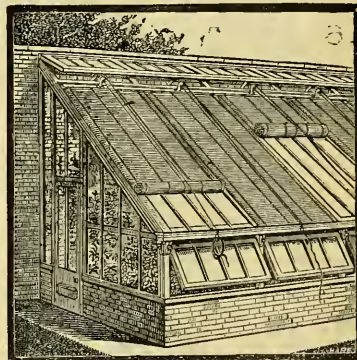
W. H. LASCELLES & CO.,
HORTICULTURAL BUILDERS,
121, BUNHILL ROW,
LONDON, E.C.



CONSERVATORIES,
GREENHOUSES,
ORCHID HOUSES,
VINERIES,
PEACH HOUSES, &c.
Plans and Estimates Free.

PARISIAN BLINDS.

AWARDED FORTY PRIZE MEDALS.



Exhibited on Conservatory, at Stand 14, Group A. International Horticultural Exhibition, London.

W. RICHARDSON & CO., Horticultural Works, DARLINGTON.



And for all Glass Structures that require Shading. Sold in packets, 1s. each, with full directions for use, and may be obtained from all Seedsmen and Nurserymen. The public are cautioned against spurious imitations. Each packet should bear the Trade Mark as above. Manufacturers—CORRY AND CO. (Ld.), Horticultural Sundries Merchants, Offices and Show Rooms, 13, 15, and 18, Finchbury Street, London, E.C. Sold by all Seedsmen and Florists.

May be had through all Seedsmen and Chemists.



Prices:—1 Gall. 3/- (tins included), 5 Gall. 2/6 per Gall., 10 Gall. 2/6 per Gall., 20 Gall. 2/3 per Gall., 40 Gall. 2/- per Gall. Carriage paid on 5 Gall. and upwards.

Kills all Weeds on Garden Walks, Carriage Drives, &c. Brightens the Gravel. One application will keep the Walks Clear of Weeds for a whole Season.

Prepared Solely by

The Boundary Chemical Co., Ltd.,
LIVERPOOL.



FOR DESTROYING WEEDS, MOSS, &c.

ON CARRIAGE DRIVES,
GARDEN WALKS, ROADS, STABLE-YARDS,
WALLS, STONEWORK, &c.

Saves more than twice its cost in Labour. No Smell. One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every experience in recommending it."

Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy."

Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included); in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20 gallons, 1s. 4d. per gallon. Special quotation for larger quantities. Carriage paid on 10 gals. and upwards.

Used in the proportion of one gallon to twenty-five gallons of water.

THE ACME SUMMER SHADING, White and Green.

For SHADING GREENHOUSES, CONSERVATORIES, &c. Does not wash off with the rain. Can be used WARM or COLD. 1 lb. makes 1 gall. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 6d.

For particulars of ANTI-FUNGI POWDER for Tomato Diseases, Mould and Mildew on Roses, Vines, &c.; KENTISH PLANT MANURE, SOLUBLE MANURE, ZINC LABELS, NEW METALLIC INK, &c., apply to the Sole Proprietors and Manufacturers.

THE "ACME" CHEMICAL CO., Limtd.,
Tunbridge, Kent;
and Carlton Street, Bolton, Lancashire.

LETHORION (VAPOUR CONE).



PATENT.

They are now universally admitted to be thoroughly uniform in strength, and safe for any plant or flower, even if four times the quantity are used. Scale and mealy-bug may be completely eradicated by using the Cones double strength.

PRICES:—For frames of 50 to 100 cubic feet, No. 1 reduced to 6d. each; 500 feet, No. 2, 1s.; 1000 feet, No. 3, 1s. 6d.; 4000 feet, No. 4, 5s.

The house should be well secured.

CORRY & CO., LIMITED.
13, 15, & 16, Finsbury Street, London, E.C.

SAVE HALF THE COST.

GARSDIE'S BEDFORDSHIRE COARSE AND FINE SILVER SAND

Is admitted by the leading Nurserymen to be the Best Quality obtainable in the Trade.

Consumers should Buy Direct from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus save half the ordinary cost. NO TRAVELLERS OR AGENTS.

Apply direct to the Proprietor for Samples and Price free on Rail or Canal. All Orders executed with the utmost promptness and under personal supervision. Special Railway Rates in force for all parts. All kinds of PEAT supplied at lowest possible prices. Sample Bag sent on application to

GEO. GARSDIE, Jun., F.R.E.S., Leighton Buzzard, Beds.

"SLUGICIDE," REGISTERED.—Certain death to Slugs, fertilizer to soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners yet invented. 1s. 6d. per box, of Seedsmen, or post paid of THE "SLUGICIDE" CO., 6, Maryleport Street, Bristol.

CATERPILLAR EXTERMINATOR and GENERAL INSECTICIDE (as recommended by the Board of Agriculture), for Destroying Caterpillars, Green and Black Fly, Mealy Bug, Red Spider, White Scale, Brown Scale, Camellia Scale, Blight, Mildew, &c., on Fruit Trees, Vines, Hops, Rose Trees, Vegetable Beds, Flower Beds, &c.
PRICE:—1 lb. tin, 1s. 6d.; 5 lb. tin, 3s.; 10 lb. tin, 5s.; per cwt., 45s. Carriage and Postage extra.

Prepared by

MACKEY, MACKEY AND CO., MANUFACTURING CHEMISTS,
1 and 2, Bouverie Street, Fleet Street, London, E.C.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 22s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included. Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

EPPS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,

Hardwood do., Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack only. Rich fibrous LOAM, superior LEAF-MOULD, Coarse, Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **PEAT Moss Litter.** The Original Peat Depot, RINGWOOD, HANTS.

RICHARDS'

NOTED ORCHID And Other SELECTED PEATS, Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco-Paper, Insecticides, Weed-Killer, and all Garden Sundries, at the Shortest Notice. Special Railway Rates to all parts.

The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Chief Peat Depot and Grounds—Ringwood, Hants. Samples and Price List post-free.

ORCHID PEAT; best Quality; BROWN FIBROUS PEAT for Stove and Greenhouse use. RHODODENDRON and AZALEA PEAT, Samples and Prices of WALKER and CO., Farnborough, Hants.

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

If you fail to obtain this Valuable Canvas from your local Seedsman, send a post-card to—

BENJ. EDGINGTON,
(LIMITED),
2, DUKE STREET,

London Bridge, S.E.,

Who will reply by return, with Samples and full Particulars.

"FRIGI DOMO" CANVAS.

HEATHMAN'S HOSE,
ANTIMONIAL RED RUBBER.

Is Lightest in Weight, yet Strongest and Most Durable FOR GARDENS.

220 Miles Sold the last Five Years. Price Lists from—
HEATHMAN'S HOSE FACTORY,
2 & 37, ENDELL STREET, LONDON, W.C.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



HORTICULTURAL GLASS.

A Large Stock
always on Hand.

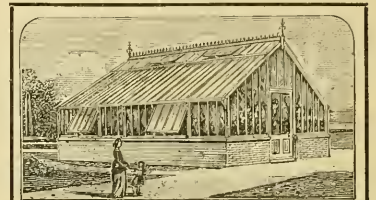
Special quotations for quantities.

WHITE LEAD, OILS, AND COLOURS

At lowest possible prices.

NICHOLLS & CLARKE,

6, HIGH STREET, SHOREDITCH,
LONDON, E.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid—1-light frame, 4 x 6, 36s. 6d.; 2-light frame, 6 x 8, 58s.; 3-light frame, 12 x 6, 85s. 6d. Span-roof Frames, 12 x 4, £4 7s. 6d.; 9 x 5, £3 10s.; 16 x 6, £5 10s.

HARDY BRUI & CO., Graham LEICESTER Street.

ORCHID BASKETS, RAFTS, BOATS, AND CYLINDERS, AND ALL GARDEN SUNDRIES.

SEND FOR A

PRICE LIST

from the Largest Manufacturer in the Trade

H. C. SMYTH,

21, GOLDSMITH STREET,
DRURY LANE, W.C.

EXTRA STOUT strong-tanned NET, 2 yards wide, 1yd. yard; 4 yards wide, 3d. yard; or 2 yards wide, 10s. per 100; 4 yards wide, 20s. per 100 yards. NEW TWINE NETTING, 1 yard wide, 1yd. yard; 2 yards wide, 3d. yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. COTTON NET, nine inches to square inch, 1 1/2 yards wide, 7d. yard run. W. CULLINGFORD, 24, Eastern Road, Plaistow, E.

RANSOMES'

At the Jubilee Meeting of the R.A.S.E., Windsor, HER MAJESTY THE QUEEN and H.R.H. PRINCESS VICTORIA OF PRUSSIA each purchased a RANSOMES' LAWN MOWER.



LAWN MOWERS,

The Best in the World.

In all sizes to meet every requirement.
"NEW AUTOMATON," the Best Grass Machine.
"CHAIN AUTOMATON," the Best Chain Machine.
"ANGLO-PARIS," the Best Small Machine.
"EDGE CUTTER," the only one of real service, the Best for Cutting Slopes.
"BANK CUTTER," the Best Pony and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.
RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.



NEW ROSES.

WM. PAUL & SON

Respectfully Solicit Orders for the following First-class NEW ROSES, their introductions of 1892 & 1891, Plants of which are Now Ready:—

SPENSER (H.P.), Three First-class Certificates; Award of Merit Royal Horticultural Society; fine Satin-Pink, magnificent and effective. 10s. 6d. each.

LADY HENRY GROSVENOR (H.P.), Award of Merit Royal Horticultural Society; Flesh-colour; exceedingly free. 7s. 6d. each.

ZENOBI (Hybrid Moss), Soft Rose, large and handsome; a fine addition to the Moss Roses. 5s. each.

CLIMBING QUEEN OF QUEENS (H.P.), a Climbing Sport of the elegant Pink-Rose Queen of Queens. 3s. 6d. each.

SALAMANDEE (H.P.), Gold Medal National Rose Society; Bright Scarlet Crimson; very brilliant and attractive. 3s. 6d. each.

MEDEA (Tea-Scented), First-class Certificate; Lemon-Yellow, with Canary-Yellow centre. 3s. 6d. each.

WABAN (Tea-Scented), Award of Merit, Royal Horticultural Society; a Carmine Sport from CATHERINE MERMET; excellent. 3s. 6d. each.

The New CONTINENTAL ROSES of 1892. 3s. each, 30s. per dozen.

The New CONTINENTAL ROSES of 1891. 2s. each, 21s. per dozen.

For full descriptions of the above, and particulars of other New Roses, see **DESCRIPTIVE CATALOGUE**, which will be forwarded *free* on Application.
N.B.—All other New Roses can be supplied at advertised prices.

A Large General Collection of ROSES IN POTS, for Planting-out, Climbing, and Pot Culture, 9s. to 15s. per doz.; Extra Strong, 24s. to 42s. per dozen.

PAUL'S NURSERIES, WALTHAM CROSS, HERTS.

TRADE OFFER OF PALMS.

COCOS Weddelliana, in thumbs ... at 20s. per 100.
in 60's, ... at 55s. per 100.
KENTIA Fosteriana & Belmoreana, in thumbs, at 20s. per 100.
in 60's, ... at 50s. per 100.
" " in 48's, ... at 24s. per doz.
in 32's, ... at 48s. per doz.
SEAFORTHIA Elegans, in 60's, ... at 32s. per 100.
in 48's, ... at 24s. per 100.

W. Icton has a fine Stock of Asparagus plumosus nanus, in 48's and 60's; Pandanus Veitchii, Dracena Lindenii, and Ficus elastica.—W. ICEYON, Putney, S.W.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

ORCHID EXHIBITION.—Now OPEN.

ORCHID EXHIBITION.—Admission Free.

ORCHID EXHIBITION.—One of the most beautiful sights in London.

ORCHID EXHIBITION.—A vision of loveliness unparalleled in Europe.

ORCHIDS.—Must be seen to be realised.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

SPLENDID

NEW DWARF BEDDING TROPÆOLUM,

"MRS. CLIBRAN,"

The finest new, soft-wooded plant sent out for years.

See last or next week's advertisement;

Or, send for CATALOGUE No. 115, containing full description and price.

CLIBRAN'S OLDFIELD NURSERIES, **ALTRINCHAM;**
10 & 12, MARKET STREET, MANCHESTER;
and Principality Nurseries, Llandudno Junction.

FRIDAY NEXT, JUNE 10.

GREAT UNRESERVED

ORCHID SALE,

BY ORDER OF

MESSRS. LINDEN, BRUSSELS.

IMPORTATIONS FROM ALL PARTS OF THE GLOBE.

ORCHIDS FROM COLUMBIA—

CATTLEYA SPECIES, collected in the district from which we first imported those magnificent forms, as MASSAIANA, LAVERGINENSIS, HARDYANA, and others. The plants offered are most distinct in appearance; we are confident a number of exquisite New Forms will be found among them.

CATTLEYA AUREA and **CHRYSOTOXA**, just to hand in splendid order.

ORCHIDS FROM THE PHILIPPINE ISLANDS—

VANDA SPECIES, collected in the Mindanar District; not seen in flower; most distinct in appearance.

SACCOLABIUM SPECIES, quite a New Form, producing large trusses of dark rose-purple flowers.

ORCHIDS FROM BRAZIL—

CATTLEYA ALEXANDRÆ, selected plants, including many fine masses, in the best possible condition.

CATTLEYA VICTORIA REGINA, in grand order; all specially selected plants.

SELENIPEDIUM SPECIES, a new form, discovered in a totally unexpected locality; the dried Flowers received are of large size and beautiful colouring.

CATTLEYA ACKLANDIÆ, extra fine selected plants, in capital condition, including many fine masses.

ONCIDIUM CRISTATUM (R. A. Rolfe). A description of this Grand New Species will shortly be published. Flowers will be shown on the day of the Sale.

EPIDENDRUM CAPARTIANUM (synon. E. GODSEFFIANUM), extra fine selected plants, which we introduced and named two years ago.

BY ORDER OF MESSRS. LINDEN, LEOPOLD PARK, BRUSSELS,

MESSRS. PROTHEROE & MORRIS,

WILL SELL THE ABOVE, AT THEIR

GREAT ROOMS, 67 & 68, CHEAPSIDE, LONDON, E.C., on
FRIDAY NEXT, JUNE 10, Without Reserve.

WEDNESDAY NEXT, JUNE 8.

THE NEW and WONDERFUL
UMBEL-FLOWERED

CATTLEYA ALEXANDRÆ,

Just to hand per s.s. "Tarabe," collected by one of our best men.

The plants are in perfect condition, bulbs plump, leaves fresh and green, eyes sound and dormant. Many grand and perfectly-formed specimens being among them.

There has never before been seen anything as unique as this grand novelty in Cattleyas. It is as different from all other Cattleyas as *Cypripedium Chamberlainianum* is from all other *Cypripeds*. It is a perfect gem, and we have never seen a Cattleya so perfect in habit. The bulbs (in themselves graceful) carry two and three well-shaped olive-green leaves, crowned by a spike, $1\frac{1}{2}$ foot long, which bears at the top a cluster of blooms, each spike thus forming a lovely bouquet.

Individual Blooms are 5 inches across.

CATTLEYA FROM PERU.

We had determined to hold this Cattleya until it flowered with us; but, owing to the non-arrival at the time expected of Cattleya Victoria regina (of which over 1000 plants, without reserve, will be sold on July 8), we have decided to sell these plants, to fill up the gap thus occasioned.

PHAJUS SP.

This is the most stately and noble Orchid yet introduced from that little-known land, New Guinea. The dried foliage and old flower spikes remaining on the plants, will convey some idea of its grandeur. Spikes were seen 6 feet high, and the foliage is most luxuriant.

Collected in Dutch East New Guinea.

FOR SALE ON WEDNESDAY NEXT, JUNE 8,

BY

MESSRS. PROTHEROE & MORRIS,

At their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.

F. SANDER & CO., St. Albans.



THE
Gardeners' Chronicle.

SATURDAY, JUNE 4, 1892.

THE MASCARENE ISLANDS.

THE terribly destructive hurricane which lately visited Mauritius has called public attention to the products of this fertile island. Some account of the cultural industries of these, and adjacent islands, may therefore be acceptable, and these we are enabled to supply, as Monsieur M. F. Jadin, Chef des travaux de botanique à la Faculté des sciences, was recently despatched on a mission to the Mascarene Islands, to continue certain investigations of cryptogamic botany, which have for some time past been carried out in France for the public benefit. The *notes de voyage* of M. Jadin were communicated to the Société Languedocienne de Géographie, and published in their late bulletin.

M. Jadin, after visiting Mauritius, was no longer surprised to find Sir G. Bowen, who was Governor of the island from 1879 to 1883, pronouncing this colony to be "the richest in the empire, and, perhaps, the richest country in the world." It is for this reason that the botanist prefers the descriptions of the Isle of France given by Bernardin de St. Pierre in his *Paul and Virginia* to those which are to be found in his former *Voyage à l'île de France*. The first seems to him more just, more true to life, and he suspects, he adds, strongly, that M. Arvède Barine,* the author of a very interesting study on Bernardin de St. Pierre, can never have seen the Mascarene Islands, when he writes, *à propos* of these said descriptions in *Paul and Virginia*, "The landscapes are copied from nature, and completed by a divination of what the tropical vegetation ought to be in a country more fertile than the Isle of France."

After this natural tribute to the comparison of fiction with real life and the literary value of the great Mauritian romance, without alluding to which no French writer could possibly touch on anything to do with Mauritius, M. Jadin proceeds more prosaically to modern facts, which can therefore be given in his own words:—

"The principal cultivation in both colonies (Réunion and Mauritius) is that of the sugar cane (*Saccharum officinale*, L.). The sugar industry includes, naturally, the production of rum and molasses. The two islands, however, do not both export their sugars to the same countries; although Réunion trades only with the French markets, having to compete against the beetroot sugar, and being obliged to make great sacrifices to sustain

* Bernardin de Saint-Pierre, par M. Arvède Barine, (Paris, Hachette, 1891.)

the conflict. Mauritius, on the other hand, sends out her supplies of sugar to the markets of India, the Cape, Australia and England. Moreover, Mauritius as a colony is devoted almost wholly to the sugar production, exporting only besides Aloe fibre and a little Vanilla. Réunion again attempts several small industries, and we shall see that she deserves the greatest encouragement in this line, in which she deserves success.

"Whilst the cane culture in both islands is very nearly the same, Mauritius can boast of a considerable superiority over Réunion as regards the machinery used for manipulating the sacchariferous reed. Some of the sugar-mills of Mauritius are veritable palaces, with powerful steam machines, combining all the latest improvements. On one large property, for instance, where work is carried on till nine or ten o'clock at night, they use the electric light—in fact, there is a very advanced management.

"Has the point of perfection then been reached? you will ask. By no means, we believe that both the cultivation and the manufacture are susceptible of great improvements—thus, the use of the plough is almost unknown; the extraction of the sugar by the system of diffusion does not seem to be readily acceptable to the colonists. In this direction there is a great deal to be done. Just now we only indicate these two points; we hope to be able, later, to treat them in greater detail.

"The two colonies export the fibre of the Aloës—so-called—but these fibres are not extracted from the true Aloë [Aloe vulgaris of Abyssinia, the Aloe of Dioscorides], but from the leaf of several Amaryllideæ allied to the Agave. The principal species is the *Fourcroya gigantea*, Vent., or *Agave fœtida*, L., which locally bears the common name of Aloës vert—Green Aloe. This plant, which blossoms in throwing out a tall flower-bearing stem to a height of six feet, from its basal tuft of stiff leaves, does not bear seed. The flowers, which have the form of a white bell, with a very sweet odour, are never fertile; at the base of each a small bulb is put forth, which develops quickly, and when the flowers are dead these bulbs remain and develop. As soon as each of these little bulbs has one or two small leaves un-sheathed, the stalk bends under the weight of these small plants, and finishes by falling; once on the ground the bulb develops itself into a new plant. Very hardy, thriving in the most arid and rocky soil, the Agave propagates rapidly, and without further care permits the production of fibre at a low price.

"The cultivation of Vanilla is far more delicate; this Orchid requires a light soil, rich in humus, and also a support. The support generally in use throughout the Mascarenes is a Euphorbiaceous plant, the *Jatropha curcas*, L., which vulgarly bears the name of Pignon d'Inde—Indian Nut, or "Physic Nut"; all the same, in Réunion especially, we have seen Vanilla plantations of great importance, having the Orchid supported on one of the trees common to the country, the *Casuarina equisetifolia*, Forst., called Filao. [The translator remembers seeing Vanilla grown on the stems of Palmistes, in Mauritius.] This climber also succeeds on the *Pandanus utilis*, Bory., or *Vacca*, a most useful tree in sugar-producing colonies, for its leaves are largely required to make sacks for the outer covering of the sugar-bags. Besides the particular care which the plantations of Vanilla require, we must not omit to mention the operation of fertilisation. As usual in all the Orchideæ, the fertilisation of the seed rarely takes place without external intervention; in order to insure a good crop, the cultivator must impregnate each blossom which he wishes to produce a pod. It is an easy operation, however, consisting merely of pressing the pollen on the stigma.

"Vanilla, Aloes fibre, sugar, are the industries common to the Mascarene Islands; all the rest of which we now proceed to speak are limited almost exclusively to Réunion.

"Coffee has been for a long time a source of

riches to Réunion; unfortunately a fungus (*Hemileia vastatrix*) allied to mildew, has within the last few years attacked the leaf of the coffee tree. The attack of this parasite first shows in a minute yellow point, enlarging by degrees till the whole leaf is yellow, when it tumbles off and brings about the destruction of the tree. The agriculturists seem little disposed to meet this pest by the scientific means which succeed so well against mildew. Imbued by preconceived ideas, they prefer to give greater vigour to the plant by means of liberal supplies of manure, and they allege that good results are obtained. It is well-known that efforts of the same kind tried in France to resist the disease on the Vines have only retarded the death of the plant. The *Hemileia* is a terrible disease; at Ceylon, for instance, where it is called the 'leaf-disease' (*maladie de la feuille*), all the coffee plantations have been devastated to such an extent that the inhabitants of Ceylon have nearly altogether abandoned the cultivation of coffee for that of tea; so vast a change of cultivation cannot possibly occur without suffering enormous losses.

"The Cassava meal or starch industry (*industrie féculière*), also gives very good results at Réunion. 'The development which the starch industry admits of in this island, is such that we do not hesitate to class it as second in rank in the order of importance,' so writes M. Ed. du Bouisson in his *Agricultural Industry of Réunion*. Starch and tapioca are extracted from the Manioc, *Manihot utilisima*, Pohl. This industry already employs two very important mills in Réunion. They extract the fecula from the root, which contains about 20 per cent. of its weight of this article of commerce. Its cultivation is very easy, and the amount of the yield is calculated at 42,100 kilogrammes of fecula per hectare.

"The *Manihot utilisima*, or Manioc, is one of the Euphorbiaceæ which seems to be a native of oriental and intertropical Brazil. M. Alphonse de Candolle, to whom it is always safe to refer, for the origin of cultivated plants, says:—'If we are unwilling to accept this origin in oriental, intertropical Brazil, we must have recourse to two hypotheses: either the cultivated Maniocs proceed from one of the wild species modified by cultivation, or they are forms which exist solely by the action of man, after the disappearance of their kindred forms of spontaneous vegetation.' (Alph. de Candolle, *L'origine des Plantes Cultivées*, p. 50.)

"However this may be, it was on August 14, 1741, that Mahé de Labourdonnais, the great benefactor of the Mascarene Islands, then Governor of the Isle of France, introduced the Manioc into that French colony. This plant met with a very bad reception. He (Mahé de Labourdonnais) brought from Brazil the plants of Manioc, which he distributed to the inhabitants and it succeeded wonderfully. But some black people who had stolen the roots of this plant, having eaten them without duly cooking them under the ashes, died from their poisonous effect. Labourdonnais, naturally much alarmed, selected M. de Reine to manufacture some flour from the Manioc and Cassava. He sent to him, together with the memoirs of Père Labat, a root of Manioc, a basin, and a plate, and ordered him to make some cakes of Manioc flour. M. de Reine succeeded completely. Labourdonnais then invited to Mon-Plaisir (his residence), a large number of colonists, ate the Manioc cakes in their presence, and made them eat some too. This celebrated repast took place on the day following the Christmas Day, 1741. Labourdonnais, as well as Messieurs Bouloc, Haché, Bernage, De Ponsy, and others, embraced M. de Reine in their transports of delight. Labourdonnais gave orders to have these Cassava cakes distributed gratis every morning at the bazaar, or market, and, by degrees, after a little time the colonists and blacks became accustomed to use them.

"At the present day the Manioc is completely naturalised; its roots serve for nourishment to man and beast, and the féculière (starch) industry at Réunion is on the way to complete prosperity."

NEW OR NOTEWORTHY PLANTS.

Oreopanax Sanderianum, Hemsl., n. sp.*

This is a very striking plant, similar in habit to the familiar *Fatsia papyrifera*, and a member of a genus rather numerous in species of a highly ornamental character. They inhabit the mountains of Central America and western South America, and are mostly remarkable for their graceful habit of growth. Usually, the slender stem is unbranched, and crowned with a tuft of drooping leaves. The present species, *O. Sanderianum*, was imported from Guatemala by Messrs. Sander & Co., of St. Albans, and they inform me that it was obtained from the district in which *Oncidium splendens* is found, but I do not know exactly where that is. In the Kew Herbarium, however, there are excellent flowering specimens, collected by Mr. Osbert Salvin, F.R.S., about twenty years ago. They were collected on the Volcan de Fuego, at an elevation of about 3800 feet, and my description below was mainly drawn up from them.

The leaves on young plants are very uniform in size and shape, but they present a great variety in form on the flowering-branches, a character exhibited by many other Araliaceæ. In the young plant they are nearly equally three-lobed, the lateral lobes being nearly at right angles to the terminal one, and a foot or more from tip to tip. They are tough and leathery in texture, of a bright, glossy, somewhat yellowish-green on the upper surface, paler beneath, and traversed by three principal ribs, radiating from the point at which the long petiole is peltately attached, about half an inch within the basal margin. The leaves on the flowering specimens present every gradation, from the equally three-lobed shape, to perfectly heart-shaped, without any trace of lobing, and the petiole in the latter shape is continuous with the blade, instead of being peltately attached. The leaves, intermediate in shape, have the petiole peltately attached, but nearer the margin than in the equally three-lobed leaves of the young plant.

The flowers are very minute, and collected in little globose heads, arranged in large racemose panicles of a pyramidal outline, borne at the ends of the branches. *W. Bolting Hemsl.*

[The plant was described, but no name given to it, in our columns January 9, 1892, p. 50, and it was shown for the first time at Earl's Court last week among Mr. Sander's new plants. *En.*]

Dendrobium × Nestor, new gard. *hyb.* (PARIKHII ♀, SPERDIUM ANOSMUM (DAYANUM) ♂).†

The parentage of this pretty hybrid is distinctly visible in its flowers, but the colours of both parents

* *Oreopanax Sanderianum*, Hemsl., n. sp.—Species distinctissima, fere omnino glabra; foliis variabilibus æqualiter trilobatis obscure lobatis vel distincte cordiformibus, petiolo prope marginem petiolatis affixo vel foliorum superiorum cum lamina continuis; paniculis terminalibus. Arbuscula ramulis floriferis crassis dense foliatis. Folia glaberrima, maxime coriacea, longissime petiolata, plantæ juvenilis omnia æquiter trilobata (lobis longe acuminiatis lateralibus insigniter divaricatis), circumscriptiōne fere ovalia dimidio inferiore semiobovata, pedem ultra alta, tri-nerviata, supra limbo viridia, nitida, subtus pallidiora, fere glauca, petiolo tereti basi apiculis incrassatis 8–9 poll. longo, semper circiter semipoll. intra lamina marginem petiolatis affixo; foliis ramulorum floriferorum minorum, trilobatis obscure, lobata vel vere cordiformia, varie internerviata, petiolo cum lamina continue vel vis intra marginem inserto. Flores purpurei (vis lineam diametro), difidui vel polygami, capitati (capitula circiter 3 lineas diametro), apiculis breviter pedunculatis racemose paniculatis; paniculis terminalibus, puberulis, 1–1½ ped. longæ, erectæ, rigide, pyramidales, simplicis. Flores masculini tantum visi; petala, ut videtur, calyptratum decidua; stamina 5.—*Oreopanax*, spp. 19 and 20, *Biologia Centrali-Americana*, Botany i., p. 575.

† *Dendrobium Nestor*, new gard. *hyb.* (PARIKHII ♀, *Speridium anosmum* ♂).—Stem terete, slightly thickened at the joints, stoutish, but inclined to be pendulous. Leaves 2 to 3 inches long, oblong-lanceolate, acute, deciduous. Flowers solitary or in fascicles of two or three, each flower 3 inches in diameter. Sepals oblong-lanceolate, acute, ½ inch broad; petals ovate-oblong, ¾ inch broad; lip ovate-acuminate, the basal portion folded over the column, the edge and surface pubescent. Column white, with a crimson anther-cap. Colour rose-lilac, with large dark purple blotches at each side of the middle of the labellum, and purple lines at the base. Raised and flowered by Chas. W. Wain, Esq., The Uplands, Selly Hill, Birmingham. *James O'Brien.*

being similar, the difference from *D. superbum* anostomum is not sufficiently marked to at once catch the eye of the casual observer. Examination, however, discloses the fact that this hybrid has the pseudobulbs shorter and thicker, and with a tendency to project more horizontally than in that drooping species. The flowers, too, have the firm texture of *D. Parishii*, and its glossy surface to the sepals and petals. It is a good companion to the pretty *D. polyphelebium*, Reich. f., illustrated in the *Gardeners' Chronicle*, August 31, 1889, and which I regard as a natural hybrid between *D. Pierardi* and *D. Parishii*. The expanded flowers of *D. x Nestor* are 3 inches in diameter, the sepals and petal white, tinged with rosy-lilac. Lip white at the base, streaked with

spreading, glabrous. Corolla campanulate, about half an inch long, and three-quarters of an inch in expanse, rough outside and inside, from being covered with papillae, which are most dense on the inner surface, otherwise quite glabrous, and destitute of a fringe, or of clavate hairs in the tube; the inside is of a uniform blackish-purple. Outer corona of five short transversely oblong emarginate lobes, not adnate to the base of the corolla, purple-black. Inner corona of five erect lobes, three-quarters of a line long, deltoid-subulate, with a transverse ridge on their shoulder, blackish-purple.

This plant was discovered by Professor O. Penzig, the Director of the Botanic Garden, Genoa, in

BOUVARDIAS.

For general usefulness, freedom of flowering, and value for affording cut bloom during a season when it is invariably scarce, there are no plants that deserve more attention and extensive cultivation than the *Bouvardias*, of which there are now so many varieties. The species are chiefly natives of Mexico, and one or two of these are very beautiful, the most noteworthy being *B. jasminiflora* and *B. Humboldtii corymbiflora*. The first mentioned is a very dwarf-growing species, and produces long tubed flowers, resembling, as its name implies, those of the *Jasmines*. *B. Humboldtii corymbiflora* is not so free blooming, but it is a fine species, and bears pure white long tubular blossoms. Sprays of these are of great value for working up into bouquets. From these two and some few others have originated most of the varieties we now have. It may, perhaps, be as well to give the names of a few of the best and most distinct among them, so as to guide those about to make selections, as this is a good time to purchase and start with the plants, although their propagation would be all the better if carried out earlier; but cuttings put in now will give very useful-sized stuff. The one that has become the most popular with those who cultivate for market is *Alfred Neuner*, which is exceeding free and floriferous, having white double blossoms, with just a faint shade of pink, which disappears, and leaves the white pure. Brilliant, as its name indicates, is a bright crimson, and it is a free-growing kind, with close branching habit. *Dazzler* is another of the bright-flowered varieties, the blossoms being a rich scarlet, and are produced in dense clusters on a close bushy plant. *Elegans* is also a scarlet, and so is *Hogarth*, and both are fine, free, and good. Among those of different shades, *Maiden's Blush*, *Queen of Roses*, and *President Garfield* are the most desirable, the first mentioned being a blush-rose, the two latter rosy-pink. *B. Vreelandii* is a pure white, and the plant flowers with great freedom; the blossoms have long tubes, and are light and elegant in appearance. Excepting the species mentioned, *B. jasminiflora* and *B. Humboldtii corymbiflora*, *Bouvardias* are, unfortunately, scentless; but it is remarkable that the hybrids of these two species should be so, as qualities of whatever kind are generally transmitted in a more or less degree.

Besides being free seed-bearers, and readily increased in that way, *Bouvardias* strike easily from cuttings, but the cuttings must be young, as when they become hard and woody, they are difficult to root. This being so, the freshly-formed shoots should be taken when about 3 inches long, and made in the ordinary way by trimming off the lower leaves, and cutting immediately under a joint, when they should at once be inserted in light sandy soil, around the sides of small pots, as most cuttings strike better when they are so placed. To get them to root, it is necessary to stand them in a close moist heat, such as that afforded by a propagating-box in a stove, or a handlight under the same structure, and in a month or so from the time of making them, they ought to be ready to pot. This should be done in small 60's, the soil most suitable being about equal parts peat and loam or leaf-mould and loam, with just sand enough to keep the whole open. After the potting, the best situation for the plants is a gentle hot-bed frame, where they can be kept close for a time to give them a start. As soon as they begin to grow freely, the points of the shoots should be nipped out, and when they break again, less warmth will be required; and during summer, may be taken off in the daytime. Some plant the plants out, and report them in the autumn. The better way, if this is done, is to plant out in prepared frames, as they can then be covered in bad weather. There can be no question that the more the plants are exposed under favourable conditions, the sturdier they become, as the shoots they make are firmer and fully matured.

If planted out, they should be lifted again and reotted in September, and then stood in a close warm house or pit, where they can be freely syringed.



FIG. 103.—SPECIMEN BOUVARDIA.

purple, which at each side of the median portion of the lip merges into a large bright purple blotch, the margin and front of the lip being pale rosy-lilac, like the petals. The edge and surface of the lip is pubescent, and the flowers have an odour resembling medicinal Rhubarb, a peculiarity which is common to this section of *Dendrobie*. It was raised and flowered by Chas. Winn, Esq., at The Uplands, Selly Hill, Birmingham. *James O'Brien*.

HUERNIA PENZIGII, n. sp.

Stems 2 to 3 inches high, stout, five-angled, the angles very strongly toothed, the teeth being three-eighths of an inch or more long, ending in a fine subulate point, glabrous, green, variegated with purple. Cymes sessile, four or more flowered. Pedicels a quarter of an inch long, glabrous. Calyxlobes subulate, three-eighths to half an inch long,

Gheleb, Abyssinia, in April, 1891, and was introduced by him into cultivation the following month in the well-known garden of T. Hanbury, Esq., at La Mortola, where it flowered in October last, and whence a specimen, accompanied by an excellent drawing, was sent to Kew in December last by Mr. G. Cronmeyer, the head gardener at La Mortola. Specifically, the plant is allied to *H. oculata*, but it is at once distinguished by the colour of the flowers, which are destitute of the smooth white area at the base that renders *H. oculata* so conspicuous, being uniform in colour, and rough inside quite to the base; they perhaps more nearly resemble the flowers of *H. aspera*, but the stems are quite different. I think it probable that *Schweinfurth's* No. 227, collected at Erkauit between Suakim and Berber, in September, 1868, belongs to this species, but the specimens are without flowers. *N. E. Brown*.

Although *Bouvardias* will stand much heat during winter, a temperature ranging from 55° to 60° is the most suitable, as the flowers will then possess more substance, and will last longer when cut. After flowering, the plants should be kept a little dry, to rest them. If large plants are required, then, some of the old ones must be saved, and when they start again, be shaken partly out, and fresh potted, the treatment requisite being the same as that for the young ones. The insects that most affect *Bouvardias* during the summer are green-fly and red-spider, but free syringing will prevent the last-mentioned, and bedewing with tobacco-water will settle the aphid. In the stove the plants are subject to bug, which should be watched for, and got rid of before any flowers open, or they will spoil the whole truss. *J. Sheppard.*

ALOE ARISTATA.

WHAT an interesting little plant this is!—though introduced so long ago as 1801, how seldom met with outside a botanic garden. However, as it is by no means a common plant—in fact, I have never met it in South Africa but hereabouts (Orange Free State) and invariably facing south (our shady side), indeed, it is this peculiarity that I wish to mention as being so different to any other species of *Aloe* known to me. As a rule, they are seen in full sunlight and exposure, whilst this species is never found except in shade, its favourite position being on the very edge of dangerous precipices, with an overgrowth of evergreen shrubs to screen it; nor is this its only peculiarity in these positions, it always receives good drainage, hence, what I will call form No. 1 is found—a half-expanded condition of its leaves. Though the same species, form No. 2 grows in full sun and exposure (as in a box over my head on house-roof whilst writing). This form assumes a spherical outline, the leaves being as regularly incurved as is found in a good bloom of an incurved *Chrysanthemum*. Form No. 3 grows in dense shade, and wet clefts between rocks, in narrow mountain chasms, where water is constantly dripping over it. In this position it assumes a bloated condition, if one likes to think so, yet here the finest rosettes of foliage are to be seen, the leaves being as strictly reflexed as those of form No. 2 are incurved, and present a beautiful imbricated appearance. Not only this, for whilst the raceme in form No. 1 and 2 is always simple in their exposed sites, with from thirty to fifty cylindrical drooping flowers about 1 inch in length, of an orange-red colour, raceme of form No. 3 becomes branched, and produces an inflorescence altogether larger and of richer appearance than the same plant under the two former conditions. The singular beauties of this plant are rather difficult to describe, but being of pygmean proportions—so unlike most of our other *Aloes*—of easy growth, each leaf so singularly awned, and varying so much under different treatment into perpetual beauty and interest to recommend it, constitute a plant that should be better known.

I have often wondered at the hard and fast rules so pointedly laid down by some of our best authorities regarding the correct treatment of plants; for my own part I say cultivate *Aloe aristata* under all these conditions as stated above—all are recommendable, yet so different. This reminds me of a beautiful white-flowered *Sedum* we have in the mountains here, growing in sandstone rocks which have become worn and disintegrated by long years of exposure, so much so, that large basins are formed in them, frequently 2 feet in depth; in these cavities a little drift-sand and dust congregate, and in our rainy seasons these cavities become receptacles for 12 to 24 inches in depth of water, which has no means of escaping except by evaporation, often months, under these conditions—a perfect antithesis to what is supposed to be necessary for their existence. These plants not only exist, but flourish amazingly, and so soon as the water has evaporated, become a perfect sheet of floral beauty. These plants, in both cases, being strictly succulent, I suppose we must

look upon them as exhibiting a perversity of plant nature—however, such are the facts. *W. Nelson, Johannesburg, Transvaal, Feb. 25, 1892.*

ERIDGE.

ERIDGE CASTLE, the Marquis of Abergavenny's Sussex seat, is most pleasantly situated, and surrounded by characteristic English scenery—rolling hills and dale, wood and water—and is about two miles south of Tunbridge Wells. The view from the south front is really magnificent. The open park trends here gently to the lake—a splendid piece of water, with so little of the artificial perceptible in its formation as to be readily accepted for what it was intended to represent—a natural lake.

Looking over the lake, and slightly to the left, the eye has a wide range over the extensive deer park, which rises from the lake in a rather steeper slope. This is fairly well timbered, but in many places—and this, I think, constitutes its chief charm—occur open glades of considerable extent, which are closely studded with Gorse, Heath, Broom, and Bracken, with the long, grey, withered Bent-grass as a ground-work. Still looking beyond the lake, but more in front and to the right, rises a hill of considerable abruptness and altitude, on the top of which stands a land-mark of great historical interest, viz., Saxonbury Tower, marking the scene of a sanguinary conflict waged by the Saxons and Danes at a period long anterior to the Norman conquest. Coming now more directly to the gardens, we here find everywhere and everything in that state described as Apple-pie order, and is only what we should expect where a man of Mr. Rust's well-known abilities has charge.

The kitchen garden, which is surrounded by substantial brick walls, contains over 2 acres. One noticeable feature in this was the entire absence of large trees. Pyramids, espaliers, bush, or cordons, being the only fruit trees, and these skirt the boundaries of the vegetable quarters, the other fruit trees being confined to the garden walls and the orchard.

The soil here is not naturally very fertile, being largely composed of a cold sandy clay, which overlies the sandstone rock; yet, if proof were needed of the possibility to grow first-class fruit on this soil—lying too as it does between 300 and 400 feet above sea-level, Mr. Rust can furnish it in the shape of a beautiful bronze medal he secured at Edinburgh, last autumn, at the fruit show of the Royal Caledonian Society, for his excellent collection of Apples and Pears he there exhibited.

Passing now into the fruit and plant-houses, which are here rather numerous, we find everything in keeping with the general order and neatness elsewhere observable. Early Grapes had had their floral thinning, and were promising a heavy crop of bunches, and the foliage was of ample proportions and substance. The succession vineries, with Vines in various stages of development, looked also very promising. The early Peaches, remarkably healthy and vigorous, had set heavily, and succession houses were, like the earliest house, in capital order. There are several plant-houses, some of which are entirely devoted to supplying cut blooms, and others, amongst them one devoted to tall Palms and other ornamental subjects, the inmates of which are almost in constant use for table and indoor decorations. I could not help observing how fortunately Mr. Rust was situated regarding that most useful adjunct to a garden—a frame ground. This is, in too many establishments of the present day, a thing in name only. Here I found it provided, as it always ought to be, with rows of well-built, well-glazed brick pits, in which stood excellent and promising crops of early vegetables, and the hundred-and-one things so well understood by the really practical man.

Passing on now to a part of the grounds reserved for memorial trees, in which Mr. Rust apparently has especial pride, we are at once struck with the number, variety, and beauty of these young Coni-

feræ, which here show off their various glaucous tints and brilliant sheen of foliage to perfection, as if they had here found their element in the damp, cold clay soil of this district.

I cannot pass from this part of the grounds without mentioning how well adapted this soil is to growth of Portugal Laurels, judging from two enormous specimens on the north lawn. These, I may say here, are allowed to grow in a natural manner, and have never been maltreated with shears or knife. We measured both of them, and found one to be exactly 300 feet in circumference, a diameter of 33 yards = 100 feet; the other was only a few feet—12 feet—short of this diameter. This plainly shows what a beautiful object a Portugal Laurel may become when given room and left alone as they should be, as we were informed these trees set annually enormous crops of berries. I need scarcely say how well the Rhododendrons and hardy Azaleas grow and flower here. They are planted in thousands, and their robust growth and plump flower buds show the suitability of the soil and the climate.

I came away highly pleased with my first visit to Eridge Castle, pondering, as I walked, on the agreeable relations existing between employer and employed, and wished in my heart that such relations were oftener met with. *Pomum.*

SWEET CHESTNUTS.

WE take the following condensed extracts from some reports on the cultivation of the Spanish Chestnut published by the India Office. To these reports Sir George Birdwood prefixes an historical note as interesting as it is erudite. We trust so valuable a document will not be suffered to remain concealed in an official government publication, but that it will be published separately.

The Chestnut tree is a native of Central Asia, or, as this term has now a specialized political significance, it would be better to say, of Middle Asia; its natural habitat extending along the lower slopes of the Tian-Shan and Kuen-lun mountains, and the Hindu-Kush, Elburz, Caucasus, and Taurus ranges. From Anterior Asia it was carried westward into Southern and Central Europe, within the period of the occupation of Greece and Italy by their ancient Aryan populations. The prehistoric forest trees of these countries were the same as those of Central and Northern Europe at the present time.

But with the advance of the Aryan immigrants into Greece and Italy, these now characteristically trans-alpine tree forms were driven out before the new comers into the defiles of the Dalmatian mountains and Mount Hæmus, and the higher recesses of the Apennines, and across the Tyrrhine Sea to their isolated refuges in Corsica and Sardinia; while in the course of the commerce of the Phœnicians, and the conquests of the Persians, Greeks, Romans, and Arabs, the deciduous northern flora of prehistoric southern Europe was gradually supplanted by the subtropical evergreen flora of Syria, Persia, Asia Minor, and India.

I have enumerated but the noblest of the forest and orchard trees, and the loveliest and most odoriferous of the flowers of Anterior and Southern Asia, and only the most striking of the American vegetable forms, the naturalisation of which in Southern Europe has, in the process of the centuries, changed the plant physiognomy of the whole of this classical region from the character indicated by the Pompeian frescoes to that represented in Claude's serene, Salvator Rosa's stormy, and Turner's glowing landscapes: for to cite trees and flowers of less distinction, and inconspicuous pot herbs and sweet herbs, would be to merely enlarge indefinitely a list already long enough to justify the anticipation that beside the Chestnut tree there may be several other timber and fruit trees popularly regarded as aboriginal natives of temperate Europe which would find a congenial home in Northern India; and, conversely, that there are many more plants truly

indigenous to India, and the East Indies generally, awaiting successful acclimatisation in Southern, and even some parts of Western, Europe, as those first introduced by the Phœnicians and the Arabs.

The success of the acclimatisation of exotics from all parts of the subtropical and temperate world in every part of India is truly wonderful, and quite incredible to those unfamiliar with the history of the migrations of plants. It is the simple fact that most of the cultivated cereals and pulses, and oil seed and dyeing plants, and fruit trees of India are of foreign origin, and that very many of them, notably the Custard Apple, Sour-sop, Bullock's Heart, Pommelo, Cachew Nut, Guava, and Pineapple, were introduced by the Portuguese. These fruit trees constitute, in fact, the permanent endowment of the people of India by their Portuguese conquerors. The Pomegranate and Citron, and probably the Vine, with several Egyptian and other African plants, were introduced by the Arabs; while the numerous examples of the flora of farther India, the Indian Archipelago, and China, found in India, were possibly brought into the country by the Buddhists, who were certainly instrumental in gathering together around their monasteries the handsomest wild fruit and flowering trees and shrubs from all parts of the prolonged Indian peninsula itself. The marvellous transformation of the flower gardens in India during the last 200 years has chiefly been the work of the English, supplemented, as regards Chinese flowers, by the Paris. Now Western India is, as well in Parsi and Hindu as in English gardens, "a wilderness of Roses," and it would take up far too much space to name all the other exotic flowers from the West Indies and Mexico, and from South America, from the Mediterranean countries, and Arabia and Persia, from Eastern and South Africa, from the Indian Archipelago, and China, and Japan, and from Australia, that have since the time of Fryer (1698) gradually become perfectly naturalised in Western India. In recent years, Sir Edward Buck has naturalised the Apple tree in several localities of the lower Himalayas, while in other localities in Southern India, the Australian Casuarinas and Eucalyptus trees have, under the care of the forest department, flourished so luxuriantly as to entirely destroy the historical type of the landscape of which they now form the predominating features.

Hazel-nuts or Filberts (Noix de St. Philibert), Walnuts (Wälsche nuss, i.e., "Foreign Nut"), and Sweet Chestnuts (Chesten, Chastaignes, from *Kaeravala* or Castanea in Magnesia), with Almonds (amande, mandola, amygdala), would all appear to have been exported together from Anterior Asia into the islands and mainland of ancient Greece, and thence into Italy and Spain. It may be accepted that the cultivation of the Chestnut tree was introduced into Italy between the time of M. Porcius Cato, n.c. 234-149, and of Virgil, n.c. 70-19. Virgil is the first Latin writer to unequivocally refer to and describe them both under the name they have ever since borne in every European language, i.e., Castanea.

Athenæus, writing *circa* a.n. 230, in his "Deipnosophists" of Nuts, gives a great deal of curious information regarding the earlier synonyms of the Almond, Walnut, and Chestnut, which is the basis of this branch of our knowledge of the archaic history of these trees and their fruits; and there has been, in short, nothing written regarding them since Pliny and Athenæus, but is almost entirely taken from these delightful authors, whose works ought never to be out of the hands of the students of the natural economic productions of the Old World.

The only other classical authority on the subject necessary to mention after them is Palladius R. T. Emiliæus, of the 4th cent. A.D., a mere copyist in all practical matters relating to agriculture of Columella, but who has thrown his information into the always attractive form of a Farmers' Calendar. Under the months of February and November, he gives full directions for the cultivation of the Chestnut.

The celebrated Chestnut tree on Mount Ætoæ, when measured 100 years ago, was 190 feet, while in 1850 it was 204 feet in circumference; a rate of growth which, if it has been at all uniform, would throw back its first germination to the time of Palladius, if not to the Augustan age of Rome.

(To be continued.)

PROFITABLE FRUIT GROWING.

"POMUM" is quite right in saying that this is very largely a matter of selection, cultivation, and management. His opening remarks on these are admirable. Still, there are other points almost equally vital to a vigorous extension of profitable fruit growing in all directions. Among these, the question of rent, security of tenure, and the ownership of the trees or bushes planted, stand out prominently. Perhaps the first is the least of these three difficulties, though a general opinion prevails throughout the rural districts that any general forward movement in fruit growing will be followed by a substantial and general rise in rents. The wild and random statements about possible profits have doubtless strengthened and extended this feeling. So far as it is real, it also rests on this solid basis, that generally the best soils and sites are chosen for fruit culture, and these will naturally in the future as they have always in the past, command the highest rents.

Neither has the future of fruit culture so much to fear in this direction as many suppose. For after all rent is probably the least costly factor in the expenses of the production and distribution of fruit crops. Labour, carriage, skill, manure are far more expensive. Among fruit growers generally, there seems every desire that the parties interested in the rent or value of land should have their due.

But security of tenure for such valuable property as fruit trees and bushes is vital to success. With all our modern methods of hastening and heightening fertility, fruit gardens and orchards need time to develop their full profits. Short tenancies, or tenancies at will, from year to year are wholly unsuitable for such stable and fixed enterprises on the land as profitable fruit growing, and yet it is not uncommon to find occupiers who have invested almost their all on these insecure terms. Others have longer leases and more stable security against disturbance, so as to afford time for them to reap the profits of their planting.

But in urging the labourers to adorn their cottages, and at least partly crop their gardens, allotments, and small holdings with fruit trees, the answer has often been, "Where's the use, we are but weekly or monthly tenants, and then whose shall these things be that we have planted?" This sense of insecurity in regard to rural life and home, which is driving so many of our best young men and women into the towns, is proving a formidable obstacle to the profitable culture of fruit by the labourers, mechanics, and other small occupiers of land. This leads up to the ownership of the fruit trees and bushes. The only solution of this semi-legal question likely to satisfy those most interested may be formulated thus: Those that plant shall own and have the power of removal. It will be noted that the new Small Holdings Bill just through committee contains a clause to this effect. This clause will probably stimulate and encourage small growers to profitable fruit growing to a far wider extent than its framers anticipated.

There are few notions that small occupiers have clung to more tenaciously than their right of property—as they hold it to be—in every flower, bush, or tree they have planted in the land. Hence, peripatetic tenants were constantly found carrying their garden treasures with them, against the law. But when it came to young trees and fruiting bushes, the law not infrequently stopped them, to their astonishment and disgust; and reports of such incidents spread far and ran wide. And now the law is brought up abreast of general rural sentiment, and the trees and bushes are declared to be the property of the planters, labourers will plant with avidity the first opportunity.

The Small Holdings Act also contains compensation clauses for fruit trees, and if these can be readily and cheaply applied through district or county councils, the rights and privileges of ownership to planters would be established beyond civil or dispute—not that, as a rule, many well-established trees would be removed by fruit-growers; but the right to do so being acknowledged by law, would greatly facilitate arrangements for compensation. The existing law provides for this, where written permission to plant is held from the landlord by the occupier. But those most intimately acquainted with the unwritten laws and customs of rural life will be least surprised to learn that such permission in writing is seldom asked, and less seldom granted. On the other hand, many humane and liberal landlords seem disposed to meet their tenants more than halfway in these matters, by either furnishing their smaller tenants with trees gratis, or at specially cheap rates. While yet others have gone further, and sent their skilled gardeners to select and plant the trees most likely to succeed in their district.

Thus by the removal of obstacles, as well as affording special facilities for the planting of fruit trees by small occupiers and owners, as well as by the wider diffusion of knowledge in pamphlet, paper, or book, a powerful stimulus will be given to those who need it most, to grow manifold more fruit for their own use as well as for money profit. Again and again during my lectures in different counties this urgent request has been made to me by clergymen and landowners, "Why don't you publish an epitome at least of each lecture or your lectures singly in full, and supply us with them at a cheap rate for distribution broadcast throughout our parishes and districts?" Only in this way they seemed to think could every householder be enabled to do his best in the new and yet oldest of all industries, of fruit, flower, and vegetable growing for profit. It is gratifying to find "POMUM" virtually advocating the same views in the *Gardeners' Chronicle*, which has already done so much and so well in all these directions. D. T. F.

FORESTRY.

THE HOME TIMBER TRADE AROUND LONDON.

DURING the past year, the prices of home-grown timber were fairly well maintained; indeed, the stagnation in the timber trade that has been so much felt of late years would seem to be gradually giving way, and very fair prices for timber of good quality are now readily enough procured.

Oak of large size, clean, and free from ring-shake, can readily be sold at 2s. per foot, while that of ordinary quality fetches 1s. 8d., and the general run of trees, 1s. 6d. per foot. Elm, unfortunately, like Scotch Fir, is almost a drug in the market, and I have had considerable difficulty in getting even 7d. per foot for large clean trees. The demand for Elm for coffin making, &c., should, one would think, raise the prices of clean timber of this kind, but such is not the case, a fact to be largely attributed to the great numbers of Elm trees that are to be found everywhere throughout the southern English counties. Ash, on the other hand, if clean and well-grown, may be sold at 1s. 8d. to 2s. per foot, but the demand is often very much affected by local circumstances, this being one of the few trees of this country that can be utilised by the home joiner for many farm and estate purposes.

For Larch there is a growing demand, and large straight trees find a ready market at prices ranging from 1s. 3d. to 1s. 6d. per foot. Other Firs, Scotch, Spruce, Silver, the Austrian, and the Corsican, may be got rid of at a low figure, say, 6d. per foot; but the demand for such is not great, though greatly on the increase for the past twelve months.

Sycamore is not very plentiful, and ranges in price with the size and quality of the wood, from 1s. 6d. to 2s. 6d. per foot. Spanish Chestnut does not, if of good quality, remain long on hand, the general prices being 1s. 6d. or 1s. 8d. per foot. Birch, Alder, and

Beech may be said to rank as one, so far as value of wood is concerned, and about 8d. per foot may be given as a fair price.

The system of coppicing used to be wonderfully profitable some five-and-twenty years ago, but now the produce of even first-class plantations is by no means readily disposed of. The Hop trade regulates the value of copse wood largely, as for stakes for training such the demand is good when the crop is extensively cultivated. Unfortunately, of late years, owing to the great decline in Hop growing, coppice wood has fallen in price fully one-fourth, that of the best quality having been sold at as much as £20 per acre, whereas now, it is with difficulty that £6 per acre can be procured.

Faggots, large, bring 12s. per hundred on the plantation, but the demand for them is falling off; the little bundles of split batten ends, as now sold by most grocers, are now slowly but surely ousting the native produce from the market. A large dealer in these, and who supplies the Government houses, told me lately that he does not now sell hundreds where thousands could readily be disposed of some years ago. Small faggots (pimps, as they are called in England) may be bought at from 2s. 6d. to 3s. per hundred, but the demand for these is slowly on the wane. The above prices may be taken as a fair standard, particularly in Kent and the surrounding districts. A. D. W.

THALICTRUM RHYNCHOCARPUM.

WHILST it is generally conceded that all the *Thalictrums* are beautiful and interesting hardy plants, it occurs to me that I have only seen the subject of this note mentioned in the *Gardeners' Chronicle* on one occasion. This seems to me inexplicable, for it is surely to my mind the most elegant of the numerous species of this genus with which I am acquainted. Though its large pinnatifid inflorescence cannot be considered showy, it is nevertheless of exceeding interest, consequent on its fruits being borne on long fragile stalks, which have not only a novel, but exceedingly neat appearance, the plant reaching, as it does, some 3 feet in height, whilst its foliage is of the most charming description, resembling one of the finer forms of Maidenhair Ferns. To be successful in the growth of this plant, a constantly semi-shady moist position is requisite, as much sunshine is simply fatal to its well-being. This is probably the point that has been overlooked by cultivators at home, for, in its native habitat, it is never found but in rather dense and constant shade, and invariably near to water, where it assumes a semi-climbing habit. I imagine it must not be treated as a hardy plant; generally in England a cool fernery, with exactly similar cultural treatment to what the Ferns require, would suit this fine subject exactly, and I am sure, when once seen in good condition, its decorative value—more especially as a table plant—would pronounce it a real acquisition at first sight; but to try and cultivate it under the same conditions as some of the common and more hardy species would end in failure. Given similar conditions to which it revels in here—a cool shady fernery, in or outdoors—it would simply grow like a weed without any trouble whatever. Wm. Nelson, Booyens, Johannesburg, Transvaal, February 25, 1892.

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, Gardener, Moreworth Castle, Maidstone.

STRAWBERRIES.—The heavy rain which fell on the night of the 25th has benefited these plants, and the earlier varieties are rapidly swelling their fruits. If large berries is the aim of the grower, the trusses should be thinned, more or less, according to the strength of the plants. Give the beds where the fruits are set a thorough soaking with liquid manure, and get nets in readiness to put

over them as soon as the fruits begin to change colour. It is best to put up some kind of framework on which to rest the nets, and sufficiently high to clear the leaves. Before putting any net on a bed, pull up all the weeds, and put the litter in order, so that the fruits are kept clean; and when the beds are netted, peg the edge of the nets down to the ground to prevent the ingress of birds. Now that the Strawberry plants are being turned out of forcing-houses, all such as are intended for planting should at once be planted, the plants needing no previous hardening-off, the abundant air that has been afforded them in the houses having been sufficient for that purpose. Let previous directions be fully carried out in preparing these for planting. Those who plant a few rows expressly for early runners should keep them free of weeds, and reduce the number of runners to eight on a plant.

MULCHING AND WATERING.—Late-planted trees, if large, must be well looked after, and if found to be dry at the root, they should be watered abundantly, so that growth be not stunted; and the lateral shoots should be allowed to extend themselves, and thereby force, to some extent, root action; and should much fruit have set, thin it severely. Cherries, especially, need be watched in this respect, watering them at the root, and syringing them overhead till they make fair growth. All trees whose growth is weak, or which may be heavily cropped, should be well mulched as far as the roots extend, with manure, or litter over which Thomson's Vine Manure, bone-meal, Peruvian guano, or other fertiliser is strewn. If the fertilisers are used without litter, prick it in 2 inches deep, and water the soil in the absence of heavy rain. Trees with no fruit, or but a light crop, and with a tendency to make strong wood, will require to have no manure given them.

ORCHARDS.—Apples on the Paradise are sometimes planted with the hope of fruiting them early, but regardless of their roots growing mostly at or near the surface of the soil, annual digging is practised, and the roots destroyed more or less—a kind of treatment that often results in the early death of the trees. Fruit growers would do well to dig but little, and mulch the soil over roots each year. Pears on the Quince should be mulched with manure, or have some kind of fertiliser strewn on the soil and pricked in.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

THE EARLY VINERY.—Vines from which the fruit is cut should be thoroughly syringed to clean the foliage of dust, insects, &c. In case red-spider should have appeared on the leaves, these should be sponged or syringed with water in which flowers-of-sulphur is incorporated, which latter is easily done if a small quantity of water be put to the sulphur at first, and this be reduced to a thick paste, in which condition it can be mixed with the large volume of water. When the borders need to be watered, always make use of some of the manures specially prepared for Vines along with the water, so as to enable the plants the better to recover from hard forcing and fruiting during the summer time. By duly attending to this matter until the wood and foliage are mature, the energies of the Vines can be maintained at a maximum of productiveness for many years in succession. Keep the ventilators opened wide day and night, and only when mildew has to be guarded against should fire-heat be employed, that is, during foggy weather. On sunny days the borders and paths in the vinery should be sprinkled with water, and all superfluous growths kept in check by stopping them.

SUCCESSION VINES.—Where the Grapes are colouring, the Vines should be carefully attended to in the matter of ventilation, and especially to guard against the sweating of the berries, which is best prevented by affording the Vines more or less air continually, according to the state of the weather, and paying great attention to the amount of moisture within the house. Till the fruit is ripe, maintain the vinery at a normal temperature; and if the borders are getting dry, afford them a good watering in the morning of what promises to be a bright day; and then by keeping a fair amount of warmth in the heating apparatus, the surface-moisture will be well dried up before nightfall. Remove the young shoots from any Vines that are swelling their fruit, and afford the borders a liberal supply of diluted liquid-manure when they require watering. When the vines are closed in the afternoons, it is advisable to

moisten the paths, &c., with liquid manure, for although the ammonia from this is not absorbed by the leaves (?) it tends to keep insects in check, and a portion of it will find its way through the soil to the roots; but with such compounds as carbonate of ammonia for this purpose, the gardener should use much caution, or he may do more harm than good, especially if lime be present in quantity. From the present time a small amount of ventilation should be afforded constantly by the upper ventilators or lights, which will act as an invigorator and as a safety-valve.

LATE VINERIES.—Most of the bunches in these houses will be ready for thinning, and as some of the best keeping varieties are the most difficult to thin, they should be early taken in hand, and the operation continued till all are finished. The space to be left between the berries to suit all sorts and conditions of Vines, owing to the great variety of circumstances governing these things cannot be exactly defined. The size of berries, however, varies with the varieties, and from this fact comparisons may be drawn. The Black Hamburg being the most common variety grown, may be used as a standard by which to compare others; thus, for every four berries that are left on a bunch of this variety, only leave three on the bunches of Pearson's Golden Queen, Alicante, and Gros Maroc; and for every three of the Hamburg, leave two of Gros Colmar. Lady Downe's, Muscat Hamburgh, and Alwinck Seedling, have berries of much the same size as those of the Black Hamburg Grape, and may therefore be thinned to the same extent. Those Grapes which it is intended to keep for winter and spring consumption should be more severely dealt with than others, and all the berries which grow in the middle of the bunches must be removed. Should mildew make its appearance on any of the Vines, dust them with flowers-of-sulphur, and keep a gentle warmth in the hot-water pipes, a stagnant atmosphere favouring its development.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

GENERAL WORK.—With the genial rains and warmth the growth of all kinds of vegetation is rapid, and the hoe requires to be in constant use in stirring the surface soil and destroying weeds. Great care is necessary in the use of the implement when hoeing between the lines of vegetables. Advantage should be taken of showery days to plant out Brussels Sprouts, Cauliflower, and to sow all kinds of small seeds whilst the soil is moist. The dressing of Asparagus beds with salt or some kind of artificial manure should receive attention; and such of the beds as are intended for forcing at an early period of the winter, should not have any more heads cut from them after this date; and on light or dry soils a top-dressing of old cow manure will be of assistance to the plants, frequently watering the beds in dry weather. The earthing-up of early Potatoes will now need close attention, so as to get the operation carried out before the stems get long.

Onions, Carrots, and other roots should now get their final thinning. Runner Beans, Scarlet and others, for late supplies, should be sown at this date. Well-mannered land is ordinarily good enough for these vegetables, but in light dry soils it is impossible to get the plants to bear well, unless trenches be thrown out, and manure dug into these as for Celery. A single row of seeds should be dibbled in a line down each trench after it is filled up and trodden firmly. The plants may be topped at 4 feet and made secure with Pea-sticks; or the plants may be topped at 1 foot high, but in that case the ground should be littered down to keep the pods clean. The sticks should be put to the early-sown Runner Beans, previously drawing the soil up to them on each side of the row. Slugs are, in some gardens, apt to be troublesome, and in such, soot or dry wood-ashes should be strewn over the plants when wet with dew or rain. Dwarf Kidney Beans may still be sown.

PEAS.—For late sowings, unless the ground is very retentive, the preparation should be similar to that for Runner Beans. Use plenty of decayed manure, which should be dug into a trench, which should be only filled in, in part, and when the plants are well above-ground, if the weather keeps dry, heavy waterings should be afforded them; indeed on dry land watering is necessary, even should heavy rains occur, or mildew will soon appear on the foliage, and the crop will be a poor one. The manure employed should be rich and succulent, and of such a

nature as will retain moisture for a long time. The new green wrinkled marrow *Succesa*, is a medium grower; *Ne Plus Ultra* and *Sturdy* are all of them good for this late sowing, the first-named was very good with me in 1891.

TURNIPS.—Seed should be sown in a cool part of the garden; choice being made of Veitch's Red Globe, a variety that keeps good for a long period of time, and which has very solid flesh.

SPINACH.—Sow the seeds in small quantities on cool soil or a partially shady border. Sow the seed thinly, or if it be old, sow thickly and thin out. The *Victoria Round-seeded* is a good variety for this sowing. A fortnightly sowing should be made of salad plants, sowing where the plants will remain till fit for use.

THE ORCHID HOUSES.

By H. A. BURNETT, *Orchid Grower, Highbury, Birmingham.*

Bright, warm sunshine, such as the past week has afforded, is a friend in this department, and, consequently, plants have advanced very rapidly; and, advantage must be taken of such weather by supplying warmth and moisture in abundance to the *East Indian* and *Dendrobium-house* Orchids. The inmates of these two houses will require to be free from insects, and to be given liberal supplies of moisture both at the roots and atmospherically; indeed, the floors and other spaces cannot be damped too often, providing the ventilation insures a gentle circulation of fresh air. *Calanthes* may have more water afforded now, but it must be done carefully, and the plants kept near to the light. At this season, when Orchids are in full growth, they derive considerable assistance from the ammonia arising from decaying vegetable matter placed in the houses, such as tan or tree leaves. *Cypripedium* must now have large supplies of water. *Phalopsis* also must have plenty, with an occasional dipping in weak liquid manure. Syringing overhead may be resorted to with good effect amongst the *Dendrobiums*, such as *D. Wardianum*, *D. nobile*, *D. Devonianum*, *D. Phalenopsis*, *D. Ainsworthii*, and others, when there is no danger of the young growths damping off. This is the best time to assist *Dendrobiums* with liquid manure, the growths being well up, and rooting freely. I know of no *Dendro* that is not benefited with a weak mixture during the growing season. The temperature of these two houses now should range from 70° to 75° by night, and from 75° to 85° or 90° by day.

THE CATTLEYA-HOUSE.—Plants in this structure are also moving fast. *Cattleyas* when growing delight in a good amount of sun-heat and light, but the house must at the same time be well ventilated, and much moisture supplied. A good supply of water will now be necessary at the roots, especially to those which are well advanced in growth. *C. Trianae* will have been repotted by this time, if not, they should be done at once, using pots in proportion to size of plant and good fibrous peat and sphagnum moss in equal parts, potting firmly. The most forward of the *C. Warnerii* and *C. gigas* are in flower. No good purpose can be served by keeping *C. gigas* dry, to make it flower after the growths are about 2 or 3 inches high; if the flowering-sheath is not there then, no drying in the world will produce it now; but the plant should be freely watered, to assist it to make a strong pseudobulb. The temperature in this house may range from 60° to 65° by night, to 75° by day, or even higher.

THE MEXICAN-HOUSE.—This house requires now to have much air and moisture; for, having no shading, it soon becomes dry. Plants of the *Epidendrum macrochilum* and *E. nemorale* sections do best here; but the rest are, for the most part, intermediate. Exception must be made to *E. vitellinum majus*, which is a cool house species, and *E. bicornutum*, which should be grown in the lightest and warmest part of the *Dendrobium-house*, and have occasional waterings with salt-water. It does best in small suspended pans. The proper temperature for this house is similar to that of the *Cattleya-house*.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Castle, Swansea.*

CANNAS FOR THE CONSERVATORY.—Plants which were started in gentle heat and afterwards divided and potted, may now have their final shift

into 9 or 10-inch pots, employing as a compost the following:—rich turfy loam, three-quarters; decayed manure, one-quarter; and some sharp sand. Grow the plants in a cool pit, and keep them near to the glass, affording plenty of air in fine weather, so as to prevent the plants becoming weakly and drawn. When the pots are filled with roots, manure-water should be afforded once or twice a week, syringing the plants freely overhead, and on the underside of the leaves. During bright sunshine, if a slight amount of shading be used, the foliage will be preserved in a bright, fresh condition.

SAXIFRAGA PYRAMIDALIS.—When well grown and flowered, this is a pretty plant for the present season, and although it is quite hardy, yet to thoroughly develop its pyramidal spikes of white bloom, it should be grown under glass. This plant is propagated from offsets taken with a small piece of the stem attached, pricked off in light sandy compost, either singly in small well-crooked pots, or several together in shallow pans. A cold frame is a suitable place for striking the cuttings, and till roots are made, little or no water should be applied. When well rooted, the plants should be potted into well-drained 4's, employing as potting-soil rich loam, and sufficient sand to keep it open. In summer time the plants should be grown in the open air, and on the advent of autumn returned to a cold frame, where they should be wintered. About the middle of the month of March, the plants should be placed in a light position in a cool greenhouse, where they may remain till their season of flowering is passed.

NEPENTHES.—Any plants that require more root-space should be taken in hand forthwith, as during the next two or three months these plants will be in active growth. In potting them, the drainage should not be disturbed unless the roots have not become much entangled with the crocks, and the ball should be left intact. A good compost for *Nepenthes* consists of fibrous peat of the best quality which has had all the fine earthy matter shaken out of it, and mixed with sphagnum moss, charcoal broken into small bits, and a small quantity of silver-sand. When potting them, take care to use much force in placing the compost around the ball, the roots being very brittle. After the potting is finished, the plants should be thoroughly watered with tepid water. *Nepenthes* delights in a moist air always, and when this can be supplied, and the warmth is sufficient, there need be no doubt of these plants doing well. Suspend them from the roof, with about 15 or 18 inches of space between the glass and the plants, but avoid hanging them directly opposite to ventilators. Where other stove plants are grown in the same structure, the *Nepenthes* should have shading a little thicker than that spread over the rest of the roof during sunshine. Plants propagated during the autumn of 1891 should now be moved into 4 or 5-inch pots, affording them the same kind of treatment as that described above.

ROCHEA FALCATA.—Leaf cuttings of this very showy and useful plant may now be put in, preference being given to the old leaves, taken from the lower parts of the stems of strong plants. This plant being a succulent, the leaves should be taken off with a clean cut, as, should they be bruised in the least, they are liable to decay. The base of the leaves should be allowed to get dry before inserting them, by leaving them on a board in the potting shed for several hours. Place four or five leaves in a 4-inch pot, which fill with clean sand, which should be kept rather dry at first, afterwards placing them on a shelf near the glass in a stove temperature. Plants which were struck last summer, and are at the present time in small pots, may now be repotted into 5 or 6-inch pots, in rich fibrous loam, with a small quantity of silver sand mixed with it. Grow the plants near the glass, as they, like most other succulents, thrive and bloom best the more light and sun they receive. Old plants may have weak manure water supplied to them once a week, which will help to increase the size of the flower heads.

SHOW AND FANCY PELARGONIUMS.—Those varieties that are showing bloom should have frequent applications of weak manure and soot-water, and have their shoots tied out as growth proceeds, keeping them well up to the glass, and plenty of air at all times. If aphides appear, fumigate the plants before the blooms expand, as if these insects are allowed to infest the young growth, the appearance of the plants is soon spoiled.

ZONAL PELARGONIUMS.—Cuttings of these may now be put into pots of sandy loam. Rooted cuttings may be potted into sandy loam and decayed

manure, the pots being well drained. A cold frame will suit them at this stage, as also the cuttings, if the pots be plunged in coal-ashes.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

HERBACEOUS PLANTS.—All the plants in the herbaceous borders and beds which stand in need of support should be staked before they are broken down by wind and rain. It may seem unnecessary advice on my part to say that sticks should not be put to plants unless support is absolutely necessary. But be this as it may, I may say that I have seen plants whose appearance was spoiled by needless staking. Plants that require support at all should have it forthwith, the stakes being placed at the side farthest from the walk or point of view, tying the plants thereto in as natural a manner as possible—i.e., putting the support to the plants without altering their natural habit, and keeping the stakes and ties as much out of sight as possible. Never make a plant look like a besom; and another point to be observed is that of allowing sufficient space in the ties for the full development of the shoots or stems, otherwise vigorous-growing plants, like the *Dahlia*, *Hollyhock*, *Faenou*, &c., will be injured by the ties cutting into the rim, causing the shoots to snap off easily. Carnations and the like only require small sticks, but strong-growing species of *Michaelmas* *Daisies*, *Helianthus*, *Delphinium*, *Phloxes*, and plants of like habit of growth, should have fairly stout stakes, standing 4 or 5 feet out of the ground, using from one to three loops of string instead of matting, as occasion may require. Lilies in general require to be fastened to sticks. Sometimes various slugs devour the foliage of Lilies and other plants, especially seedlings, and a close watch should be kept on these plants just after dark, when, with the assistance of a bull's-eye lamp, the depredators will be discovered at feed. As a precaution, a circle of fresh-slaked lime and fresh soot, in about equal parts, should be put around each plant, also a line of it along the sides and ends of the borders containing seedlings, if slugs abound.

ROSES AND THEIR INSECT ENEMIES.—June, the proverbial month of Roses, has arrived, but the blooms, excepting on plants growing on south and west walls, have yet to come. Much may be done to hasten the Rose harvest by affording the plants of all kinds copious supplies of water, the results of which will fully repay the gardener for his labor. Liquid manure, if obtainable, will also be very beneficial. Care and judgment, however, must be exercised in the application of it. If obtained from tanks into which the drainings of manure-heaps empty, it may with perfect safety be used diluted with an equal quantity of clear water; but if obtained from tanks into which the drainage of the stables and cowsheds drain, the dilution should be at the rate of four parts of clear water to one of sewage. Surface-dressings of Thomson's vine and plant manure, or other artificials, to be followed by waterings with clear water, will answer the same purpose, repeating the top dressings and the waterings more or less frequently, according as the soil is light or heavy, and the weather dry or the reverse. Roses, &c., on walls which are provided with copings, require to be watered oftener than plants in beds, or which are planted against plain walls and fences. Keep a sharp watch on the Rose-maggot and Rose-aphis. The former should be looked for daily, and it may readily be found rolled up in the leaves, from which it should be taken and destroyed, otherwise there will be much loss of leaves and flower buds. The aphid is best destroyed by syringing the trees with a mixture of water and tobacco juice, in the proportion of four of the former to one of the latter. This will not only kill the aphides, but in all probability render the leaves distasteful to them for the season. The syringing may be done at sundown. If fine blooms are wanted, the flower buds must be thinned, which is best done at intervals of a few days, so that a good succession of blooms may be secured. Pull up suckers of the Rose stocks, put stakes to standard Roses, and peg down the shoots of such Roses as are on their own roots, so as to get the allotted space covered as soon as possible, and attend to the training of climbers.

GENERAL WORK.—Thus far the weather has been very favourable for hedging out, and much of that kind of work will have been done in the south. This may be followed by the sub-tropical and carpet bedding, which should be pushed on with all despatch.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JUNE 7	Royal Horticultural Society's Committee at the Drill Hall, James Street, Westminster.
WEDNESDAY, JUNE 8	Royal Botanic Society's Musical Promenade.
THURSDAY, JUNE 9	Brighton and Sussex New Horticultural Society.
SATURDAY, JUNE 11	Royal Botanic Society.

SHOWS.

MONDAY, JUNE 6	Market Growers' Show at Earl's Court (three days). Southampton Horticultural Society.
----------------	--

SALES.

WEDNESDAY, JUNE 8	Special Sale of Orchids, from Messrs. Sander & Co., at Protheroe & Morris' Rooms.
THURSDAY, JUNE 9	Importation of 1,000,000 Palm Seeds, Herbaceous Plants, &c., at Protheroe & Morris' Rooms.
FRIDAY, JUNE 10	Great Number of Orchids, from Messrs. Linden, Brussels, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—59° 8.

Those who took part in the Rose Conference at Chiswick on July 2, 1889, will remember that among the many points of interest on that occasion, by no means the least was the exhibition of dried specimens of a Burmese Rose (collected by General COLLETT), *Rosa gigantea*,* made on behalf of Dr. KING, the Director of the Royal Botanic Garden, Calcutta. The flowers were single, with white petals, and measured as much as 6 inches in diameter. A figure was given in the *Gardeners' Chronicle*, July 6, 1889; and subsequently seeds, obligingly sent by Dr. KING, were distributed by the Editor. At Kew and elsewhere, the plant grew under glass with rampant vigour, but up to this time we have not heard of its flowering, till Mr. CHARLES TURNER of Slough, kindly sent us on the 28th inst. two blooms, with a letter in which he said, "Like ourselves, I fear you will be rather disappointed," and so we were in one sense, but perhaps even more surprised than disappointed;

for though the Rose, as sent to us, will have little attraction for the specialist, yet the interest for the botanist is by no means diminished, but rather enhanced, and even the Rosarian proper has "potentialities" opened out which were not surmised. The flowers before us are borne singly on very slender stalks, all but destitute of prickles, with no developed bract, but with a few stalked glands. The leaves are provided with linear adnate stipules, the free portions of which project at right angles from the stalk, and are subsequently curved downwards. The leaves themselves (we have only those on the flowering shoot) are trifoliate, the leaflets glabrous, dark green above, paler beneath, ovate lanceolate crenato-dentate. Flowers $2\frac{1}{2}$ inches across, semi-double, bright crimson, very fragrant; flower-tube dilated in the middle, contracted at both ends, like a soda-water bottle. Sepals linear, some entire, some lacinate on both sides, some on one side only, more *Rosarum*, glabrous externally, pubescent within. Stamens less than half the length of the petals. Styles free, hairy, projecting above the throat of the calyx-tube, free portion nearly as long as the stamens. Carpel densely pubescent, inserted on the sides as well as on the base of the receptacular tube (basilo-parietal insertion of CRÉPIN).

These characters show that the Rose in question belongs to the section Indica, as understood by M. CRÉPIN.* Indeed, there is no other section but the Indica which have free styles projecting beyond the flower-tube. It is interesting in this connection to note, that Mr. HEMSLEY doubts "whether *R. gigantea* is more than a very luxuriant form of *Rosa indica*, for some of the older specimens have flowers no more than 2 to $2\frac{1}{2}$ inches in diameter, and the flowers are sometimes corymbose." Mr. HEMSLEY, however, to whom we submitted Mr. TURNER's specimen, pronounces it to be nothing but *R. indica*.

General COLLETT, in the introduction to a paper in the *Journal of the Linnean Society* (November, 1890), on "Plants from Upper Burma and the Shan States," says, that "The beautiful *Rosa gigantea* is particularly conspicuous, climbing over tall forest trees, from the top of which the long pendent branches, covered with very large white flowers, hang down in rich profusion. This Rose, which has larger flowers probably than any other wild species, is seen from considerable distances in the jungle, reminding one more of a large-flowered Clematis than of a Rose. Though apparently spread over the whole Shan hills, and extending to Munnepore in the north, where it was previously found by Dr. GEORGE WATT, it is only locally abundant, chiefly in dark shady valleys. It is most nearly allied to *R. indica*, which has recently been found wild in China, and is, perhaps, only a fine variety of that species."

General COLLETT then, like Mr. HEMSLEY, thinks *R. gigantea* to be merely a form of *R. indica*. If so, the fact that the seed sent by Dr. KING has produced *R. indica* is specially interesting. There is, however, the fear that the collectors who gathered the seed might not have been quite so careful as they might have been. In any case, we trust we shall not have long to wait ere we see the tree *Rosa gigantea* in its true form and colour.

THE ROYAL HORTICULTURAL SOCIETY.—The next meeting of the above Society will be held in the Drill Hall, James Street, Victoria Street, West-

minster, on Tuesday, June 7, the Fruit, Floral, and Orchid Committees assembling at 12 o'clock. At 3 o'clock a paper on "Summer Pruning and Training of Fruit Trees," will be contributed by Mr. A. YOUNG, gardener, Abberley Hall, Stourport. Amateurs who cultivate hardy species of Rhododendrons and Orchids, will on this occasion have an opportunity of competing for the prizes offered by the Society, and notified in its schedule; and a Silver-gilt Floral Medal will also be awarded to the raiser (amateur or professional) of the best new seedling Orchid. Intending exhibitors should, without delay, apprise the Superintendent, Royal Horticultural Society's Gardens, Chiswick, of the nature of their intended exhibits.

ROYAL NATIONAL TULIP SOCIETY.—The annual Exhibition of this Society is fixed to take place in the Botanical Gardens, Old Trafford, on Wednesday, June 8th. The fine dry weather appears to have favoured the advance of the Tulip, and there is every prospect that this will be one of the best exhibitions held for several years. The interest in this once-popular flower is still active in the midlands and north, but appears to have nearly died out in the south, and especially round London, where, thirty years ago, many fine collections were grown.

HORTICULTURAL CLUB.—A special meeting, on the occasion of the Temple Show of the Royal Horticultural Society, was held on Wednesday, the 25th ult., Sir J. D. T. LLEWELYN, Bart., the Chairman of the Club, presiding. There was a good attendance of the members, including Rev. E. Handley, Rev. F. H. Gall, Messrs. Moss, Sherwood, H. J. Veitch, P. Veitch, Manning, Soper, Leonard, Gordon, C. Pearson, and others. The Chairman subsequently gave some account of his recent visit to Egypt, dealing in an interesting manner with its agricultural and horticultural aspects. In another column we give a *résumé* of the address, which was cordially received, and for which a vote of thanks was moved by Mr. H. Veitch. The next meeting will be held on June 7, when a paper by Mr. F. W. Barbridge, of Trinity College Botanic Gardens, Dublin, on "Nature and Cultivation," will be read.

ROYAL TRADESMEN.—We learn that the firm of Messrs. ALEX. DICKSON & SONS, of Newtownards, in the county of Down, Ireland, nurserymen and Rose raisers, have been appointed by Royal Warrant nurserymen, seedsmen, and florists to the QUEEN, as they had been previously appointed in the same capacity to the Prince and Princess of WALES.

HINTS TO EMIGRANTS.—Considering that while the population at home increases, the area of land cannot be increased correspondingly, even though better use be made of what there is, it follows that emigration has become a necessity. A pamphlet issued by the Self-help Emigration Society, Memorial Hall Buildings, Farringdon Street, gives trustworthy accounts of our various Colonies, the way to get to them, the cost of so doing, and the chances of success when once there. We strongly commend this little tract to the notice of gardeners and other handy-men of good character and sound health who find it difficult to succeed in the struggle for life at home.

COMING ROSE SHOWS.—The latest advices about Rose shows to come are—Richmond, Surrey, on Wednesday, June 29 and following day; Windsor, Thursday, July 7; and Halifax, Thursday, July 28.

HEREDITY.—The Rev. Professor G. HENSLOW has reprinted from *Natural Science* an article on WEISMANN'S theory of heredity as applied to plants. Dr. WEISMANN, it may be stated, is of opinion that the body of all living creatures is made up of two distinct "plasm," one which is specially reproductive, and called consequently the germ-plasm, and one which has nutritive rather than reproductive functions, and which serves to feed the body and

* *Rosa gigantea*, Collett MSS.; CRÉPIN, in *Comptes Rendus Soc. Ent. Belg.*, 1888, p. 150, et 1889, p. 11; MASTERS, in *Gard. Chron.*, July 6, 1889, p. 12, fig. 4; HEMSLEY, in *Journ. Linn. Soc.*, vol. xxviii. (1891), p. 55, tab. ix.

* CRÉPIN, "Sketch of a New Classification of Roses" (Rose Conference Report), *Journal of the Royal Horticultural Society*, vol. xi., 1889, p. 219.

maintain its growth. The germ-plasm is continued from parent to offspring in a certain series of cells only. "Acquired characters," or those modifications of the original form which are produced in course of growth by circumstances, cannot be transmitted at all. Transformation of species is due to direct changes in the germ-plasm due to external influences or to combinations of distinct germ-plasms. These postulates are examined and sifted by Professor HENSLOW, who concludes that there is no necessity for any assumption of a dual plasm. What is known as protoplasm, "however complicated its structure may prove to be, appears to be perfectly capable of acquiring new characters and fixing them

the history of the cultivated species, but notes the date and the person by whom they were introduced. Dr. BUCHENAU admits forty-four species, which he divides into those which do, and those which do not bear tubers. Other characters are afforded by the number and nature of the petals, the spurs, the stipules, the foliage, &c. Dr. BUCHENAU publishes a Latin synopsis of the plants, as arranged according to these characters—a synopsis for which botanists will be the more thankful in that the other parts of his memoir, even the full descriptions of the species, except in the case of newly-described forms, are written in German. The garden forms known as CARTER'S Tom Thumb, CATTLE'S [? CANNELL'S]

COMMERCIAL FLORICULTURE IN THE UNITED STATES.—We take the following details from the American Florist Company's Directory:—"While floriculture has been carried on as a business in the States for upwards of one hundred years, it is only within the past twenty-five years that it has assumed large proportions. Out of a total of 4,650 establishments, 2,795 were started between 1870 and 1890, and of these 1,797 between 1880 and 1890. There are 312 commercial establishments owned and managed by women. These 4,650 establishments had in use in the census year 38,823,247 square feet of glass, covering a space of more than 891 acres of ground. The establishments, including



FIG. 104.—DENDROBIUM NOBILE. (SEE P. 732)

by heredity." Professor HENSLOW finds plenty of instances to support his contention among plants. While accepting the statement that acquired characters are reproduced and even "fixed" for a time by the care of the cultivator, we are still in doubt whether the fixture is permanent, or capable of survival when the protecting and selecting aid of the cultivator is withdrawn.

TROPEOLUMS.—Dr. F. BUCHENAU, a botanist already well-known for his researches into the natural history of the Rushes, Juncaceae, has recently issued a monograph of the genus *Tropeolum* in ENOLER'S *Botanischen Jahrbücher*. Dr. BUCHENAU alludes to the work done by his predecessors, sketches the history of the genus, and details its morphological peculiarities. He does not overlook

dwarf crimson, and DUNNETT'S dwarf-spotted are considered as hybrid productions between *T. majus* and *T. minus*, both of them climbing plants. Dr. BUCHENAU'S memoir is illustrated with woodcuts, showing the conformation of the petals, and with tables showing the geographical distribution of the species. In an appendix, the morphological nature of the tubers and of the methods of germination are discussed. It will be seen that, whether from its botanical and structural interest, or from its importance as furnishing numerous species to the cultivator, Dr. BUCHENAU has had a peculiarly interesting group to deal with. The true test of such work is afforded by daily use, but so far as can be told by the inspection of the Doctor's pages, he has done his part in a methodical and most satisfactory way, as, indeed, was to be expected.

fixtures and heating apparatus, were valued at \$38,355,722.43; tools and implements, \$1,587,693.93, and gave employment to 16,847 men and 1,938 women, who earned in the year \$8,483,657. Fuel for heating cost \$1,160,152.66. The products for the year were 49,056,253 Rose bushes, 38,380,872 hardy plants and shrubs, while all other plants amounted to 152,835,292, reaching a total value of \$12,036,477.76 for plants. Cut flowers brought an additional income of \$14,175,328.01. The largest number of square feet of glass in one establishment in the United States is in the district of Columbia; the oldest establishment was started in New York; the largest number of Roses propagated were, respectively, in Pennsylvania, Illinois, and Ohio; the largest number of hardy plants propagated were, respectively, in Illinois, New York and Kansas;

the largest total value of plant sales were, respectively, in New York, Pennsylvania and California; and the largest total value of cut-flower sales were, respectively, in New York, Illinois and Pennsylvania. 3,425,600 wholesale and 17,630,094 retail catalogues are annually issued, while \$767,438.21 was paid for postage, \$1,161,168.31 for advertising, \$534,221.86 for freight, and \$554,390.55 for express bills, and the estimated freight and express bills on outgoing shipments was \$1,086,904.60.

The Nursery Industry in the United States.—From the tabulations it appears that there are in the United States 4,510 nurseries, valued at \$41,978,835.80, and occupying 172,806 acres of land, with an invested capital of \$52,425,669.51, and giving employment to 45,657 men, 2,279 women, and 14,200 animals, using in the propagation and cultivation of trees and plants \$900,606.04 worth of implements. Of the acreage in nurseries 95,025.42 were found to be used in growing trees, plants, shrubs, and Vines of all ages, and the figures, based upon the best estimate of the nurserymen, make the grand total of plants and trees, 3,386,855,778, of which 518,016,612 are fruit trees, 685,603,396 Grape vines and small fruits, and the balance Nut, deciduous and evergreen trees, hardy shrubs and Roses. The largest acreage is devoted to the production of Apple trees, viz., 20,232.75 acres, numbering 240,570,666 young trees, giving an average of 11,890 per acre, while the Plum, Pear and Peach have, respectively, 7,826.5, 6,854.25, and 3,357 acres, producing 88,494,367, 77,223,402, and 49,887,894 young trees, or an average of 11,307, 11,266, and 14,861 trees to the acre.

Seed Growing in the United States.—There are about 596 seed farms established in the United States, containing in all about 169,851 acres, and representing a total investment in land, buildings, and implements, of \$18,325,935.86. Of these farms, 258, or nearly one-half, are located in the North Atlantic States, with an acreage of 47,813; the North Central Division comes next in number of farms (157), but devotes 87,006 acres, or an average of 555 acres per farm, to this industry. These farms give direct employment to 13,500 men at wages of from \$0.50 to \$1.50 per day, and 1,541 women at from \$0.35 to \$1.00 per day. Of these farms 496 have been established since 1870, this fact alone showing something of the wonderful growth of the business.

WHAT POLLEN IS MADE OF.—The "mechanics" of vegetable reproduction have engaged the attention of all our great botanists, and wonderful are the things which have been discovered concerning the *modus operandi* of the function in various plants; but the chemistry of it, with some well marked exceptions, has been comparatively neglected, and yet, possibly, there is quite as much to learn from the chemistry. A good start has been made with this branch of vegetable science, and some of our readers may remember the researches of DRAEGER and those of VON PLANTA in 1876. All that can be done at present is to accumulate masses of data founded upon actual experiment or observation; some day we may then be able to use them in arriving at important generalisations. Recently, the composition of the pollen of *Pinus sylvestris* has been placed under analytical examination by K. KRESLING (*vide Archiv. Pharm.*, cxcxix., pp. 389 to 425), who has discovered that it contains a wonderful collection of ingredients. Here are the results in an abbreviated form:—Moisture, 8.73 per cent.; ash, 5.51 per cent. (consisting of potash, soda, magnesia, lime, phosphoric acid, sulphuric acid, chlorine, iron oxide, alumina, silica, and manganese); fat, 11.12 per cent. (consisting of glycerol, alcohol, and fatty acids); Lecithin, 0.895 per cent.; cane-sugar, 12.75 per cent.; starch, 7.4 per cent.; glucose, 33.1 per cent.; cellulose, 19.06 per cent.; mucilage, 0.196 per cent.; organic acids (tartaric and malic), and nitrogenous compounds (globulin, peptone, albumin, amines, ammonia, xanthine, guanine, hypoxanthine, and vernine)

make up the rest. This result is almost bewildering in its details, and it will take a good deal of trouble to give a proper interpretation. If our readers are further interested in this curious subject, they will find another recent paper on it in the *Bulletin of the Imperial Academy of Science of St. Petersburg*, xxx., p. 358.

DISEASES OF BEET.—The diseases of the Beet-root observed in Indiana, and described in the *Bulletin of the Purdue University, Lafayette, Indiana*, are three, i.e., a bacterial disease, Beet-scab, and water-core spots, the first being of chief economic importance:—

I.—A Bacterial Parasite.

1. A new disease caused by parasitic bacteria has been detected in 12 per cent. of the Sugar-beets examined.

2. It does not usually cause the death of the plant, any spots upon its surface, or any alteration or discoloration of the tissues.

3. The best external signs of the disease are a crinkled or puffed condition of the leaves, a smaller and paler development, and a more rapid dying off of the outer ones.

4. Upon cutting open the root, it may be detected by the greater prominence of the fibres, a general yellowish tint, and a less firm texture.

5. The gross characters just given are not always sufficient to separate normal and diseased Beets.

6. The microscope shows the presence of great numbers of bacteria in all the tissues.

7. By culture methods, the bacteria are shown to be all of one sort.

8. The disease decreases the content of sugar in variable amount, the loss in some cases reaching 50 per cent.

9. No suggestions are made for treatment or prevention.

II.—Beet Scab.

1. A form of scab is very prevalent, producing rough brown spots on the surface of the roots.

2. It is caused by a fungus identical with that which causes the scab of Potatoes.

3. Its occurrence is best guarded against by using land which has borne no root-crop for a year or two previous.

III.—Water-core Spots.

1. Well-defined, watery spots have been noticed in the Beet-root, whose origin and significance are not known.

THE GREENING OF PLANTS.—PALLADIN observed that without the presence of sugar, chlorophyll could not develop in a plant, and argued that this fact supported his theory of the relation between the starch-grain and the grain of chlorophyll. Further observations have more recently been made by BELSUNG on the formation of starch, and the use that is made of it in plants. From a fact observed by BOKORNY in *Spirogyra*, the conclusion is drawn that the formation of starch is not solely due to the carbon and the elements of water, but to the production of various complex organic substances, and to the intervention of several other elements, such as nitrogen, potassium, etc. [*Journ. de Bot. (Morst.)* v. pp. 350-5.]

FLORAL DECORATIONS.—“The Artistic and Effective Arrangement of Plants and Flowers,” formed the subject of a paper read at the International Horticultural Show at Earl's Court by Mr. G. PHIPPEN, of Reading.

LONDON AGRICULTURAL SEED TRADE ASSOCIATION.—PRESENTATION TO MR. DAVID SYME.—The annual dinner of this Association took place in the Duke's Salon at the Holborn Restaurant, on Monday evening, under the presidency of Mr. N. N. SHERWOOD, Mr. RUDOLPH DAVID occupying the Vice-chair. The usual loyal and patriotic toasts having been duly honoured, the Chairman proposed “Prosperity to the London Agricultural Seed Trade Association.” He regretted that their Association was not in such a flourishing condition as it ought to be;

year by year their numbers were decreasing, as he supposed, because so many of their provincial friends wrongly considered that the benefits of the Association were confined to the London members only. Their rules, however, had been formed so as to be of benefit to all in the trade; their business was a peculiar one, distinct from everything else, and requiring knowledge of a peculiar and special character. They had a just right therefore to conduct their business with due regard to the advantages of all, and if the provincial members of the trade would not abide by the rules of the Association, he for one would be obliged to decline to do business with them. The Association had been most useful for several years past in adjusting differences that arose among them in the course of business; and many disputes had been settled in the most amicable and satisfactory manner without recourse to the law with its attendant delays, vexations, and cost. It was therefore doing a good work, and deserved the support of all engaged in their trade, which was second to none among the commercial industries of the country, for if the farmers and market gardeners could not be properly supplied by them, he might well ask what would become of the agricultural industry. Mr. JAMES WATT then rose to propose the toast of the evening, the health of their old friend Mr. DAVID SYME, and to present him with a handsome testimonial to mark the celebration of his fifty years connection with the seed trade. He offered him their heartiest congratulations on being able to be present on that occasion to receive such a tangible token of their regard and esteem, and concluded by presenting Mr. SYME with a cheque for 300 guineas, together with a very handsome silver tea and coffee service and tray for Mrs. SYME, and an address, signed by 180 members, engrossed on vellum. Mr. SYME, who, on rising to acknowledge the gifts, received a most enthusiastic greeting, said he almost felt incapable of finding appropriate words with which to thank the subscribers for such a handsome token of their good feelings towards Mrs. SYME and himself. He had certainly been connected with the nursery and seed trade for fifty years, for it was in 1841 that Mr. PETER BARR and he found themselves boys together commencing their career in the business, for boys in those days went straight to work from the parish school and at an early age, whereas now they mostly did not commence to learn the business until they were young men. The nursery and the seed shop were great schools, for either branch of the business was a most interesting one, and they had something to learn from the day they entered it until they left it.

THEFT OF CACTUSES AT KEW.—Our readers will share our indignation on reading the following note:—“On Wednesday last, two Cactuses were taken by a visitor from the succulent-house (No. 5). One of the plants was *Echinocactus Haselbergii*, a rare little species, with white silky spines and bright orange-coloured flowers; the specimen was recently figured in the *Botanical Magazine*, t. 7009. The other plant, a *Manillaria*, also in flower, is not so rare. The labels of the plants were not taken. It is possible that the plants may be offered for sale, and as the *Echinocactus* is a well-marked plant, it ought to be easily recognised. W. T. Thistleton Dyer, Director.”

THE TEMPLE SHOW.—We are glad to learn that this great exhibition proved financially successful.

PUBLICATIONS RECEIVED.—*Führer durch die Gartenbau literatur*. List of works on horticulture, published by LEWIG MÖLLER, Erfurt, Prussia.

PLANT PORTRAITS.

DESMODIUM NUDIFLORUM, *Mechan's Monthly*, May, 1892.

RHODORHIZA FLORIDA, better known as *Convolvulus floridus*. It is a native of the Canaries, and

is of shrubby habit, with loose-spreading, wiry branches, and panicles of white funnel-shaped flowers, each about $\frac{3}{4}$ inch in diameter. *Revue Horticole*, April 1.

SAXIFRAGA FORTUNEI, *Revue Horticole*, May 16.

TRILLIUM ERECTUM.—*Meehan's Monthly*, April.

NOTICES OF BOOKS.

TRAITÉ DE CHIMIE AGRICOLE. By P. P. Dehérain.

This large volume of 900 pages will be cordially welcomed. It is nearly twenty years since Dehérain published his course of lectures on agricultural chemistry. During the interval which has elapsed he has continued in his professorship at Grignon, he has published a number of important investigations, and he has conducted during nearly the whole of this time a journal of scientific agriculture, the *Annales Agronomiques*, which is the best of its kind in France. We have thus before us a ripe work, by one well qualified for the task.

Notwithstanding the size of the volume, its scope is rather limited. The animal side of agricultural chemistry is left untouched, with the exception of the subject of farm-yard manure, which is fully treated. Crops and rotation are also only incidentally mentioned; the characteristic effects of manures upon crops are, however, discussed under the headings of the various manures. The first part of the book is on the nutrition and development of plants. The second part deals with soil. The third part treats of manures, including the ploughing-in of green crops, and the amelioration of the soil by burning, by fallow, and by irrigation. A good deal of space is taken up by a description of the chemical properties of the principal substances found in plants; and a probably still larger space is occupied by a description of methods suitable for the chemical analysis of vegetable matters, plant ashes, soils and manures. These methods of analysis might surely have been omitted, especially as there is an excellent work in the French language by L. Grandeaun on this subject.

The book is decidedly French. It has the merit, usual with good French books, of being written in a clear, easy style, very pleasing to the reader. It has also some of the defects usual to French books, of confining the view to work which has been done in France. This common fault of French books is, however, by no means so marked as is frequently the case, the references to Rothamsted work are, for instance, very numerous. It is curious, however, to observe how easily important facts are omitted when they are not French: thus in describing the phosphates used for the manufacture of manures, no mention is made of the American phosphates of Carolina and Florida, although probably half the superphosphate annually made in the world is prepared from these phosphates. The important work of Cross and Bevan on the composition and properties of vegetable fibre, and the equally important investigations of Brown and Morris, and of Green, on the chemical changes occurring during germination, are apparently unknown to the writer; but we must freely admit that it is impossible for any writer to be fully acquainted with so large a subject as agricultural chemistry.

The aim of the book is decidedly practical—it is written for the agricultural student, rather than for the botanist or chemist: this fact is one of the excellencies of the book, and will doubtless greatly increase the number of its readers. A considerable effort has evidently been made to bring the book up to date: thus we find the process of nitrification in the soil correctly described as performed by two organisms, one producing nitrites and the other converting nitrites into nitrates; an appendix is also added to introduce the important fact recently noticed by Schloesing and Laurent, that certain cryptogams have the power of assimilating the free nitrogen of the atmosphere.

The best chapters in the book are naturally those dealing with subjects which the author has himself investigated. Chapter VI., treating of the assimila-

tion of mineral matter by plants, is full of interest. The explanation there given of the apparent selective power of plants, by means of the known laws of diffusion, is the result of one of Dehérain's happiest investigations. The chapter on farmyard manure, the short chapter on Gypsum, and the information afforded as to nitrates in soils and drainage waters, are also specially interesting.

There are a few points which have appeared during our glance through the book which call for less favourable criticism; the mention of one shall suffice. So many important conclusions are drawn from the composition of ordinary field soils, which have been cropped or manured for a series of years in various definite ways, that it is most important that a correct method of taking soil samples should be followed: the method described by Dehérain on p. 360, and adopted by him in his own numerous investigations is, however, deficient in accuracy. For the purpose of the investigations in question, it is essential that the samples of soil taken from the same field at various times, or from fields variously treated, should be exactly similar, and thus admit of comparison. To this end, the sample taken must always be of the same shape (or differ only in area), and of the same depth, and represent as nearly as possible the same weight of dry soil per acre. In this important work French investigators are content to employ a spade: the depth and shape of the sample thus depend solely upon the manipulation of the operator, and the weight of the sample becomes of no value as a basis of calculation. The results obtained by this method of work are frequently extraordinary.

In the introduction to his book Dehérain remarks with pleasure on the great strides which the teaching of agriculture has made in his country since the publication of his first lectures, and on the far more appreciative audience he is now able to address. In France the teaching of agriculture is undertaken by a Department of the State, and much has been done to educate the farmer. In England we are only beginning to realise the importance of this educational work, and the efforts of county councils in this behalf have received, at best, a cold welcome. Such work has, however, become imperative for the welfare of our country, for, in the words of Dehérain, "*L'agriculture cesse d'être purement empirique, elle devient une science.*"

REVISION DER ARTEN VON TROLLIUS. By Dr. Ruth. Berlin, 1891.

This is a much needed revision of the genus *Trollius* now becoming so popular, and one that will be of no small value to all lovers of hardy flowers. The trouble one is exposed to in getting up a collection of the species, and varieties of this useful genus, is at present very great, owing in the first place to a complicated synonymy, and secondly to the still worse evil of receiving plants under obviously wrong names. We are always glad to draw attention to small monographs of this description, that are always useful to the grower, and if followed as we believe they invariably are, save a vast deal of time and bad temper, both important items. The monograph begins with species 1, *T. europæus*, L., of which the following synonymy is given: *T. altissimus*, Crantz., *T. connivens*, Moench., *T. globosus*, Gilib., *T. montanus* and *T. sphaericus*, Salisb.

The varieties are:—1, *T. humilis*, Crantz., syn. *minimus*, Wender. 2, *T. napellifolius*, Reep., syn. *acutifolius*, Miell.; *tauricus* Hort. Berlin. 3, *T. tomentosus*, Rehb., a variety with truncate petals; and 4, *T. viridis*, Mill., with the outside of the sepals green; syn. *chloranthus*, Haussn.

Sp. 2, *T. asiaticus*, L., syn. *sertiflorus*, Salisb., *Bot. Mag.*, vii., t. 235. Var. 1, *T. stenopetalus*, Ruth., 11 to 15 sepals, orange, petals linear; Siberian Alps. 2, *T. parviflorus*, Regel, a dwarf form with small flowers and oblong spatulate petals.

Sp. 3, *T. tschunganicus*, Regel, Turkestan.

Sp. 4, *T. altaicus*, C. A. Mey. Turkestan, Songaria, Altai Mountains; syn. *T. caucasicus*, Ledeb. (non Stev.); styles short, purple, incurved at the apex.

Sp. 5, *T. Ledebourii*, Rehb.; syn. *T. davuricus*, Ledeb. Siberia, Dahuria, &c.; sepals five, yellow. Var. 1 *parviflorus*, flowers very small.

Sp. 6, *T. chinensis*, Burge.; syn. *T. macropetalus*, Fr. Schmidt; *T. asiaticus* var. *affinis* Regel, 1861; *T. japonicus*, Miq., China. Var. 1, *pentasepalus*, Huth.; flowers on long peduncles, sepals 5, orbicular, orange-yellow; Amur.

Sp. 7, *T. patulus*, Salisb., Trans. Linn. Soc. viii., 303; apparently a variable species, including as synonyms or slight forms *T. dahuricus* and *T. americanus*, Turcz.; Europe, Asia, Siberia. Var. 1, *T. caucasicus*, Stev., syn. *T. Somcheticus*, K. Koch. There are two forms of this variety *pedunculatus*, with large flowers and no involucre, and *involucratum* flowers small with involucre. Var. 2, *T. Riederianus*, F. & M., from the Caucasus. Of this there are also two forms, *pedunculatus* and *involucratum*. Var. 3, *T. sibiricus*, Huth.; syn. *T. americanus*, Ledeb.; *T. ochotensis*, Thl.

Sp. 8, *T. pumilus*, Don; Himalayas, 4000 to 6000 feet elevation. Var. 1, *T. yunnanensis*, Franch.; Yunnan.

Sp. 9, *T. americanus*, Muhlen & Gaisn.; *Bot. Mag.*, t. 1938; syn. *T. laxus*, Salisb.; *T. americanus*, Hook.; *Gaissenia verna*, Rafn.; *T. pentapetalus*, Barks.; *T. decapetalus*, Bosc.; and *T. patulus*, Torr. & Gray; North America, Siberia. Var. 1, *T. tenuistylus*, Regel & Thl., of which there are two varieties, *pentasepalus* and *plurisepalus*. Var. 2, *brevistylus*, Rgl. & Thl.

Sp. 10, *T. acutalis*, Lindl., *Bot. Reg.*, 1843, t. 32; a charming dwarf species from the Himalayas, with large orange-yellow flowers; it is near *T. americanus*, but in the latter the ovaries are shorter and truncate.

Sp. 11, *T. lilacinus*, Burge.; syn. *Hegemone lilacina*, Burge.; lilac-tinted; Altai Mountains, Songaria, &c.

Sp. 12, *T. palmatus*, Bailloo; Himalayas; syn. *calathodes palmata*, Hook. and Thoms.

Nos. 1, 2, 3, 4, 5, 7, 9, and 10 are in cultivation with several varieties of the first, second, and seventh species. The name *Fortunei*, known so well in gardens is not mentioned in the monograph, and is probably identical with the variety of *T. asiaticus* named *stenopetalus*, in which the flowers are large, bright orange, with 11 to 15 sepals, which would give the flowers a semi-double appearance. *T. chinensis*, *T. pumilus*, *T. lilacinus*, and *T. palmatus* we have not seen alive, but if one may judge from specimens and descriptions, they are well worth an effort to secure. *D. D.*

FOREIGN CORRESPONDENCE.

BELGIUM.

ORCHIDS AT THE BRUSSELS ORCHIDÉENÉ.

The principal awards were won by MM. Georges Warocqué and MM. Barbier et Cie. M. Warocqué showed a hundred large and fine examples of *Cattleya Mossiae* and *Mendeli*, also some remarkable *C. Lawrenceana* and *Skinneri*, and some excellent *Lælia purpurata*. The 150 *Odontoglossum* from the same orchidist also won a prize, they were chiefly *O. crispum* and *Pescatorei*, but the flowers were well formed and variously spotted and speckled, the *Pescatorei* with purple. *Lindeni* and *maculatum* were most beautiful, and are still rare; we should mention a *crispum* with a very large creamy-white flower, Ruckeri sulphurum with a yellow ground, and a fine *O. triumphans*. The third prize was awarded to MM. Barbier et Cie. for a fine show of *Odontoglossum crispum* and *Pescatorei*. M. van Lansberghe also showed some excellent Orchids, which won him a prize. We noticed a fine variety of *Odontoglossum Halli*, *Cattleya Mossiae* with thirteen blooms, *Epidendrum Wallisi*, *Dendrobium chrysotoxum* with six clusters of bloom, a charming *Sophranitis grandiflora roseum*, a white *Cattleya Mendeli*, *Vanda tricolor*, a good variety of *Oncidium scarodes*, an interesting *Warszewiczii* discolor, and a dark *Oncidium cucullatum*. M. le notaire Moens gained a prize for a mixed lot of Orchids,

among which were *Cypripedium nitens*, two plants of *Dendrobium thyrsiflorum* with fine spikes of bloom, *Dendrobium chrysotoxum*, a good *Cattleya amethystoglossa*, and various *Cypripediums*, such as *canthium*, *villosum*, *albo-marginatum*, with lip daintily bordered with white, *caudatum* with many good flowers, and *Boxalli*. In the collection sent by M. Alfred Van Imechoot were almost the same *Orchids* as those shown at the Exposition of Mont S. Amand; we must specify *Dendrobium thyrsiflorum* giganteum with pink flowers, and *Anguloa* Ruckeri. M. Wincoz sent some good plants, notably a fine *Anguloa* Ruckeri, *Masdevallia* Van Houtteana covered with bloom, and *Cypripedium villosum* barbatum Warneri.

M. Florens Paulus exhibited, among many fine plants, *Cattleya* Warneri, a curious *Oncidium* Laocceanum, a charming *Vanda tricolor* and some good *Cypripediums* *Danthieri*, *barbatum* nigrum and *Druryi*. M. le Dr. van Cauvelaert also sent some excellent plants; M. Vuylsteke, of *Odontoglossum* fame, showed some worthy of him, *O. nobile*, *niveum*, *triumphans* with an effective yellow ground, and also *hyatrix*; with *Cypripedium* *Miteusanum*, very deep in colour and figured in *Lindenia*; *Odontoglossums* *Halli* and *cuspidatum* were sent from M. Miteau. M. Schmitz sent several good *Orchids*, notably *Odontoglossum* *nebulosum*, spotted all over with fine pink dots. M. Stepmann showed specimens of *Cattleyas* *Mossii* and *Mendeli*.

The Society called L'Horticulture Internationale waited until the exhibition of the *Orchidéens* to organise a grand display in their houses. There was quite an avalanche of *Odontoglossums*, *crispum*, *Pescatorei*, *triumphans*, *sceptrum*, *Harryanum*, *Ruckeri*, &c.; in another house *Cattleyas* *Mossii* and *Mendeli*, or again *Masdevallia ignea*, *Lindeni*, *Veitchi*, *Harryana*, &c.; or mixed *Orchids*, *Odontoglossum*, *Oncidium*, *Miltonia*, in choice varieties; other houses were full of *Cattleyas* or *Dendrobium densiflorum* and *thyrsiflorum*, *Angraecum sesquipedale*, *Lælia purpurata*, &c. Never have we seen a finer collection. Among all these fine plants some must be particularised; a grand *Dendrobium bicoloratum* well-bloomed, excellent *Cattleya intermedia*, *Phaius grandifolius*, *Oncidium Cervantesii* roseum, an unusually deep rose; *Odontoglossums* *Pescatorei*, *maculatum*, and *Lindeni* with large purple spots; *Oncidium monachium*, fine *Odontoglossum* *Eldorado*, *O. triumphans* *chrysanthum*, *O. Lucienianum*, *Miltonia* *veixillaria* with large white lips and the other parts deep rose; *Dendrobium Gallicianum*, *Catasetum* *Kodiguanum*, *Dendrobium infundibulum*, *Epidendrum* *Randi*, with distinctive pink flowers and nearly black leaves; *Lælia elegans*, *Schlieriana*, *Stelzeriana* and other remarkable varieties; a new *Phalaenopsis* not yet known, but certain to be liked; *Oncidium Gravesianum*, sure to become general in collections; *O. insculptum*, and *Odontoglossum cirrosum*, a large, well-marked flower. L'Horticulture Internationale has now some important consignments of *Cattleya Alexandra*, *C. Victoria* *Regina*, and *Oncidium Gravesianum*. We would also draw the attention of lovers of the picturesque to the rock garden at the end of the large hall: two large mirrors reflected the ornamental plants around it; the niches were planted with *Cattleyas* *Mossii* and *Mendeli*, *Lælia purpurata*, *Anthurium Scherzerianum*, &c., and a fine *Angraecum sesquipedale* sprang from the rock. The ground at the base of the rocks was carpeted with *Lycopods* and *Selaginellas*, whence rose fine exotics played upon by a fountain which shed a fine spray over both rocks and plants.

M. PEETER'S NURSERY.

We could not hope to enumerate all the species and varieties of *Odontoglossum*, *Oncidium*, *Cattleya*, &c., actually in bloom here, but can only mention a few of the rarer *Orchids*:—*Cypripedium bellatulum*, with seven fine flowers; the rare *Cattleya intermedia alba*; an excellent *Odontoglossum* *Halli*, with large dark blooms spotted with blackish-brown, lip spreading, and much spotted—certainly the finest

variety that there is; *O. Halli leucoglossum*, not less beautiful, with large and fine dark flowers and large white lip; *O. sceptrum*, flower large, lip enormous, compared with the size of the flower; *O. Andersoni*, *O. Ruckeri*, and three pretty varieties of *O. Wilckeanum*, one pale, the second with dark brown blotches, the third spotted with reddish-brown. One *Orchid* which rarely flowers with us, *Cyrtopodium punctatum*, *Lal.* (syn. *spectabilissimum*), from Brazil and the East Indies, is now in full bloom; it is a most effective plant, with long leaves, the panicle large, flowers yellow, spotted with red; sepals much undulating, lip lightly bordered with purple on the two lateral lobes. The special features of this *Orchid* are the large bracts, the colour of the flowers, which come from the base of each pedicel, and are extremely beautiful.

BOTANIC GARDEN.

Among the numerous species and varieties now blooming, we noticed *Epidendrum inervum*, sometimes called *fragrans*, with a fine spike like that of certain *Hyacinths*, and a delicate perfume; *Anguloa* *Ruckeri*, unusually dark in colour; and *Mitotia flavescens*, *Lal.* (*Stellata*, *Lal.*), from Brazil, well-bloomed, with three spikes, each bearing about fifteen blooms. *Ch. de Bosschere*.

SOUTH CALIFORNIA.

From the private correspondence of a young emigrant in Santa Paulo, we are permitted to make the following extracts, which, we think, will interest our readers:—

"April 17, 1892.—I have been busy picking over seed, and 'acme' harrowing, and clod-mashing to get the land in fix; the weeds here are an awful bother to keep down; indeed, the 'Morning Glory,' a *Convolvulus*, is a perfect plague—the land on which it is known to be growing is depreciated to half the value. *Malva* (Marsh Mallow) and *Mustard* are also a great nuisance; the latter grows 9 and 10 feet. A few weeks ago I hoed out the *biranco* (watercourse), the banks of which are 30 feet high in places, and a quarter of a mile long; it took me four days, and was about the stiffest job I ever did. It was to be set out in Blue Gums. Blue Gum is the common name for *Eucalyptus*; it is the quickest-growing tree I ever saw or heard of. Those behind our house are only four years old, and yet some of them are 8 inches through at the bottom, and over 40 feet high.

"Our neighbours have got 6 acres set 4 feet apart, so you can imagine they make quite a dense wood; when they are twelve years old, they will be worth 1200 dols. per acre as they stand, for fire-wood. They are grown in soil which cannot be used for crops, and are also used as windbreaks for orchards; indeed, they are an important factor in California, where there are very few trees except evergreen Oaks and *Sycamores*. . . . All the work up at the ranch is finished; at least, that is, the crops—corn and Barley—are in, but there will be plenty of brush-clearing. When the sap is dried out, it can be burnt as it stands in the summer, though brush-firing is rather dangerous work; only last summer there was a fire on the mountains opposite us. It burnt for several days, and ran for thirty miles; they could read small print at night, and feel its heat on this side of the valley.

"We have been having plenty of Oranges lately; the first crop is just coming on. They are not much cheaper than in England—I dol. per 100, and in my mind, not half so good as Mediterranean Oranges—much thicker-skinned. Other fruits are cheap enough. Grapes, Peaches, and Apricots are a cent ($\frac{3}{4}$), per lb. All the Vines about here are trained like shrubs. I may as well give you a list of the fruits that grow here:—Oranges, Lemons, Citrons, Peaches, Apricots, Pears, Almonds, Walnuts, Grapes, Prunes, Olives, Pomegranates, Figs, Melons, Nectarines, Apples, so there are plenty to suit every taste. . . . There is a great bowl of Roses in front of me; it would be early for them in England, but here we have had them for the last month or more. . . . We are having splendid weather, and the glass has not been more than 90° in the shade. . . . C. W. H."

HOME CORRESPONDENCE.

THE WEATHER AND THE FRUIT CROPS.—It is to be hoped that the cold weather of last April, as well as that of the month of May, may not prove quite so disastrous to fruit crops, more particularly to that of the Apple, as some writers upon the subject would appear to predict. Apple trees, judging from those which came under my observation, were very much later than usual in coming into bloom, which is likely to be an advantage in the securing of a crop of fruit. I have particularly noticed the case of two healthy young Apple trees near to where I now write, which hardly ever fail to furnish an abundant crop of fine fruit, the sorts are what are known as the "New Hawthornden" and "Frogmore Prolific;" both are large-flowering varieties, and when in bloom very ornamental. During the spring of 1891 both trees were in full flower as early as May 1, while during the present season scarcely a bloom expanded before the middle of this month, and they are now (May 18) in full flower and leaf. In 1891 the trees were in full bloom before a leaf had unfolded, while during the present season the reverse is the case, so that the abnormally warm and fine weather which was experienced during the early portion of April appears to have had the effect of hastening the unfolding the foliage without, however, in any degree exciting the flower-buds to move, so that it may be hoped that the safety of the latter is secured, as it is hardly likely the weather we may now have will be such as to cause injury to the blooms or fruits. It appears to be the case that in nearly all parts of the country the weather during the early part of last month was unusually warm and fine, the maximum temperature in the shade being in many instances as high as 80°, although the wind being mostly from north-east, the nights were comparatively cool. Still, the abnormally high day temperature, with bright sunshine, without doubt unduly excited the development of various kinds of fruit trees and bushes, and the severe cold which so suddenly succeeded this spell of warm weather, must have given a check to vegetation in general, which must have been more or less injurious. Snow fell heavily here on the 13th ult., and the temperature during the night fell to 21°, or 11 degrees of frost. It may possibly be interesting to know if other readers of the *Gardeners' Chronicle*, in other parts of the country, have observed a similar development of foliage in advance of bloom in the case of Apple-trees to that I have alluded to. P. G., Bury St. Edmunds.

BERBERIS DARWINII AND B. STENOPHYLLA.—

These have been glorious lately, with their rich, warm, orange-yellow flowers, and excepting *Rhododendrons* [and *Ghent Azaleas*] there are no shrubs that rival them at this season, the first-mentioned being the deeper-coloured of the two, but both equally desirable and beautiful, as they are quite distinct in their habit. *B. Darwinii* forms an erect-growing bush, and is only partially drooping, the leaves very shiny or polished; while *B. stenophylla* is quite pendulous in habit, and the foliage of a dull green colour. Every shoot and twig is crowded with blooms, and for covering banks, mounds, rockwork, or other raised positions, the *Berberis* is well adapted; and when so placed, it is one of the most effective plants that can be chosen for such purposes. *B. Darwinii* is likewise telling in similar situations, or in the foreground of borders of evergreens; but it is not quite hardy, and in severe winters or cold springs it is apt to get injured. Like all species of *Berberis*, these two are not easy to transplant, unless they have been kept moved every year, as they form but few fibres; the best season for transplanting them is early in April, or the latter part of September, the first-mentioned being preferable, as they start off at once, but they must at no time be kept long out of the ground. Propagation may easily be effected by layering, as they root readily in a year if the part of the bark buried in the soil is scraped for an inch or so, or abraded, as that induces callus to form, which is Nature's first effort in healing a wound. J. Sheppard.

PRUNED DENDROBIUM NOBILE.—In reference to the exhibition at the Temple Gardens of specimens of *Dendrobium nobile*, which have undergone a vigorous pruning of the pseudobulbs for several years, it may be of interest to some of your readers to know that, if I judge rightly, finer examples of cultural skill than even those described by "Pomm" (p. 652) are to be met with under what some are

pleased to term "antiquated" methods of culture. Ten years ago there were, in the gardens of Earl Fitzwilliam, at Wentworth Woodhouse, Rotherham, some of the finest potfuls of this Orchid I had ever seen, and although I cannot remember exactly their proportions, which means simply a massing of the plants, yet I have a vivid recollection of the wealth of flowers they produced annually, which numbered on each potful from 300 to 700, and the length of some of the pseudobulbs was quite 4 feet, and some of these produced as many as thirty blooms each. I may also add that no aerial roots manifested themselves upon the growth. This unsightly appearance I have no hesitation in saying is entirely due to badly-ripened growths and too much atmospheric moisture during the earlier stages of the flower-bud's development. If the plants referred to are still at Wentworth, and have continued in the same healthy condition that they were ten years ago, they will now be of huge dimensions, and witnesses of the prudence of leaving the pseudobulbs on the plants till they show signs of decaying. If the present head gardener at Wentworth should see these lines, perhaps he will favour the readers of the *Gardeners' Chronicle* with a description of the present condition and size of these plants, which would enable us to make a comparison with the others, and so see the results obtained from both methods of culture. R. C. H.

CLEMATIS FROM SEED.—Packets of Clematis seed may henceforth become an announcement in seed catalogues, judging from a batch of plants from seed now blooming in Messrs. Pope & Son's nurseries, Middleton, near Birmingham. Some plants were noticed seeding two years or so since, and, when ripe, the seed was gathered and sown, and both double and single-flowered varieties are now in bloom, some of them being of much merit. In one of the houses is a batch of plants. W. D.

STEAM-HEATING IN HORTICULTURE.—Heating by steam-power has, as yet, not been much used in England, but in the United States of America it is more common, and, being desirous of testing its efficacy as a means of heating greenhouses, Messrs. Pope & Sons had a steam boiler and pipes placed in their new nursery at Middleton, near Birmingham, two years' since, so that the system has had a fair trial. Previously, the usual hot-water apparatus had been put in for heating the large block of glass, but the steam boiler was placed as an accessory in very severe weather, and also to see what could be done by steam-heat alone. The boiler for generating steam is an upright cylinder, 8 feet high, and 4 feet in diameter, and equal to generating 6 horse-power. From the top, the steam passes through a 4-inch flow-pipe to some three or four of the houses, where additional pipes are placed purposely for steam, and there is no fear of any explosion in the houses or injury from an escape, as an admirably constructed steam-trap is in use in connection with each house. This boiler for steam purposes is unquestionably a source of very great economy in fuel, as any kinds of waste, slack, cinders, &c., can be used, burning away with rapidity, and steam is very soon got up, and in a few minutes the pipes are hot and throwing out a genial heat. I saw the apparatus in action in the winter of 1890 and 1891, and I had an impression that a dry and somewhat scorching heat would be given off, and not be very suitable to plant life. I was soon undeceived, for the temperature of the houses was all that could be wished, and plants were doing well. Roses in pots are grown very extensively here, and a long house is now filled with Tea Roses, *Maréchal Niel*, and others, and is in charge of one of Messrs. William Paul & Son's old Rose-men, so from such a school he knows something about Rose-growing under glass. He also was prejudiced against steam-heating at first, but he is not now. Every plant is in perfect health, not a speck of mildew or spot to be seen, and he attributes this to the dry atmosphere he is able to command at nights; and, although no heat is wanted now in the daytime, he has a little steam-heat turned on in the evening, the boiler being set going purposely to dry the atmosphere for the night. In a conversation with him, he attributed the success to this fact, and the use of sulphur on the pipes. There is, however, one drawback to the use of steam in small gardens: the boiler requires some one to be in constant attendance, but almost any sort of rubbish can be burned, and, as I before stated, the coal-bill has been reduced from 60 to 70 per cent. But in large establishments it becomes a question whether the cost of keeping a man in attendance at night for five or six months is not

desirable when so great a saving in the cost of fuel is achieved, and heat so speedily generated. A person, who need not be named, but who has a great experience of market-growing, assured me that, so satisfied was he of the benefits of steam-heating, that some day he hoped to employ steam-power extensively. Some of your correspondents may be able to furnish their experiences, and so get the question to the front before next winter. W. D.

ASPARAGUS.—What may be called a hint to decorators was observed on a call at historic Holland House, Kensington, the other day. Mr. C. Dixon, the gardener there, had a lot of the common Asparagus in large 60's; seed had been sown in these sized pots, which presented little pictures of graceful, elegant, grass-like foliage, working in well with other plants in this stage for house decoration, fire-places, and similar purposes. J. B.

WISTARIA SINENSIS, ETC.—A very pretty effect was observed on a recent visit at the residence of Sir John Fowler, Bart., the eminent engineer, Thornwood Lodge, Kensington, the front of the mansion being literally wreathed with this grand deciduous hardy climber, its beautiful racemes of lilac flowers being thrown into bold relief by the golden and silver varieties of Ivy climbing at each side of the house. In the same pretty suburban garden, which is so well managed by Mr. Frogbrook, I noticed a fine tree of the now seldom seen *Magnolia Gordoniana*, introduced from North America in 1750. Last year it bore 1300 flowers, and this year the tree gives promise of even beating that performance. It flowers from now to August. B.

ROCK PLANTS IN FLOWER.—In the *Gardeners' Chronicle* of last Saturday, in the Scottish news, I saw an account of a meeting of the Botanical Societies of Edinburgh and Glasgow, in which is an account of the rock garden during May, and 119 species and varieties of flowers are stated to have been in bloom. We have a rockery here, and during the month of May we have had 124 species and varieties in bloom. The most noticeable were *Gentiana verna*, *G. acaulis* (one clump about the size of two fists had nineteen flowers open at once), *Alyssum saxatile*, *Arnebia echioides*, *Saxifraga muscoides purpurea*, *S. hypnoides*, *S. Andrewii*, *S. Wallacei*, *S. granulata fl.-pl.*, *Iberis superba*, *Trillium grandiflorum*, *Silene virginica*, *Tiarella cordifolia*, *Aubrieta Leichtlini*, *Primula purpurea*, and *Cypripedium calceolatum*. We hope to have many more by next May. R. Hosier, *Swaylands, Penshurst, May 30*.

"NICOTINE FUMIGATOR."—Repeated trials of this material convince me that it is far preferable to tobacco-paper. The tender young leaves of Tea Roses, *Maidenhair Ferns*, &c., are not in the least injured by the smoke or fumes arising from it when burning, although they are fatal to green-fly. No vessel is necessary beyond an old flower-pot or two. Into these should be dropped a few pieces of coke from the furnace, and upon them the nicotine cakes, broken into pieces, have to be placed. Nothing can be more simple or effectual, and I am much indebted to Mr. George, of Putney, for drawing my attention to this excellent fumigating material, and for his practical suggestions as to the best method of using it. The "Nicotine Fumigator" should be used freely, for whatever fumigating material is employed, it is only by repeated fumigations that green-fly, thrips, &c., can be kept under. W. R., *Streatham Hill*.

LARCH FUNGUS.—A very serious case of Larch disease has occurred on the estate of a Mr. Alex. Wilson, of West End, about 2 miles from Hambleton, Hants, and 8 miles from Bishop's Waltham. Mr. Wilson has been a large planter of Larch for many years past. I went over last week, at his particular request, to see the effects of the disease, and to ascertain all about it. When we got to the first plantation of 12 acres, I was perfectly surprised to find the whole absolutely dead. A few had endeavoured to make a sickly growth from the main stem, but out of the 12 acres, there was not one healthy tree left. The plantation was made just thirteen years ago, and made good growth till the year before last, when the disease first appeared. Mr. Wilson immediately had all the trees, apparently diseased, cut down, and again last year, but since then the disease has progressed so rapidly, that not one healthy tree remains. It is quite sad to see the plantation, which presents an extraordinary appearance in walking up and down the open spaces or drives. The trees were planted 4 feet apart, and they average from 15 to 18 feet in height. Many only last season made a growth of 2 and 3 feet.

The ground is on a gentle slope from top to bottom, loamy, with a chalk subsoil. We then visited another plantation within a few yards, of eleven years' growth, which appeared healthy at a little distance; but on closer examination, it appeared very evident they were about to be attacked, although at present it would scarcely be noticed, as they are making a good growth. This plantation also contains 12 acres. We then visited another plantation of the same size which had been planted about seven years. The disease appeared very bad here, and the whole will doubtless be destroyed. Of course, Mr. Wilson is very anxious about the matter, and would like to know, if possible, the nature of the disease, and if there is any remedy for it. A very large quantity of Larch has of late years been planted in that part of Hampshire, and it will be a national calamity if the disease extends in such a rapid and extraordinary manner. I took several small branches and pieces of bark, which I have posted for your examination. You will see a number of brown spots and small white cups which are either the cause or the effect of the disease, as I imagine the disease is of a fungoid character, as it seems impossible to attribute it to any other cause. I could only recommend Mr. Wilson to cut down the dead plantation at once and burn the debris. Most of the trees would make good Hop-poles. Any advice you can offer I am sure will be greatly appreciated. Several Scotch and *Pinus anstracia* in the same plantation were not in the least affected. W. H. Rogers. [The too-well-known Larch disease, due to a fungus, *Peziza Wilkommii*, A paper embodying all that is known on the subject was lately published by Mr. John Carruthers in the *Journal of the Royal Agricultural Society, En.*]

GARDENERS' ORPHAN FUND AND GARDENERS' BENEVOLENT INSTITUTION.—Through the kindness of my employers, Mr. and Mrs. John Fielden, I am permitted to have the use of the gardens and grounds here, in which to hold a sort of *fête*, making a charge of say 1s. each for entrance, the whole proceeds to be divided between the above-named very excellent garden charities. The exact date is not yet fixed, but we propose to have it some time about the middle of August. Most, if not all, of the several Paxton and other gardeners' societies in the various Yorkshire towns have kindly promised to help in the matter, and so make it a representative gathering of Yorkshire horticulturists of all kinds, trade professionals, and amateurs. The well-known Paxton Society at Wakefield, through their secretary, Mr. Garnett, has shown much enthusiasm in the matter. While avoiding the usual paraphernalia of *fêtes*, it is thought that a cricket match between a home team and one representing, say, the rest of the horticulturists of Yorkshire, with a local brass band, would be of interest. We shall require, say, twenty guarantors of 10s. (not to be called on if the day is fine and visitors numerous), so as to ensure payment of preliminary expenses, which, I need scarcely add, will be kept to the lowest possible point. Our agent, E. Harrison, Esq., has kindly promised to act as treasurer, he will also captain the home cricket team, if possible. As honorary secretary, I shall communicate details to secretaries of all the various societies shortly. Meantime, offers of help and assistance in any shape will be gladly received. Henry J. Clayton, *Grimston Park Gardens, Tadcaster*.

TREES AND SHRUBS.

DECIDUOUS DAPHNES.

DAPHNE MEZEREM and its varieties are among the most welcome of early spring-flowering shrubs. In January and February, it may be seen pushing forth its flower-buds, ready to open when the sun's warmth increases. Both *D. Mezereum* and its rarer known variety, *D. M. alba*, make capital border shrubs if planted in clumps of three or four, or better still, in round beds on the grass about 10 feet across, putting the largest plant in the centre, and arranging the others around it according to size. These beds, when in flower, make a pretty picture, and fill the air for some distance around with their perfumes during the first months of the year. To make the best use of the ground, *Ruscus hypoglossum* may be planted between the *Daphnes* as a groundwork, and to set off the *Daphnes* to advantage; moreover, the *Ruscus* looks very pretty in itself when the *Daphnes*

are leafless. Both shrubs delight in a cool moist situation if the water be not stagnant, and the soil in which they thrive best is turfy loam, with a liberal addition of well-decayed leaf-mould. In mild winters, *D. Mezereum* may be found in bloom in the month of December, but its usual flowering time is February and March.

D. Mezereum alba is a pretty white form of the above, and usually a fortnight later than the type in coming into bloom. It flowers as freely as that, and is as delightfully fragrant. If planted together with the *Mezereum*, a fine display of bloom can be kept up for a long period of time, and that, too, when scarcely any other hardy shrub is to be found in flower.

D. M. grandiflora, the freest-flowering kind of the section, has of late come to the front, and it is a grand shrub, which is not peculiar as to position or soil. It flowers more or less from October till March, the colour of the blooms being a soft pink, and it is highly fragrant. It is a very desirable winter-flowering shrub for gardens of a limited extent, and where, if a *Daphne* is going to be planted, it should be *D. M. grandiflora*. In August, the *Daphnes* are covered with berries, which, in *D. alba*, are yellow, in the others red. There is a double form in cultivation, but it is not nearly so attractive as the single-flowered ones; still, in a collection of these shrubs, it should find a place. Very little difficulty is experienced in increasing the stock of these plants, which may be done by sowing seeds as soon as ripe in light soil, covering the seeds with finely-sifted soil, and, after watering the seed-pans, place them in a temperature of 55° to 60°, where they will germinate in a short time; whereas, if they are sown in the open ground, I have known them to be two years in germinating. In transplanting *Daphnes*, it should always be carried out soon after the fall of the leaf, as root-action commences with the approach of the new year. The double kind is grafted on the common *Mezereum*, and placed in close propagating cases early in spring. *H.*

THE SILVER LIME, *TILIA TOMENTOSA*.

The genus *Tilia* embraces some good subjects particularly valuable for the ornamentation of parks and gardens, and of these, *T. argentea* or *T. alba*, as sometimes named, is one of the most beautiful. It is indigenous to Hungary, European Turkey, and Asia Minor, and was introduced in 1767, and although it does not appear to have been employed to any extent by landscape gardeners, it might nevertheless have been used very effectively and advantageously in many positions where other less ornamental deciduous trees have been planted. It thrives well upon strong heavy soil that suits the Oak, and like most of its congeners makes rather rapid growth, withstanding the force of wind better than do many trees; and for this reason apart from its great beauty it is admirably adapted for isolated situations, or for placing prominently in the foreground of groups, or other ornamental plantations of trees. This species, while being symmetrical in habit of growth, unlike the common Lime, deviates from the pyramidal form, and forms a round-headed tree. [In this respect it differs from *T. americana* Alba, Ed.] The pendulous nature of the branches, however, is its most attractive feature, affording it a graceful appearance, especially when clothed with their beautiful foliage, which is somewhat glossy and dark green on the surface, and silvery beneath, and has not the falling so common to that of the generality of Limes of falling early. Its blossoms are larger, and also later in opening than those of *T. europæa*, and are moreover more freely produced, and much more fragrant. The largest specimen that I have seen is at this place, where it is grafted upon the common species, and is 62 feet in height. It stands upon a lawn, and when I first saw it, its bottom branches were cut back to about 5 feet from the turf; it is, however, allowed to grow uncut since then, and when Mr. Milner a short time before his death saw this tree, he was much struck with its beauty, and remarked that the species deserved to be more frequently met with than it is. *Thos. Coomber, The Hendre Gardens, Monmouth.*

CALOPHACA WOLOARICA.

This deciduous shrub has the misfortune of being old, otherwise its merits would not be so often ignored. It forms a very interesting plant when on its own roots, reaching a height of 3 feet, but when grafted on the *Laburnum* as a standard, its beauty is greatly enhanced. It succeeds admirably in any garden soil, and is not at all particular as to situation. The flowers are Pan-shaped, of a bright yellow colour, and borne in axillary pedunculate racemes, the number ranging from six to a dozen flowers. Season of flowering, June and July. The leaves are alternate, pinnate, with a spine-like termination, and a pair of lanceolate stipules at the base. The seed-pods are of a lively red colour, and highly ornamental, oblong in shape, and stalkless. It is a native of Siberia, and was introduced into England more than a century ago. *W. H. Aggett, Oakdene, Guildford.*

GARDENING NOTES.

IN reference to your editorial extracts on *M. Mer's* paper some time ago, on the "rise of growth in trees," I had intended, in my former article on this subject, to add a few words on a question which is constantly cropping up in these pages, but which has also a very direct bearing on the subject-matter of those extracts, and one which is still very imperfectly understood, as no unanimity of opinion is held with regard to it, viz., the cutting back or pruning newly-planted fruit trees.

I have planted a great many fruit trees, and I have never yet neglected to cut them back, and hard back, too, if the planting has been from unavoidable circumstances delayed long beyond the proper time, and I have always had excellent results—results which, of course, I had previously anticipated—a good vigorous growth of young wood, and, consequently, corresponding root-action. Now, by many writers of the present day we are told to leave our trees severely alone for the first year at least, in order, as they say, to encourage a more active and greater root-action, through having a greater number of shoots and buds to maintain.

This is theory, but does this work out in practice? Do we find this greater root-action take place? I think not. What does take place usually with nursery fruit trees, say, two or three years old, when planted and left alone for the first year, is this—it starts, as we naturally expect, much more feebly into growth than if it had never been removed; the buds endeavour to break along the shoots, but at a much later date than usual; the buds at the apex of the branches, e.g., those which have not already formed a flower-bud, make but very poor growth, much of it not exceeding 3 inches, and it is no uncommon thing for these small top shoots to have a small flower bud set on end of each, brought about, it may be, by a dry summer, but chiefly, as might be expected, by the inability of the roots to supply sufficient nourishment for more perfect growth.

The buds breaking along the previous year's wood cannot, through lack of nourishment from roots not yet in action, break, as many would otherwise do, into, at least, small shoots; but are therefore compelled, as it were, merely to exist, and draw their nourishment from the shoots and branches, in the shape of reserve forces stored up in their tissues, which is only sufficient to enable these buds to build up therewith a fruit or flower bud, and in many cases this happens along the entire length of the previous year's wood, so that it is quite common to see such a tree, having been left alone the first year, smothered in flower buds, and bearing a heavy crop the next. But, I ask, at what expense is such a crop borne? By affecting the whole after-life of the tree, I may answer, and I do not think I should be far wrong. The effect of this treatment on a young tree is debilitating in the extreme.

It is doubtless a very gratifying sight to amateurs, to see their trees bearing at so early a stage of their existence, but to those acquainted with its after effects, it is one which they would not care to court.

By planting a fruit tree, and leaving it alone for

twelve months, we miss the opportunity—which really never occurs again—to shape it from the start by cutting back, or rather, pruning it judiciously, more or less, according to the variety and time of planting; but, as before said, the formation of so many flower buds on the branches, drains them of the elaborated juices, and induce thereby a state of debility and emaciation from which it rarely or ever recovers.

We have only to examine such trees to observe the difference in colour of the bark, as well as its texture, and those of the same age and variety which have not been disturbed to find this most marked indeed. In the former, the bark has completely changed colour; instead of the deep, glossy, olive-brown, and showing, in the case of Apples, that peculiar downiness around the buds, and the bright characteristic markings on the young shoots of the several varieties, it becomes of a dull tawny colour, resembling a mixture of Hazel and Saffron. The down and gloss are gone, the texture of the bark is now harder and drier, as well as much thinner, and the whole tree now assumes that appearance known amongst gardeners as "hide" or "barkbound."

When these trees come to be pruned, what do we find? Why, that almost the whole of the wood-buds, through the want of proper root nourishment, have been formed into flower-buds, and the advocates of the system neglect to tell us to which of these we are to cut to in the following autumn.

The natural consequence is, that when these trees are pruned back, having no wood-bud to cut to, the trees stand stock till, so to speak, for years, and rarely make the trees they otherwise would have done. Besides, and owing to this fact, we can never get such trees into proper shape, for it must be admitted that many nursery trees have very far from that ideal form which we wish to have them.

This does not arise so much from lack of attention in their initial stages of pruning and training, as to their having to stand in the nursery rows for two or three years; but pruned at time of planting, they can in a season or two be made into very shapable plants.

Alluding again to *M. Mer's* theory that growth first starts at the extremities of the branches, and then passing downwards through the central portion of the head and stem, and lastly taking place from ten to fifteen days later in the roots, and allowing that this theory is correct, it almost follows that as the roots, even in the case of established trees, do not furnish the resources of this earliest growth, therefore the stored-up forces, or unappropriated food in the branches must be largely drawn upon for its sustenance, and it is; how much more so must this be the case in a tree, the roots of which have undergone the mutilation by tools, &c., inseparable from lifting?

Although not believing in all the theories advanced by *M. Mer*, we are supplied with ocular demonstration that top-growth really takes place first; and the advocates of the "let-alone" system say that the more shoots left, quicker and more vigorous root action supervenes; but if this is so, have we not a right to look for a corresponding top-growth, if not the first year after planting at least the second? But we do not get this, and for the reasons I have already stated.

There can be no vigorous root action unless we get young wood of the current season's growth covered with broad healthy foliage. That very little of this is made by trees planted and left alone for a year goes without saying. I have, therefore, no hesitation in condemning this "let-alone" system, as one altogether wrong in principle, and resulting in much waste of time, injury, and energy.

It will thus be naturally inferred, that as I condemn the above system, I must be a convert to the cutting-back principle, and which I am not ashamed to own to, and for the benefit of those who have not yet adopted it, or who may never have heard the chief reasons advanced against it, I will here briefly state.

As it is wholly impossible to buy nursery trees which have not suffered more or less in the lifting, by mutilation, by tools, and also the drying influence

of winds, &c., it behoves us to do everything in our power that may assist the tree in recuperating in the shortest period of time.

The knowledge, too, that top-growth takes place a fortnight before the roots start, is of the utmost advantage here, for by reducing the branches to one half or more in length, we not only save considerable of the plant's inherent forces from being drawn upon by the buds we cut away, but by thus giving fewer outlets for growth, we get this the first season after planting, of fair average size, and, moreover, have had the satisfaction—and no inconsiderable one, where we want to get our trees, especially dwarfs, into a fair average size before bearing—of shaping our trees from the start.

The principle of cutting back trees at time of planting is based upon the idea that, having cut off the supply by unavoidable breakage and damage to the roots, we must also reduce the outlets—branches.

If it could be proved that the roots first start into growth, those left in the case of a transplanted tree would then have a better chance of supplying the whole of the branches when left intact; but even then, why should we miss a season's pruning at a stage of its existence so amenable to the knife? and especially, seeing that it is next to impossible to get trees to break on the let-alone system.

The advocates of the latter say, that if you cut trees, you simply get a mass of lateral growth which have to be spurred back, and which in turn form more laterals, giving in time a regular broom-top to the trees. But this can be very easily guarded against, by leaving your trees unpruned whenever you have got them to a size suitable for bearing. This will have the effect of throwing the wood-buds on the previous year's growth into fruit-buds, and if the terminal buds break, but short growth will be made, which will nearly always finish up by forming a terminal flower-bud, and thus check to a great extent any further extension of lateral growth.

That the art of pruning is but indifferently understood by amateurs is patent to anyone going about in the country districts; and the advice tendered them, to leave their trees alone for the first year, and then cut them down or prune next autumn, is certainly more likely to complicate matters than mend them—in short, it is wrong, being based upon theories which do not work out in practice. *Pomum.*

SOCIETIES.

INTERNATIONAL HORTICULTURAL EXHIBITION.

MAY 27, 28.—The exhibition of plants, fruits, and vegetables held at Earl's Court had many features of interest to horticulturists and the general public alike. Flowering plants of certain kinds were abundant, Orchids and hardy cut blooms taking the foremost places. Specimen hard-wooded flowering plants were exhibited in considerable numbers, and of more than ordinary merit; and especially good were Roses, Carnation Souvenir de la Malmaison, and Calceolarias; and the show of Palms was one of the best that we have had in London for many years. Foliage plants other than Palms were fairly good specimens of cultivation, but Crotons are better done in the North, as are hardy Ferns, neither of which were present from that part of the country. Fruit, owing to the early date of the show, was necessarily restricted in quantity, and of little variety. Melons, Strawberries, Figs, and imported fruits being amongst the best shown. For the same reasons the exhibits of vegetables were not numerous.

Among the plants of which we had hoped to see many, but were disappointed, are Bromeliads, the Rhododendrons of Sikkim, tender and hardy Conifers, and choice evergreen and deciduous shrubs, the finer leaf Begonias and Nepenthes.

NEW PLANTS.

The most interesting feature of the show to plant-lovers was the display made in the various classes for "new plants" and plants not introduced into commerce. The main competition was between the "Horticulture Internationale (Linden) of Brussels," and Messrs. Sander, of St. Albans. The plants

exhibited by M. Linden were the same as those shown at the Temple, and described in our last issue, p. 696. On this occasion they were not so crowded, and showed to better advantage, though the fact that this was their second and not their first appearance told against them.

The twelve new plants of any description shown by Messrs. Sander included *Dracaena Sanderiana*, *Oreopanax Sanderianum*, *Maranta Mooreana*, *Leopoldina Laucheania*, *Cocos Pynaerti*, *Nidularium Makoyanum*, *Anthurium hybridum albanense*, *Acer Gordoni*, *Alcacia nobilis*, the variegated *Pteris* before mentioned, *Pandanus Dyerianus*, and *Cyclanthus Godseffianus*. For six new plants in addition to some already mentioned in other classes, the St. Albans firm exhibited *Nidularium striatum*, *Phoenix Roebelinii* (see fig. 105), *Anthurium roseiflorum*, and *Alcacia Rex*.

Three distinct Orchids introduced into commerce within the last three years. Here Messrs. Sander showed *Dendrobium Phalaenopsis*, var. *Dellensis*, *Grammatophyllum Measuresianum*, and *Cattleya hybrida Arnoldiana*, a hybrid raised at St. Albans. In the class for a new Orchid in flower (Class 21), Messrs. Sander showed *Miltunia Bleui* splendissima.

In class 54 a first-class certificate was awarded to Messrs. Sander for *Anthurium Lawrenzia*, a hybrid with an Ivory-white spathe, blade of leaf a dark green colour, 1 foot long, 6 inches wide. This plant



FIG. 105.—*PHOENIX ROEBELINII*.
(See New Plants, in this Column.)

also formed part of a group of three plants shown for the first time in or out of flower, the two others being *Dracaena Sanderiana* (hort. Sander) and *Maranta Sanderiana* (hort. Sander). The *Dracaena* has stalked sheathing leaves, with narrow lanceolate blades of a green colour, striped with white, and with a glaucous bloom over the whole surface. It will make a good plant for table decoration.

Maranta Sanderiana (hort. Sander) has broad, oblong, obtuse leaves of a deep bronze varnished colour, marked on the upper surface with oblique parallel cream-coloured or pink lines.

In class 56 one new plant not in flower, Messrs. Sander secured a prize for *Vriesia tessellata Sanderiana*, a dwarf compact-growing Bromeliad with broad oblong leaves of a green colour, with yellow bands of varying width running lengthwise, and numerous minute squarish tessellations marked out by deeper green boundary lines. A very beautiful variety.

Among other new, or comparatively new, plants were also shown blooming plants of *Cypripedium Chamberlainianum*, *Dipladenia Marie Henriette* (hort. Sander) shown in class 55 (one new plant in flower), a form with small leaves like those of a *Trachelospermum* and tubular flowers of a rich purple brown colour. It is a good form of *D. atropurpurea*; *Browallia speciosa major* is chiefly remarkable for the large size of its blue flowers, which are mostly terminal.

Alcacia argyrea, a form with long-stalked, bold, hastate leaves of a dark, bronzy green, flushed with silver.

Oreopanax Sanderianum is the plant mentioned by us some time since without a name, which is now supplied by Mr. Hemaley (see p. 718), where a full description will be found. For winter gardens and cool conservatories this will be found a very striking plant, while the peculiarity and variability of its thick, deep green foliage will always attract attention to it.

Cocos Pynaerti, which received a First-class Certificate, is a graceful little Palm, very much in the way of *Cocos Weddelliana*.

Pteris "phœnicophorum Harriis Victoria," a name meant not for use, but, as the French say, *pour rire*, is the beautiful Fern sent out by Mr. W. Bull. Its pinnately-cut fronds and narrow segments striped with silvery white, are very attractive.

Cyclanthus Godseffianus (hort. Sander) has noble leaves of a rich green colour, oblong, obovate, tapering to a sheathing stalk.

Pandanus Dyeri (hort. Sander) is an Australian (Queensland?) form, remarkable for its narrow bright green leaves, quite devoid of spines.

Calla Eliottiana, shown in class 55, is the yellow-stalked Aroid shown at the Temple.

Anthurium albanense (hort. Sander) is one of the hybrids from A. *Andreanum*, and with a deep red or crimson spathe.

Anthurium "Gloire de Gouville," shown in class 55 by Messrs. B. S. Williams & Son, is another of the same class, with pale pink spathes.

Leopoldina Laucheania, a Palm with arching pinnate foliage, hardly sufficiently developed to show its character.

Dracaena Coulingii has narrow stalked linear lanceolate leaves with alternating bands of white and green.

Neither the *Nepenthes* nor the *Sarracenia*s were adequately represented. *Sarracenia Flambeau*, a hybrid, was shown in bloom, and among the *Nepenthes* N. *Curtisi* (class 23) was remarkable for the thick covering of whitish or cream-coloured meal, by which its pitchers were covered.

ORCHIDS.

These plants were not by any means so numerous as at the Temple Show on the two previous days. Most of the trade collections there shown were present, but the private collections were conspicuous by their absence to a great extent.

In the competing classes Mr. Cypher, Queen's Road Nurseries, Cheltenham, was a good first, showing *Cypripedium caudatum*, with some thirty or more grand flowers, finely coloured; *Cattleya Mendelii*, C. *Mossie grandiflora*, and *Lælia purpurata*, all very good and fresh; *Dendrobium thysaniflorum*, some four feet through, and one mass of flower; D. *Bensonia*, *Miltunia vexillaria*, and *Cymbidium Lowianum*, in all an excellent dozen. Mr. James, Castle Nursery, Norwood, was 2nd, his best plants being a fine *Vanda suavis* and D. *nobile*.

In the class for amateurs for six plants there was no competition, although the prizes were liberal enough.

Messrs. Sander & Co. were the chief competitors in the classes for new Orchids, showing in the class for three distinct species (introduced within the past three years), *Dendrobium Phalaenopsis Dellensis* (one of the best forms), *Grammatophyllum Measuresianum* (with flowers profusely spotted upon a pale green ground), and *Lælia Arnoldiana* (L. *purpurata* × *Cattleya labiata*), having the rich colouring seen in the last-named parent, with some of the purplish lip of the former. Mr. Cypher, who was 2nd, showed *Cypripedium Chamberlainianum*, *Grammatophyllum Seegerianum* and *Dendrobium Phalaenopsis pallida*.

For one new Orchid in flower, Messrs. Sander & Co. were the only exhibitors, showing *Odontoglossum Bleui superbiusculum*, described in our report of the Temple Show. Entered in the same class by the same exhibitor were *Cypripedium nitidissimum*, distinct from (being paler), but not equal to C. *caudatum* at its best, *Oncidium Gravesianum vicians*, a superior form, and *Epidendrum Godseffianum* with buff flowers and a pale violet lip.

In the group classes wherein Orchids and fine-foliated plants were combined, the competition was not encouraging. In the Trade class one large group was disqualified for having flowering plants other than Orchids, but the 1st prize easily fell to Mr. Cypher without regard to this fact. He showed Orchids in profusion, consisting of *Odontoglossums*, *Cattleyas*, *Lælias*, *Dendrobiums*, and *Cymbidium*

Lowianum, all of these being effectively arranged with graceful foliage plants. Mr. James also secured in this instance the 2nd place, making a free use of *Cymbidium Lowianum*, but his foliage plants were characterised by too much heaviness.

In the corresponding class for amateurs, Mr. Currey, West End, Wilton Road, Salisbury, was placed 1st, having no antagonist. His group was well arranged, with a fairly large number of Orchids, *Cattleya Skinneri* being the most prominent species; well-coloured *Crotos* of small size added brightness to the whole.

There were several large groups of Orchids staged by nurserymen, but these were placed apart from the others near the West Brompton Entrance to the buildings, where the opening show was chiefly held. Messrs. Sander and Co. again staged a choice group of new and rare species; so also did Messrs. Hugh Low & Co. and Messrs. Charlesworth, Shuttleworth & Co. (of Bradford). To each of these groups a Gold Medal was awarded.

The immense specimens of *Dendrobium nobile*, shown at the Temple Show by Mr. Prinsep, gr. at Buxted Park, Sussex, were again exhibited here, still being in a very fresh state, received the award of a Silver Medal. (See fig. 104, p. 725.)

STOVE AND GREENHOUSE PLANTS.

These were shown in much better condition than at any previous exhibition this year in or near the metropolis, some of the specimens being quite equal to those that used to be seen in the palmy days of these subjects.

Mr. Cypher was a good 1st for twelve plants in the open class, having as his best some well-grown examples of *Darwinia tulipifera*, with fine flowers, *Erica Cavendishiana*, not over large, but a perfect specimen, and in profuse bloom; *Pimelea Hendersonii* and *P. spectabilis*, both in good order; *Erica ventricosa* Bothwelliana, the white variety, which was an excellent plant, as were two good distinct forms of *Anthurium Scherzerianum*, in very fresh condition.

Mr. Mould, nurseryman, Pewsey, Wilts, came in a good 2nd, having three plants superior to Mr. Cypher's, but the rest were below the average of the winning lot. This trio consisted of *Dracophyllum*, very fresh and fine, and fully 5 feet in diameter; *Phenacoma prolifera* Bainesii, in profuse flower, the specimen a dwarf one; and *Erica aristella*, a finely grown plant, not yet in its best condition; with these were two other good plants of *Tremandra verticillata*, very profusely flowered, and a half specimen plant of *Erica tricolor* Wilson, a variety which it is quite a treat to see nowadays.

Mr. Mould also showed a number of half specimen *Ericas*, chiefly of varieties of *E. ventricosa*, and to these a Silver Medal was awarded.

In the amateur's class, Mr. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugby, was an easy 1st with six plants which would well compare with the specimens of fifteen to twenty years ago, these were *Tremandra ericifolia*, a perfect specimen in every respect, some five feet in diameter and one mass of its rosy lilac flowers; and *Ixora Dixiana*, and *I. Williamsii*, were also fine examples of their class, being loaded with flower; *Statisia profusa* was quite a gem in its way, and exceedingly fresh, with numerous flowers of a deep shade of purplish blue; with these was another worthy companion plant in *Aphelaxis grandiflora*, which was both fresh, in good condition, and freely flowered; a very good example of *Anthurium Scherzerianum* completed this half-dozen, which fully sustained Mr. Chapman's reputation as an excellent plantsman. Mr. Finch, gr. to J. Marriott, Esq., Coventry, was 2nd, but he did not exhibit up to his usual standard; presumably it is yet too soon for him to display his strength. His best plants were *Azalea Mabel* and *Erica Cavendishiana*. The stove and greenhouse plants materially added to the effect produced by the large masses of Palms, *Crotos*, and other foliage plants that came from various exhibitors.

FOLIAGE PLANTS.

In the class for six *Crotos* (distinct), open only to amateurs, the 1st prize was obtained by a very fine collection of well-grown and coloured plants, about 5 feet high, and more than that in breadth. The varieties were *D'Israeli*, *Evansianus*, *Prince of Wales* (Silver Medal), *Warreni*, *Queen Victoria*, and *undulatus*, shown by Mr. A. Offer, gr. to Jno. Warren, Esq., Handcross Park, Crawley.

In the nurserymen's division, for ten *Crotos* (distinct), Messrs. E. D. Shuttleworth & Co., Limited, 250, Peckham Rye, S.E., were awarded the premier position. For eight fine foliage plants (distinct),

Mr. J. Cypher, Cheltenham, exhibited in his usual form, obtained 1st prize, with the following:—*Cycas circinalis*, *Kentia Fosteriana*, *Dasyllirion acrotrichum*, *Latania borbonica* (*Livistona chinensis*), *Kentia Belmoriana*, *Cordylus indivisa*, *Echeopalaros villosus*, and *Croton Sunset*.

Class 35 (amateurs), for six fine foliage plants (distinct).—Mr. A. Offer secured the premier award, for good healthy specimens of the following:—*Cycas circinalis*, *Croton angustifolius*, *Alocasia macrorrhiza variegata*, *Kentia Belmoriana*, and *Croton princeps*.

In the nurserymen's division for nine distinct Palms, Messrs. Wills & Segar, Royal Exotic Nursery, South Kensington, were an easy 1st; this exhibit, which was arranged in a very tasteful manner, was of excellent merit, and consisted of the following:—*Scaevola elegans*, *Kentia Belmoriana*, *K. Wendlandiana*, *Latania borbonica*, *Phoenix canariensis*, *Raphia humilis*, *Areca Baueri*, *Pritchardia pacifica*, and *Kentia Fosteriana*, all large, the latter being about 20 feet high. Mr. Jas. Cypher, Cheltenham, was 2nd, with good specimens, including a monster *Livistona chinensis*.

Twelve *Dracenas*, distinct.—Messrs. John Laing & Sons, Forest Hill, S.E., obtained the 1st prize with good, well-coloured specimens, including *Madame Bergman*, *Thompsoni*, *Massangana*, *Alsace Lorraine*, *Lindeni*, *Barteti*, and *indivisa variegata*, a very pretty and useful variety.

For six *Dracenas* (distinct), amateurs, Mr. Offer was 1st, with well-grown and highly-coloured plants, including a very novel and pretty variety, called *Robinsoniana*. The 2nd prize was secured by Mr. Wm. Horne, gr. to Henry Tait, Esq., Park Hill, Streatham Common, S.W., who had four excellent specimens, but, unfortunately, the other two (*Gouldiana* and *Witzchenii*) were much smaller, but for which the awards might have been reversed.

For six distinct Palms (amateurs), Mr. A. Offer secured 1st with his large fine specimens of *Livistona chinensis*, *Latania Commersonii*, *Phoenix tenuis*, *Kentia Canterburyana*, *K. australis*, and *Pritchardia pacifica*. Messrs. Jno. Peed & Sons were 1st in the competition of the best ten distinct *Caladiums* (nurserymen).

In the amateurs' class for the best six *Caladiums* (distinct), the 1st prize was awarded to W. S. Glover, Esq., Casino House, Herne Hill, S.E.

Messrs. B. S. Williams & Son, Upper Holloway, obtained 1st prize for a pair of specimen *Tree Ferns*, showing two large *Dicksonia antarctica*.

FLORISTS' FLOWERS.

These were generally of much merit, although in some of the classes there was not a great deal of competition.

In the nurserymen's class for twenty herbaceous *Calceolarias*, the 1st prize was secured by Messrs. J. James & Son, Woodside, Farnham Royal, Slough, upon whose plants one could scarcely imagine an improvement possible, their habit being all that could be desired, and the flowers large, and of beautiful colours.

For six herbaceous *Calceolarias*, open to amateurs only, the Hon. H. C. Legge (gr., W. Mowbray), Fulmer, near Slough, was 1st, with very good examples in 8-inch pots, dwarf, and about 3 feet in diameter.

Messrs. J. Laing & Sons, Forest Hill, S.E., were to the fore in the nurserymen's class for twelve double-flowered tuberous *Begonias*, all the specimens being of great merit. The following varieties obtained Certificates:—*Lady Brooke*, *Laing's Rosebud*, a beautiful flesh-coloured variety, which struck us as being the prettiest yet raised; *Mr. Hudson*, a rosy-crimson; *Alfred de Rothschild*, dark crimson; and *Baron Schroder*, a bright red. The same firm was placed 1st in a similar class for twelve single-flowered *Begonias*.

For twenty pots or pans of *Pansies* (open), the successful exhibitor was Mr. F. Hooper, Vine Nurseries, Bath, who was also 1st for twenty pots or pans of *Violas*, both of his exhibits being very fine.

Messrs. Jno. Laing & Sons were to the front in the nurserymen's class for twelve distinct *Gloxinias*, showing examples whose colours baffle description; whilst H. E. Barker, Esq., Leigham Holme, Streatham Hill, S.W., was 1st in the amateur's class, with very fine and well-flowered plants.

Messrs. B. S. Williams & Son, with their fine varieties of *Clivias*, were 1st in the class for twenty distinct. The Upper Holloway firm were 1st also for twelve distinct *Amaryllis* (open).

For six zonal *Pelargoniums*, distinct (amateurs).—1st, R. W. Mann, Esq., Langley Broom, Slough, with good plants, some 4 feet through. The varieties

were Mrs. Gordon, J. Macintosh, Rev. Harris, Mr. H. Cannell, Norah, and Lord Chesterfield.

The same exhibitor was 1st with six fancy *Pelargoniums*, in 8-inch pots, distinct. The plants were good, and dwarf, the varieties being Mrs. Cope, Princess Teck, *Delicatum*, East Lynne, Mrs. Porter, and Lady Carrington.

ROSES.

For twenty Roses, in 10-inch pots, not less than twelve varieties, the 1st prize was awarded to Messrs. Paul & Son, Old Nurseries, Cheshunt, with an excellent group, amongst which were noticed the following varieties:—*Her Majesty*, *Alba rosea*, *Junio*, *Souvenir de S. A. Prince*, *Celine Forestier*, *Madame Victor Verdenier*, and *Madame Lacharme*. Mr. C. Turner, Royal Nurseries, Slough, was 2nd with plants of considerable merit, the best of which were *La France*, *Monchame*, *Madame Lacharme*, *Madame de Montchateau*, and the familiar *Charles Lawson*.

For eight distinct Roses in pots, open to amateurs only, H. E. Barber, Esq., Leigham Holme, Streatham Hill, S.E., was the only exhibitor, and had a meritorious collection.

Messrs. Paul & Son, Old Nurseries, Cheshunt, were the only competitors in the group class for 30 Roses in pots (including standards), but this was a magnificent group, including specimens of (*Teas*), *Alba rosea*, *Celine Forestier*, *Ernest Metz*, *Francis Kruger*, and (*H.P.'s*) *Duchess of Albany*, *Her Majesty*, *Comte de Paris*, besides several varieties of *Rosa Polyantha*.

COMPETING MISCELLANEOUS.

For a collection of hardy, herbaceous, bulbous, and alpine plants (nurserymen), Mr. T. Ware, Hale Farm Nurseries, Tottenham, was 1st with a very extensive group of interesting plants that were in the best of condition.

Mr. G. H. Sage, Ham House, Richmond, was the only competitor for the prize for thirty hardy, herbaceous, bulbous, and alpine plants, distinct (amateurs).

Mr. T. S. Ware was the only exhibitor of hardy deciduous shrubs in flower, not exceeding 200 square feet (open), but this exhibit was of such proportion and merit as to compensate for the absence of other competitors.

For eight *Lycopods* distinct (open) the only competitor was H. W. Segelke, Esq., Effmole Lodge, Herne Hill, S.E. (gr., Jas. Lambert), who was awarded a 2nd prize.

The Covent Garden competition served to bring together one of the brightest displays of flowering plants massed together in a group that one could desire to see. Indeed, they were so massed together that a good deal of their individual beauty was lost. Messrs. W. & F. Brown, Brent Nurseries, Hendon, were awarded a 1st prize for 100 best garden market plants in flower in 48-size pots, and not less than four distinct sorts; and Messrs. J. & J. Hayes, nurserymen, Lower Edmonton, a 1st for a group of market flowering and foliage plants arranged for effect in space not exceeding 150 square feet.

NON-COMPETING MISCELLANEOUS.

The exhibition groups shown by the Trade were both numerous and meritorious, but the demand upon our space will not allow us to give more than a very brief notice of the same. Messrs. H. Low & Co., Clapton Nurseries, London, were awarded a Silver Medal for a similar group of *Ericas* to that exhibited by the same firm at the Temple Show last week. Mr. H. Cannell, Swanley, exhibited a group of *Cactus* plants, also noticed at the Temple Show (a Silver Medal). Messrs. Jno. Peed & Sons, a Silver Medal for a group of *Palms*, *Ferns*, *Anthuriums*, &c. Mr. Adolphe D'Haene, Belgium, was awarded a Silver-gilt Medal for a group of *Palms*, *Ferns*, and such-like plants, thus helping to make the exhibition an international one; as did also M. Linden with new plants before mentioned, and M. Louis van Houtte, Royal Nurseries, Ghent, with a very fine and rare collection of some twenty-five distinct varieties of *Bertolonias*. This exhibit was awarded the highest award—a Gold Medal.

Messrs. J. James & Son, Farnham Royal, Slough, exhibited a group of *Calceolarias* in bloom, and was awarded a Bronze Medal.

A noble and interesting group was that exhibited by Mr. William Ickton, Putney Park Lane, which consisted of large *Palms* and other foliage plants, amongst which were a number of *Tea* plants belonging to the Ceylon Tea Co. This group was also awarded a Gold Medal.

Eighteen *Tea-scented* Roses, distinct, nurserymen.—Some very fine blooms, but owing to the heavy rain of the previous day, not at their best, were

shown by Mr. Mount, Exotic and Rose Nurseries, Canterbury, who received the 1st prize for them. The best were Souvenir d'Elise, Miss E. Brownlow, Jean Ducher, Souvenir d'un Ami, Catherine Mermet, a very fine bloom; and The Bride. Mr. Mount showed twelve Roses other than Teas, also taking the premier award. His Duke of Wellington, General Jacqueminot, Merveille de Lyon, Eugene First, and Ulrich Brunner, were the best, these being free of good substance. In this class Mr. C. Turner, Slough, 2nd, had Madame Victor Verdier, Star of Waltham, and Beauty of Waltham, in fine condition.

An excellent exhibit of Pansies and Violas in great variety, together with a number of Sweet Peas in variety came from Messrs. Dobbie & Co., Rothsay, N.B. The exhibitor received a Silver Medal. Messrs. J. Laing & Sons showed, not in competition, a collection of border flowers and foliage of hardy plants in much variety, together with varieties of Columbine. The same firm had a table filled with mixed stove and greenhouse plants, mixed with small Palms and other decorative plants.

A large group of Souvenir de la Malmaison Carnation in its pink and white varieties came from Mr. Crapp, gr. to Lord Wimborne, Canford Manor, Dorset. The blooms were of an average size, and the plants rather tall (Silver Medal). Mr. Jennings, gr. to Leopold de Rothschild, Esq., Ascot, Leighton Buzzard, an older hand than the previously mentioned exhibitor in the culture of these lovely flowers, showed the same varieties in dwarf compact plants, covered with large blooms. A fine yellow Carnation, named Alnira, came from the same garden.

A mixed floral group was arranged by Messrs. W. Cutbush & Co., Higgate (Silver Medal). Messrs. B. S. Williams & Son contributed a group of plants consisting chiefly of *Amaryllis* in variety, *Orchids*, *Azaleas*, *Clorodendron Thompsons*, *Rhododendrons*, &c.

A fine group of Roses (non-competing), in bushes and standards, including H.P.'s, Teas, and Moss varieties; and besides these a dozen show boxes filled with Roses in triplets. The new Roses Princess May and Her Majesty were among the plants shown.

Ghent Azaleas, both double and single-flowered, and Azalea mollis, both in great variety, came from Mr. A. Waterer, Knap Hill—a very fine showy group (Silver-gilt Medal).

A very extensive collection of Peonies, single and double-flowered; varieties of *Pyrethrum roseum*, *Pyrethrastrum*, of which *Phyllis Broughton*, *Laura*, *W. Pitt*, *Wilkie Collins*, and *Magistrate*, were among the best; and a lot of showy Moutan Peonies, including *M. P. magniflora*, *Ilacina*, a flower of large size, if not of striking colour.

FRUITS AND VEGETABLES.

Although early in the season, yet the considerable prizes offered in the schedule served to attract exhibitors from long distances, even so well-known a grower as Mr. McIndoe, from Hutton Hall, Darlington; but then he came for some purpose. As, for instance, in the class for fruit collections, eight varieties, he was an easy 1st, having admirable Black Hamburg and Foster's Seedling Grapes, good Belle Grosse Peaches, Lord Napier Nectarines, Queen Pine, Best-of-All Melon, very golden in colour and handsome; Strawberries Noble, and Cherries Frogmore Bigarreau, a highly meritorious lot for the time of year, especially from a place so far north as Darlington. Mr. McIndoe's only and far from strong competitor was Mr. John Crawford, gr. to Colonel Thorpe, Newark-on-Trent.

Black Grapes, three bunches, brought seven competitors, with in all cases pretty good fruit. The best, however, came from one of the best southern growers, Mr. Osman, gr. to L. T. Baker, Esq., Otter-shaw Park, Chertsey, who had very fine and admirably finished Black Hamburgs; Mr. McIndoe coming 2nd with the same variety, perhaps larger but less handsome bunches. There were but five lots of three bunches of white Grapes, Mr. McIndoe coming a good 1st with excellent well-ripened clusters of Foster's Seedling; Mr. Peters, gr. to J. J. Mansell, Esq., Guernsey, being next with fairly ripened but still greenish Muscat of Alexandria.

Because of the presence of some of the wonderful pot-Strawberries from Hatfield, the class for twelve plants in pots in fruit attracted much attention. Mr. Norman, gr. to the Marquis of Salisbury, had Marguerite in grand fruit, each plant carrying eight, and all large and fully ripened. They had travelled remarkably well. Very good, each plant carrying

twelve fruits, were the pots of Sir Charles Napier, staged by Mr. Thompson, gr. to Messrs. W. & E. Wells, Hounslow; and from Mr. Chuck, gr. to P. Thelluson, Esq., Brodesworth Hall, Doncaster, came very fair British Queen, the fruits tied up erect above the foliage; these were placed 3rd. With a single dish, Mr. Norman was invincible with wonderful fruits of Anguste Nicaise, the twenty-five weighing 3 lb. 3 oz., a trifle over 2 oz. each. These were the talk of the show, and excited the liveliest interest. It was very curious that, although several others showed single dishes, the three exhibitors of plants in pots also took the single-dish prizes.

Mr. Robins, gr. to Colonel Lee, Hartwell House, Aylesbury, had the best six Peaches in Hales' Early; and Mr. McIndoe 2nd with Grosse Mignonne. He was 1st with six Nectarines, having fine Lord Napier; Mr. Jas. Hudson of Gunnersbury House Gardens (the Messrs. Rothschild), being 2nd with the same variety. Mr. McIndoe was again to the fore with a dish of fine Black Tartarian Cherries.

Melons.—The best Scarlet-flesh, of which a dozen were shown, came from Mr. Crawford in Scarlet Premier. The very best Melon in the show, a beautiful white-flesh, The Countess, came from Mr. Bowerman, gr. to T. Hoare, Esq., Hackwood Park, Basingstoke, very luscious and of fine flavour.

Miscellaneous fruits included a big lot of some seventy Melons from Mr. Churchman, not named, to which a Silver Medal was awarded, the same award being made to a very fine lot of Melons, Peaches, Nectarines, Oranges, &c., from Mr. McIndoe; and a Bronze Medal was awarded to Mr. Blick, The Warren, Hayes Common, for a collection of eighteen Melons, very few of which were ripe.

A grand group of market produce to which a Gold Medal was awarded, is referred to in another column. Mr. Le Poidevin, of Guernsey, also staged excellent market fruits and vegetables. Mr. Henderson, gr. to Thoresby Park Gardens, showed four Melons; Mr. Miller, Baxley Lodge, Esher, Apples and Mushrooms; and Mr. J. C. Talloch, gr. to E. Dresden, Esq., Livermore Park, Bury St. Edmunds, had a fine dish of Brown Turkey Figs.

Vegetables.—A veteran exhibitor, Mr. Lockie, worthily took the 1st prize, with a collection of forced vegetables, having handsome examples of Perfection and Royal Windsor Cucumbers, good Mushrooms, Early Gem Carrots, Long Negro Beans, Snowdrop Potatoes, American Wonder Peas, Perfection Tomatoes, and long white Marrows; this was an excellent lot, that it would have been very difficult to beat. Mr. Crawford was 2nd, having Puritan and Sutton's Seedling Potatoes, Milan Turnips, Osborne and Ne Plus Ultra Dwarf Beans, Nantes Carrots, Chelsea Gem Peas, and Perfection Tomatoes.

Mr. Crawford was the only exhibitor of eight varieties of outdoor vegetables—Asparagus, Beet, Model Broccoli, Cabbages, &c.

A capital basket of salad, in eight varieties, came from Mr. Newell, gr. to Sir E. Saunders, Wimbledon, including excellent Radishes, Beet, Mustard, Cress, Endive, Lettuce, Chervil, and winter Onions; it obtained a 1st prize.

Only one bundle of Asparagus was staged—a fair sample.

Cucumbers produced a better competition, and Mr. Lockie was an easy 1st, with a beautiful brace of his Perfection; Mr. Morland, Swiss Nursery, Farnham, 2nd, with Express or A. 1, 2 feet long; and Mr. Crawford was 3rd, with long fruits of Webb's Perpetual Bearer.

The best dish of twelve Tomatoes, consisting of Perfection, came from Mr. Mount, Exotic Nursery, Canterbury; Mr. Le Poidevin and Mr. Lockie being 2nd and 3rd, with the same variety.

Mr. Mortimer made a fine show with his superb Cucumbers, Success, A. 1, and Matchless, and boxes of fine Tomatoes, obtaining an award of a Silver Medal. The collection was fronted by twelve fine Hero of Lockinge Melons from Mr. T. Bowie, Sutherland, Reading, and were included in the award.

Imported Market Products.—Of the numerous and interesting exhibits seen at the show, few, perhaps, exhibited the economical aspect of fruit growing than the collection of fruits and vegetables staged by Messrs. W. N. White & Co., the well-known salesmen of Covent Garden. Here was an object-lesson at once for would-be Protectionists, for home-growers of similar products, and specially for consumers. Great Britain may be a nation of producers, but eminently she is a nation of consumers, and under the benign aspects of Free Trade, we literally lay the whole world under contribution. Messrs. White, in their remarkable collection, did something more than show us how the whole world

contributes to our food supplies; they showed to us just how foreigners take pains—even the greatest of pains—to send everything to our markets in the most perfect condition. Everything shown was just as received, in boxes, baskets, or whatever utensil is employed for transit. There were beautiful Apples from Australasia, which have travelled some 15,000 miles, and yet have suffered less in the journey than too often do our market fruits that have travelled only 15 miles. What beautiful Reinettes du Canada, Pomme de Neige, Scarlet Pearmain, New York Pippins, French Crab, and other sorts all perfect in appearance, and equal in size. What wonder that fruits so carefully selected and packed obtain such high prices. Here, too, were grand Pines from St. Michaela, as cheap as good, grown where Oranges formerly were cultivated; but now Florida is taking the lead in Oranges, and therefore those St. Michael growers have taken to Pine-apple culture instead. How much wiser is it to thus bend to circumstances than to wail over what cannot be helped. France was represented by Strawberries, a very good sample, not in a flat box, but in a basket; also splendid Cherries in boxes. Portugal sent Oranges, Sicily fine Lemons, the West Indies Bananas, Belgium and Jersey Grapes. The only *bona fide* British-grown, open-air products were some capital green Gooseberries from Cornwall.

As to vegetables, these, too, seemed to come from almost everywhere. France sent Asparagus—too much of it—big, ugly, and uneatable; Holland sent Cucumbers; Egypt, Onions in bags; Canary Islands Tomatoes; New Potatoes from Malta, Portugal, and elsewhere. The finest of these were evidently International Kidney, from Malta and Guernsey; from whence also came dwarf Beans, as also from France. Almost the sole British vegetables were good bundles of Asparagus from Cambridge, Worcester, and Middlesex.

Mr. A. Johnson, fruiterer, Centre Row, Covent Garden, had a good exhibit of excellent Australian Apples, of which the sorts Blue Pearmain, a fine-looking fruit; French Crab, Starmer Pippin, New York Pippin, Cox's Orange Pippin, were the most remarkable for size, colour, and general good saleable condition. In this exhibit, some good samples of Cherries, Messina Lemon, Pine-apples from St. Michaela.

Of course there were numerous other products, and all meritorious as well as representative. The exhibit not only clearly indicated what is the nature of the competition to which home growers are subject, but it also showed how inadequate, after all, would be the present considerable home produce for the nation's requirements. The chief lessons to be derived from the exhibit seemed to be found in the direction of care in selection, of best and even samples, and in packing. Even Oranges and Lemons come to us wrapped in tissue paper, whilst here at home we disdain to show so much of consideration for our best Apples and Pears. The excellent taste shown by the French packers also humiliates us, who in our packing show no taste whatever. If we will compete with the growers of the world, we must not scruple to copy all their best efforts to attract customers.

RURAL INDUSTRIES OF EGYPT.

Subsequently to the special dinner of the Horticultural Club, on the 25th ult., Sir John T. D. Llewellyn, Bart, who presided, gave an able and remarkably interesting address on the horticultural and agricultural resources of Egypt, whence he has recently returned after a prolonged visit.

In his opening remarks, Sir John Llewellyn said that Egypt was a land of agriculture rather than of horticulture, for good gardens were few and far between, and these were taken but little advantage of for teaching the people the cultivation of the several classes of useful and ornamental plants that have a place in them. Agriculture, on the other hand, was most successfully carried out, but it was pretty much a question of water, especially from the Nile, and *Nea os* (new mud) tells the story of the fertility of the vast tract of land watered by this remarkable river. This, at the time of its flood is, as is so well-known, heavily charged with earthy matter which, when the water overflows the banks, is deposited on the land, and so greatly does this deposit contribute to its productiveness, that the point to which the water reaches is so clearly shown when the crops are in full growth that it is hardly a figure of speech to say that it is possible to stand with one foot in the desert and the other on fertile land. Of the cultivated area, about

one half is devoted to Wheat and other cereals, and the other half to Date Palms, Cotton, Castor Oil, Sugar, Lentils, Peas, Beans, and Poppies. Of the several crops other than those of cereals, that of Dates is perhaps of the most importance to the people, and it would perhaps be of the greatest interest to a body of horticulturists. Phoenix dactylifera, of which twenty-seven varieties were commonly offered for sale, is abundant in Egypt, but rare in Palestine. Its rarity in the last-named country is all the more remarkable from the fact that the name by which the land was known to the Greeks and Romans was Phenicia, or the land of Palms. Again, when Vespasian wished to commemorate on his coins the capture of Jerusalem by Titus, he represents Judaea as a woman sitting weeping under a Palm. Probably in olden times the valley of the Jordan was full of Palms, and the shores of the Dead Sea are fringed with trunks that have been preserved from decay by the salt water, and tell of a time when Palms must have been much more common than now. In Egypt the Date Palm grows as a common tree, and under ordinary cultivation is very productive. It also grows freely in some parts of Europe—Italy, for example; but in Granada alone does it ripen fruit on the European continent. To the Moors belong the credit of introducing this Palm to Europe, and they say "He must have his foot in water, and his head in the sun." It undoubtedly marks the presence of water, and in proof of this, Sir John stated that Major Lloyd told him that when he was engaged in a survey of the desert, he saw a decaying Palm trunk, and in consequence sunk for water, and found a spring. In Egypt, each Palm is taxed at 20 piastres, which is equivalent to about 24d., and as illustrating the usefulness of the Date to the people, it was pointed out that, besides its employment for building, wine is made from the sap, and a spirit is distilled from the wine. The crown of barren trees is cooked as a vegetable; sugar is made from the syrup; mats, baskets, and various utensils manufactured from the leaves; horses are fed on the stalks, and camels on the pounded stones. The trees bloom in March and April, and the fruit ripens in August and September. When first ripe the Dates are harsh and astringent, but, like Medlars, are more palatable after fermentation, and are very nice also when dried in the sun.

The other field crops were passed under review, and the enormous increase in the cultivation of Cotton pointed out. This increase was attributed chiefly to the cultivation of a superior form of the Cotton plant, and the consequent improvement in the quality of the produce. In the case of the Water Melons, which form a very important crop, it is the practice to select the sections before the water from the Nile has receded to its bed, and to mark them with bushes. Poppies for opium are largely grown, and Hemp is extensively cultivated, although, like Tobacco, its growth is nominally prohibited.

In gardens, Oranges are the best of the fruits grown, but Bananas, Figs, and Pomegranates are very satisfactory. Tea and Bankian Roses thrive and bloom profusely, but hybrid perennials are very poor. The Damask Rose is also rather extensively cultivated in some districts, for the production of attar of roses. Other flowers to which special reference was made included Bougainvilleas, Poinsettias, Oleanders, and Jasmine, and the effect produced by the great masses of Poinsettia and the sheets of Bougainvillea spreading over the houses was described as indescribably beautiful. Potatoes are not, as a rule, grown well in Egypt, but they are now receiving considerable attention in the vicinity of Alexandria, where they are being grown rather largely for the London markets, as it is found that they can be placed upon the metropolitan markets in advance of Algerian produce.

There was a very interesting discussion, in which Mr. H. J. Veitch, Mr. G. Bunyard, Mr. Sofon, and others took part, and the proceedings closed with a hearty vote of thanks to Sir John Llewellyn for his address.

PLANT NOTES.

BEGONIA PRINCESS BEATRICE.

One of the prettiest and most useful of summer bedding plants is this charming Begonia—one of Messrs. Sutton & Son's hybrids. As it appears to be a mule, and does not therefore seed, the question arises, How is it to be increased? The method recommended is to take up the plants from the beds

before they are injured too much by frost, and the tops cut down; then to put some rubble at the bottom of egg or orange-boxes, over this some spent litter, then place the plants upon it, with sand or fine soil between them. Place the boxes in a temperature of from 40° to 50°, and on no account allow them to become dust-dry. When the tops have decayed, they should be removed, and the plants placed in 48-sized pots; and as soon as established, they put forth numerous growths from the bottom. The plants should then be pulled to pieces, and potted, when they soon grow into size. The aim of the cultivator should be to keep the young plants as dwarf as possible in early spring, and harden them off before planting out. R. D.

THE ALPINE GARDEN.

SAXIFRAGA MUSCICOIDES RUBRA.

This is a gem for the rockery if the soil is but shallow, where it will creep over the stones in a dense manner, and grow not more than 3 inches high. The flowers are freely produced at the end of April and during May. E. M.

S. GRANULATA FL.-PL.

This close-growing Saxifraga is one of the best for borders, but it does not succeed really well on a sunny spot, or on the rockery if the soil is shallow, as it quickly feels the effect of drought. Its pure white double flowers are produced in abundance, and are useful for cutting. E. M.

TRADE NOTICE.

MESSRS. MORRIS AND GRIFFIN, LD.

We understand that the conversion of the well-known firm of Messrs. Morris & Griffin into a limited liability company is likely to take effect shortly. This firm has been long associated with the agricultural interests of the country, having been established so far back as 1821. The business of the firm has consisted chiefly in the manufacture of artificial manures, and was one of the earliest in that field, and has for many years been carried on in Wolverhampton. The growing exigencies of the trade requiring a seaboard, large works were some years ago erected at Newport (Mon.), which have proved a great success, and the managing partner being desirous of still further extending the Newport business has purchased his partners' interests therein, and now proposes to offer a portion of the capital to the public. It is expected that the shares will be well taken up.

MARKETS.

COVENT GARDEN, June 2.

[We cannot accept any editorial responsibility for the unjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate not only from day to day, but often several times in one day, &c.]

A BRISK business has been going all the week, with prices improved. Hothouse Strawberries coming shorter against an increased demand. James Webber, Wholesale Apple Market.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Adiantum, per doz. ... 4 10-12	Geniata, per dozen. 6 0-10
Arum, per dozen ... 8 0-9	Heliotrope, per doz. 4 0-8
Dracena, each ... 18 0-43	Hydrangea, per doz. 0 0-15
Aspidistra, per doz. ... 24 0-36	Ivy Geraniums, doz. 6 0-9
Begonia, per doz. ... 6 10-12	Lilium Harrisii, 12 18-30
Calceolaria, per doz. 4 0-8	Libelia, per doz. ... 4 0-6
Cineraria, per doz. 4 2-9	Marguerites, per doz. 8 0-12
Coleus, per doz. ... 4 0-6	Mignonette, doz. pots 6 0-10
Cypripedium, per dozen 4 0-10	Musk, per doz. ... 2 0-4
Dracena, each ... 1 0-5	Palma, various, each 2 0-10
Echeveria pyramidalis, per doz. ... 12 0-24	— specimen, each 6 0-8
Ericas, various, doz. 12 0-14	Pelargonium, p. doz. 9 0-15
Ferns, various, per doz. 4 0-9	— scarlet, p. doz. 3 0-8
— per 100 ... 8 0-15	Roses, Fairy, p. doz. 5 0-8
Ficus elastica, each 1 6-7	— vars., per doz. 12 0-24
Fuchsia, per doz. ... 6 0-9	Spiraea, per doz. ... 6 0-12
Bedding plants, various, in boxes, 1s. to 3s.	

FRUIT.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Apples, ½-sieve ... 1 0-4	Lemons, per case ... 8 0-14
Apples, Tummalian, per case ... 7 0-14	Pine-apples, St. Marks, each, ... 2 0-6
Grapes, per lb. ... 2 0-4	Strawberries, per lb. 1 6-5

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

s. d. s. d.	s. d. s. d.
Arum, per doz. bl. ... 2 0-4	Orchids ... 1 0-3
Azalea, p. doz. sprays 6 0-9	Odonotoglossum crispum, 12 blms. 2 0-6
Caratians, 12 blms. 1 0-3	Panicles ... 1 0-2
Cineraria, 12 blms. 8 0-12	Pelargonium, scarlet, 12 blms. 2 0-6
Cornflower, 12 blms. 0 0-4	— let, per doz. 4 0-6
Eucharis, per dozen 2 6-4	— 12 sprays ... 0 9-1
Gardenias, per dozen 1 6-4	Polyanthus, 12 blms. 1 6-3
Heliotrope, 12 sprays 0 6-9	Poppies ... 2 0-6
Iris ... 6 10-2	Primula, 12 blms. 4 0-6
Lilac white (French), per bunch ... 4 6-5	Pyrethrum ... 2 0-6
Lilium Harrisii, doz. 2 6-4	Ranunculus ... 1 0-3
Lily of the Valley, per doz. bunches ... 3 0-9	Roses, Tea, per dozen 9 2-2
Maiden Hair Fern, 12 bunches ... 4 0-6	— coloured, dozen 1 0-3
Marguerites, per doz. bunches ... 3 0-4	— yellow (Maréchal), 12 bunches 1 0-3
Mignonette, 12 bun. 4 6-8	— red, per dozen ... 2 0-4
Myosotis, or Forget-me-not, 12 bunches 1 6-4	— Moss (French) 12 bunches 12 0-18
Orchids ... 1 0-3	Spiraea, 12 bunches 4 0-6
Cattleya, 12 blms. 4 6-8	Tuberose, 12 blms. 6 1-0
	Wallflowers, per doz. bunches ... 2 0-4
	ORCHID-BLOOM in variety.

VEGETABLES.—AVERAGE RETAIL PRICES.

s. d. s. d.	s. d. s. d.
Artichokes Globe, ea. 0 4-0 8	Lettuces, per doz. ... 1 6-2
Asparagus, per bund. 1 6-6	Mushrooms, punnet 2 0-—
Beans, French, lb. ... 2 3-0	Mustard and Cress, punnet ... 0 4-—
Beet, red, per dozen 2 0-3	Parley, per bunch ... 0 3-0
Carrots, per bunch ... 0 4-0	Shallots, per lb. ... 0 6-—
Cauliflowers, each 0 3-6	Spinach, per basket 3 6-—
Cucumbers, each 0 6-9	Tomatoes, per lb. ... 1 0-2
Endive, per dozen 2 0-3	Turnips, per bush. ... 0 4-0
Herbs, per bunch ... 0 9-1	

POTATOS.

NEW POTATOS.—Arrivals of rounds during the week heavy. Prices rather lower. Kidneys, supply short, prices firm. OLD POTATOS.—Firm. J. B. Thomas.

SEEDS.

LONDON: June 1.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., write that today's market, as might be expected, presented quite a holiday appearance. Sowing orders for Clover and other seeds, now naturally get fewer and smaller. Spring Tares are rather dearer; stocks in London are nearly exhausted. Mustard and Rape seeds are both firmer. Advice from entomologists speaks of great havoc caused there by the mustard beetle. Blue Peas keep steady, a considerable acreage in Essex, owing to damage done by the pea weevil, has had to be ploughed in. For bird seeds the demand is just now slow.

FRUITS AND VEGETABLES.

SPITALFIELDS, May 31.—Quotations.—English Apples, 2s. 6d. to 5s. per bushel; do., American 12s. to 16s. 6d. per barrel; New Zealand do., 8s. to 12s. 6d. per case; foreign Tomatoes, 1s. to 2s. per box; Asparagus, 9d. to 1s. 9d. per bundle of 100 heads; Sea-kale, 9d. to 1s. 3d. per punnet; Cabbages, 2s. to 6s.; Cauliflowers, 2s. to 6s. per tally; Greens, 2s. 3d. to 3s. 3d.; French Turnips, 3s. to 4s.; new Carrots, 6s. to 8s.; Spring Onions, 4s. to 4s. 6d.; Parsley, 1s. to 2s. per dozen bunches; French Peas, 3s. 3d. to 4s. 6d. per flat; Endive, 6d. to 1s.; Cabbage Lettuce, 6d. to 1s.; Leeks, 2s. to 2s. 6d.; frame Cucumbers, 1s. 6d. to 2s. 3d.; Dutch natural do., 1s. 3d. to 1s. 9d.; Beetroot, 3s. 3d. to 6d. per dozen; French Cos Lettuce, 3s. to 4s. per score; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; Horseradish, 1s. to 1s. 12d. per bundle.

BOROUGH, May 31.—Broccoli, 5s. to 9s.; Cabbages, 3s. 6d. to 6s. per tally; Spinach, 1s. 6d. to 2s. 6d. per bushel; Greens, 2s. 6d. to 4s.; Carrots, 1s. 3d. to 1s. 9d.; Spring Onions, 4s. per dozen bunches; Egyptian do., 5s. to 6s. per cwt.; English Apples, 5s. to 10s. per bushel; Canadian do., 12s. to 20s.; and Newtown Pippins, 15s. to 28s. per barrel.

STRAFTORD: May 31.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done as under:—Cabbages, 3s. to 4s. per tally; Greens, 3s. to 4s. per dozen bunches; Cauliflowers, 1s. 6d. to 2s. per dozen; ditto, 7s. to 8s. per tally; Carrots, household, 30s. to 40s. per ton; ditto, cattle-feeding, 20s. to 22s. ditto; Mangels, 18s. to 23s. ditto; Onions, Egyptian, 6s. to 6s. 6d. per bag; Rhubarb, 2s. to 2s. 6d. per dozen bunches; Radishes, 2s. 8d. to 3s. per tally.

POTATOS.

SPITALFIELDS, May 31.—New—Jersey Kidneys, 20s. to 22s.; Lisbon Rounds, 9s. to 9s. 3d.; Malta do., 10s. to 11s.; Malta Kidneys, 16s. to 18s. per cwt. Old:—Magna-mo, 60s. to 90s.; Imperator, 60s. to 80s.; Hebrons, 60s. to 90s.; Main Crop, 80s. to 110s.; Sutton's Abundance, 80s. to 90s.; Snowdrops, 70s. to 85s.; Bruce Magnums, 70s. to 90s. per ton.

BOROUGH: May 31.—Bruce Magnums, 95s. to 110s.; Dunbar do., 110s. to 120s.; Fenland do., 75s. per ton.

STRATFORD: May 31.—Quotations:—Light-land, 70s. to 85s.; Dark-land, 70s. to 75s.; Scotch, 85s. to 100s. New:—Lisbon, 9s. to 9s. 6d. per cwt.; Malta, 11s. to 12s. 6d. do.; Kidney, 15s. to 20s. per cwt.

GENERAL MARKET AVERAGES: June 1.—Magnums, 60s. to 100s.; Dunbar, 110s. to 120s.; Imperators, 70s. to 100s.; Snowdrops, 70s. to 90s.; Hammers, 60s. to 90s. per ton. New:—English, 2d. to 5d. per pound; do., Jersey, 10s. to 22s. per cwt.

HAY.

Averages.—The following are the averages of the prices at the principal metropolitan markets during the past week:—Clover, prime, 80s. to 102s. 6d.; inferior, do., 40s. to 75s.; hay, best, 60s. to 95s.; inferior, do., 20s. to 50s.; and straw, 20s. to 38s. per load.

CORN.

Averages.—Official statement of the average prices of British corn, imperial measure, for the week ending May 28, and for the corresponding period last year:—1892: Wheat, 31s. 2d.; Barley, 25s. 7d.; Oats, 21s. 8d. 1891: Wheat, 40s. 12d.; Barley, 26s. 9d.; Oats, 20s. 1d.

THE WEATHER.

By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees:—A "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.					Inches.	Days.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Jan. 3, 1892.
	Above 42° for the week ending May 28.	Above 42° for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.				
0	over	48	0	2	210	5	101	16	24
1	2	65	0	27	237	8	74	87	26
2	5	97	0	4	188	9	77	78	14
3	8	128	0	3	107	0	73	69	40
4	8	135	0	4	245	3	65	69	27
5	8	123	0	6	138	0	55	54	45
6	1	71	0	over	193	16	77	141	16
7	4	97	0	6	166	8	76	111	16
8	3	97	0	27	117	4	71	93	15
9	1	78	0	17	122	14	80	112	32
10	3	94	0	2	133	13	74	119	25
* 3	3	108	0	4	43	9	75	104	50

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts:—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts:—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending May 28, is furnished from the Meteorological Office:—

"The weather continued unsettled and very rainy in all the western and northern parts of the Kingdom, and the disturbed condition extended at times to the southern and eastern districts also. Thunder and lightning occurred in nearly all places—chiefly towards the end of the week."

"The temperature just equalled the mean in 'Scotland, N.,' but was above it in all other districts; in 'W. and S.W.' the excess varied between 1° and 3°, but in 'England, S.' it was 6°, and in the 'Midland Counties and England, E.,' as much as 8°. The highest of the maxima, which were recorded on the 28th over England, and on irregular dates in Ireland and Scotland, ranged from 66° to 69° in Scotland, and from 67° to 70° in Ireland; over England they were much higher, ranging from 72° to 82°. The lowest of the minima were registered on the first day of the period, and ranged from 32°

in 'Scotland, N.,' to 44° in 'England, E.,' and 46° in the 'Channel Islands.'

"The rainfall was equal to the normal value in 'England, E. and S.,' but exceeded it in all other districts. In Ireland, Scotland, and the northern parts of England, the fall was about three times as much as the mean."

"The bright sunshine shows a still further decrease in all districts, excepting 'England, E. and S.,' and was below the mean very generally. The percentage of the possible duration ranged from 14 in 'England, N.E.,' 15 in 'England, S.W.,' and 16 in 'Scotland, N. and England, N.W.,' to 40 in 'England, E.,' 45 in 'England, S.,' and 50 in the 'Channel Islands.'"

NOTICES TO CORRESPONDENTS.

*. PHOTOGRAPHS, DRAWINGS, OR SPECIMENS.—We shall be pleased to receive from our Correspondents notes relating to interesting Gardens, together with Specimens or Illustrations of interesting Plants. Although circumstances prevent us in all cases from reproducing them, we are nevertheless glad to receive them, and as far as possible to utilise them for the benefit of our readers.

BOOKS: Garcon. Botanical Names for English Readers, by Randal H. Alcock; publishers, Messrs. L. Reeve & Co., Henrietta Street, Covent Garden, W.C.

GRAFTING RHODODENDRONS: J. Grice & W. F. If the Himalayan and finer species of Rhododendron are desirable, crown-graft them on established stocks of the Pontic Rhododendron in summer, so soon as the shoots to be used for scions are nearly ripe. The stocks are cut down to about 6 inches from the soil, and if a leaf or two can be left just at the top, it will be better for the graft. Cut the stocks to a wedge shape for about 1½ inch from the top, and split the scion to the same depth and fit on the former, binding it securely with fine raffia or worsted, over which grafting wax in a warm half-fluid state should be smeared to keep out moisture. Side grafting with a tongue is sometimes followed. The grafts themselves should not be topped, and only as many leaves cut off as will admit of the graft being tied on the stock. Place the grafted stocks in a clove case within a cool house, and shade them from the sun till they have taken. It is sometimes convenient to graft by approach plants standing in the beds, and in that case good stout established stocks in pots should be sunk at convenient intervals round the plant, and shoots selected of about the same diameter as the stocks, and the surface of the opposite sides of branch and stock shaved down nearly to the pith, and placed together with or without tongueing, and make secure as in the other operation described above. Grafting clay or wax should cover the point of union, and each graft made secure to a stout stick firmly stuck into the earth. The stocks must be examined frequently to see if water be necessary. Late summer is the best time for this kind of inarching. Usually, union takes place by the end of September, and the grafted stocks may be cut off from the mother plant, and stood by themselves in a sheltered place. In very hot weather some kind of a sun-screen should be put into use to shade the inarched stocks, and growth should be kept up in the mother plant and the stocks by copious waterings in dry weather, and affording a mulch of mushroom-dung or half-decayed leaves over the roots.

HEAVIEST BUNCH OF GRAPES: H. V. A bunch of White Nice was shown by Mr. Dickson at Edinburgh in 1875 weighing 25 lb. 15 oz. See *Gardeners' Chronicle*, September 18, 1875.

HOUSE DRAINAGE: F. C. The best of liquid manure; it may safely be given to plants out of doors at this season, and to grass land and fruit trees in winter. For gross-growing subjects no dilution is necessary, but for the more delicate plants half water and half sewage will be quite safe. It should not be afforded any plant oftener than once in ten days or a fortnight. Cabbage, Cauliflower, and Asparagus when cutting is finished for the season; Celery, Beans, Tomatoes, bearing heavily in pots or restricted border, or in hungry soils; fruit trees in heavy bearing. Vines, Figs in pots, Dahlias, Hollyhocks, shrubby Phloxes, Roses in pots or beds, and especially plants against sunny walls; Pine-apple plants, Cucumbers, weak-growing hedges of Quick, Laurel, Privet, and Hornbeam, and many other plants are

benefited by liquid manure—the "liquid gold" the British farmer and others too often allow to run into the nearest ditch.

INSECTS: James C. Campbell, Methley Park, Leeds. The caterpillars which have devastated your "trees" (Gooseberry and Currants) are those of the very common magpie moth, one of the Cooper. caterpillars; big enough to be hand-picked. We do not like Paris Green for these fruits. The moth ought to be well known to every gardener. I. O. W.—H. H. Black weevil, *Otiorhynchus sulcatus*, commonly attacks the Vine. Hunt for them at night. They are very destructive, both larvæ and perfect insect.

MUSHROOMS.—A. P. Want of heat in the bed; or exhaustion of the spawn.—J. A. C. We do not suppose that the "mite" has anything to do with the failure of the Mushrooms to come to perfection. It is probably due to errors in management—the soil, too, appeared quite unsuitable.—H. M. S. B. *Cytisus* sp., full name next week.

NAMES OF PLANTS: J. M. 1, *Ada aurantiaca*; 2, not sent; 3, *Reticopsis plumosa*.—St. J. C. *Aërides crassifolium*.—D. B. *Cheimsford*. 1, *Aërides Houletianum*; 2, *Dendrobium Parishii*; 3, *Lycaste speciosa*; 4, send more flowers, with leaf; 5, not found; 6, *Reidia glaucescens*; 7, *Jasminum Sambac*, A. pl.; 8, *Adiantum Facotii*; 9, *Xylophylla latifolia*.—P. W. H. 1, *Oncoclea sensilis*; 2, *Athyrium filix-femina corymbiferum*; 3, *Poly-stichum angulare*; 4, *Cystopteris fragilis*.—A. B. 1, *Lygodium scandens*; 2, *Poa variegata*; 3, *Carix riparia*; 4, *Cattleya labiata* (probably *Mossia*); 5, *Epidendrum ciliare*. It is not right to expect names when only *Orchid pseudobulbs* are sent, and in the case of the other things the flowers are wanting.—H. H. H. 1, *Bifrenaria vitellina*; 2, *Dendrobium Parishii*; 3, *Dendrobium crataecium*.—Linum. *Medicago echinops*; *Pancretium illyricum*.—L. C. *Rugby*. 1, *Thalectrum aculeifolium*; 2, *Ornithogalum umbellatum*.—W. S. We believe your specimen to be a variety of *Papaya nudicaule*.—Stella. *Saxifraga*, withered beyond recognition.—G. 1, *Tradescantia virginica*; 2, not recognisable; 3, *Anomatheca juncea*; 4, *Jasminum revolutum*; 5, not recognisable; 6, *Santolina incana*; 7, a *Cupressus*, impossible to name from such a scrap.—W. C. & Sons. *Gyp-paphia*, perhaps *G. puniculata*.—L. J. A. 1, *Brassica nigra*; 2, *Potentilla anserina*; 3, *Anthyllis vulneraria*; 4, *Geum webanum*; 5, *Orchis morio*; 6, *O. militaris*.—J. T. L. *Vaccinium corymbosum*.

PANSY AND VIOLA: J. K. These are merely popular names of different species of *Viola*. The word Pansy is employed by gardeners and the trade for the varieties of *Viola tricolor*, which are divided now-a-days into show, fancy, spotted, giant, and several others. Pansies bloom in spring and early summer. Violas, probably, spring from *V. cornuta*, crossed in recent years with *V. tricolor*, and crossed in various ways among each other. They increase by creeping roots, throwing up new growth continuously, which flowers the same season, and thus extends the period of bloom till late into the autumn.

PEACHES: A. L. L. The fruits are attacked by mildew. Pick off and burn affected fruits. Dust the whole of the tree with flowers-of-sulphur, or obtain one of the advertised remedies; or wash the trees with a decoction of Elder leaves, boiled in water. Make sure that the border is not dry. If the trees are in a house, be careful about admitting cold air into the house by the lower sashes. Wait till it gets warmer.

SEEDLING SNOW PELARGONIUMS: S. G. Smalbridge. 1, this flower has the right kind of markings of a show variety, is very large, and well worth preservation; 2, is very nice, but there are many others that it resembles—the truss is above the average size; 3, a very good dark flower of the French or spotted type; 4, an excellent flower, spotted form; 5, is like 2, but lighter and seemingly more robust.

SEEDS FROM MEXICO: M. Buysman. We cannot identify them.

VINES: A. B. It is certainly useless to "look to" the border when the leaves are covered with red-spider. You must get some Lethorion cones and fumigate the vine. Keep the viney moiester, and syringe the under sides of the leaves without letting the water strike the bunches too much.

—G. A. M. From a single leaf crushed flat in its passage through the post we are unable to tell you anything definitely. Kindly send a handful of shoots, packed in damp moss, in a box.

WALLFLOWER: *Swaylands*. The Wallflower is a very curious monstrosity, in which the stamens are replaced by carpels. It is known as var. *gynanthus*, and is very interesting, but not attractive.

WEYMOUTH PINE DISEASE: A. F. The shoots you send are affected with Pine blister, a fungus known as *Peridermium pini* (see fig. 106). The spawn of

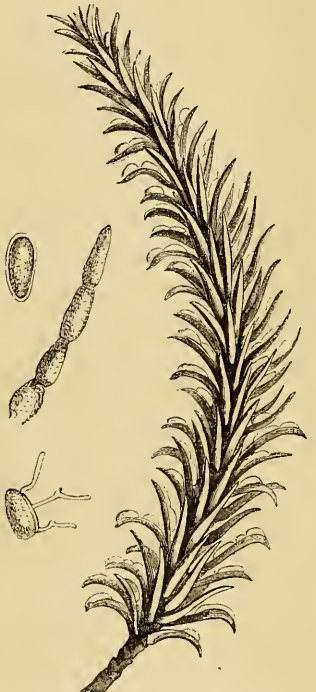


FIG. 103.—*PERIDERMIIUM PINI*: FUNGUS ATTACKING CONIFERS.

the fungus causes much irritation to the tissues of the shoot, causing them to swell and to secrete much resin, at the same time the fungus appropriates the starch and other food stored up in the bark for the use of the Pine, and so the branch ultimately dies of starvation, and dries up because the water cannot pass through the exuded resin. The only way to combat the disease, which is occasionally very destructive, is to cut off all the affected branches in May and burn them. It is supposed that the fungus in one stage of its life history grows on *Groenouel* and other species of *Senecio*; its appearance then being quite different to that which it presents when growing on the Pine. It is not absolutely certain that the fungus of the *Groenouel* and of the Pine are different forms of one and the same, but in any case you will do no harm by extirpating and burning all the *Groenouel*, and similar composite weeds you can lay your hands on. In France a similar fungus occurs on the leaves of *Vincetoxicum* and on the Pine, but the *Vincetoxicum* is hardly likely to grow with you in any quantity.

COMMUNICATIONS RECEIVED.—G. F. C., Toronto.—G. E.—Northamptonshire Horticultural Society.—W. H. Y. (our list was an official one).—S. P. O.—Hon. Robert S. McCormick.—H. H. W.—W. W.—R. D.—H. E.—J. B.—Dr. Kränzlin.—C. W. D.—A. P.—J. T. L.—J. C.—L. Eckhaute (no flowers came).—C. Sanders.

PHOTOGRAPHS RECEIVED WITH THANKS.—J. F., Gourcock.

BOULTON & PAUL,



NORWICH,
Manufacturers
of
ALL KINDS
of



GARDEN REQUISITES.
Send for Illustrated Catalogue, free on application.



BOULTON & PAUL, NORWICH.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN
TREE GUARD,
"The Porcupine."

The maximum of utility and
the minimum of cost.

Constructed of Strong Iron Up-
rights and Galvanised Barbed Steel
Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittier, Herefordshire,

"Dec. 28, 1887.

"DEAR SIRS,—I have now had
an opportunity of trying
your PORCUPINE TREE
GUARDS, and they seem
quite to answer my pur-
pose, so you may send me
50 more as before. I en-
close cheque for your
account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.



21-oz. and 15-oz. Foreign, of above sizes, in boxes of 100 feet
and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered
free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,

LEAD, GLASS, OIL, and COLOUR MERCHANTS.

34, St. John Street, West Smithfield, London, E.C.

Stock Lists and Prices on application. Please quote *Chronicle*.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry,

and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES,

Greenhouses, Frames, &c.

1 Cwt., and Oil Mixture, Free to all Stations.

Liquid Non-Poisonous Paints for Inside of Conservatories, &c.

Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.

15, VICTORIA STREET, WESTMINSTER, S.W.;
and BACHELOR'S WALK, DUBLIN,—Discount for Cash.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The
Registered Address for Foreign and Inland
Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.							
4 Lines	..	£0	3	0	15 Lines	..	£0
5	"	0	3	6	16	"	0
6	"	0	4	0	17	"	0
7	"	0	4	6	18	"	0
8	"	0	5	0	19	"	0
9	"	0	5	6	20	"	0
10	"	0	6	0	21	"	0
11	"	0	6	6	22	"	0
12	"	0	7	0	23	"	0
13	"	0	7	6	24	"	0
14	"	0	8	0	25	"	0

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 30s.
If set across three Columns the lowest charge will be 30s.
Page, £3; Half Page, £1 10s.; Column, £3.

NOTICE TO ADVERTISERS.—In many instances
Remittances in Payment of Repeat Adver-
tisements are received without name, address,
or anything beyond the postmark on envelope
by which to identify the sender; this in all
cases causes a very great deal of trouble, and
frequently the sender cannot be identified at all.

Advertisers are requested when Remitting
to give their Names and Addresses, and also
a Reference to the Advertisements which they
wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS
26 words, including name and address, 1s. 6d.,
and 6d. for every additional line (about nine
words) or part of a line. These Advertisements
must be prepaid. This scale does not
apply to announcements of Vacant Situations,
which are charged at the ordinary scale.

Births, Deaths and Marriages, 5s. each
insertion.

POSITION.—Advertisers are specially requested
to note, that under no circumstances what-
ever can any particular position be guaranteed
for advertisements occupying less space than
an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers,
and Others.—It is very important in remit-
ting by Postal Order that it should be filled
in payable at No. 42, DRURY LANE,
to A. G. MARTIN, as, unless the number of a
Postal Order is known, and it has been made
payable at a particular office, and to a particu-
lar person, it is impossible to prevent any
person into whose hands it may fall from
negotiating it.

N.B.—The best and safest means of Remit-
ting is by POST-OFFICE MONEY
ORDER.

Advertisements for the current week MUST reach
the Office not later than Thursday noon.

All Advertisements should be addressed to the
PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United
Kingdom, 12 months, 15s.; 6 months, 7s. 6d.;
3 months, 3s. 9d. All Foreign Subscriptions,
including Postage, 17s. 6d. for 12 months;
Post-office Orders to be made payable at
the Post-Office, 42, Drury Lane, W.C., to
A. G. MARTIN.

Subscribers who experience any difficulty in ob-
taining their Copies regularly, are particu-
larly requested to communicate with the
Publisher (in cases of delay in the delivery
by post, the cover should be forwarded with
complaint).

HORTICULTURAL BUILDER.

Every description of **GREENHOUSES, LIGHTS, &c.**

PIT LIGHTS.

Best quality and workmanship, 3 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. 6d. each, 50s. doz., £10 for 50 lights, free on rail to London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 feet by 12 feet house, lights, door, &c. Put on rail to London. Price, £9 10s. Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.

 Send for Illustrated Catalogue, just issued.

GARDEN REQUISITES, as supplied to the Royal Gardens.—COCOA-NUT FIBRE REFUSE, 1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton truck, 30s., free on rail near works. FINE ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS do., 5s. per sack, 5 for 25s. 6d. BLACK do., 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. Coarse SILVER-SAND, 1s. 6d. per bushel, 14s. 4 ton, 25s. per ton. CHARCOAL, 8s. per sack. SPHAENUM, 1s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 10s. 6d. to 18s. per dozen. RAFFIA, VIRGIN CORK, STAKES, &c. BONES, 4-inch, 11s. per cwt. Pure BOND-DUST, 11s. 6d. TOBACCO-PAPER, Spécialité, 10d. per lb., 25 lb. for 21s. CLOTH, 1s. per lb., 25 lb. for 25s. Price List, free.

W. HERBERT AND CO.,
Hop Exchange Warehouses, Southwark Street, London, S.E.

TANNED NETTING.—For Preserving Fruit Trees, Flower Beds, &c., from Frost and Blight. 35 square yards for 1s.; any width sent. Carriage paid on all orders over 5s.

HENRY JOHN GASSON, Fish Merchant, Rye, Sussex.

EARL'S COURT, LONDON.

INTERNATIONAL HORTICULTURAL EXHIBITION, And BUFFALO BILL'S WILD WEST.

Chairman of the Executive Committee—H. E. MILNER, F.L.S., Assoc. M.Inst. C.E.

A FLORAL FAIRYLAND.

ALL THE FLOWERS THAT GROW.

THE GARDENS OF OLDEN TIMES REPRODUCED.

ELECTRIC FOUNTAINS. THE FLORAL MAZE.

Leafy Avenues and Floral Bowers.

MAGNIFICENT BAND of the GARDE REPUBLICAINE,
SEVENTY-FIVE PERFORMERS.

Conductor . . . M. GUSTAVE WETTGE.

BAND OF THE GRENADIER GUARDS.

(By permission of COL. TROTTER).

Conductor . . . Lieut. DAN GODFREY.

BRILLIANT ILLUMINATIONS.

BATTLES OF FLOWERS.

THE MOST DELIGHTFUL PROMENADE IN LONDON.

All the LEADING NURSERYMEN represented by their FINEST SPECIMENS; EVERY DESCRIPTION of FLOWER and FOLIAGE being contribute^d, including Palms, Ferns, Flowering Shrubs, Insectivorous Plants, &c., from the RAREST TROPICAL EXAMPLES to the COMMONEST NATIVE PRODUCTIONS.

ADMISSION:—ONE SHILLING, including one of 2500 FREE SEATS at BUFFALO BILL'S WILD WEST.

Season Tickets, 10/6, now ready.

GATES OPEN from 11 a.m. to 11 p.m.

Secretary—G. A. LOVEDAY, B.A.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, Etc.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London."

Telephone. No. 4763.

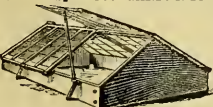
BOULTON & PAUL, NORWICH.

No. 60.—PORTABLE PLANT PRESERVER.



6 ft. by 3 ft. £2 0 0 | 6 ft. by 4 ft. £2 5 0
12 ft. by 3 ft. 3 2 0 | 12 ft. by 4 ft. 3 15 0

No. 73.—New Span-roof GARDEN FRAME.



4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 14 0
8 ft. by 6 ft. 4 4 0 | 18 ft. by 6 ft. 7 4 0
All Frames made of selected Red Deal, painted three times, and lights glazed with 21-oz. sheet glass.

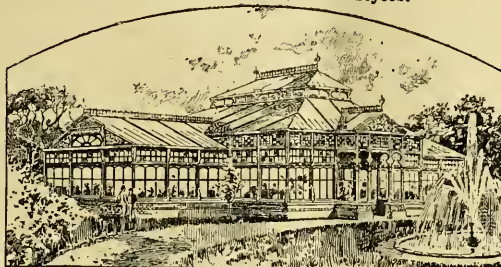
CUCUMBER FRAME LIGHTS.

6 ft. by 4 ft., glazed and painted . . . 14s. each.
Un glazed and unpainted . . . 8s. 6d. each.
Carriage Paid on Orders of 40s. value.

WINTER GARDENS, CONSERVATORIES,

PERNERIES, ORCHID-HOUSES, PEACH-HOUSES, VINERIES,

and GREENHOUSES, in all styles.



No. 77.—Frames } 6 ft. by 4 ft. £1 15 0
 } 9 ft. by 4 ft. 2 7 0
similar to No. 75. } 12 ft. by 4 ft. 3 0 0

BOILERS of all makes and sizes supplied at the cheapest rates. VALVES, PIPES, and FITTINGS ALWAYS IN STOCK.

No. 74.—THREE-QUARTER SPAN GARDEN FRAME.



4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 17 0
8 ft. by 6 ft. 4 5 6 | 18 ft. by 6 ft. 7 8 6

No. 75.—MELON and CUCUMBER FRAME.



4 ft. by 6 ft. £2 0 0 | 12 ft. by 6 ft. £1 3 0
8 ft. by 6 ft. 3 0 0 | 18 ft. by 6 ft. 5 6 0
Wall Fruit Tree Protectors, Hand Lights, Propagating Glasses, &c.

CATALOGUES of all our Manufactures, including Horticultural Buildings and Appliances, from Buildings, Foultry and Kennel Requisites, &c.

LIFE ASSURANCE AT COST ABOUT HALF THE USUAL RATES.

MUTUAL RESERVE FUND LIFE ASSOCIATION

OF NEW YORK.

E. B. HARPER, PRESIDENT.
PURELY MUTUAL.

ABSOLUTE SECURITY. STRICT ECONOMY.

The most successful Life Assurance Company in the World.
Total amount of Insurance in force, 1891 ... £44,190,535
New Business, 1891 ... £10,270,968
New Business accepted, 1891 ... £9,100,405
Total Death Claims paid ... £5,604,065
Saving to Members by its System, about ... £5,600,000

Chief Office for Great Britain:

90, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

THE RAILWAY PASSENGERS' ASSURANCE CO.

Pay over £2,700 weekly
as COMPENSATION for
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN, }

BOILING WATER OR MILK. E P P S'S GRATEFUL-COMFORTING. C O C O A BREAKFAST—SUPPER.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM

With Special Provision for Cleaning the Inside
thoroughly (a Most Important Point).

These Boilers, after long experience, have
proved themselves the Most Efficient, Economical,
and Lasting Boilers extant.
Every other kind of Boilers, Societies, Flanges,
and Expansion-Joint Pipes and Fittings, for all
kinds of High and Low-Pressure Heating.



FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

CHAS. FRAZER'S EXHORS.—Conservatories,
Orchid-houses, Vineries, Greenhouses, Plant and Forcing-
houses. Best Material and Workmanship guaranteed, at Moderate
Prices. Intending Purchasers waited upon by appointment.
HOT-WATER BOILERS and HEATING APPARATUS, for
large or small Greenhouses. Great variety of Garden Frames
and Handlights kept in stock. All kinds of Garden Requisites,
Poultry Appliances, Portable Sun-houses, Tool-houses,
Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely
illustrated CATALOGUE, post-free, for six stamps.
PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

Protect your Gardens from Ravages of Birds.

TANNED NETTING, 35 yards, 1s. Can be
sent any width; carriage paid on orders over 5s. Also
BELL-TOP FENNS, 40 feet in circumference, with pegs,
pole, all complete, from 20s. to 30s. each.
HENRY ROBINSON, Tent and Net Merchant, Rye, Sussex.

SIX CABINET PORTRAITS, 3s.; three for
1s. Twelve Carte Portraits, 2s. 3d.; six for 1s. 4d.
Eight Enlargement, 3s.; three for 1s. Stamp size, 2d. for
1s. 6d.; 100 for 3s. 3d. Send Carte or Cabinet and Postal Order,
and in about ten days you will receive Highly-finished Copies,
with Original.—FRANCIS & CO., 2, Creed Lane, London, E.C.

THE FRUIT GARDEN OF THE UNIVERSE.
—THE AUSTRALIAN IRRIGATION COLONIES
(Chaffey Brothers), established and regulated by Government.
OFFER an enjoyable life and OCCUPATION, a sunny and
salubrious climate, and most highly remunerative returns to
Cultivators with small or large capital; pamphlet free.
CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street,
London, E.C. J. E. M. Vincent, Chief Commissioner.

GLASS! CHEAP GLASS!

In Stock Sizes,
15-oz., per 100 ft., 8s. 6d. 12x10, 18x12, 18x14, 24x14
21-oz., " 11s. 9d. 14x12, 20x12, 18x16, 24x16, &c.
Paints and Varnishes at Low Prices. Flooring, 6s. per square;
Matching, 4s.; 2x4, at 4d. per foot run; 2x7 at 1d.
Horticultural Work of all descriptions, from mongery, &c.
CATALOGUES Free.

THE CHEAP WOOD COMPANY,
72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

GARDENING APPOINTMENTS.

MR. F. FENNIMAN, as Gardener to A. WILSON, Esq., Welwood
Farm, Hampstead.
MR. SILAS COLE, Gardener at Tregothnan, as Head Gardener
to the Earl of SPENCER, Althorp Park, Northampton.
MR. CURTIS, lately of the Royal Gardens, Kew, has been
appointed as Assistant Superintendent of the Royal Horticultural
Society's Gardens, Chiswick.
MR. WM. MANSON, for the last 7 years Gardener to WM.
WILSON, Esq., Parkholme, East Sheen, has been appointed
Gardener to A. COOPER, Esq., The Gables, Surbiton Hill,
Surrey.
MR. H. POLLARD, formerly Gardener at Westerfield House,
Ipswich, as Gardener to J. W. MARTIN, Esq., Rose Hill,
Huddersfield.

CATALOGUES RECEIVED.

NIMMO & BLAIR'S, Lower Higher Street, Dunedin.—General
Seed Catalogue.
J. B. FREEMAN'S, Hatcham Road, Old Kent Road, London, S.E.
—Patent Inocuous White Lead.
MESSRS. HERD BROS., Victoria and Castle Nurseries, Penrith.
—Bedding and Hardy Herbaceous Plants.
WOOD & INGRAM, Huntingdon, St. Neots and St. Ives.
—Bedding Plants, Clematis, Dahlias, Pelargoniums, Stove
and Greenhouse Plants, &c.
FISHER, SON, & SIBRA, Handsworth Nurseries, Sheffield.
—Bedding, Border, Ornamental Foliage Plants, &c.
LOUIS BOEHRER, 28, Bluff, Yokohama, Japan.—Price List in
the English language of Japanese Bulbs, Seeds, and
Plants.
CORRY & Co. (Limited), 13, 15, and 16, Finsbury Street,
London.—Wholesale Trade Price List of Nurserymen's
Sundries and Tobacco Preparations.
CLARKE BROS., 65, Scotch Street, Carlisle.—Summer Flowering
Plants and Florists's Flowers.

ORCHIDS.—Partner in a large firm of Orchid
Growers in Brazil, now returning to London, to start a
Branch Establishment, desirous a practical MAN, with command
of Hot-houses, &c., to MANAGE same.—Letters to R. M.,
13, Beaconsfield Road, Tottenham.

GARDENERS OUT OF PLACE can have
EMPLOYMENT at GRAPE THINNING. Fair wages
offered, and overtime can be made.—STEPHEN CASTLE,
F.R.H.S., Manager, Ashford Vineyard, Fordingbridge, Salisbury.

WANTED, A WORKING GARDENER, who
can undertake Vineyard and Greenhouse, no Forcing,
Flower and Kitchen Garden, Orchard, and Tennis Court. Boy
ought to help. Wages 15s. per week and garden. Age
25 to 30.—Apply, Toversey Manor, Thame.

WANTED, A GARDENER, where a Lad
is kept to help. Must be hard-working, and understand
his business thoroughly, and have a long character.
Wages, £1 per week and cottage.—Apply by letter to W. L.,
Holmes's Library, Chapel Place, Cavendish Square, London, W.

WANTED, A GARDENER and his WIFE,
not over 35 years old, for country place. Man must
have had experience with Cattle, and be willing to Milk.
Wife to Manage Small Dairy and the Poultry. No children.
Lodge, &c. Write, with full particulars, to R.E., 8, Collingham
Gardens, London, S.W.

WANTED, A WORKING OUT-DOOR
ROUSE FOREMAN, used to Exhibiting. Good cottage
on ground; married man preferred. State experience, wages,
&c. (Also, YOUNG MAN, to work under same; good builder
essential).—S. G. RUMSEY, Rose Grove, Wrotham, Kent.

WANTED, A WORKING FOREMAN, who
has a thorough practical knowledge of growing
Grapes, Tomato, Cucumbers, Mushrooms, &c., for market.
Abstainer preferred. State age, height, experience, reference,
salary expected, married or single, and full particulars, in
own handwriting, to THOMAS BIRRELL, Nightingale
Nurseries, Bath.

WANTED, a young MAN as PALM and
FERN GROWER, under Foreman, with experience in
that branch.—State particulars, and wages expected, to W.
FROMOW and SONS, Sutton Court Nursery, Chiswick.

WANTED, A GROWER, one capable of
taking a leading position where Out Flowers and
Market Plants are a specialty. State age, wages, and particu-
lars, to WM. TROUGHTON, Nurserman, Preston,
Lancashire.

WANTED, a good INDOOR MAN, one
who can take Management of six Houses. General
Soft-wooded Stuff. Wages 18s.—H. ENGLISH, Clapton
Nursery, near Clevedon.

WANTED, one or two good Outdoor
NURSERY HANDS, well up in the cultivation of
General Stock. Wages 20s.—Give age, references, &c., to
GEORGE PHIPPEN, Victoria Nurseries, Reading.

WANTED, AT ONCE, an experienced
GRAPE-THINNER.—Apply to H. HENDERSON,
Kemble Nursery, Lansdown Road, Tottenham.

WANTED, a good Outdoor MAN.—Must be
a successful Budder and Grafter of Roses, Fruit Trees,
&c. Married man preferred, small Cottage
and Garden, £1 per week to commence with, with increase to
a trustworthy man.—Apply, giving fullest particulars, to
H. ENGLISH, Clapton Nursery, near Clevedon, Somerset.

WANTED, an active young MAN, quick at
Potting, and well up to growing under Glass for
Market Ferns, Tomatoes, Roses, and Soft-wooded Stuff.—Apply,
with reference, stating experience and wages expected, to
M. CHARLTON, North Grade Nursery, Sunderland.

WANTED, a young MAN, to assist Game-
keeper, and make himself generally useful on Estate.
Abstainer. Wages, 12s.—THOMAS GORRIE, Gamekeeper,
Paveham, Bedford.

WANTED, AT ONCE, a thoroughly experi-
enced young MAN, as SECOND, where five are kept
(entirely inside).—Wages 18s. to commence, no bonus. State
age and experience to A. MARRIOTT, The Gardens, Quarry
Bank, Allerton, Liverpool.

WANTED, a strong active YOUTH (age
about 16), as an APPRENTICE in private Gardens.
Premium required.—Address, C. W. B., *Gardeners' Chronicle* Office,
41, Wellington Street, Strand, W.C.

WANTED, a YOUTH, age 16 to 18.—Some
knowledge of Seed Trade, willing to sell under Glass,
and make himself useful in spare time. Must write a fair
hand.—Apply, with references and wages required, to T. K.
INGRAM, Parkstone Nurseries, Dorset.

WANTED, A CORRESPONDING CLERK,
with a thorough knowledge of Nursery Business.
Must write a first-class hand, and have a thoroughly good cha-
racter.—Apply, giving full particulars, &c., to GEORGE
PHIPPEN, The Nurseries, Reading.

WANTED, an OFFICE LAD.—Apply, in
own handwriting, stating age, wages expected, &c., to
PITCHER and MANDIA, the United States Nurseries,
Hextable, Swanley, Kent.

WANTED, as FLORIST, a thoroughly ex-
perienced, all-round hand. Must be a good Sales-
woman.—Address, M., *Gardeners' Chronicle* Office, 41,
Wellington Street, Strand, W.C.

YOUNG LADIES who want to be INDE-
PENDENT and make their way in the world, should
write for Prospectus of the Scientific Dress Cutting Association,
272, Regent Street, London, W. Situations found for all
pupils at good salaries. No Lady's education is complete
without a knowledge of Dressmaking.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the
year is so great, we are compelled to state
that advertisements received after 6 P.M. on
Wednesday will, in all probability, be held
over to the next week.

Advertisers are cautioned against having letters
addressed to initials at Post-offices, as all
Letters so addressed are opened by the
authorities and returned to the sender.

SCOTCH GARDENERS.—I have at present
several very superior MEN on my Register, whose cha-
racter and ability will bear the strictest investigation.—
JOHN DOWDIE, Seedsman, 144, Princes Street, Edinburgh.

B. S. WILLIAMS and SON beg to intimate
that they have at present in their Nursery and upon their
Register some excellent MEN, competent either to fill
the situation of HEAD GARDENER, BALIFF, FOREMAN,
or JOURNEYMAN. Ladies and Gentlemen requiring any of
the above will please send full particulars, where the best
selections for the different capacities will be made.—Victoria
and Paradise Nurseries, Upper Holloway, N.

Gardeners, Farm-Baliffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester, are
always in a position to RECOMMEND MEN of the
highest respectability, and thoroughly practical at their busi-
ness. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO.
beg to announce that they are constantly receiving
applications from Gardeners seeking situations, and that
they will be able to supply any Lady or Gentleman with
particulars, &c.—St. John's Nurseries, Worcester.

Head Gardeners.
JOHN LAING AND SONS can at present
recommend with every confidence several energetic
and practical MEN of tested ability and first-rate character.
Ladies and Gentlemen in want of GARDENERS and BALIFFS,
and HEAD GARDENERS for first-rate Establishments or
Single-handed Situations, can be suited and have full particu-
lars by applying at Standfast Park Nurseries, Forest Hill,
London, S.E.

GARDENER (HEAD).—Age 33, married.
Can produce in quantities for Market if desired.
Fruits, Flowers, and Vegetables. Thoroughly practical
Nursery experience; excellent references.—S. E., *Gardeners'*
Chronicle Office, 41, Wellington Street, Strand, W.C.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

GARDENER (HEAD).—Mr. CLARKE, Head Gardener to the Earl of Londesborough, Lutworth Castle, Penrith, can with every confidence recommend his Foreman to any Lady or Gentleman requiring the services of a thorough practical man, experienced in all branches.

GARDENER (HEAD).—Where three or four are kept. Age 31; fifteen years' experience in all branches.—A. B. M. Cheer, Stroud Green Road, Shirley, Croydon.

GARDENER (HEAD).—Age 42; no family. Good all-round practical man seeks re-engagement where several are kept. Life experience.—F. W. 31, Bridge Street, Witney, Oxon.

GARDENER (HEAD); age 30, single.—The Advertiser is open to engage with any Lady or Gentleman requiring the services of a steady industrious practical man in all branches. Six years' excellent character from present situation.—C. E. HUBBARD, Mapledurham, Reading.

GARDENER (HEAD WORKING), age 46, where others are kept.—Married, no family; abstainer; life experience in Early and Late Forcing of all kinds of Fruit, Flowers, Vegetables, and Mushrooms; also Kitchen and Flower Gardens and Pleasure Grounds. Eight years' good character from late employer, and sixteen years' references.—J. D., Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING).—Age 35, married; thoroughly practical in the General routine of Gardening, Flowers, Fruits, and Vegetables.—J. PEARSON, Hungate Lane, Beccles, Suffolk.

GARDENER (HEAD WORKING).—Age 38; a respectable married man. Good practical knowledge of twenty-four years' standing. Good character.—F. ROTHWELL, Hook, near Winchfield, Hants.

GARDENER (HEAD WORKING), others kept.—Age 26, married, no family; Forcing Fruit, Flowers, and Vegetables. Life experience. Suitable for large establishment; five years' character.—JACKSON, 22, Percy Circus, King's Cross, London, W.C.

GARDENER (HEAD WORKING).—Thorough good all-round man, active and energetic. Twelve years' good character and testimonials. Family grown up.—W. PEPPER, Rye Park, Huddersfield, Herts.

GARDENER (HEAD WORKING), where two are kept; age 27.—J. ANDERSON, Charman Dean, Worthing, wishes to recommend his Foreman, J. Skinner, to any Lady or Gentleman requiring a good practical man. Twelve years' experience. Abstainer.

GARDENER (HEAD WORKING).—Age 35, married, two children; twenty years' practical experience in all branches of Gardening. Leaving through breaking up. Excellent character. Please state wages given.—J. S., 13, Church Road, Bromley, Kent.

GARDENER (HEAD WORKING).—Age 43, married; over twenty years' practical experience; thoroughly understanding Grapes, Peaches, Fruit, Flower, and Kitchen Gardens. Seven years' good character from last situation. Abstainer.—B. L., 43, Albany Road, Castle Hill, Ealing Dean.

GARDENER (HEAD WORKING).—Single; Trustworthy, intelligent, and thoroughly practical. Abstainer. High testimonials. Home Counties preferred.—J. H., 69, Gordon Place, Kensington.

GARDENER (HEAD WORKING).—Middle- age, married, no incumbence; is thoroughly experienced in growing all kinds of choice Fruit and Plants under Glass, Kitchen and Flower Gardens, Land and Sto. J. Wife can manage Dairy or Assist in House. Good character. Abstainer.—W. B., 91, Peel Street, Kensington, W.

GARDENER (HEAD WORKING).—Age 32, married; life experience in some of the best places in England and Wales. Well recommended by present employer, whom he has served as Head for over six years. Disengaged beginning of July.—J. STENNETT, Gardener, T. Williams, Esq., Bromfield, Llandudno.

GARDENER (HEAD WORKING); age 30.—Advertiser would be pleased to send particulars to any Lady or Gentleman requiring a practical energetic man. Seventeen years' experience in all branches, including Orchids in first-class Gardens. Can be highly recommended.—MENZIES, South Lechett, Poole.

GARDENER (HEAD WORKING).—Age 40, married (two boys, ages 9 and 7 years); thoroughly practical in all branches. Good character and references.—W. TURNER, 20, Queen Street, May Fair.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 40, married, no family. Good character. Late Gardener to Sir Lewis Cave.—W. BLACKMAN, 6, Avenue, Eltham Road, Lee, Kent.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 30, married, one child; thoroughly experienced in all branches. Good character from present and previous employer. Please state wages.—HIGGS, Wykeham Park, Frimley Green, near Farnborough, Hants.

GARDENER (HEAD, or good SINGLE-HANDED).—Vines, Melons, Cucumbers, Tomatoes, &c. Store and Greenhouse Plants, Flower and Kitchen Garden. Good character.—A. BOOKER, 143, Steel Road, Acton Lane, Willeiden.

GARDENER (SINGLE-HANDED, or UNDER).—Age 26, single; seven years' character.—HOLMES, Jubilee Road, Littlebourne, Dover.

GARDENER (good SINGLE-HANDED, or where help is given).—Age 27, married; thoroughly practical in all branches. Four years in present situation. Abstainer.—A. EMBRY, 2, South Row, Voluntary Place, New Waukesha, Essex.

GARDENER (good SINGLE-HANDED, or where help is given).—Age 26, married when suited; good experience in the general routine of gardening. Well recommended by present and previous employers. Abstainer.—E. P., Belmont, Lee, Kent.

GARDENER (good SINGLE-HANDED).—Age 27; ten years' experience, four and a half years in last place. Steady, willing, and industrious. Excellent references.—UNWIN, 49, Newham, Cambridge.

GARDENER (SINGLE-HANDED), or where help is given.—Age 29, single; thoroughly practical energetic man. Well up in Pruning and Training Fruit Trees and Shrubs, Kitchen and Flower Garden, Lawns. With great interest in his work. Winner of many First Prizes. Good personal characters.—A. W. V., Holmesdale, Kew Gardens, Surrey.

GARDENER (SINGLE-HANDED).—Age 30, married, one child, age 5. Practical experience in all branches. Willing to make himself useful in house if required. Excellent references.—A. PUSEY, Lock's Cottage, Ashford, Middlesex.

GARDENER, where two or more are kept.—Married when suited; thoroughly practical in all branches, including Orchids, Stone and Greenhouse Plants, Fruit, Hardy Herbaceous Plants, &c. Excellent character.—J. PULLEN, The Gardens, Jollywinds, Dorking.

FRUIT, FLOWERS, and VEGETABLES, thoroughly understood and well-grown, either for Market or Private Gentlemen's place. Seventeen years' practical experience in good establishments. Age 32, married; good references.—GARDNER, Mrs. Ireland, Adelaide Place, Castle Street, Canterbury.

GARDENER (SECOND), Inside and Out, where four are kept.—Age 23, single; seven years' experience. Honest and willing. Good character.—G. CORNWELL, Hadlow Down, Buxted, Sussex.

GARDENER (SECOND), Inside and Out.—Age 23; nearly three years in last situation. Other good references.—E. LETHBRIDGE, 40, Princes Rd., Norbiton.

GARDENER, Inside, or Inside and Out, where two or three are kept.—Age 21; good references from previous places.—F. PIKE, The Cottage, Iping, Midhurst, Sussex.

GARDENER (UNDER).—Age 18; three and a half years in Nursery.—C. B., Park Cottage Lodge, East Sheen.

GARDENER (UNDER).—Age 20; good experience in Glass and Kitchen Garden. Good character. Disengaged now.—E. HOAD, Spring Cottage, Limsfield, Surrey.

GARDENER (UNDER).—Age 20; three years' experience in Houses and Kitchen Garden.—W. SKINNER, 1, Fern Hill, Upton Road, Tonquin.

GARDENER (UNDER), Inside and Out.—Age 21; fifteen months' experience. Willing to make himself generally useful. Good character.—G. FOSTER, The Gardens, Barrow Point, Finner, Middlesex.

GARDENER (UNDER).—Age 18; two years' experience in Kitchen Garden and Greenhouse Work.—W. DENNETT, Bridge, South Petherton, Somerset.

GARDENER (UNDER), Outside.—Age 19, two years' good character.—S. PLAW, Hascombe, Godalming, Surrey.

GARDENER (UNDER).—Age 23; used to Inside and Outside Work; also Painting, Glazing, and rough Carpentering. Three years in last place, with good character.—K. WOODMAN, Melrose, Goldersworth, Woking, Surrey.

GARDENER, age 20, to learn under Glass, in a first-class establishment.—Experience in Kitchen Garden; abstainer; excellent references; premium if required.—W. BURK, Cambridge Asylum, Kingston, Surrey.

TO THE TRADE.—HENRY MEADES, late with Messrs. Thomas Cripps & Son, seeks situation as HOUSE FOREMAN, PROPAGATOR, and GROWER; thoroughly practical in Hard and Soft-wooded Stone and Greenhouse Plants, Nursery Trade or Market; also Conifers, Clematis, Rhododendrons, Japanese Maples, general Hardy Climbers, &c.—7, Watford Cottages, Bayham Road, Tunbridge Wells.

To Nurserymen.

FOREMAN (Indoors), MANAGER, or SALESMAN.—Age 29, single; fourteen years' experience in all branches. Could take a journey.—J. W., Plummer's Plain, Hursbam, Sussex.

FOREMAN, in a Gentleman's Establishment; age 26.—H. NIGHTINGALE, Sandhurst, Tunbridge Wells, wishes to recommend Thomas Smith as above. Thoroughly experienced in all branches of the profession.

FOREMAN (Inside).—Age 27. Twelve years' experience; nearly two years in present situation as Foreman. Good references from present and previous employers.—C. W., Brooklands, Weybridge.

FOREMAN, in a good establishment, age 26, 12 years' experience in good places (Castle Howard, Stoke Edith Park, also Ireland).—H. BELL, Seewich, Hull, Yorks.

FOREMAN, or PROPAGATOR, in a small Nursery.—Age 30. Experienced in Pears, Grapes, Tomatoes, Cucumbers, Wreaths, &c. Abstainer.—A. W., 6, The Terrace, Grove Road, Mitcham, S.W.

FOREMAN, PROPAGATOR, and SALESMAN.—Thoroughly experienced, reliable, and energetic. First-class hand in Bouquets, Wreaths, and Floral Decorations.—W., Messrs. Hewitt & Co., Solihull, Birmingham.

To Nurserymen.

PROPAGATOR.—Well up in Roses, Clematis, Rhododendrons, Conifers, Fries, General Hardy Climbers; also Stone, Greenhouse, Bedding Plants, &c.—H. SARGANT, Craigiehill Nurseries, Comely Bank, Edinburgh.

SALESMAN and PROPAGATOR.—A Nur- seryman's son (age 22) wants a permanent situation as above. Last four years under Glass; two years as Salesman in Outdoor Shrub, Conifer, and Fruit Department. Good experience in Seed Stores (retail), and Buttonhole and General Out Flower work. Quick and reliable. Write to—G. E. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, Inside. Age 21.—Mr. SELDEN, Head Gardener at the Gardens, Combe Cottage, Kingston-on-Thames, wishes to recommend E. Finck to any Gardener wanting a young man for the Houses. Two years' character, three previous.

JOURNEYMAN (First), in the Houses, in good establishment.—Age 23; seven years' experience. Good character. Total abstainer.—J. CARTER, 11, Canterbury Terrace, Maida Vale, London, W.

JOURNEYMAN (First), under a good Fore- man.—Age 27; excellent references. Two years in last situation.—State particulars in first instance to Mr. G. GROVES, Temple House Gardens, Great Marlow, Bucks.

JOURNEYMAN, in the Houses, under a Fore- man.—Age 21; six years' experience in good Gardens. Abstainer. Good character.—W. OATES, The Gardens, Crompton House, Stockbridge, Hants.

JOURNEYMAN, Inside, or Inside and Out.—Good references. For particulars apply to HEAD GARDENER, Rhylid Court Gardens, Hanley Castle, Worcester.

JOURNEYMAN, in the Houses, or Inside and Out, in a good establishment.—Age 24.—Mr. P. FOWELL, Gardener, Blatherwyck Park, Wansford, North Hants, can with every confidence, recommend Geo. Digby as above.

JOURNEYMAN (SECOND), in the Houses.—Age 19; two years' experience in Fruit and Flowers.—E. REID, Barnard's Cottages, High Street, Harlow, Essex.

JOURNEYMAN, in the Houses, steady, industrious young man. Ten years' good character.—A. CHURCH, The Gardens, Mapledurham, Reading.

IMPROVER, Inside, in a good establishment.—Age 18; strong and active. Two years' good character from present situation.—G. GROVES, Temple House Gardens, Great Marlow, Bucks.

IMPROVER, Inside, in a good Establishment. Six years' experience in all branches of the profession. Well recommended. Bothy preferred.—HEAD GARDENER, Armsworth House, Alresford, Hants.

TO GENTLEMEN and GARDENERS.—A Youth (age 18), seeks a situation in a good establishment. Two years in last situation. Good reference.—W. W., Rhwygddyford, Llandudno, Llanrwst.

TO SEEDSMEN, NURSERYMEN, and FLORISTS.—Situation required by a young man, age 24; experienced in all branches; excellent references.—C. Hyde House, Acton, W.

TO NURSERYMEN.—Permanent situation required in a good Market Nursery (age 23).—W. B., 4, Gabriel Terrace, Heston, Kent.

TO NURSERYMEN and FLORISTS.—Long established BUSINESS to be DISPOSED OF. Owner retiring after successful career of 15 years in the Nursery and 18 Acre of Land. Lease will be granted. Incoming about £250. Within 20 miles of London. Excellent situation. Pretty cottage residence.—Mr. DAVISON, 3, Circus Place, London, E.C.

TO FLORISTS.—Situation wanted, by a Youth, used to first-class trade.—C. H., 95, Shinkspere Road, Acton.

TO FLORISTS and FRUITERS.—Situa- tion wanted by a young lady. Knowledge of the Fruit, Flower, and Seed Trade.—A. WHITING, 23, Eign Street, Hereford.

HOLLOWAY'S PILLS.—Weary of Life. Derangement of the liver is one of the most efficient causes of dangerous diseases, and the most prolific of those melancholy forebodings which are worse than death itself. A few doses of these noted Pills act magically in dispelling gloom and dispelling the nervous attacks made on the nerves by excessive heat, impure atmospheres, over-indulgence, or exhausting excitement. The most shattered constitution may derive benefit from Holloway's Pills, which will regulate disordered action, brace the nerves, increase the energy of the intellectual faculties, and revive the failing memory. By attentively studying the instructions for taking these Pills, and obediently putting them in practice, the most despondent will soon feel confident of a perfect recovery.

GREEN'S PATENT "SILENS MESSOR" AND OTHER LAWN-MOWING, ROLLING AND COLLECTING MACHINES FOR 1892.

The Winners of every Highest Prize in all cases of competition, and they are the only Mowers in constant use at all the Royal Gardens and at the Royal Horticultural Society's Gardens, South Kensington.

Patronised by—
HER MOST GRACIOUS MAJESTY THE QUEEN on numerous occasions,
HIS ROYAL HIGHNESS THE PRINCE OF WALES,
THE KING OF THE BELGIANS,
The Late EMPEROR OF THE FRENCH, THE EMPEROR OF RUSSIA,
And most of the Nobility, Clergy, and Gentry of the United Kingdom.



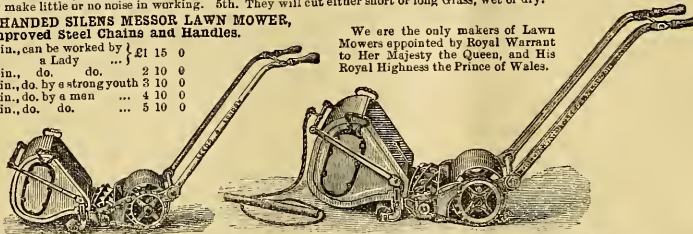
Upwards of 170,000 of these Machines have been sold since they were first introduced in the year 1856, and thousands of unsolicited Testimonials have been received, testifying to their superiority over all others. They have been submitted to numerous practical tests in Public Competition, and in all cases have carried off the Highest Prize that has been given.

The following are their Advantages over all others:—1st. Simplicity of Construction—every part being easily accessible. 2nd. They are worked with much greater ease than any other. 3rd. They are the least liable to get out of order. 4th. They make little or no noise in working. 5th. They will cut either short or long Grass, wet or dry.

SINGLE-HANDED SILENS MESSOR LAWN MOWER, With Improved Steel Chains and Handles.

To cut 6 in., can be worked by	£1 15 0
a Lady	...
To cut 8 in., do.	2 10 0
To cut 10 in., do. by a strong youth	3 10 0
To cut 12 in., do. by a man	4 10 0
To cut 14 in., do. do.	5 10 0

We are the only makers of Lawn Mowers appointed by Royal Warrant to Her Majesty the Queen, and His Royal Highness the Prince of Wales.

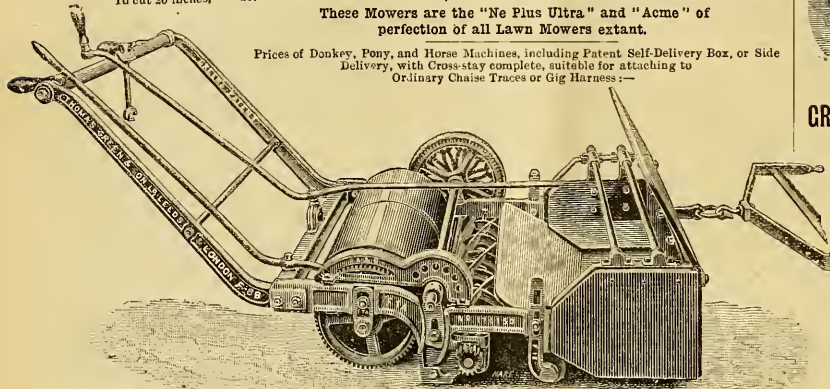


DOUBLE-HANDED LAWN MOWER.

To cut 16 inches, can be worked by one man	£6 10 0	To cut 22 inches, can be worked by two men	£8 10 0
on even lawn	...	To cut 24 inches, do.	9 0 0
To cut 18 inches, do. man and boy	7 10 0		
To cut 20 inches, do.	8 0 0		

These Mowers are the "Ne Plus Ultra" and "Acme" of perfection of all Lawn Mowers extant.

Prices of Donkey, Pony, and Horse Machines, including Patent Self-Delivery Box, or Side Delivery, with Cross-stay complete, suitable for attaching to Ordinary Chaise Traces or Gig Harness:—



DONKEY AND PONY MACHINES.

To cut 26 inches	£14 0 0
To cut 28 inches	16 0 0
To cut 30 inches	18 0 0
Leather Boots for Donkey	1 0 0
Leather Boots for Pony	1 4 0

The 26 and 28 inches can easily be worked by a Donkey, the 30 inches by a Pony, and the larger sizes by a Horse; and as the Machine makes little noise in working, the most spirited animal can be employed without fear of it running away, or in any way damaging the machine. Packing Cases as per List, except when for export.

HORSE MACHINES.

To cut 30 inches	£22 0 0
To cut 36 inches	26 0 0
To cut 42 inches	30 0 0
To cut 48 inches	34 0 0
Leather Boots for Horse	1 9 0

GREEN'S PATENT LAWN TENNIS COURT MARKER.

No. 2412.

The Best Marker made.

Size with 1 wheel for Ordinary Courts, price 14s.

Do., with 3 wheels, 17s.

Size for Clubs and Large Grounds, price £1.

Small Bag of Marking Composition, 9d.

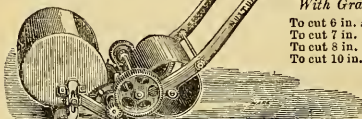


GREEN'S PATENT "MULTUM IN PARVO" LAWN MOWER.

HIGHLY RECOMMENDED FOR SMALL LAWNS.

PRICES, With Grassbox.

To cut 6 in.	£1 5 0
To cut 7 in.	1 13 0
To cut 8 in.	2 5 0
To cut 10 in.	3 0 0



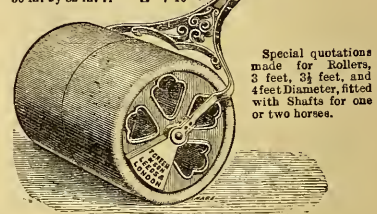
GREEN'S PATENT ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam.	Length	£ s. d.
16 in. by 17 in.	...	2 5 0
20 in. by 22 in.	...	3 5 0
24 in. by 26 in.	...	4 10 0
26 in. by 28 in.	...	6 0 0
30 in. by 32 in.	...	7 10 0



Special quotations made for Rollers, 3 feet, 34 feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

GREEN'S PATENT GRASS EDGE CLIPPER

Size and Price, 7 inches wide, 7 ins. diam., £1 16s.

Packing Case, 3s.

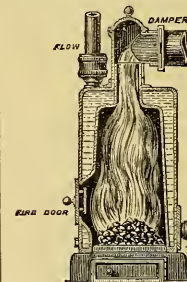
Specially designed to meet a want which has long been felt in cutting the overhanging grass on the edges of walks, borders, flower-beds, &c., and do away with the tedious operation of cutting with shears.

Is a very useful and serviceable Machine.



MAKERS OF PATENT STEEL OR IRON ANGULAR-CHAMBERED AND TUBULAR

HOT-WATER BOILERS



AND OTHERS WITH SHELVES, AND HOLLOW OR ORDINARY CAST-IRON GRATE BARS.

VERTICAL SADDLE BOILERS, &c.

Delivered Carriage Free at all the principal Railway Stations and Shipping Ports in England, Scotland, and Ireland.

The largest stock of Mowers kept by any manufacturer is to be found at our London Establishment, SURREY WORKS, BLACKFRIARS ROAD, where Purchasers can make selection out of several hundred Machines of Hand, Pony, and Horse Power, and have their Orders supplied the same day as they are received.

The above Machines are warranted to give entire Satisfaction, otherwise they may be returned AT ONCE, Free of Cost to the Purchaser.

N.B.—Those who have Lawn Mowers which need repairing should send them either through their Ironmonger or Seedsman to our Leeds or London Establishment, or direct to us, where they will have prompt attention, as an Efficient Staff of Workmen is kept at both places.

GARDEN SEATS AND CHAIRS, AND HORTICULTURAL IMPLEMENTS OF EVERY DESCRIPTION, WIRE NETTING, &c., &c.

Descriptive Illustrated PRICE LISTS Free on application to
THOMAS GREEN & SON, LIMITED, SMITHFIELD IRONWORKS, LEEDS; AND SURREY WORKS, BLACKFRIARS ROAD, LONDON;
or they can also be had of any Ironmonger, Seedsman, Merchant, or Factor in the United Kingdom.

GARDENERS' CHRONICLE

ESTABLISHED 1841

No. 285.

No. 285.—VOL. XI. {THIRD SERIES}

SATURDAY, JUNE 11, 1892.

{PRICE 3d. POST-FREE, 3½d.}

CONTENTS.

Alpines at Newick Park	749	New or noteworthy plants	748
Anemone Fennini	741	Dipsadi serotius	748
Asplenium Hortense, St.	741	Lisochilus Gracilis	749
Brigid var.	750	Masdevallia x Cassiope	749
Berlin public park	759	Yucca Hanburyi	749
Book notice:		Nursery notes	761
Book of Choice Ferns for the Garden, Conservatory, and Greenhouse	760	Messrs. H. Canoe & Sons, Swanley	761
Carnations at Canford Manor	761	Perfume plants in Australia	759
Cyclone in Mauritius	759	Potato disease, prevention of	758
Cypripedium calceolus	750	Public parks in London, opening of	759
Dew, and its action on plants	753	Rose prospects	750
Downton Castle	747	Societies:	
Ferns, British, of the future	756	Royal Horticultural	749
Fruit growing	751	Royal Western Horticultural	761
Fruit notes	752	Steam heating in horticulture	761
Gardeners' Orphan Fund	758	Sweet Chestnut	762
Hardy florists' flowers	752	Tomato, the, in Great Britain	759
Horticultural Club, dinner at	758	Trade notice:	
Kew Water-Lilyhouse at	751	Morris & Griffin, Ltd.	765
Larch lugs	761	Traveller's notes, A.	752
Law notes	765	Warham Court, Hampshire	763
Chard, V. Corry & Co. Limited	765	Week's work, the	754
Linnean Society	758	Apary	755
Manchester Botanical Gardens, show at	758	Flower garden, the	754
National Rose Show	758	Fruits under glass	754
Chesler	758	Hardy fruit garden	754
Newick Park, alpine at	749	Kitchen garden, the	754
Nicotine fumigator	761	Orchid houses, the	754
		Plants under glass	754

ILLUSTRATIONS.

Giant Sweet Chestnut at Tortworth Court	763
Isosoma Orchidearum	755
Warham Court, Hampshire	757
Water-Lily House at Kew	751
Weevil of Colognes	755

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

"Paston's Calendar." New Edition, "The Cottagers' Calendar of Garden Operations," Price 3d., post-free, 3½d. 41, Wellington Street, Strand, London, W.C.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

MR. W. F. TAYLOR, who has for nearly seven years taken a LEADING PART IN THE BUSINESS of Messrs. LITTLE and BALLANTYNE, Seed Merchants and Nurserymen, Carlisle, herewith intimates that HIS CONNECTION WITH THAT FIRM HAS CEASED, as from May 25.

The Villa, Staington, Carlisle, June 1, 1892.

Ficus elastica variegata.

H. B. MAY offers the above, of which he now has a fine stock of the best variety; well-furnished, healthy plants, of various sizes. Prices on application. Dyson's Lane Nurseries, Upper Edmonton.

Trade Offer of Large Palms.

W. ICETON has a large stock of the leading kinds of Decorative PALMS from 6 to 25 feet high, fit for Conservatory and House Decorations: Dracanas, Bumbos, and Filigee Palms. Lowest Prices quoted on application. W. ICETON, Putney, S.W.

CABBAGE PLANTS.—Special Offer, 2,000,000 very strong plants: Enfield, Early Shepford, Drumhead, Savoy, and Sutton's Giant Drumhead, 1s. 6d. 500; 2s. 6d. 1000. EDWARD LEIGH, Cradleigh, Surrey.

Now in June.

SUTTON'S SUPERB SINGLE WALLFLOWER.—Our strain of Single Wallflower is unsurpassed for variety of colour, size of the spikes of bloom, and robust free-flowering habit. Mr. E. WILKINSON, Farneton, says:—"Our show of Wallflowers has been considered by all the experts to be the best in Lancashire. Many of the plants were 18 inches across and only a foot high. Price of seed, mixed colours, 1s. per packet, post free."

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

Rape Seed and White Mustard.

H. AND F. SHARPE have fine clean samples of the above, suitable for sowing, and will be pleased to submit samples and quote prices.

Seed Growing Establishment, Wisbech.

Now now for early flowering in Spring.

ROEMER'S SUPERB PRIZE PANSIES.—The finest strain of Pansies in the World. An introducer and grower of all the leading Novities. CATALOGUE free, on application. FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

GILBERT'S DOUBLE PRIMULAS. Lord Beaconsfield and Marchioness of Exeter. They make unique pot plants. Cuttings, in small 60's, warranted hardy, and good plants, for potting on, well rooted: the former, 3s. per dozen, and the latter, 30s. No charge for Packing and Package.—R. GILBERT, High Park, Stamford.

CONSIGNMENTS OF CHOICE WHITE FLOWERS WANTED. all the year round. Terms Cash on receipt of goods, or monthly, to suit sender.—Particulars, in full, to WRIGHT FISHLICK, Elliot Street, Liverpool.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOES, GRAPES, &c. Good references.

JOHN COLLINGRIDGE is open to receive Consignments of Choice CUT FLOWERS for SALE, on COMMISSION. Highest references. New Flower Market, and 8, Russell Court, Strand, W.C.

MESSRS. SQUELCH AND WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS OF GRAPES, TOMATOES, CUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

Many Acres of Lilies of the Valley! T. JANNICH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNICH (City of the Valley Grower) by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

PRIMULAS! PRIMULAS! PRIMULAS! 24th year of distribution. Williams' Superb Strain, 1s. 6d. per dozen, 10s. per 100. CINERARIAS, same price; also PRIMULA OBCONICA, 4d. each. Cartage free for cash with order. JOHN STEVENS, The Nurseries, Coventry.

200,000 CELERY PLANTS. Clayworth Fridge, all transplanted and strong, 6s. 6d. per 1000; for 5000 and over 6s. per 1000. Autumn Giant CALLIFLOWER, 8s. per 100. Cash with order. Also, Robinson's Ox CABBAGE PLANTS, 3s. per 1000. GEO. YORKE, Seedsmen, Bedford.

CAULIFLOWER and BRUSSELS SPROUT PLANTS.—A large quantity for sale at 2s. 6d. per 1000, for Cash.—Apply A. AUGER, Orange Tree Farm, Dartford.

WANTED, BACK NUMBER OF GARDENERS' CHRONICLE. No. 188, January 11, 1890.—P. J. GILMER, 41, Wellington Street, Strand, London, W.C.

KENTIAS, in many useful sizes for furnishing, also large quantities in 60's, Cocos Weddelliana, and many other Palms. FERNS in many sizes, grow hardy for furnishing. Cheap for cash. GEORGE CLARK, Clarence Lane, Putney, S.W.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

ORCHIDS A SPECIALITY.—Please write for New Illustrated Price List of well-established, healthy, and easily-grown plants. W. L. LEWIS and CO., P.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

150,000.—Special Offer of Kentias. W. ICETON has a large quantity of the above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £30 per 1000. W. ICETON, Putney, S.W.

The Best Present for a Gardener. VINES and VINE CULTURE. The most complete and exhaustive Treatise on Grapes and their Culture ever published. New Edition.

Price 5s., post-free, 5s. 6d. A. F. BARRON, Royal Horticultural Society, Chiswick.

DAHLIAS.—White Dahlias, good strong plants, to offer cheap. Guiding Star and White Aster, 2s. 6d. per dozen, 17s. per 100; turned out of pots, 16s. Carefully packed (free). Strictly cash. GREAVES and HAYNES, Florists, Beeston, Notts.

FLOWER'S LAWN SAND.—For destroying Daisies and other Weeds on Lawns, &c., at the same time acting as a Fertiliser, and improving the growth and colour of the grass. Price, in tins, 1s., 2s. 6d., and 5s.; kegs, 8s. 6d., 16s., and 30s. CORRY and CO., LIND., 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

Seeds for Present Sowing. DICKSON and ROBINSON'S Superb Strains of the following are unsurpassed:—CALCEOLARIA, CINEARIA, GLORINA, and PRIMULA, Red, White, and Mixed Colours, each 1s. 6d. and 2s. 6d. per packet, post-free.

EXHIBITION DWARF EVERGREEN LAWN GRASS, per lb. 1s., post-free, 1s. 3d.; per cwt., 100s., carriage paid. Descriptive Priced CATALOGUE, post-free, on application. Seed Warehouse, 12, Old Millgate, Manchester.

Boulton & Paul's Outdoor Requisites. BOULTON AND PAUL, MANUFACTURERS, NORWICH.

Every Requisite for the Kennel and Poultry Yard, Aviaries, Figen Cotes, Pleasure Grounds. Requisites for the Garden, Park, Pleasure Grounds. Wire Netting for Game and Sheep. Iron and Wire Fencing. Gates, &c.

Send for Illustrated CATALOGUES, post-free, on application. **THE CHADBORN and COLDWELL** MFG. CO.,

Makers of the Patent "EXCELSIOR" LAWN MOWER, 223, UPPER THAMES STREET, LONDON, E.C.

Registered Telegraphic Address: "LAWN MOWERS, LONDON."

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patents of the Duplex Upright Tubular Boilers.

King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE R. LEWIS, Royal Road, Putney, W.M. THOMSON and SONS, Cloverfields, Galashiels, N.B.

SALES BY AUCTION.

Tuesday Next.

IMPORTANT SALE OF VARIOUS CONSIGNMENTS OF ORCHIDS, received direct for Unreserved Sale.

MESSRS. PROTHEROE AND MORRIS will **SELL BY AUCTION**, at their Great Sale Rooms, 67 and 68, Cheapside, London, E.C., on **TUESDAY NEXT**, June 14, at half-past 12 o'clock, direct IMPORTATIONS OF ORCHIDS, just received in magnificent condition, comprising 500 fine pieces of **CYPRIPEDIUM INSIGNE** variety, probably the new and rare **Cypripedium** *Red.*, and also the first-class condition, and include several grand masses; also 400 **CYPRIPEDIUM BELLATULUM**, in splendid condition, from the same owner. 125 **CYMBIDIUM MASTERII**, 50 **C. LOWII**, 160 **CELOCYNE CRISTATA**, 150 **PANDA CERULEA**, 30 **DENDROBIUM JENKINSII**, and 50 **AERIDES ODORATUM**, from a well-known and reliable Collector.

An importation of 250 clusters of **EULOPHIA MACROSTACHIA**, the Ceylon Bee Orchid. The Collector describes it as a Terrestrial Orchid, having leafy stems and pseudobulbs, flowers producing leafless scapes from the base of the bulbs, 2 to 4 feet high, with a cluster of pretty Bee-flowers of nearly 50 to 200 each flower-stalk, and lasting from four to five weeks. The sender's full description will appear in Catalogue. The Collector also mentions that it is rare, and no previous consignment has ever been known.

Also a quantity of **DEODORUM MCCARTHEI** from the same source. An importation of **DENDROBIUM** from Upper Burma, 300 good healthy plants. 30 lots of **VANDA SANDERIANA**, in good condition. 500 **ODONTOGLOSSUM CRISPUM**, all in good healthy plants.

The Auctioneers desire to call attention to this important Sale. The consignments have arrived, and are in magnificent condition, and the whole catalogue will comprise about 500 lots, the whole for absolute Sale.

Wednesday Next, June 15.

POSTPONED from the consequence of the delay in the arrival of the ship.

1,000,000 PALM SEEDS.

Undoubtedly the largest consignment ever submitted to Public Auction. The whole will be offered in one day, and the Consignment includes—

450,000 **KENTIA FOSTERIANA**.319,000 **CHAMBERLAINI**, **COREANA**.85,000 **ARECA LUTESCENS**.And large quantities of **COCOS**, **GEONOMA**, **MARTINISIA**, **DISTICHA**, **CARYOTAS**, &c.

MESSRS. PROTHEROE AND MORRIS will **SELL** the above by **AUCTION** at their Rooms on **WEDNESDAY NEXT**, June 15.

The Auctioneers will be pleased to execute commissions for Provincial and Foreign Buyers.

The Seeds are being sent by two well-known Firms direct to Messrs. PROTHEROE AND MORRIS, and the whole will be sold absolutely without reserve.

Wednesday Next.

MESSRS. PROTHEROE AND MORRIS will include in their **SALE** on **WEDNESDAY NEXT**, June 15, 120 **CARNATIONS** MISS **JOUFFRE** improved; 40 lots of **FERNS**, various; a small consignment of **TREE FERNS** from New Zealand; **HERACEOUS PLANTS** in variety; **BAMBOO** **LADDERS** and **SEES**, **TRILLIS** WORK, &c.

On view morning of Sale, and Catalogues had.

Wednesday Next.

CYCAS REVOLUTA.

25 Cases received direct from Japan, containing about 1000 seeds, in splendid condition, for Unreserved Sale.

MESSRS. PROTHEROE AND MORRIS will include the above in their **SALE** of **PALM SEEDS**, on **WEDNESDAY NEXT**, June 15.

On view morning of Sale, and Catalogues had.

Friday Next.

ESTABLISHED ORCHIDS.**CATTLEYA SCHROEDERII**—Imported.

MESSRS. PROTHEROE AND MORRIS will **SELL BY AUCTION**, at their Rooms, 67 and 68, Cheapside, E.C., on **FRIDAY NEXT**, June 17, at half-past 12 o'clock, well-grown **ESTABLISHED ORCHIDS**, including **Sobralia Ruckeri** (one of the finest coloured *Sobralias*), *S. xantholeuca*, good specimen; **Cattleya tomentosa** *alba*, *Lidia elegans* (lowered), **Ludemannia Pescatorei**, very rare; **Masturbella Weatheriana**, new hybrid (the entire stock), and 50 plants of **Vanda tricolor** or *suavia*.

Also an importation of **CATTLEYA SCHROEDERII**, just received in splendid condition, for Sale without reserve.

On view morning of Sale, and Catalogues had.

Dulwich, adjoining Dulwich Park.

CLEARANCE SALE OF GREENHOUSE AND BEDDING PLANTS, AYRSHIRE COW, POULTRY, VAN, AND EFFECTS.

MESSRS. PROTHEROE AND MORRIS will **SELL BY AUCTION**, on the Premises, Ryecote, Dulwich, five minutes' walk from West Dulwich Railway Station, on **THURSDAY NEXT**, June 16, at 1 o'clock, without reserve, by order of **Thos. Whaley, Esq.**, who is leaving the Residence, the whole of the **GREENHOUSE AND BEDDING PLANTS**, **AZALEAS**, and **CAMELLIAS**; 1000 **GERANIUMS**, in variety, and other Plants. **AYRSHIRE COW**, in full profit to calve, December 21; 60 **Head of POULTRY**, **LIGHT**, **SPRING**, **VAN**, old **WINE**, **CART**, **STACK**, **POLES** and **PULLEY** (New), and other **SUNDRIES**.

May be viewed day prior and morning of Sale. Catalogues on the Premises. **Messrs. PROTHEROE AND MORRIS**, 67 and 68, Cheapside, London, E.C.; and **Leytonstone**.

Friday, July 8.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. F. Sander & Co. to hold their **GREATEST SALE** of the **SEASON**, comprising some 5000 **ORCHIDS**, mostly **CATTLEYS**, and among them great quantities of **CATTLEYA**, **CELESTINE**, and **C. VICTORIA REGINA**; also 200 lots of **NEW ORCHIDS**.

Further particulars will appear in later advertisements.

CALLA (RICHARD) ELLIOTTIANA, the magnificent Golden Calla.

Exhibited recently at the Grand Exhibition of the Royal Horticultural Society at the Temple, where it was awarded a Silver Banksian Medal. Also at the International Horticultural Exhibition at Earl's Court, where it received the First Prize for the best New Plant in bloom.

MESSRS. PROTHEROE AND MORRIS have the pleasure to announce that they have received instructions to **SELL BY AUCTION**, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY NEXT**, June 17, at half-past 12 o'clock.

243 PLANTS

(being the entire stock of this splendid novelty, all raised from one plant) in lots to suit the Trade and private Buyers. This is without doubt one of the finest introductions of late years, and will become a plant universally in demand. It is quite as hardy and equally as easily cultivated as *Calla aethiopica*.

On view morning of sale, and Catalogues had.

Friday, June 24.

GREAT SALE OF CYPRIPEDIUM NIVEUM.

MESSRS. PROTHEROE AND MORRIS will **SELL BY AUCTION**, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on **FRIDAY**, June 24, at half-past 12 o'clock, a grand importation of **CYPRIPEDIUM NIVEUM**, just home, in magnificent order. This superb species is now very rare in its native habitat, and it is difficult to get anything like the quantity collected. It is the only white, and probably the most beautiful, of the whole genus. The plants are equal to being established, and the Collector writes that only by the display of great endurance, he could get the number offered in the Sale, as they almost exterminated. Many magnificent clumps will be offered, and, by the look of the plant, endless forms will turn up among them.

Ieworth and Hounslow.—Notice of Postponement. **FRESHOLD, COPYHOLD, AND LEASEHOLD MARKS**, of which some are ripe for Building Development. By order of the Trustees of the late J. Wilmot, Esq.

MESSRS. PROTHEROE AND MORRIS beg to announce that the Sale of the Above Properties, advertised to take place on June 10 next, is postponed. The Properties may, however, be dealt with privately, and Messrs. Protheroe & Morris will be glad to furnish particulars, and receive offers.

Auction and Estate Offices, 67 & 68, Cheapside, London, E.C.

KENT.—TO BE SOLD, at a sacrifice. In the best district, a **FRESHOLD NURSERY**, with 10 modern Greenhouses, all well-heated. Now in excellent working order. Any reasonable offer entertained. No stock to take. Full particulars of Messrs. PROTHEROE AND MORRIS, Auctioneers, 67 and 68, Cheapside, London, E.C.

Important to Market Gardeners.

GARDENS to be LET WITHOUT RENT. The splendid Kitchen Gardens and Glass belonging to a Gentleman's Mansion, 11 miles from London, and one minute from station on the L. & N.W.R. to be let without rent, in return for the Pleasure Grounds being kept in order. Both gardens and houses are well stocked and in good order. Can be seen at any time by appointment. Address, X. M., 31, Wellington Street, Strand, W.C.

FARM to LET, on High Road, 8 miles from London, 20 acres of Fruit Trees and Strawberry Plants, and four large Greenhouses. To be taken at valuation. Also **FRUITERS** and **GREENGROCERS** (old established). They can be let separately. Apply, J. HANCOCK, 66, Greenwood Road, Dalston, N.E.

To Fruit Growers, Nurserymen and Others. **GOOD ARABLE AND MEADOW LAND** to be LET or SOLD. Close to the main road at Fonder's End (9 miles from London). Long leases granted. Rent, 212 per acre per annum, with option to purchase the Freehold any time during the first nine years. Several large Market Nurseries are established on the Estate. Full particulars of A. and G. GUYER, Land Agents, Fonder's End.

GUERNSEY.—FOR SALE, a **FRESHOLD ESTATE**, consisting of a Dwelling House, large Outbuildings, Stable, &c., about 53 acres of good land, on which are erected thirteen very large Vineries, comprising about 100,000 superficial feet of Glass.

Apply to B. care of Mr. F. B. Guerin, Stationer, 25, High Street, Guernsey.

FLORIST and FRUITERS.—Well-established and thoroughly genuine **BUSINESS**, in thickly populated residential suburb North of London, on main road. Takings over £15 weekly. Could be easily doubled by energetic proprietor. Price, including fixtures, £200.—Apply to Mr. ALFRED V. ROBINSON, High-road, Tottenham.

TO NURSERYMEN and FLORISTS.—Snug old-established **BUSINESS** to be DISPOSED OF. Owner retiring after successful occupancy. 14 Greenhouses, and 5 acres of Land, to be let or sold. Income, £500. Within 20 miles of London. Excellent situation. Pretty cottage residence.

Mr. DAVISON, 3, Circus Place, London, E.C.

To Market Gardeners and Others. **TO BE SOLD**, the unexpired term of a valuable **LEASE** of **MARKET GARDEN**, situated within 5 miles of City Garden Market.—For particulars, apply to Mr. FRAS. ROBINSON, Solicitor, 36, Jermyn Street, St. James.

FOR SALE, a COMPACT NURSERY, well situated, good Jobbing Connection, 6 Greenhouses and Pits, 6-roomed House. Fourteen years odd to run of Lease. Situated near Station, doing good Flower Trade. All on main road and in good repair. In present hands 20 years. A Bargain; reason, ill health.

Apply to R. HOLLOWAY, Florist, Herne Hill, S.E.

EXHIBITIONS.

ROYAL BOTANIC SOCIETY, GARDENS, REGENT'S PARK, SPECIAL FLORAL FÊTE, and CHILDREN'S FLORAL PARADE, WEDNESDAY, JUNE 22.

Gates open at Two o'clock. The Band of the Royal Horse Guards (Blue), and the 2nd Life Guards, by kind permission of the Commanding Officers, will play from 2.0 to 7.0 p.m. Schedules of prices now ready. Tickets to be obtained at the Gardens only by vouchers from Followers of the Society, price 6s., or on the day of the Fête, 7s. 6d. each.

Woolwich, S.E.

Main thoroughfare, near station, and within 8 miles of London.

THE valuable, first-class **SEED** and **FLORISTS' BUSINESS**, doing an enormous Seed, Floral, and Decorating Trade, together with an exceptionally well-stocked Nursery and Bedding out grounds. Heated hot-water with Hot-water Pipes, as also the splendidly situated **NURSERY** within 15 minutes of above, together with small Cottage. The whole forming an undisputed reliable concern for an energetic man. Present owner retiring from Business.

The whole of the above can be purchased at a very low figure if taken over by Midsummer next. Full particulars of R. PECKITT, House and Estate Agent and Valuer, 31, Wellington Street, Woolwich.

PICTURESQUE ROCK SCENERY.—Forming Waterfalls, Lakes, and Streams, Ferneries, Winter Gardens, Alpines, &c., as in hundreds of places about the kingdom, including at Aldenham House, Elstree, so faithfully illustrated in this journal of November 21, executed by PULHAM and SON, 50, Finsbury Square, London, E.C., and Broxbourne, Hert. Photo Illustrated Rock sent for inspection on receipt of twelve stamps.

THE TOWER FURNISHING COMPANY (Limited), **SUPPLY GOODS ON HIRE**, direct from the Manufacturers; one, two, or three years' Credit without Security. Purchasers have the choice of 100 Wholesale Houses. Call or write for Prospectus.

Address, SECRETARY, 43, Great Tower Street, E.C.

A. G. WATSON;

FRUIT & FLOWER SALESMAN, ABERDEEN.

Sale Days, Tuesday and Friday, at 9 A.M.

Consignments solicited of Fruit and Early Vegetables

FOR ORCHIDS, and GARDENERS to Grow Them, apply to **SANDERS, St. Albans**. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

FERNS! FERNS! Trade.—Greenhouse and Trade, 25 salable sorts, 12s. per 100. Large **Adiantum cuneatum**, *Aralias*, *Cyperus*, *Rhodesia*, all in 48's, 6s. per doz. *Palmis*, *Ficus*, *Hydrangea*, &c. extra. Large **Ferns**, 10 best sorts 6s. 6d. per doz. in 48's. *Spiraea*, *Marguerite*, and *Pelargonium*, 8s. per doz. in 48's. **Adiantum cuneatum** and *P. tremula*, extra size, in 2½-inch pots, 16s. and 20s. per 100. Packed free, Cash with order. J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

ORCHIDS.

THE LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

Have just received

LARGE and SPLENDID IMPORTATIONS of the following and other

ORCHIDS.

CATTLEYA TRIANÆ,

Splendid gigantic-flowered, highly-coloured type from new district.

CATTLEYA MENDELII, in fine masses.**CATTLEYA SKINNERI.****CYPRIPEDIUM INSIGNE** VAR. **EXUL.**DO. **BELLATULUM** type.DO. **INSIGNE.****PHALÆNOPSIS GRANDIFLORA AUREA.****EPIDENDRUM BICORNUTUM.****ONCIDIUM LURIDUM.****DENDROBIUMS** in great variety, in grand masses.

ORCHIDS from Mexico, ORCHIDS from Guatemala, &c.

Prices and Full Particulars sent post-free on application.

THE VINEYARD and NURSERIES, GARSTON, NEAR LIVERPOOL.

The Subscription List will open on Wednesday, June 15, 1892, at 10 a.m., and will close on or before Friday, June 17, at 3 p.m.

Subscriptions will be received by the Company's Bankers, viz.:—
The County of Gloucester Bank, Limited, Cheltenham, Newport, Mon., and all Branches.
The Birmingham District and Counties Bank, Limited, Wolverhampton, and all its Branches.

MORRIS & GRIFFIN, Limited.

(Incorporated under the Companies' Acts, 1862 to 1890).

Share Capital	£40,000
5 per Cent. Mortgage Debentures	£25,000
	£65,000

The Share Capital is divided into:—
1,500 6 per Cent. Preference Shares of £10 each (Cumulative and with priority, in respect of Capital as well as Dividend) £15,000
2,500 Ordinary Shares of £10 each £25,000

The Debentures will be issued in Bonds of £100 each, bearing interest at 5 per cent. per annum, and will be secured by a Trust Deed, charging the same upon the whole undertaking and property of the Company. The Debentures will be repayable at par at the option of the Company, upon payment of a premium of 5 per cent., by giving six months' notice.

Interest on the Debentures will be payable half-yearly, on January 1 and July 1 in each year.
Of the 2,500 Ordinary Shares and the 1,500 six per cent. Preference Shares, the Vendor takes 600 of the former as deferred fully-paid Shares £6,000
300 Fully-paid Ordinary Shares £3,000
250 6 per cent. Preference Shares £2,500
And 25 Mortgage Debentures £2,500

In part-payment of the purchase-money £14,000
The remainder of the issues are now offered for public subscription viz.:—

1,250 Six per cent. Preference Shares of £10 each £12,500
1,600 Ordinary Shares of £10 each £16,000
225 Debentures of £100 each £22,500

Total £85,000
And which will be payable as follows:—

	Preference Shares.	Ordinary Shares.	Debentures.
On application	£ 5 0	£ 5 0	£ 5 0
On Allotment	10 0	10 0	10 0
On 30th June, 1892	3 0	3 0	3 0
On 30th November, 1892	5 0	5 0	5 0
On 28th February, 1893	0 0	0 0	0 0

The remaining £25,000 of the Ordinary Shares will not be called within two months after date of the last-named payment, nor upon less than three weeks' notice.

A limited portion of the Debentures and Preference Shares may be paid up in full on Allotment, and Dividends and Interest will rank from payment of each instalment after Allotment. Failure to pay any instalment when due renders previous payments liable to forfeiture.

DIRECTORS.

MAJOR C. T. WALLIS, J.P., Cheltenham, Newport, Mon. (Chairman).

COLONEL W. AGG, J.P., Director of County of Gloucester Bank Limited, The Hewletts, Cheltenham.

EDWD. DIXON ANDERTON, Esq. (Proprietor of West of England Maure Works, Penryn, Cornwall), Oakroy, Falmouth.

*WILLIAM MOXON FULLER, Esq. (Managing Partner of Morris & Griffin), Ceres Works, Wolverhampton (Managing Director).

ALDERMAN F. D. GIBBONS, J.P., Tettenhall Road, Wolverhampton (Local Director for Wolverhampton).

* Will join the Board after allotment.

BANKERS.

THE COUNTY OF GLOUCESTER BANK, LIMITED.
THE BIRMINGHAM DISTRICT AND COUNTIES BANK, LIMITED.

SOLICITORS.

MESSRS. LLEWELLYN AND MOORE, Newport, Mon.

AUDITOR.

MR. O. B. CUVILLE, F.C.A., Newport, Cardiff, and London.

REGISTERED OFFICE.

GLOUCESTER BANK CHAMBERS, NEWPORT, MON.

PROSPECTUS.

This Company is formed to purchase and carry on the extensive Chemical, Manure, Bone Crushing, and Animal Charcoal Businesses of Messrs. MORRIS & GRIFFIN, at Newport, Monmouthshire, and Wolverhampton, Staffordshire. The firm has been established since 1821, and has extensive connections throughout the United Kingdom, the Western Provinces of France, and various other parts of the World.

The Newport portion of the business has of late years steadily increased, and it has become necessary to extend the works which are situated on the east side of the River Usk adjoining the Great Western Wharf and with a branch line to the Great Western Railway; they now stand on about 4 acres of ground, the lease of which is held for an unexpired term of 90 years, at the low rental of £100 per annum. The Works consist of Plant of the most modern description, and are capable of producing upwards of 5,000 tons of Sulphuric Acid per annum, and comprise powerful Grinding and Dissolving Machinery, which are fully

occupied in the manufacture of all kinds of Fertilisers, Leuner's patent Bone "degassing" apparatus, Warehouses containing about 25,000 square feet of storage room for large Stocks of Boulders, powerful Steam Engine, Lifts; Bone and Pulverising Machinery with Smithy and Fitting Shop; Pumping Machinery, Reservoirs for Storage of Water, and a Railway Siding round the Works, with every facility for the import and export of goods by shipment direct from the River Wharf, at a fixed and advantageous rate for the whole term of the Lease.

The Wolverhampton Works cover an area of about 7 acres, and are connected by a siding with the London & North-Western Railway, with access to the Great Western and Midland Lines, having also Canal Wharves on two sides of the Works. The Manure, Bone and Animal Charcoal portion cover about 3 acres, and it has been arranged to lease this portion of the Works, and carry them on in connection with Newport. They consist of large Warehouses, Powerful Steam-engines, Boilers, &c., and Leuner's Patent Apparatus for "degassing" Bones, carrying with it the sole right of usage in the West Midland Counties. Modern Machinery, for grinding Bones, also the most perfect Animal Charcoal Plant, the plans of which were obtained at great cost from the Continent, with exclusive rights for using in this Country and which are maintained. In connection with the Charcoal Plant are Sulphate of Ammonia and Bone Pitch Works. The Bone Meal Branch of the business is also important and lucrative. An undertaking has been entered into with the Vendor, which precludes him from carrying on a similar trade or otherwise appropriating the remaining portion of the Works to the prejudice of the current business.

A valuation of the Land, Buildings, and Railway sidings, and all the property, including the Plant and Machinery, at Newport, has been made by Messrs. Graham, Son, and Hitchcox, the well-known Valuers of that town; and a copy of their certificate is appended hereto. The whole of this important and Valuable Property, with Goodwill, together with all the Trade Marks and use of Patent rights of Leuner's process, also Secret process in connection with the Animal Charcoal business, Contracts and Agencies; Stock in Trade, estimated at £5,000 but subject to valuation, and Bank Debt, estimated at £15,000 (guaranteed by the Vendor and forming part of the Working Capital), as at 30th June next, the Vendor has arranged to sell the Company for the sum of Fifty-five Thousand Five Hundred Pounds, payment to be made as follows:—

£5,000 in fully-paid deferred ordinary Shares.
£5,000 in ordinary Shares.
£2,500 in 6 per cent. Preference Shares.
£2,500 in Debentures.
£15,000 in Cash.

£35,500

The remaining Capital of £9,500 will be used for extensions at Newport, working the Wolverhampton business, and providing for the payment of the preliminary expenses, as specified herein. No liabilities will be taken over by the Company.

In consequence of the cheap production of Sulphuric Acid in England, and a large supply of Raw materials from countries where Sulphuric Acid is too costly to make, Artificial Manures can be made in England to compete with the World. These works have already shipped considerable quantities to France, Italy, the Mauritius, and other parts.

The satisfactory future in the Newport trade is, that it is mainly conducted on a cash basis, and the proposed re-arrangement of the business gives promise of considerably increasing the trade both at home and abroad of this old-established and, the Directors have no hesitation in saying, thoroughly sound commercial undertaking.

Mr. O. B. Cuville, Chartered Accountant, of Gloucester Bank Chambers, Newport, 2, Street Street, Cardiff and 4, Bishopsgate Street Within, London, has examined the statements of profit and loss submitted to him, with the books at Wolverhampton and Newport, and a copy of his certificate is appended hereto. As one part of the Wolverhampton trade is being taken over, it has been necessary to apportion some of the working expenses, but the Manager has done this as carefully as possible so as to bring a fair charge for them against the Newport Works. The figures taken for five years working at Newport ending June 30, 1891, show an average of profits over that period of £3,848 per annum, the minimum being £3,133 1s. 1d., and the maximum £4,785 18s. 10d., and which average the Directors have every confidence will be maintained in the future.

Take the average actual profit per annum over the five years ending June 30, 1891 £3,848 0 0
Add the two years' profit to be taken over by the Vendor, carried on at Wolverhampton, carefully computed to yield a profit of £1,400 per annum 1,400 0 0

Total £5,248 0 0

No estimate has been made for the increased profits that will necessarily accrue by the transfer of a large Super-Phosphate Business from Wolverhampton to Newport, or by the addition of the old-established connection of Gibbons and Wills (which has been acquired by the Vendor).

Taking the above figures as a basis:—
5 per cent. Interest on £25,000 of Debentures will be ... £1,250
6 per cent. Interest on £15,000 of Preference shares will be ... 900

£2,150
Leaving for the Ordinary Shareholders £3,098 which sum (after allowing for the extra expenses of working as a Company) shows say 10 per cent., and includes the Vendor's Deferred Ordinary shares of £5,000, the latter not ranking for dividend until that percentage is earned by the strict trading of the Company on the Full Ordinary Share Capital.

Mr. W. M. Fuller, who has successfully managed the business for thirty-five years (twenty years as Managing Partner), and is a practical Agricultural Chemist, has agreed to act as Managing Director for a period of at least ten years, and has entered into an Agreement with the Company not to carry on or be interested in any competing business.

The Vendor will pay all Charges in connection with the formation of the Company, up to and including allotment, except printing, advertising, stamps, stamp-duties, and legal expenses incurred on account of the Company.

The only Agreement which has been entered into (and all Applicants for Shares and Debentures shall be deemed to have had notice of the terms thereof) is:—

An Agreement bearing date May 10, 1892, made between WILLIAM MOXON FULLER of the one part, and WILLIAM FREDERICK BENTLEY (on behalf of this Company), of the other part.

Copy of the Memorandum and Articles of Association of the Company and of the Agreement above-mentioned, and of the certificates of the Valuers and Accountant mentioned in this Prospectus, can be inspected at the offices of the Solicitors of the Company.

Applications for Shares and Debentures should be made on the accompanying forms and forwarded to the Bankers of the Company, at any of their branches, or to the Secretary of the Company at the Registered Office, Gloucester Bank Chambers, Newport, together with the amount payable on application. If no allotment be made, the deposit will be returned without deduction, and where the number of Shares allotted is less than the number applied for, the surplus will be credited in reduction of the amount payable on allotment.

Prospectuses and Forms of Application may be obtained at the Office of the Company, or at their Bankers or Solicitors.

COPY OF REPORT AND VALUATION.

The works which were erected in 1892-3 have been carefully designed and well constructed.

The arrangements of the Manufacturing Department are convenient, and the storage accommodation large. For facilities of export trade are situated on a free river, close to a wharf capable of receiving vessels of large tonnage, and for distribution in the interior they are connected with the Great Western Railway main line.

The whole area of the site is not covered by the buildings and railway sidings already constructed, but land is still available for a considerable extension of the Works.

The Machinery and Plant laid down is of the most modern character, and especially adapted for economical and rapid production.

The Acid Plant is large; of the most improved design, and capable of supplying what may be required on an extension of the Works.

Gas and Water are laid throughout the entire Works, and supplied from the Companies services. There are also large storage tanks for water.

Having viewed the Buildings, Plant, and Machinery at the above place (which is described above), and considered the value thereof, and the value of the Vendor's beneficial interest in the lease of August 8, 1892, we fix the present value as the good value at Twenty-one hundred and Loss pounds, and for the business of MORRIS & GRIFFIN, with their Books of Account at Wolverhampton and Newport, for a period of five years, ending June 30, 1891. I see therefore that certain expenses, on account of the re-arrangement of the Works, have had to be apportioned, and I consider the apportionment correct. The result of my verification, therefore, gives an average profit over the five years, after allowing for maintenance and bad debts, of £188 9s. 6d. per annum, for the Newport portion of the business (the minimum year showing £133 1s. 1d., and the maximum £178 18s. 10d.). I have also verified the figures on which the further sum of £1400 a year is estimated as profit on the Bone Crushing business at Wolverhampton, this result being arrived at on a satisfactory basis on the past workings, and up to the corresponding date with the above. Interest on Capital has not been passed through the accounts. Yours faithfully, O. B. CUVILLE.

WILLIAM GRAHAM, SON AND HITCHCOX, SURVEYORS AND VALUERS, Messrs. The Directors of MORRIS & GRIFFIN, Ltd., Newport, Mon., March, 1892.

COPY CERTIFICATE OF ACCOUNTANT.

To the Directors of Messrs. Morris & Griffin, Limited.
GENTLEMEN,—According to your instructions, I have compared the statements of Profit and Loss submitted to me by the business of MORRIS & GRIFFIN, with their Books of Account at Wolverhampton and Newport, for a period of five years, ending June 30, 1891. I see therefore that certain expenses, on account of the re-arrangement of the Works, have had to be apportioned, and I consider the apportionment correct. The result of my verification, therefore, gives an average profit over the five years, after allowing for maintenance and bad debts, of £188 9s. 6d. per annum, for the Newport portion of the business (the minimum year showing £133 1s. 1d., and the maximum £178 18s. 10d.). I have also verified the figures on which the further sum of £1400 a year is estimated as profit on the Bone Crushing business at Wolverhampton, this result being arrived at on a satisfactory basis on the past workings, and up to the corresponding date with the above. Interest on Capital has not been passed through the accounts. Yours faithfully, O. B. CUVILLE.
Cardiff, April 25, 1892. Dated Newport, Mon., May 23, 1892.

RANSOMES'

At the Jubilee Meeting of the R.A.S.E., Windsor, HER MAJESTY THE QUEEN and H.R.H. PRINCESS VICTORIA OF PRUSSIA each purchased a RANSOMES' LAWN MOWER.

All Mowers sent on a Month's Trial, Carriage Paid.



LAWN MOWERS,

The Best in the World.

In all sizes to meet every requirement.

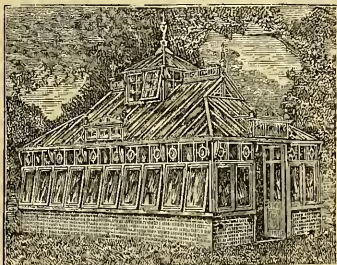
"NEW AUTOMATON," the Best Gear Machine.
 "CHAIN AUTOMATON," the Best Chain Machine.
 "ANGLO-PARIS," the Best Small Machine.
 "EDGE CUTTER," the only one of real service.
 "BANK CUTTER," the Best for Cutting Slopes.

THE BEST PONY and HORSE-POWER MOWERS.

Orders executed promptly by all Ironmongers.

RANSOMES, SIMS & JEFFERIES, Ltd., IPSWICH.

BECKETT BROS., CHELMSFORD.



Thoroughly Practical and Experienced Horticultural Engineers in all branches connected therewith.

Prices LIST and Estimates free on application.

The Original and Only Makers of the GENUINE RIVETED TRENTHAM BOILERS



WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM, With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers, CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. HOT-WATER BOILERS and HEATING APPARATUS, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps. PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

Protect your Gardens from Ravages of Birds.

TANNED NETTING, 35 yards, 1s. Can be sent any width; carriage paid on orders over 5s. Also BELL-TOP TENTS, 40 feet in circumference, with pegs, pole, all complete, from 20s. to 30s. each.

HENRY ROBINSON, Tent and Net Merchant, Bye, Sussex.

GARDEN REQUISITES.

COCO-NUT FIBRE REFUSE,

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons),

40s.; 4-bushel bags, 4d. each. LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.

BLACK FIBROUS PEAT, 5s. per sack, 5 sacks, 22s.; sacks, 4d. each.

COARSE SILVER SAND, 1s. 6d. per bushel; 15s. per half ton; 26s. per ton, in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PRAT-MOULD, and LEAF-MOULD, 1s. per bushel.

SPHAGNUM MOSS, 8s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN OORK, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Prices LIST—

E. G. SMYTHE, F.R.H.S., 21, Goldsmith's Street, Drury Lane (lately called 17A, Coal Yard), W.C.

FRIDAY NEXT.

CALLA (RICHARDIA) ELLIOTTIANA.

THE MAGNIFICENT GOLDEN CALLA.

Exhibited recently at the Grand Exhibition of the Royal Horticultural Society at The Temple, where it was awarded a Silver Banksian Medal; also at the International Horticultural Exhibition at Earl's Court, where it received the FIRST PRIZE for the best new plant in bloom.

MESSRS. PROTHEROE and MORRIS have the pleasure to announce that they have received instructions to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, June 17, at half-past 12 o'Clock—

243 PLANTS,

(being the entire stock of this splendid novelty, all raised from one plant), IN LOTS to SUIT THE TRADE and PRIVATE BUYERS.

This is, without doubt, one of the finest introductions of late years, and will become a plant universally in demand. It is quite as hardy and equally as easily cultivated as Calla Æthiopica.

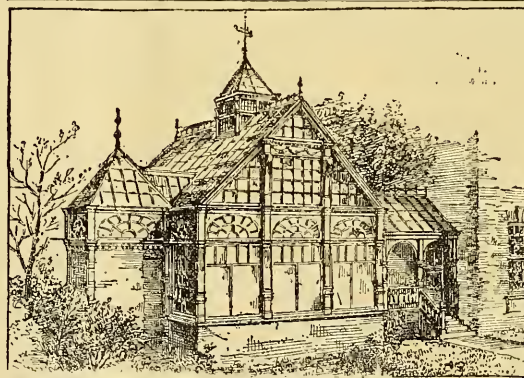
On view morning of Sale, and Catalogues had.

Cattleya Mossiæ in bloom!

OVER 1000 FLOWERS NOW OPEN.

HUGH LOW and CO. cordially invite inspection of the above, and many other CHOICE ORCHIDS NOW IN FLOWER, by all Gentlemen interested in their culture.

CLAPTON NURSERY, LONDON, N.E.



CROMPTON & FAWKES, HORTICULTURAL BUILDERS, CHELMSFORD.

BOOK of Photo-Lithographed Sketches of Winter Gardens, Ranges of Hothouses, Vineries, Architectural Conservatories, &c., of various Designs and Sizes, recently constructed, erected, fitted, and heated complete by us in different parts of the country; with particulars of the most successful Hot-water Heating Apparatus of the century.

Post-free on application.

Exhibits at Stand 1 and Insectivorous House, International Horticultural Exhibition, Earl's Court.

HORTICULTURAL BUILDER.

Every description of GREENHOUSES, LIGHTS, &c.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. 6d. each, 50s. doz., 210 for 50 lights, free on rail in London. On wh or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 feet by 12 feet house, lights, door, &c. Put on rail in London. Price, 29 10s. Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.



Send for Illustrated Catalogue, just issued.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE

"HERCULES" BRAND (Regd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



"Are you not afraid those children will injure the Hose or stop the water?"

"Oh, no! This SPHINCTER GRIP ARMoured HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of."

Contractors to all Departments of Her Majesty's Government and the Horticultural and Agricultural Societies. Hundreds of Unsolicited Testimonials.

BEWARE OF WORTHLESS IMITATIONS, and send for ILLUSTRATED and DESCRIPTIVE CATALOGUE (post free on application) of HOSE and GARDEN WATERING APPLIANCES and FITTINGS of every kind.

MR. JOHN KNIGHT, Rose of Kent Nurseries, Dartford, writes, April 26, 1892, ordering a supply of our "A Quality" Hose:—"I had no end of trouble with another firm's make of Garden Hose last year; it wore clean out in less than three months—went into hundreds of holes in this time—so that I do not want anything of the sort again."

HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891.
No Exhibition Medal or Award has ever been secured by any other firm for Armoured Hose.

SPHINCTER GRIP ARMoured HOSE CO., Ltd.,
OFFICES and SHOW ROOMS—9, MOORFIELDS, LONDON, E.C. Works—LONDON and NORTHAMPTON.

GOLD MEDAL LAWN MOWERS

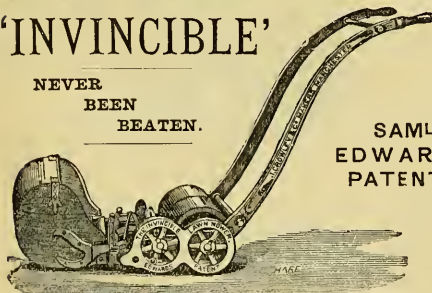
'INVINCIBLE'

NEVER
BEEN
BEATEN.

'VICTOR'

EASY
TO
WORK.

SAML.
EDWARDS'
PATENTS.

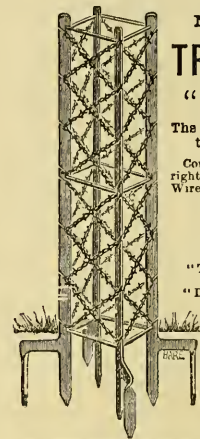


SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

HILL & SMITH,

BRIERLEY HILL,
STAFFORDSHIRE,
And 118, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN

TREE GUARD,

"The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Uprights and Galvanised Barbed Steel Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittern, Herefordshire,
"Dec. 28, 1887.

"DEAR SIRS,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me so more as before. I enclose cheque for your account.

Yours truly,

RICH'D. GREEN.

Messrs. Hill & Smith.

BARB WIRE.

CATALOGUES FREE

ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



BOULTON & PAUL,



NORWICH,

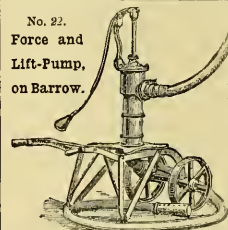
Manufacturers
of
ALL KINDS
of



GARDEN REQUISITES.

Send for Illustrated Catalogue, free on application.

No. 22.
Force and
Lift-Pump,
on Barrow.



Cash Prices—Carriage Paid.
With connections and strainer, but without hose, 61/10s.
Suction or delivery hose, carriage paid with pump, 3s. 3d. per foot.
Extreme width, outside wheels, 22 inches.

EVERY REQUISITE
FOR THE
GARDEN, PARK,
AND
PLEASURE GROUNDS.
Send for Catalogue.

BOULTON & PAUL, NORWICH.

HEATHMAN'S HOSE,

ANTIMONIAL RED RUBBER.

Is Lightest in Weight, yet Strongest and Most Durable
FOR GARDENS.

220 Miles Sold the last Five Years. Price Lists from—

HEATHMAN'S HOSE FACTORY,
2 & 37, ENDELL STREET, LONDON, W.C.

GARDEN REQUISITES, as supplied to the Royal Gardens.—COCOA-NUT FIBRE REFUSE, 1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton truck, 30s., free on rail near works. FINE ORCHID PEAT, 8s. 6d. per sack. BROWN FIBROUS DO., 5s. per sack, 5 for 22s. 6d. BLACK DO., 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 2s. per sack. COARSE SILVER-SAND, 1s. 6d. per bushel, 14s. 3d. per ton. CHARCOAL, 8s. per sack. SPHAGNUM, 7s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 10s. 6d. to 18s. per dozen. RAFFIA, VIRGIN CORK, STAKES, kc. BONES, 1/2-inch, 11s. per cwt. PURE BONE-DUST, 11s. 6d. TOBACCO-PAPER, 8s. 6d. per lb. 28 lb. for 21s. CLOTH, 1s. per lb., 28 lb. for 28s. Price List, free. W. HERBERT AND CO., Hop Exchange Warehouses, Southwark Street, London, S.E.

BARR'S SEEDS, BULBS AND PLANTS.
VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.
BULBS.—Gladstol, Lilac, Aconites, Ranunculus, Hymenocallis, anemones, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.
PLANTS.—Michaelmas Daisies, Personal Sunflowers, Double and Single Foxgloves, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.
BARR AND SON, 12, King Street, Covent Garden, London.

EDWARD LEIGH, Cranleigh, Surrey, will supply the next few weeks' plants at the following low rates, carriage paid, for cash with order:—**DOUBLE CARNATIONS, PICOTEES, PANSIES,** splendid show varieties (sample blooms, 6d.), 1s. per doz., 5s. per 100, 40s. per 1000. **Longfield Double DAISY, PURPLE ARABIS, DIANTHUS HEDEWIGII, VIOLAS** (Black, White, Sky-blue, Yellow), also Mixed, 1s. per dozen, 4s. per 100, 30s. per 1000. **ALYSSUM SAXATILE, SWEET WILLIAM** (choicest varieties), 8d. per dozen, 3s. per 100, 20s. per 1000. **WALLFLOWERS** (many best varieties), 3d. per dozen, 2s. per 100, 15s. per 1000. **HERB PLANTS:** Sage, Winter Thyme, Winter Savory, 1s. 6d. per dozen, 3s. per 100, 8s. per 1000. Above are good year-old plants, from open ground. Send for LIST of Flower, Vegetable, and Herb Plants.
EDWARD LEIGH, Cranleigh, Surrey.

TRADE OFFER OF PALMS.
COCOS Weddeliana, in thumbs ... at 20s. per 100.
 ... in 60's ... at 55s. per 100.
KENTIA Fosteriana & Belmoreana, in thumbs, at 20s. per 100.
 ... in 60's ... at 80s. per 100.
 ... in 45's ... at 24s. per doz.
 ... in 32's ... at 45s. per doz.
SEAFORTHIA Elegans, in 60's ... at 32s. per 100.
 ... in 45's ... at 45s. per 100.
 W. Icton has a fine Stock of *Asparagus plumosus nanus*, in 45's and 60's; *Pandanus Veitchii*, *Dracaena Lindenii*, and *Ficus elastica*.—W. ICTON, Putney, S.W.

SPECIAL TRADE OFFER OF PALMS.
ARECA LUTESCENS, in 45's, 18s. and 24s. per dozen.
 ... in 40's, 3 feet, 30s. per dozen.
 ... in 32's, 36s. and 42s. per dozen.
CORYPHA AUSTRALIS, in 32's, 30s. dozen.
 ... in 45's, 15s. dozen.
KENTIAS, in 45's, 24s. per dozen.
LATANIA BORBONICA, in 45's, 18s. and 24s. per dozen.
 ... in 40's, 30s. per dozen.
 ... in 32's, 36s. and 42s. per dozen.
SEAFORTHIA ELEGANS, in 45's, 15s. and 18s. per dozen.
 ... in 32's, 30s. per dozen.
 ... in 24's, 1s. 6d. each.
FICUS ELASTICA, 3 feet, in 32's, 24s. dozen.
 ... 4 feet, 36s. dozen.
 All the above are exceedingly strong, and well-grown. Packing free for cash with order.
J. ROCHFORD, Page Green Nursery, South Tottenham.

DAFFODIL BULBS,

FOR FORCING PURPOSES.

Hartland, of Cork, is now raising his Crop of Ad-Righ and Countess of Annesley, Golden Plover, &c., for the Trade, and shall be glad of immediate Orders. The Bulbs are simply magnificent. Please write for Prices and Samples.
 Daffodil Grounds at Ad-Cair.

WM. BAYLOR HARTLAND, F.R.H.S., Seedsmen, Cork.

To the Trade.

MANGEL WURZEL and TURNIP SEEDS.

H. AND F. SHARPE have very fine Stocks of the above-named Seeds of 1891 growth, and raised from Choice Selected Stocks and transplanted bulbs, and are offering them at very advanced prices. The quality is very fine and the growth strong. Samples and prices on application.

SEED GROWING ESTABLISHMENT, WISBECH.

PRIZE MEDAL PELARGONIUMS.

H. J. JONES,

Of Ryecroft Nursery, Court Hill, and Hither Green Lane, Lewisham, S.E.

Is desirous of drawing the attention of the Public in general, and the Trade, to his fine and extensive Stock of

DECORATIVE PELARGONIUMS, For which he was awarded the Silver-gilt Medal of the Royal Horticultural Society at their Great Show, held on May 25, at the Temple Gardens.

Five strong Plants, just coming in Flower, in 5-inch pots, 12s. and 18s. per dozen.

Send to H. J. JONES for CATALOGUE of all the best ZONAL PELARGONIUMS, DAHLIAS, COLEUS, FUCHSIAS, BEGONIAS, &c., at lowest prices.

FERNS A SPECIALITY

The finest & most interesting Collection in the Trade. - 1400 SPECIES & VARIETIES

Stove, Greenhouse, Hardy Exotic & British. EVERY ONE interested in FERNS SHOULD SEND FOR OUR partially descriptive. CATALOGUE FREE ON APPLICATION. Also our ILLUSTRATED CATALOGUE No. 21. Price 1/6 post free.

W. & J. BIRKENHEAD
 FERN NURSERY, SALE, MANCHESTER.

Williams

WORLD-RENOUNDED
 GOLD MEDAL STRAINS

Primula Cyclamen

Per Packet, 1/6, 2/6, 3/6, & 5/-

Cineraria

Per Packet, 1/6, 2/6, 3/6, & 5/-

FLOWER SEEDS POST FREE.

Every Packet of above bears our Registered Trade Mark, without which none are genuine.

ILLUSTRATED SEED CATALOGUE, comprising everything necessary and requisite for the Garden, Gratis and Post-free on application.

B.S. Williams & Son.
 UPPER HOLLOWAY.
 LONDON. N.

ARTHUR FLINSCH,

LOSCHWITZ, near DRESDEN.



LARGE PEACH GROWER

In Hotheuses and Open Air.
 Export of Fruit to all Parts.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

ORCHID EXHIBITION.—Now OPEN.

ORCHID EXHIBITION.—Admission Free.

ORCHID EXHIBITION.—One of the most beautiful sights in London.

ORCHID EXHIBITION.—A vision of loveliness unparalleled in Europe.

ORCHIDS.—Must be seen to be realised.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

ORCHIDS.

CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

L'HORTICULTURE INTERNATIONALE
 (Orchid Emporium), Leopold Park, Brussels.

THE GRANDEST CHOICE OF ORCHIDS in EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

WE ARE THE ONLY
 LAWN MOWERS
 BY ROYAL APPOINTMENT
 WARRANT.
 MAKERS TO HER MAJESTY THE QUEEN and HIS
 ROYAL HIGHNESS THE PRINCE OF WALES.

GREEN'S PATENT

"SILENS MESSOR"

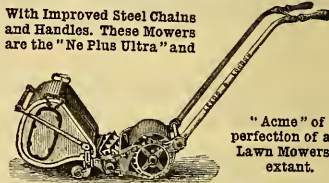
LAWN MOWING MACHINES

ARE THE
FIRST, FOREMOST,
 AND
BEST IN THE WORLD.

ALSO
TENNIS COURT MARKERS
 AND
GRASS EDGE CLIPPERS.

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains and Handles. These Mowers are the "No Plus Ultra" and



"Acme" of
 perfection of all
 Lawn Mowers
 extant.

They have stood the test for upwards of thirty years, and have carried off EVERY HIGHEST PRIZE which has been given in all cases of competition.

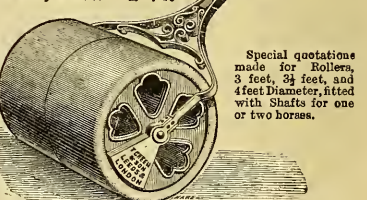
GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket Fields, and Gravel Paths, &c.

Suitable for Hand or Horse Power.

Prices of Rollers in 2 parts.

Diam.	Length	£	s.	d.	
16 in.	by 17 in.	..	2	5	0
20 in.	by 22 in.	..	3	5	0
24 in.	by 26 in.	..	4	10	0
28 in.	by 28 in.	..	6	0	0
30 in.	by 32 in.	..	7	10	0



Special quotations made for Rollers, 3 feet, 3 1/2 feet, and 4 feet Diameter, fitted with Shafts for one or two horses.

Price Lists on Application.

They can also be had of any Ironmonger, Merchant, or Factor, in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments for the Trade, as well as Others.

THOMAS GREEN & SON,
 LIMITED,
 LEEDS and LONDON.

L'Horticulture Internationale.

Directors:—Messrs. J. LINDEN and LUCIEN LINDEN.

LEOPOLD PARK, BRUSSELS, BELGIUM.

ORCHID EMPORIUM.

THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

IMPORTANT NOTICE.—Messrs. LINDEN have decided not to SELL any more IMPORTED ORCHIDS by PUBLIC AUCTION in London. They will not contribute to the ridiculous craze and struggle for depreciation of *Orchids* which seems now to prevail.

Large Importations from all parts of the World
constantly arriving.

PRICE LISTS ON APPLICATION.

ENORMOUS STOCK OF ESTABLISHED AND SEMI-ESTABLISHED ORCHIDS,
NOW ON SALE.

OUR ENGLISH PATRONS ARE ESPECIALLY AND CORDIALLY
INVITED TO VISIT OUR GRAND ESTABLISHMENT.

N.B.—The most convenient Trains are at 10.15 A.M., and 8.15 P.M. from Charing Cross or Victoria. The journey from London to Brussels, either *via* Dover-Calais, or Dover-Ostend, takes only eight hours.

A VISIT TO OUR ESTABLISHMENT will prove most interesting and instructive. Amateurs and Orchid-growers will find at L'HORTICULTURE INTERNATIONALE (LINDEN), a wonderful and immense Stock of ORCHIDS, GROWN IN PERFECTION, and the LARGEST STOCK of IMPORTED ORCHIDS, at 50 per cent. less than elsewhere.

We offer to each Visitor to our Establishment, who purchases to the amount of £50, a discount of £5, which will cover the expenses of the journey to Brussels. (Our immense stock at hand, and continuous importations, enable us to make this exceptional reduction.)

THE LARGEST AND BEST STOCK OF ORCHIDS IN CULTIVATION.

For Catalogues and Special Offer apply to

MESSRS. LINDEN,
L'HORTICULTURE INTERNATIONALE,
BRUSSELS, BELGIUM.



THE Gardeners' Chronicle.

SATURDAY, JUNE 11, 1892.

DOWNTON CASTLE.

THE fame of the great horticulturist, T. A. Knight, has perhaps overshadowed that of his accomplished brother. One cannot, however, write of Downton Castle without remembering its owner and builder, Richard Payne Knight, one of the most remarkable classical scholars of his day, and a poet who devoted some of his best verses to the subject of landscape-gardening. At the close of the last century, the formal style of laying-out parks and gardens, which had risen to its highest popularity in France during the reign of Louis XIV., had been gradually amended by William Kent, Gilpin, "Capability" Brown, and Repton, the greatest of them all, who acknowledged the talents of "the immortal Brown," as he called his predecessor, while he adopted what may be described as a more English style. Repton laid-out most of the great gardens of the latter part of the last century, but he was not natural enough for Mr. Payne Knight, who said of his system in a poem called *The Landscape*—

"He, therefore, leads you many a tedious round,
To show the extent of his employer's ground;
Climbs o'er the hills, and to the vales descends;
Then mounts again, through lawn that never ends."

Another champion on the same side was Uvedale Price, and the arguments of the two friends undoubtedly helped to improve the public taste. In another poem the same author sings of his own delightful residence,—

"Here on thy shady banks, pellucid Teme,
May Heaven bestow its last poetic dream;
Here may these Oaks in life's last glimmer shed
Their sober shadows o'er his drooping head,
And these fair Dryads whom he sung to save
Reward their poet with a peaceful grave."

It may be hoped that this digression will be pardoned for the sake of these pleasing native verses. The present owner of Downton Castle is a descendant of Thomas Andrew Knight, and of the founder of the family, the ironmaster, Richard Knight, who owned a furnace and forge at Bringewood, near Ludlow, amidst the primeval woods of Shropshire at a time when the smelting of iron was carried on by means of wood charcoal in small furnaces. The bellows of these furnaces were worked by water-wheels, and were generally situated on the banks of streams in the vicinity of large tracts of coppice wood. The Bringewood forge was leased from the second Lord Craven, from whom Mr. Richard Knight purchased it, together with a large

breadth of land, including the hill of Bringe-wood, and the site on which his grandson built the mansion of Downton Castle. In 1745 the ironmaster was buried in the chancel of Burlington Church under a large slab of cast-iron. In 1773-6 the castle was erected in a style defended by its owner and builder, Mr. Payne Knight, in an essay on the *Principles of Taste*, but not, I think, in the best style of English country mansions. The extensive restorations and additions by the present owner have increased its magnificence, and its Gothic towers and battlements are exceedingly picturesque, seated, as they are, in the midst of a varied landscape, but there must always be a touch of the unreal and uncouth in the imitation of a strong castle of the olden time, by the mock towers and weak embattlements of a modern house. Mr. Payne Knight was a literary M.P. indifferent to politics, and devoted to letters and antiquities. He is now chiefly known and honoured for his bequest to the British Museum of a magnificent collection of ancient bronzes and coins, whose value was estimated at £50,000. In 1810, having retired from Parliament, he yielded to his love of solitude and contemplation, and became the occupant of a cottage near the castle, which he relinquished to his brother, Thomas Andrew Knight, the great horticulturist and improver of fruits, flowers, vegetables, and cattle.

In connection with physiological and horticultural subjects, few names appear more frequently than T. A. Knight's in that wonderful work, Darwin's *Animals and Plants under Domestication*. Mr. Darwin has an important chapter headed, "On the Good Effects of Crossing, and on the Evil Effects of Close Interbreeding;" and in the course of a very interesting inquiry, most of the facts of the case, and much of the experience of the ablest breeders of plants and animals, are brought forward and considered. Knight's experiments are frequently noticed, and when we consider that he commenced his work a hundred years ago, and that his associates were the scientific men of the last century, it is a high tribute to his originality that Mr. Darwin should have so frequently appealed to him. As a vegetable physiologist, as President of the Horticultural Society, and as the first gardener of his day, Mr. Knight sustained his reputation by a long course of experimental researches. Among his subjects were the ascent and descent of sap in trees, the phenomena of germination—why, for example, the root runs down and the stem runs up; the influence of light upon leaves, the cross-breeding of many kinds of plants, and kindred topics. On all such subjects he communicated his ideas to the Royal Society and the London Horticultural Society in many papers. He studied animals as well as plants, and was a most close observer of their habits. I am afraid the stove in which the fly-catcher built has been removed, but I may tell the story of Mr. Knight observing that the bird seemed to appreciate the fact that when the temperature stood at 70°, it was not necessary for her to brood upon her eggs, and that she could leave them in safety. When it fell below 70° she would sit hard. It was an original observation that pet dogs do not hide their food, and that other dogs carefully store the surplus in case of a scarcity, an instinctive habit not so necessary now, perhaps, as it was to the ancestral wild dog, but inherited from him. One of Mr. Knight's last communications to the Royal Society was on animal instinct. Mr. Darwin quotes him on crossing horses of different breeds. As a cattle-breeder at Downton he was distinguished, and

that does not often happen to a scientist who had been elected a member of twenty-one scientific societies, and who was the holder of medals from eleven of them. In the *History of Hereford Cattle*, Messrs. Macdonald and Sinclair give Mr. Knight great credit as an improver of cattle, and it is significant, in reference to his theory of the good effects of a good cross, that the superiority of the Hereford breed of cattle seems to be justly attributed to an importation of stock by Lord Scudamore in the seventeenth century, and the infusion of a Flemish strain into the native breed.

In claiming for Mr. Knight a high degree of originality and a career of usefulness not even yet exhausted, one must admit that some of his views on the degeneracy of particular varieties of the Apple have not been sustained. In all old orchards there are old Apple trees in a state of decay, and Mr. Knight, in common with most of the Apple growers of his time and since, held that several of the old sorts, including some of those which appeared on the lists of Parkinson and Evelyn, were no longer to be found. The Moil, the Red-streak, the Golden Pippin, the Styre, and the Fox-whelp were all believed to be in a state of decay, having degenerated, as Mr. Knight thought, through the want of renewal from seed. His theory was, that in grafting there is no renewal of vitality, but only a continuation of declining life. He came to the conclusion that "all Apple plants propagated from the same stock partake in some degree of the same life," and his experiments in cross-fertilisation were made with a view to the production of new and more vigorous sorts. On the contrary, Loudon thought, that although varieties have a tendency to degenerate into the primitive character of the species, any variety may be perpetuated with all its excellencies by proper culture, and more especially varieties of trees. As to the supposed degeneracy of the Golden Pippin, or other sort of Apple, these sorts might be continued, "such as they are, or were, when the scions were taken from the trees, to the end of time." In opposition to the theory that plants propagated by extension were subject to degeneracy, he pointed out that Vines, Olives, Poplars and Willows have been propagated by extension for ages; and are still, as far as can be ascertained, as vigorous as they were in the time of Noah or of Pliny.

So far as the degeneracy of the Fox-whelp Apple is concerned, the Pomona Committee of the Woolhope Club successfully attempted the restoration of that and several other old and valuable sorts, and distributed through the country a number of young and vigorous trees. T. A. Knight certainly had the merit of anticipating Darwin's views on the beneficial effects of cross-fertilisation, but in the matters of detail just referred to, some of his inferences were incorrect. It is remarkable that not one of his seedling Apples is now regarded as of any value in the great cider-growing districts of Herefordshire and Worcestershire. But it must not be supposed that the author of *Pomona Herefordensis* and of a treatise on *The Culture of the Apple and Pear* left no mark on the industry of the orchard.

Dr. Hogg's work on *The Apple and Pear as Vintage Fruits*, edited by the late Dr. Bull, of Hereford, quotes him on the opening page as having been the first to point out that the real value of cider Apples and perry Pears must be sought in the richness of their juices, as shown by their density or specific gravity. He promoted Apple culture at an unfavourable time. Owing to the great wars early in the century, and the high price of cereals, the orchards of the west fell into a state

of neglect which has been perpetuated probably in more recent times by the prevailing fashion in favour of concoctions of so-called wines, imported from abroad. During the decay of cider growing, failing trees had their places supplied by any worthless sorts that came to hand, and little care was given to the management of the fruit or to the making of the liquor, which, in consequence of deterioration, could only be sold at a low price. It is satisfactory to learn from the work just referred to that a market can always be found for superior cider at high prices. On the subject of quality, Mr. T. A. Knight's opinion is quoted that "Herefordshire is not so much indebted for celebrity as a cider county to her soil, as to her valuable varieties of fruit." These varieties must be restored, and it is not too much to say that the improvement of the orchards can only be effected by the propagation and distribution of superior varieties—that is, the work must be conducted on the lines laid down by the subject of this notice.

The most convenient account of Mr. Knight's enquiries will be found in a selection of his works, published in 1841, shortly after his death. It remains to be stated that he left a son and three daughters, and that the former met with his death in 1827, by an accident, when shooting in the woods of Downton with a friend. The present Mr. Boughton-Knight is a son of Sir William R. Boughton, Bart., of Downton Hall, who married one of the daughters. The estate has been greatly improved by him, and the castle enlarged, while many old and indifferent homesteads have been removed, and replaced by new ones in a modern style. The handsome new church, seen from the castle across the pleasure-grounds and park, was built at the sole cost of the present owner thirty years ago. My visit was paid immediately after a heavy rainfall, and the "pellucid Teme" gentle in summer and running low in its stony bed—was raging madly and running rapidly, and on the following day all the rivers of Herefordshire, fed from the highlands of Wales, overflowed their banks. Some delightful walks have been formed on the river banks, and twice a week the public may use them and wander through the hermitage, a cell cut in the solid rock of the cliff on the right bank of the river. On the one hand there is the limestone cliff, on the other the river, with abundant foliage of trees and shrubs, through which, in summer, the sunbeams lit. It was too late for the summer scene, and instead of sunshine came frequent showers.

In addition to a number of exceedingly handsome Oaks, Elms, Chestnuts, and Beech trees in the grounds around the house, which the great horticulturist must have worshipped in his day, the gardener (Mr. Hancock) showed me several memorials of old times in the gardens. Among these is an old viney with the leading branches trained downwards from the top of the back wall to the front of the roof, reversing the usual method. Some old Pear trees—100 years old—also remain on a south wall; and a Mulberry tree, which covers a large space of wall, not very profitably, though its great limbs and peculiar growth render it interesting. *H. E.*

NEW OR NOTEWORTHY PLANTS.

DIPLODI SEROTINA.

VERY few, perhaps, are acquainted with this curious plant. It is not unlike a large example of the common Blue-bell in general habit and appearance, but it differs strikingly in the colour of the flowers,

which are of a very decided brown. It is, indeed, not very far removed from *Scilla*, but has important generic differences, especially in the possession of a perianth-tube. It is figured in the *Botanical Magazine*, t. 850, under *Scilla*, where G. (no doubt Gawler) says, "While *non scripta* (nutans) *cernua* and *campanulata* continue attached to this genus, and we think they certainly should be, no one can be at a loss where to arrange the present plant." This opinion, however, may be due in great measure to the very inaccurate drawing of the figure, which the accompanying description does not appear to correct, but also, no doubt, to the absence of seeds which, unlike those of any *Scilla*, are compressed. The leaves are narrow, somewhat glaucous, and of the present plant about 18 inches long. The scape is 2 feet high, with a loose somewhat secund raceme of twenty-three flowers. The outer lobes of the perianth are reflexed, and are a little longer than the inner, which approximate and spread at the top. This plant, though rarely seen, has been known in gardens from the time of Gerard. Twenty years ago it flowered at Kew as a pot-plant in a frame, and was flowering recently in the Cambridge Botanic Garden, to which a fine example has been presented in flower by Professor Foster. It is a native of the Canaries, Portugal, S. France, Barbary, and L'Agauri, L.

YUCCA HANBURYI, Baker, in *Kew Bulletin*, 1892, p. 8.*

This is a new species of *Yucca*, allied to *Y. angustifolia*, Pursh; Sims in *Bot. Mag.*, t. 2236. I saw it first in Mr. Thomas Hanbury's garden at La Mortola last November, and now Mr. Hanbury has kindly sent a specimen in flower. The seeds were sent several years ago by Mr. Sampson Hanbury from the Rocky Mountains.

Acaulescent leaves, 100 or more in a dense rosette, linear, rigid, $\frac{1}{2}$ to 2 feet long, $\frac{1}{4}$ to $\frac{1}{2}$ inch broad at the middle, a very pale whitish green, with a pungent point and white-brown edge, from which a very few fine threads break away. Raceme simple, second, $\frac{1}{2}$ feet long; pedicels cernuous, $\frac{3}{4}$ inch long; bracts large, white, lanceolate, scarious. Perianth campanulate, 2 inches long, white tinged with green. Pistil 1 inch long, ovary, white, oblong; styles green, pubescent. Filaments pubescent. J. G. Baker.

LISIOCHILUS GREFFI, n. sp.†

This new *Lisiochilus* is a very good addition to the stock of our terrestrial Orchids. It is a tall, vigorous plant, with long lanceolate folded leaves like a *Curculigo*, and a stout flower-stalk of 3 to 4 feet in height. The flowers, 20 or more in a raceme, are very beautiful. The sepals are dark-green, suffused with a dark purplish-brown, the petals pale yellow outside, and bright yellow inside, the lip with violet coloured side-lobes and a very strong folded and compressed middle-lobe of pale yellow colour. The plant flowered in the stoves of Dr. Hago Graf, at Steglitz, near Berlin, and we received fresh materials from this gentleman. The plant was purchased in England, in the bulk, with many other specimens, in 1888, from Messrs. Seeger & Topp, Lordship Lane, East Dulwich. As the other plants of this sending were only epiphytous ones, Dr. Graf

cultivated the specimen like other epiphytes; the plant responded to this treatment, but it was not doing well; at last it was potted in peat and loam, and from this moment it increased in size from year to year.

The plant is in the way of *Lisiochilus speciosus*, L. Krebsii, and especially *L. streptopetalus*, Lindl., published many years before under the name of *Eulophia streptopetalus*, Lindl. At first sight our plant is in a high degree like a luxuriant specimen of the latter, and it is necessary to point out once more the botanical discrepancies given in the Latin description. 1. The petals are not twisted at the base, as in *L. streptopetalus*. 2. The lip has the middle lobe not flat, as in *L. streptopetalus* (and all the other species), but very strong folded, to such a degree that it is impossible to plait it without breaking the whole labellum. 3. The glandula of the pollinium is a broad rhombic hyaloid body, but not a small brownish one, "glandula parva brunea," as it is said to be in Lindley's original description of *Eulophia streptopetalus*. 4. The whole plant, bulbs, leaves, flowers, are twice to three times larger in *L. Grafii* than in *L. streptopetalus*, Dr. Kränzin, Berlin.

MASDEVALLIA × CASSIOPE, Hort.

Captain Hincks, of Brecklenbrongh, Thirsk, Yorkshire, some time ago took in hand the hybridising of *Masdevallias*, and we are now able to chronicle his third success. It is the crossing of *M. triangularis* with the pollen of *M. Harryana*. The first flower has now expanded, and very charming it is. The result of such a cross could scarcely have been foretold. A flower of *M. Harryana* with the colour of *M. triangularis* would have been a poor thing, but almost the reverse has been attained. The shape is that of an enlarged and improved *M. triangularis*, with the reflexed dorsal sepal of *M. Harryana*, but scarcely modified in other respects. The colours are charming, but not easily described in few words. Viewed not too closely, the flower seems to be of a shade between pink and Indian yellow, with the three nerves of each sepal reddish-purple. But when examined closely, and especially through a lens, it is seen to be densely studded everywhere with minute reddish-purple dots on a pale, almost yellowish, ground. This arrangement of the colours is also clearly traceable to the influence of *M. triangularis*. The petals and lip also approach those of this parent in shape, the latter organ being terminated by a prominent crimson tubercle. It is the latest of a remarkable trio raised by Captain Hincks, the others being *M. × Hinckiana*, from *M. tovarensis* crossed with *M. ignea*, and *M. × Stella*, from *M. Estradae* crossed with *M. Harryana*. In each case the parents are very diverse from each other, and the hybrids handsome. *M. triangularis* produces its flowers in perfect masses, which promises well for the present one. J. O'Brien.

ALPINES AT NEWICK PARK, SUSSEX.

BEING in the neighbourhood of Chislehurst, a short time ago, I called at Newick Park, the residence of J. H. Slater, Esq., who has for many years past taken a lively interest in alpine plants.

The alpine garden proper, as well as the whole of its surroundings, at once showed that an amount of time, labour, and expense have been expended to bring out the many varying features here exhibited; besides which great discrimination has been displayed throughout the whole arrangement in laying hold of, and making the most of every natural advantage.

The ground on the north and west side of the mansion slopes down to a dell, from whence it gradually rises to the south boundary wall of the kitchen garden. At the top or east end of this dell a small lake has been formed at a considerable altitude above the general level, and beyond the boundary of the rock garden proper. The overflow from this is made to descend the face of the native sandstone rock in a cascade, and is further utilised as a meandering stream, but here and there throughout

the whole length of the rock garden it is made to form several very pretty pools, and from thence down the dell to the large lake beyond.

Across the middle of the dell a substantial bridge has been thrown, with a roadway broad enough for a carriage.

In the upper portion, in extent about 2 acres, is planted in rock beds one of the most select collections of alpine plants to be found in this country—indeed it is a question whether such another private collection exists in this country. These beds are disposed and planted in the most charming manner imaginable, and what struck one so forcibly is the health and vigour of the subjects grown.

be stone solely used is the sandstone rock of the place, and for this purpose nothing better could be wished; it is at once pleasing to the eye, and its great degree of porosity has doubtless a good deal to do with the well-being of the plants.

Here and there are interspersed in suitable nooks and crannies throughout these two acres a very large collection of hardy Ferns—and even many that in other districts require greenhouse treatment; the whole, I was told, do remarkably well, and some make enormous growth.

Mr. Potter, the energetic and painstaking gardener here, is particularly well versed in the different species and varieties of alpine plants, and by diligent and careful observation of the peculiar needs of some of the species which are usually considered miffy, he has certainly succeeded far beyond the usual degree of success in this class of plant-culture.

Standing on the bridge in the middle of this dell it seemed difficult of belief that within a period of comparatively few years this beautiful place was the site of a pond. This only shows that where the owners are horticulturally inclined, the natural advantages and beauties of many a private residence, now laying dormant, could be gradually brought out, and where these are prominent, the possibilities of this style of gardening are simply unbounded.

There are here to be found *Saxifragas* by the hundred, notably *S. atropurpurea*, *sancta*, *caespitosa*, *arachnoides*, &c.; *Primula rosea* in many vars., *P. viscosa*, *P. amœna rosea*, &c.; *Phlox setacea*, *P. Nelsoni*, &c.; *Anemone pulsatilla*, *A. apennina*, &c.; *Dodecatheon media*, *Sanguinaria canadensis*, *Dianthus glacialis*, *D. integus*, *D. neglectus*, *D. cruentus*; *Gentiana asclepiadea*, *G. verna*, *G. lutea*, *G. gelida*, &c.; *Daphne Blagayana*, *Wulfenia corinthia*, *Arnica montana*, *Podophyllum Emodi*, *P. peltatum*, *Ranunculus pyrenæus*, *Edelweiss*, *Soldanella montana*, *Androsace sarmentosa*, *A. carnea*; *Silene acaulis*, *Dryas octopetala*, *Linnaea borealis*, *Oursia coccinea*, *Trillium grandiflorum*, *T. erectum*; *Heuchera sanguinea*, *Armeria grandiflora*, *Gunnera scabra*; of these, some of the grandest plants I have ever before seen, and from the positions they occupy, half-way up the slope, and backed by masses of native stone, have altogether an unique effect, to heighten which, if that were possible, splendid masses of various Bamboos are in close proximity. The freedom with which these latter grow, and their graceful foliage, add at once a tropical appearance to this part.

By the several pools may be found masses of *Primula japonica*, which here grow like Cabbages; certainly I had never previously seen plants carrying foliage anything comparable with these. The flower-spikes on many of these plants were just appearing over the top of the foliage, and looked as if the flowers would be ample. There are also many plants of the following along the margins of the pools, viz., *Primula farinosa*, *Sarracenia purpurea*, *Cypripedium spectabile*, *C. calceolus*, *C. pubescens*, *Parnassia-grass*, *Bog Asphodels*, &c. The pools are planted with *Nymphæas*, *Arums*, *Bog Beans*, and *Pond weeds*, many of the latter beautifully in flower.

On the lower side of the bridge this part of the dell is planted with a grand variety of *Rhododendrons*, hardy *Azaleas*, *regal* and other hardy Ferns, with here and there a massive Oak, Ash, or other deciduous tree, the whole presenting a most charming imitation of natural planting from whichever side viewed, although to my mind, the best view is that obtained from the kitchen garden, or north side.

* *Yucca Hanburyi*, Baker, in *Kew Bulletin*.—Acaulescent, folia dense rosulata, linearibus rigidis pungentibus, albidiviridibus margine albo-brunneo filis panis tenuissimis brevibus dejectis, pedunculo valido, racemo elongato simplici, secundo, pedicellis cernuis, bracteis magnis scariosis albis persistentibus; perianthio magno campanulato albo viridi-tincto, staminibus puberulis pistillo brevioribus.

† *Lisiochilus Greffi*, n. sp.—Bulbi ovoides, 3–4 poll. longis, $\frac{1}{2}$ – $\frac{3}{4}$ poll. diametro, foliis longe lanceolatis acuminate plicatis, nervo clavo valido $\frac{1}{4}$ pedes alto, racemo laxiusculo; bracteis Casti cuneatis lanceolatis, acuminatis ovario sublongioribus. Sepala cuneato obovata obtuse acutis arctissime reflexis, petalis ter latioribus subaequilongis obliquis ovatis autice rotundatis; labelli lobis lateralibus ligulatis obtusius erectis intermedio arctissime compresso (explanato ovato) linea elevata in disco a basi apicem usque decurrente, calcaribus brevibus curvatis; gynostemio crasso, antheris actis acuminatis, pollinibus profunde sulcatis, caudicula late-linearis glandula transversa rhombica. Sepala viridia extus et praesertim intus fusco-purpureo suffusa, petala extus stramineo intus vitellina, labellum infra albidum supra lobis laterales violacei, intermedius luteus. Totus flos $\frac{1}{2}$ poll. diametro.

Although but few *Rhododendrons* were in flower at the time of my visit, so many of the best-named varieties, some of which are extra large plants, have been planted in masses, that it is easy to imagine what a grand floral picture is presented at this season in that dell.

The hardy *Azaleas* are certainly by far the largest plants that I have ever seen of this genus; one particular variety was in flower of a soft rosy-mauve colour, and the flowers looked, at the distance from which I saw them, as if borne in spikes instead of on the terminal buds of the shoots; but this, I think, can hardly be the case—at any rate, it is a most charming and bright, early-flowering variety, and I am sorry I could not learn its name.

I should strongly advise anyone contemplating the formation of a rock-garden for alpine, to pay a visit to this charming spot—an easy mile and a half from Newick and Chailey station, Lewes and East Grinstead line, London Brighton and South Coast Railway. *Pomum*.

AUBRETIAS.

On the rocky and as border plants at the private garden of Mr. John Pope, King's Norton, Birmingham, *Aubretia Leichtlinii* is very conspicuous just now, and a mass of beauty in its rich pink-tinted flowers—really a gem amongst our spring-blooming plants. *A. purpurea* is also very beautiful, a long broad edging of this plant being most effective. *A. Bonginvillea* is a fine variety, dwarf and compact. *A. compacta*, similar in colour to *A. purpurea*, is a charming plant. The house stands on high ground, and the west winds from over the Bromsgrove Lick Hills are felt here, but several pretty spring-blooming plants grow freely in the rockwork. *Lithospermum purpureum* has been blooming since Christmas, a deep rich blue, prostrate-growing plant flowering profusely. *Primula marginata* and *P. Sieboldii* varieties are quite hardy here, and *Saxifraga granulata flore-pleno* was also in full bloom.

Eulalia zebrina and *E. z. variegata* are quite hardy here, having stood out in the rockery for two winters. I have noticed its hardiness at Umberslade and elsewhere, and it is a welcome addition to our outdoor decorative plants. *W. D.*

THE ROSERY.

ROSE PROSPECTS.

WE are now at the beginning of June, within measurable distance of the period when Rose growers and Rose exhibitors can with some degree of accuracy take stock and conjecture what may be their hopes and fears in the coming season, and I do not think that during the thirty years or so in which I have grown the flower in any considerable quantity (and now I have only a few hundreds), that I have ever known a more sprightly season. Accounts vary much, of course, in a country like ours where there are so many varying climates, it will happen that in seasons like the present very different estimates will be formed. The climate, for instance, in the Isle of Wight is very different to that of Yorkshire, and that of East Anglia to the West Country. There is a saying in this county, Kent, which illustrates this; they say in a wet season, "When England rings, Thanet sings;" that is, that the drier climate and well-enriched soil of the Isle of Thanet enables them to bear a good deal more rain than other parts of England, although, possibly, it shares this with the whole eastern seaboard of our island.

There is this difference observable this season. I hear from two friends in the eastern counties the most deplorable record; one says "I have during the past two months lost three thousand Teas;" another that he has got to dig up all his, they were so severely crippled. On the other hand, from a friend in Herefordshire, who is a large grower, "I cannot complain much, my Teas are breaking very well, although I shall be late." Yes, this is the cry every-

where, and I fancy at the Tea and Noisette Exhibition, on the 21st inst., the Teas actually grown in the open will be few and far between. Walls will give a great advantage to those who possess them, for while they are best grown under glass, there is such an amount of heat and protection given to them that they are some two or three weeks before those grown completely in the open; and so in the amateur classes, I fancy none will be able to do battle successfully with Mr. Alexander's Hill-Graying of Beaulieu, Bath, whose "fortifications" will give him a great advantage in this backward season.

Two causes have been at work to despond the heart of Rose-growers this season; one was the very long and cold winter—not, perhaps, so severe as last, but of longer duration; while in some parts, as with us in Kent, heavy falls of snow late on in March, not only checked growth, but also made the ground cold. This made it necessary to put off pruning to a much later period than usual, and had we had anything like good weather, things might not have been so bad; but a long period of cold easterly and north-easterly winds, accompanied by drought, completed the work which the winter had begun, and complaints have reached me from many quarters of the following effects produced by this unfavourable season:—

1. As I have already stated, its extreme lateness; this may to some extent be remedied, should the present delightful weather continue. After a drought of six weeks' duration, we have had about half an inch of rain, and it is marvellous what a change has been produced, and there is no saying what another three weeks of it may do; but as far as my own garden is concerned, I notice that the shoots are not above half the length they usually are at this season.

2. I fear it will be found that there are a good many blind shoots, and shoots which do not carry a bud. There are some sorts, such as Duke of Edinburgh, which are prone to do this always; but I notice that in others, which are usually very free in flowering, there are many budless shoots. This implies a want of vigour due, not so much to the frosts, as to the long-continued drought and cold.

3. Flowers with green centres, and, therefore, utterly useless; in some favoured districts, the complaint has already been made of the appearance of these "horror," and I fear we shall have many complaints of their frequency. Of course the only remedy is the immediate pinching off the bud, when perhaps a good sound bloom may be obtained.

As usual, there are many complaints of the prevalence of maggot and green-fly. I find as yet I have not suffered much from the former, while of the latter I have not seen any. The only way to get rid of the former is by hand-picking, while syringing is the only effectual way of getting rid of the latter; and if growers possess "Stott's" machine, they have a very powerful aid in their attempts to conquer this pest.

There are two matters which ought to be attended to at once, but which amateurs too often neglect, and then complain that they do not get such good blooms as they see on the exhibition table, forgetting that unless they adopt the same methods, they cannot hope for success. It would be just as reasonable for a gardener to say, "It is too much trouble to thin my Grapes," and yet expect to have such splendid bunches as a Hunter, Taylor, or McIndoe brings forward. The sooner this disabbling takes place, the better. There is no better weapon for this purpose than a quill toothpick. As soon as the buds show, and it can be ascertained that the centre bud is not malformed, the side buds may be taken away, and all the vigour of the shoots be thrown into the one left. Now, too, will be the time to apply liquid manure, it is of very little use applying this when the buds are fully formed; it is now when the buds are in progress that the effect is most quickly produced. Some time is necessary for the plant to absorb the fertilising material applied, and it is evident that if this is left until the buds are fully formed, the application will be too late, so "his dat qui cito dat," holds good here; staking will not be such a security as in some seasons, still when the

shoots lengthen it will be necessary to do it, so as to prevent the plants from being shaken about by the winds, which are very injurious to their well being. I need hardly say how beneficial it is to the plants that the hoe should be run over the beds especially after heavy rains.

It has always been a pleasant occupation at this season of the year to visit the gardens of friends whom one knows to be keen Rose-growers, whether professional or amateur; there is always something to be learned, and as I am not an exhibitor, there is no possibility of being suspected of spying out the nakedness of the land, although I think Rose-growers are as little open to this suspicion as any people I know. As time rolls on, no doubt the pleasure will be more rarely experienced, and I find it is somewhat more necessary to husband one's resources than it used to be, still I do have the pleasure sometimes of these visits.

I paid to Mr. George Mount, at Canterbury, a visit which, for many reasons, interested me. I saw many things; I saw pot Roses, Teas especially. Mr. Mount, who first made his mark as an amateur, from a small garden at Harbledown, near Canterbury, has been gradually extending his borders; he became possessed of a piece of ground at St. Dunstons, in that city, admirably adapted for growing Roses; here he has erected a large series of houses, in which are grown quantities of such plants as are suitable for supplying flowers for the London market, while Tomatoes are grown in such perfection that he carried off the first prize at the International Horticultural Exhibition at Earl's Court, with a splendid dish of Perfection, which was the admiration of all who saw it. I may say that I have never seen pot Roses, both Teas and H. P. (but especially the former), better grown and rarely so well done as here, each plant, whether large or small, was a model in itself of what a Rose plant ought to be, with healthy and vigorous foliage, plenty of flower-buds, and perfectly clean—not an aphid to be seen anywhere; his out-door Roses are also in excellent condition, although somewhat late, and I feel certain now that he has got his energetic son to work with him, that those who have had it pretty well their own way in the larger classes will find in him a very formidable competitor; his own indifferent health has prevented him a good deal from exhibiting, but now that his son can go about with the flowers, I feel sure he will have to be reckoned with. I was glad also to meet here Mr. King, whom I had known many years ago as the foreman at Mr. Cranston's, at Hereford, and who now fills the same place here. Of course, amongst the pot Roses, *Niphetos* holds the chief place, while *Catherine Mermet*, *The Bride*, *Souvenir d'un Ami*, and other well-known sorts, were in full vigour.

Mr. Mount has, however, not been content with starting a new place, he has completely remodelled an old one. Those who know Canterbury, as I have done for upwards of sixty years, will remember the quaint little house which fronted St. Peter's, and behind which lays the Exotic Nursery. There are a few, and but very few, of us who can recollect its owner, Alderman Masters, who combined what is rare at all times, and even, I fear, almost as extinct as the dodo, or great auk—the keen man of business and the accomplished scientific botanist. After his death, the nursery sadly degenerated; the ill health and deaths of successive occupiers left it in a deplorable condition, so that one could only feel sad over the past. Well, this place Mr. Mount purchased, together with a fine piece of ground at Vauxhall, some mile and a half off, where there is the grandest possible soil for fruit trees and Roses. Mr. Mount has completely remodelled the Exotic Nursery, and here, too, Roses are to be seen in all directions, flourishing as they rarely do in a city. One landmark remains, the old circular greenhouse, which in the alderman's days was a treasure-house of new and rare plants of all kinds, but it is now considerably the worse for wear, and will probably last but few years longer; peace be to its ashes—it has welcomed many a stranger from far-off lands, and may safely die with a good conscience.

Another of the Rose prospects is, I think, the coming to the fore-front of an energetic rosarian, who will leave no stone unturned to secure success. While I am writing, I have just received a letter from the West of England, usually so aqueous a region, in which the writer says, "We are still sadly in want of water, and from the present appearance of my trees, shall be able to show respectably about August." This only confirms what, I fear, is the general notion, that we shall have a late and indifferent season. *Wild Rose.*

THE WATER-LILY HOUSE AT KEW.

Our illustration (fig. 107) represents this house at its best, which is any time between the middle of July and the end of September. The *Nymphaeas*

in the corners of the house are *Nelumbiums*, *Cyperus papyrus*, *Amorphophallus campanulatus*, and other large and remarkable moisture-loving plants. The collection of *Nymphaeas* is a rich one, and we have counted over a hundred expanded flowers in this tank on a July morning at about eleven o'clock, when the whole of the kinds are in "blow." Blue, purple, red, rose, white, and yellow colours are amongst them. The Gourds comprise *Luffas*, including the *Sooly Qua*, *L. egyptiaca*, which has fruits five feet long, and which are shown in the picture; *Lagenarias*, such as *L. gigantea* and *L. vulgaris*; *Cucurbita maxima*, *Cucumis sikkimensis*, snake and adder Gourds (*Trichosanthes*), the wax Gourd, and numerous other kinds.

The house was built in 1853 for the Victoria regia, which was grown there until the present Victoria-house was erected some twenty years afterwards. Since then the "Old" Lily-house has been

the day. These are, roughly, the essential conditions which produce the really delightful display of moisture-loving tropical vegetation represented in the woodcut. *W.*

SMALL HOLDINGS, ALLOT- MENTS, AND FRUIT GROWING.

Without going into political matters, I do think that the Small Holdings Bill and Allotments Acts are the best and most important measures that have been brought forward for many years, as when the first-mentioned becomes law, they conjointly will be the means of bringing back labourers to the soil, and keeping others on it who would have left the country to crowd our already over-peopled centres and towns. This ought not to be, nor will it be after a few years; and what will help to bring this desirable state of things about are

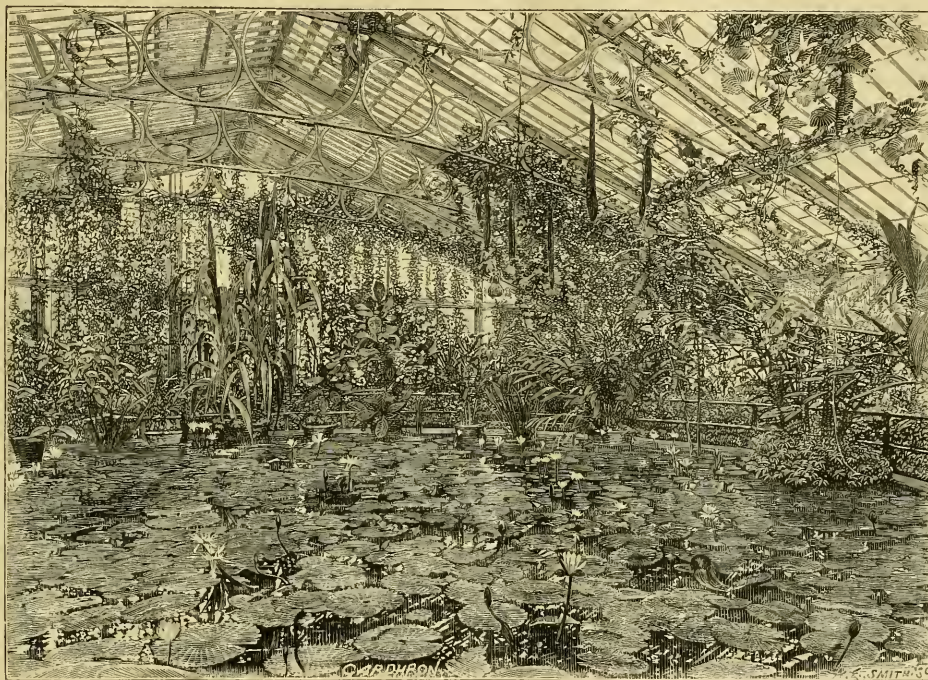


FIG. 107.—WATER-LILY HOUSE, KEW.

occupy the whole of the large circular tank, with specimen plants of *Hedychiums*, Sugar-cane, *Sagittaria*, and *Clusia* round the margin. The iron rail which encircles the tank is partly covered with the stems, leaves, and flowers of *Batatas paniculata*, and the narrow shelves against the sides of the house are covered with soil 1 foot in depth, in which a collection of tropical Gourds is planted. The bine of the Gourds is trained to wires running below the roof, and the effect of their large and sometimes bright-coloured fruits as they hang over the Water Lilies is particularly good. Along with the Gourds grow such handsome flowering creepers as *Solanum Wendlandii*, the best of all tropical *Solanums*, *Passifloras*, *Ipomoeas*, *Aristolochia elegans*, *A. ridicula*, *Clitoria ternata*, *Bignonia Tweediana*, *Beaumontia grandiflora*, *Allamandas*, &c. In tanks

devoted to the *Nymphaeas*, which do extremely well in it. Its dimensions are 44 feet square, with a porch on the south side. The roof is span, about 20 feet high in the middle, and the whole of the framework is of iron, resting on a thick stone base. It is an extremely light, and at the same time a strong and elegant structure. The tank is circular, 36 feet in diameter, 2 feet deep, with a leaden bottom. Two rows of hot-water pipes run through the water, and there are six rows of 4-inch pipes all round the sides of the house. The *Nymphaeas* are grown in large pots, except *N. zanzibarensis*, which is planted in a circular brick bed in the centre of the tank. The water is kept at a temperature of about 70° Fahr. throughout the summer. The house is shaded with thin canvas blinds only in very bright weather in the middle of

the lectures and instruction that are being given throughout the country on horticulture and agriculture, by means of which much interest has been excited in these branches of industry amongst the adult population; and now that country schoolmasters are about to take up these subjects, and teach them in the schools, we may look for a great increase of knowledge, or thirst for the same. This will, I feel sure, come out in a marked manner in the next generation; but what is needed to create and foster a desire among our juveniles and grown-up people in the sister arts referred to are practical demonstrations of the work, or the operations connected therewith, so that the teaching may be through the eye more than the ear, and in that way instruction is easier learned and understood. Of this I am convinced, and I think it will be found to be the general

opinion of others who, like myself, have held classes under the technical education scheme, that the members attending always showed keen interest in the arts of pruning, budding, grafting, and propagation, of seed-sowing, and other modes of rearing of plants, and especially when they were invited to take part in the work.

That the little which has been done in the parishes in this district is already bearing fruit, I have the most gratifying proofs from what I have seen going on in the cottage gardens, and the inquiries made by the cottagers when they see me; and I look forward to quite a new era in gardening among them. Village and country life will, I venture to predict, be in the future much more pleasant and profitable than in the past, as people's tastes improve, and children grow up observant, industrious, and well trained.

One branch of horticulture most likely to be taken up on a large scale is fruit growing; but to induce small farmers and cottagers to plant trees, it will be necessary to give freedom to remove any trees, or pay a fair and fixed compensation, if landlords wish to have them remain in the ground; and when once trees are well established, it will clearly be to their interest to take them, or, better still, to buy or find them, and plant them for their tenants, and so improve their own estates by having more value on the land. *J. Sheppard, Woolverstone Park, Ipswich.*

SEASONABLE NOTES ON HARDY FLORISTS' FLOWERS.

WHEN I wrote these lines, the double-flowered Anemones were beautifully in flower on a Vine border facing nearly due south. They had not received any water, although we were about to give them a soaking when rain fell abundantly. Those who would like to raise seedlings of these double-flowered species should mark some of the best of the flowers, tie them to a neat stick, and the ripening of the seed-pods should be watched, so that the seed be not scattered on the ground and lost. The rich red or scarlet, and the various shades of rose, blush, and purplish-blue of these flowers have a pleasing effect. Some persons advise leaving the tubers of Anemones in the ground all the winter, but I find this does not answer in my district. I planted out a hundred tubers on purpose to ascertain if they would really pass safely through a winter. Probably, they might have been all right had they not started to grow in the late autumn, and flowered for the second time when the frosts came. The best way is to dig up the tubers as soon as the leaves decay, and store them in a dry room till it is time to plant them again. It does not matter greatly when they are planted out, either in the late autumn or early spring. They do not seem to be quite so fastidious in regard to soil as the Ranunculus. Any good well-drained soil answers for them.

Ranunculuses seem to require much the same treatment as Anemones, except that the tubers should not be planted till the spring. Planting some of them early, and others later, gives a long succession. They soon show signs of distress if allowed to suffer for want of water. Whenever the leaves decay lift the tubers; if they are left a week or ten days after, they are almost sure to start into growth, and this injures the tubers for flowering next year.

Tulips now in most parts are out of flower; they are very fleeting if drying winds prevail. The leaves soon show traces of decay in hot, dry weather, and the bulbs should then be dug up as soon as the flower-stems are pliable enough to bend round the finger without breaking. Most of the capsules would ripen seeds if they were allowed so to do, but it is best to break them off as soon as the petals drop, for if they are not removed, the stems will remain stiff and unelastic until the seeds ripen. Care must be taken in lifting the bulbs that the labels are kept right; it is so easy to get them mixed, which is very disappointing the next season, when it is discovered, I provide flower-pots of different sizes when I lift

the bulbs, and each variety is put into its own flower-pot. These are placed on the shelves in the fruit room for three weeks, that is, till they are become dry, when the decayed fibrous roots are removed, and the bulbs are kept in the pots, or put into paper bags.

Pinks will soon be in flower, and about the third week in June the "pipings" may be taken off, and planted in hand-lights, in a rather shady situation; and, if the lights are kept close for some time, roots will soon form. I have found, if the opportunity is taken to put in the pipings in wet weather, they will do very well out-of-doors, if they are put into the ground with the fingers, in a shady border of fine soil.

[An old-fashioned and very successful method of striking *Pinks* was to pull out the piping at the fourth or fifth joint, using no knife to smooth the base, and to just top the longest "grass." Having got ready a kind of puddle-bed, an inch below the surrounding level, in a shady place, the pipings were stuck into it up to the base of the leaves. No glass is necessary. The secret is to seal the soil round the piping with the puddle, which should be so full of moisture that no artificial watering would be required till the pipings are rooted. Ed.]

The *Pink* does not seem to do well when confined under glass, and if pipings can be induced to form roots without it, all the better. I have also propagated them over a gentle hot-bed. A few inches of soil was placed over the manure when the temperature of the bed would be about 90°, and in this soil the pipings formed roots rather more quickly, but as soon as they were rooted, the lights were removed. The laced garden *Pink* is not a plant for pot culture, or to be coddled under glass. The flowers are never well and truly laced unless the plants are set out in good soil in the open border as early as the first week in October. The flowers likely to burst their calyx should have a slit made in the calyx on the opposite side to that at which it is inclined to burst, and it should also be tied round with a strip of raffia.

The forcing *Pinks* should have been planted out in the open ere this. The beds for these plants should have been made rich by digging into it decayed manure, and if the soil is heavy a little leaf-mould and sand should be added. Plant them about one foot apart, the rows being the same distance asunder. Cuttings, or "pipings," as the small grass-like growths are termed, put in during March should now be nice plants, and, if well-planted, they grow into large tufts or clumps by the end of September.

Seedling Carnations.—The seeds were sown on a hot bed about April 1; they were pricked into boxes, and are now nice plants, ready to be put out in the open garden. I like to get them out before the end of June, and if they are planted in well-worked rich soil, they make fine flowering specimens by the end of the season. *J. Douglas.*

FRUIT NOTES.

THE APPLE CROP IN EAST HANTS.—It is now possible to make an estimate of the Apple crop for this season. In these parts there is an abundant promise, the bulk of the fruits having passed the first, or "dropping" stage; or, in other words, their first swelling has been passed safely. In many instances the crop is too heavy, and calls for much thinning, which in the case of large trees is not very practicable; but on small bushes, cordons, &c., if fine large fruits are preferred, it will pay the grower to take off many of them, and no better time for this operation can be chosen than the present. If the fruit is not thinned, the trees require so much more attention in the way of feeding, or the crop, though heavy, will be of moderate quality only, which militates against much profit if the fruit is grown with a view to sale. We have many young trees of Irish Peach growing together in an open field, and although a frost of 7° was experienced at the time these trees were in bloom, no loss of crop has occurred. Irish Peach is the first to open its

bloom here out of nearly one hundred varieties. I was in great doubt as to the kind of crop these trees would carry after so much frost, the more so, seeing that it is not so well furnished with foliage as some others, and it has a tendency to bloom at the points of the shoots, which still more exposes its blossoms. To me it seems strange that some early-ripening Apples should be so late in opening their flowers, but so it is; take, for instance, Worcester Pearmain, which is about the last to open its flowers, although this variety is in season during September; or take Bramley's Seedling, which is undoubtedly a late variety—this opens its blossoms comparatively early. Many other instances might be cited to show peculiarities in this respect. It is not in all cases the varieties which have the most bloom that set the best crops of fruit, very often these have the thinnest crop in the end; still, a fairly abundant bloom augurs well for a good yield. The trees hereabouts are, on the whole, clean, and free from caterpillars or other insect pests. The rains, which came towards the end of May, were just in the nick of time to give the first swelling to the Apple crop; or, as is spoken of in some districts, was a good christening shower for the Apples. *E. M.*

STRAWBERRY LAXTON'S SCARLET QUEEN.

While walking round Burghley Gardens on June 3 with Mr. Gilbert, I was very much surprised to see a ripe fruit of the above Strawberry, for the season is by no means an early one in this part, and King of the Earlies Strawberry, which I find to be the first to ripen as a rule, shows no signs of colouring for some time. The runners of Scarlet Queen were also more advanced than those of other varieties, many of them being large enough for layering. Scarlet Queen will be very valuable as a first early variety; the fruit is of moderate size, and the flavour very good. *W. H. Divers.*

A TRAVELLER'S NOTES.

(Continued from p. 652.)

BARODA TO JEYPORE.—Not far from Baroda, on the way to Jeypore, a handsome tree is well represented on either side of the line. It is very particular as to soil, and only grows in patches. Unfortunately, I am too early to see it flower, but M. Henry tells me it is a wonderful sight, each tree being literally a sheet of orange-scarlet pea-shaped flowers in the way of *Cianthus Dampieri*. Its name is *Butea frondosa*. From its flowers the red dye is made with which the followers of the gods Siva and Vishnu paint their foreheads with the distinctive marks peculiar to each sect. Its leaves are used as cigarettees, and for manufacturing plates. Babools, *Acacia arabica*, are to be seen in quantity, and a pretty little shrub, *Cassia auriculata*, attracts notice by its numerous heads of yellow flowers. In the centre of the great tank at Ahmedabad is a pretty little garden with Bougainvilleas clipped in tiers, as we clip yews, and a fine specimen, thoroughly characteristic of the branching palm—*Hyphene thebaica*. It is some 15 feet high, and has two distinct heads breaking away from the main stem. A few nice trees of the brick-red flowering tree, with its large handsome ovate leaves—*Cardia sebastena* (?)—as well as a neat little specimen of *Agati grandiflora*, with its brown seed-pods, often 1 foot long, were to be seen. A white variety of *Ipomoea rubro-cerulea* trails prettily over a parapet, whilst the arches at the ends of the walks are hidden by *Petræa volubilis*—producing its sky-blue flowers freely, and *Combretum purpureum*, the latter one mass of buds. *Acalyphas*, *Eranthemum*, a bed of single *Hollyhocks* (doing well), *Abutilon coccineum* in flower, a few nice heads of *Cycas revoluta*, and some handsome dark-leaved *Graptochylum hortense* (grown in tubs), as well as *Croton* and *Dracaenas*, were to be seen. Alligators and flamingoes surround this charming spot, which is named Kankaria Lake. Beyond and round the tank Babools (*Acacia arabica*), form the chief vegetation, though *Nim* trees (*Millettia*), and Mangoes are also to be seen, as is *Ficus Trimeni*, easily recognisable by its distinct and peculiar white stem.

There is a small public garden at Ajmeer, little better than a wilderness, evidently quite neglected, though, on account of its situation and natural advantages, were it taken in hand quite a pretty place could be developed.

JEYPORE is a wonderful city—probably next to Hyderabad, the most interesting in India. Picture to yourself a city, with its principal streets 2 miles long and 60 yards broad, straight as an arrow (as are all the cross streets), quite flat, with a view as uninterrupted as that of the Champs Elysées, lined on each side with rows of houses with bazars beneath, all two stories, never more and never less, each fluted rose-pink, the huge streets and still larger squares thronged with people, evidently more or less well-to-do; cows wandering in every direction, strings of camels continually passing to and fro; nobles riding Arabian horses, all armed with curved swords, and richly dressed. The whole is surrounded by a high crenelated wall, above which, in the far distance, are the peaks of the Aravalia.

Jeyapore has been described as "a pink city on a blue lake"—a most terse and true description. It has a railway station with a corrugated iron roof, a school of arts, a water-supply, a huge cotton press with engines of 50 horse-power, and is lighted by gas.

I suppose such things indicate progress, but I agree with Kipling, it is a pity.

The public garden of Jeyapore is considered one of the finest in India, and by many, the finest. It is about 70 acres in extent, most of which is under grass, in first-rate condition; or under shrubberies, with beds in front. The roads are chiefly 30 feet wide. The menagerie is really an interesting one. The museum in the centre is one of the finest buildings I have seen out of Europe. The ground is cleverly and not too abruptly undulated; its fernery, or greenhouse of reeds, is the largest and best I have seen since leaving England. The whole is in first-rate order, and as clean as a new pin, doubtless the result of European management, with a maharajah's money behind it. To a lover of plants it is, perhaps, not so interesting as Baroda public park, as it is not planted with such a variety of trees and shrubs, but for the people I think it preferable. Exactly opposite the double iron gates, just outside which is a fine specimen of the Nim tree, whilst on the inside two Poinciana regia overhang the handsome iron railings supporting them, is a suken grass terrace, reached by a short flight of steps, a stone parapet running along the top. It is perhaps a quarter of an acre in extent, and surrounded by a shrubbery broken up by taller trees, such as *Calocanthus indicus* and *Cassia speciosa*. Small beds planted with a variety of plants, such as *Ruellia juncea* and *Salvia coccinea*, both in flower in one bed; *Justicia*, *Vincas*, and *Canna indica*. At the top of the grass plot in the centre, surrounded by a narrow path, is a small patch laid out in beds chiefly planted with *Ferns* and *Roses*, the latter looking sturdier and generally in better condition than I have as yet seen any. These beds surround some specimens of the tall *Cupressus torulosa* of the Himalayas. On the left a portion of the shrubbery is composed of dwarf plants of *Plumbago capensis*, whilst on the right the yellow berries of *Duraeto Ellisi*, as well as the ivory-white racemes of its variety also, are noticeable. A large piece of *Antigonon leptopus* is entwined in a graceful manner with the long grey shoots of *Buddleia diversifolia*. Further south the *Antigonon* was in flower. Here it is only in bud, but I can well imagine the pink blooms of this handsome creeper against the grey stems and dull green leaves of the *Buddleia* must be most effective. The whole forms a mass trailing over several square yards. A large Nim tree, the earth round the roots having been bucked up for several feet, forms a pleasing change, whilst opposite to it a small arbour leads to a path connected with the winding road between the gate and museum. On this arbour *Petrea volubilis* was just beginning to show its sky-blue flowers, and the delicate, palmate foliage of *Ipomoea semperflorens* covers one side. Round this terrace *Tithonia tagetifolia* is planted; it is the same Sunflower-like plant fast becoming a weed in Ceylon. Here it is straggling, and evidently not at home or in danger of multiplying itself to an alarming extent. Some parts of the shrubbery surrounding this terrace having become a little bare, a row of *Crinum asiaticum* has been planted—very useful for this object—the light green foliage showing up well against the darker back-ground. A *Grevillea robusta*, a good specimen, is in one corner, whilst close by a row of *Goldfussia colorata* is producing its blood-red coloured flowers freely.

Not far off is a circular garden, surrounded by a low stone wall, and laid out with beds of various designs each surrounded by a stone curbing. In the centre a high arbour over a small well is one mass of a creeper with white *Hydrangea*-like flowers

and exceptionally thick foliage; it is *Vallis dicrotoma*. The beds are planted with (*Eriotheca Drummondii*, Chinese *Asters* doing remarkably well, *Cannas*, *Ageratum*, *Roses*, and two of *Amaryllis*; one of prettily-tinted *Verbenas* is perhaps the most noticeable. A fine specimen of a leguminaceous tree, *Dalbergia Sissoo*, stands in front; whilst on one side of this garden the handsome ovate, dark foliage of *Sterculia alata* attracts one's attention as being so different to the foliage of all the surrounding trees. Another tree also worth mentioning is *Theretia nerifolia*; it is rather shrubby in growth, and unfortunately, apt to be bare at the base. It has long, thin, closely-set, narrow foliage, not unlike a *Nerium*, but much denser; its flowers are bright yellow, and moderate in size.

On each side of the road leading to the band-stand, in the centre are oblong beds edged with *Alternanthera*, and planted with *Vincas*, *Ageratum*, *Tagetes*, *Balsams* in flower, which though just passing look remarkably well; whilst behind these beds a shrubbery in which *Tabernaemontana* and the red flowers of *Hamelia patens* are noticeable, hides the bare stems of the bigger trees behind.

The fernery is a sweetly pretty spot; it is high, with a broad lantern, covered with small dried Reeds, just letting a little sun through; pretty cork-covered baskets, with small *Tradescantia discolor*, *Mother-of-Thousands*, and various kinds of *Ferns* hang from the roof; whilst pedestals, often quite hidden by *Maidenhair* of *A. capillus-veneris*, are dotted about. A path encircles the whole house, the body of which is filled with a low undulating rockery, and a round tank in the centre. *Cycas*, small *Palms*, foliage *Begonias*, numerous *Ferns*, *Cyperus*, *Caladiums*, and such like plants abound, whilst *Dracaenas*, often placed as single specimens on the top of the pedestals, form a nice variety in colour. The whole is most tastefully arranged.

Small groups of *Agaves*, *Sansevieria*, *Cannas*, Chinese *Asters*, all in pots, but cleverly hidden by cork, have been placed on the low terrace on which the band-stand has been erected; between each group is a comfortable seat.

If one rests for a moment at the band-stand, one can admire the splendid Albert Hall, approached by a broad road; large grass-plots, a few feet below the ground-level, are on either side in fine condition, and evidently carefully looked after.

On the road, a fine hedge of *Hibiscus sinensis* skirts one side, and a large "Pippal tree," with various kinds of monkeys chained to its branches, is not far off. Further on, and nearing the Hall, a good hedge of *Bignonia Stans*, and another of *Poinciana pulcherrima* is on the left; whilst on the right a large "nullah," crossed by a small suspension-bridge, is as rough a place as one could desire to see. Pretty peacocks abound just here, and they brighten it up a little.

The Albert Hall or Museum is most interesting, containing Indian products of every description, models of flowers and fruits, and photographs of all parts. All is in perfect order, in glass cases, carefully labelled. James H. Veitch.

(To be continued.)

DEW, AND ITS ACTION ON PLANTS.

It is generally believed that dew exercises a great beneficial and refreshing influence on plants, and this supposition has provided poets with many beautiful comparisons. When a scientist, however, declares that it is not a fact that dew is so important a means, and that its beneficial effects have been greatly overrated, it may be safely presumed that the scientist has good grounds for his assertion.

The reasons given by Professor G. Wollny, of Munich, for combatting the generally-received opinion upon the formation and value of dew, are, as might be expected, weighty, and are based upon the researches of several years. These researches prove that dew is not, as is generally supposed, formed by condensation taking place in the atmosphere immediately over the plant, and according to which theory the dew falls on the plants; but that the dew-drops are caused principally by the moisture arising from the earth—a theory first proposed by Gersten in 1833.

It will be seen that the co-working of the earth-moisture is necessary for the formation of dew,

and it will be easily understood that this has a great effect upon the question as to the value of dew as a refresher of plants.

That the generally-accepted theory of the formation of dew is incorrect, is proved conclusively by Wollny, who states that in the field where he made observations the dew was sometimes much heavier in one place than in another; and that while the difference could not be accounted for by the supposition that there was so much difference in the moisture of the atmosphere immediately over the plants in question, the difference of moisture in different parts of the field accounted easily for heavy or light deposition of dew. Wollny's researches prove conclusively that the quantity of dew deposited depends upon the moisture of the earth.

A certain amount of moisture is attracted by the roots, and sent up into that part of the plant which is out of the soil. The quantity of moisture thus abstracted by the plant depends not only upon the moisture of the soil at that particular spot, but also on the temperature. The higher the earth-temperature the greater is the amount of moisture abstracted by the plant.

In winter, when the temperature of the ground is so reduced, the plants can extract little or no moisture, but at the same time they continue to give out from their upper portions to the air. It is because of this that they often die; not because they are frozen, but because they are parched to death. In summer nights, however, the earth cools very slowly, and loses very little of its heat, and, from this reason, the plants abstract a great quantity of moisture; so much, in fact, that the water sometimes oozes from the leaves; or in case the surface of the leaves is suddenly cooled, is condensed, and given off in drops.

Wollny concludes, therefore, that the presence of dew on plants is owing to the action of the moisture drawn up by means of the roots into the upper part of the plants, combined with the action of the moisture rising directly from the earth itself.

It may be remarked here that the leaves of certain plants are so formed as to permit secretion and accumulation in case the evaporation is weaker than the power of suction, or rather when more moisture is absorbed from the earth than is given off into the air. When a hot day is followed by a cold night, the edges of the leaves of such plants (such, for instance, as the *Alchemilla vulgaris*) are found covered by big drops, which cannot be considered as dewdrops, whichever theory of dew formation be accepted. The great use of dew as a means of supplying plants with moisture is, therefore, as shown by Wollny, an error, for the plants can only be adequately refreshed by earth moisture absorbed by the roots.

Dew was said to refresh the thirsty plant. The plant thirsts if it does not receive a sufficient amount of moisture from the ground to supply that which is abstracted from them by the atmosphere. In times of drought, when the earth is more or less parched, and moisture is of the greatest necessity for plant life, there is no dew; besides which the amount of moisture which a plant can absorb by means of its leaves (save only in exceptional cases) is very trifling.

If the leaves and buds, which during the heat of the day are parched, regain their freshness during the night, it is not owing to the refreshing influences of dew, but simply because the air having ceased to extract so much moisture from the plant, and the suction from the earth always continuing, a fresh supply of moisture has been laid up. The dew is only of use in providing the leaves of plants, as it were, with a covering which is some defence against the continual suction of the atmosphere; but even this is not necessary, for the parched parts of the plant can become fresh without a dewy covering. After all, concludes Wollny, there is no doubt that the value of the work of dew has been greatly overestimated, and has not been in accordance with facts. J. Matthewman, Worsbro' Dale, Barnsley.

THE WEEK'S WORK.

THE FLOWER GARDEN.

By H. W. WARD, *Gardener, Longford Castle, Salisbury.*

MANAGEMENT OF BEDDING PLANTS.—Every-thing that is calculated to promote growth and symmetry in the different kinds of bedding plants should be adopted forthwith, so as to get the beds well filled in as short a time as possible, and in that way ensuring early effectiveness. With this object in view, all the flowers should be picked off for a few weeks to come, any unduly strong shoots being likewise stopped by pinching out the points. Afford liberal waterings in dry weather, and if a mulching of leaf soil or short dung has been laid on the soil, as was advised in a previous Calendar, it will accelerate growth, and lessen the amount of watering required. Pinch out the points, and peg out the shoots of all plants that require these operations, viz., *Heliotrope*, *Petunia*, *Calceolaria amplexicaulis*, *Verbena*, and *Phlox Drummondii*. The various species of *Sedum*, *Golden Chickweed* (*Stellaria graminea aurea*), *Cerastiums*, and other plants employed for the groundwork and dividing lines in carpet bedding should have all their flowers cut off, and the tufts pressed down so as to enable them to cover the allotted space in the shortest period of time, afterwards using a pair of sheep-shears to keep the various plants in due bounds. *Sedum lydium* shows a disposition to flower freely with me, and the easiest way to remove the flowers is to pull the flowering-shoots up. The same remark applies to *Antennarias*, afterwards affording the plants water to settle the disturbed soil. The flowers of *Cerastiums* and *Stellarias* should be clipped off.

VIOLAS.—*Viola Blae Perfection*, if set out among plants of *Golden Bronze Pelargonium*, look very well, as does *Viola Golden Queen*, interspersed among plants of *Pelargonium Mangleri variegatum*, the silvery foliage and pink flowers of the latter and the golden-yellow flowers and green leaves of the former making a pleasing combination of colours. At the present time these two *Violas* are in fine flower, and I am loath to disturb them to make room for the summer occupants; indeed, these *Violas* flower so profusely during eight or nine months of the year, that I have this year substituted *Golden Queen* for *Calceolaria floribunda*, a plant that has, during the last few years, been uncertain in its behaviour, the plants sometimes going off in a mysterious manner in the month of August, and thus leaving gaps in the beds. Old plants taken up, and divided into small bunches and planted at once, about 6 inches apart (in beds to themselves), pressing the soil about the roots in planting, and then giving water to settle the soil, experience very little check, and soon fill up the spaces between other plants. They should be planted thinly, except where used as a groundwork to be kept in due order amongst tall-growing plants. In our beds the *Violas* planted are allowed to extend their growth in September, so that by the time frost renders the housing of the *Pelargoniums* necessary, the beds are pretty well furnished with the *Violas*, which remain in bloom some weeks later.

THE KITCHEN GARDEN.

By G. WYTHES, *Gardener, Spon House, Brentford.*

COLEWORKS.—The present is a good time to sow seeds of Colework for autumn use. Coleworks or Collards should be grown in quantity, as the plants occupy but little space, and the crop not being long on the ground, is not very exhausting. To have them in continued succession several sowings should be made. Sow the seed broadcast or in drills in rich soil, and sow thinly and draw for planting direct from the bed, or prick the seedlings out into other beds. London or Rosette Collard is one of the best, soon turning in, and it is of mild flavour; this may be succeeded by St. John's Day dwarf Drumhead Cabbage, an excellent winter variety, and one of the best for early spring use. It is a distinct-looking variety with a very short stem, and a hard compact head, rather broader than long, and rather convex on the upper part. The heads which come in the spring from summer sowing, are not so flat as those from spring sowings.

CARROTS.—A bed of these should be sown on rich land to promote fast growth. These successional sowings of small varieties are useful in helping out the supply, and in preventing much use being made of the main crop roots in the young state. The ground where these Carrots are to be sown should be dusted over with fresh soot or wood ashes. The

varieties to sow may consist of the Early Nantes, Early Carenton, English Horn, and Early Scarlet Dutch Horn. The St. Valarie is one of the half-long varieties, very suitable for light land, if it be rich and deeply dug.

CELERY may be planted out in the rows as soon as large enough to lift, choosing showery weather for carrying out the job. Water well when planted, and at short intervals afterwards. No time should now be lost in getting the late sowings pricked off, or weakening will result from the crowding of the plants together in the seed bed; and the main thing is a sturdy plant. Seedlings, if sown under protection for late planting, may be lifted direct into the trenches. The plants should have sufficient space to grow, and full exposure, and be afforded plenty of root moisture, and a damping over with a fine rose water-pot in the evening.

VEGETABLE MARROWS in frames must be stopped twice a week to induce a good show of fruits, and liquid manure may be afforded occasionally, and the plants damped in the afternoon. Successions plant out on a warm border, and well supply them with water when they have got hold of the soil, and the weather is warm and dry. If small fruits are called for, it may be advisable to sow a few more seeds, and plant out towards the end of the present month. These plants give a nice lot of fruit if planted on a west border. Pen-y-Byd is good for this last sowing.

BROCCOLIS AND CAULIFLOWERS.—The last named are sometimes not much cared for when Peas, Beans, and other vegetables are in season, but the early autumn supply must be taken into consideration, so that no time should be lost in planting out Veitch's Autumn Giant and Walcheren and the Protecting Broccoli, the last being sometimes liked better than Giant Cauliflower, and by occasional sowings, it may be had on the table until Snow's Winter White Broccoli turns in. For the late summer the Walcheren Broccoli or Cauliflower, one and the same plant, is to be preferred to other Cauliflowers as being less likely to run, and it grows compactly, and is milder flavoured, and it may be planted out at about this time, following the early Cauliflowers in close succession. See that the seed-beds do not lack water, and if land is not yet vacant, prick off all plants likely to spoil by crowding.

FRUITS UNDER GLASS.

By J. RIDDELL, *Gardener, Castle Howard, York.*

MELONS.—Another planting of Melons may be made in a house, pit, hotbed, or frame, and more seeds sown for succession. Varieties of Melons differ in the length of time they require to grow to maturity, and it is by making a selection of those varieties which are early ripeners; those that require a little longer time to finish their fruits; and those which may be termed slow-growers, that an unbroken supply may be kept up. This I am enabled to accomplish with Malvern Hall; some seedlings obtained by several crosses with Spanish Melons; and a kind secured by crossing Green Queen with Ly Exoniensis. The last-named variety is from a fortnight to three weeks later than the earliest variety, and will keep in good condition for a fortnight after cutting. Although a second crop can be got from clean Melon plants by cutting them back and liberally top-dressing the bed, still the results secured from fresh plants and soil are much better. In both cases, however, the structure they are to grow in must be well cleansed. Give a surfacing of a rich compost to the beds of those plants on which a sufficient set is secured; water the soil with weak liquid manure, keep down all unnecessary growth, maintaining a dryer atmosphere at night, and ventilating freely during the day where the fruits are ripening. By carrying out these directions, the tendency of some varieties to burst will be lessened, and good flavour brought out. Melons growing in hotbed frames should be aired early in the morning to prevent the scalding of the leaves, and either slates, tiles, or something which absorbs heat should be placed under each fruit. I have seen pieces of glass used for this purpose, but it is the worst substance which can be employed, as it does not absorb heat, and condenses moisture. Stop the shoots of late successional plants at the first leaf beyond the fruit, and attend to the fertilisation of the flowers daily in the forenoon.

TOMATOS.—Cut out superfluous shoots, and reduce a portion of each leaf, where crowding is apparent, and in performing this operation deal most

severely with those leaves which shade the fruit. Plants bearing a heavy crop require manual assistance, especially if the beds or borders are shallow and narrow. At this season the ventilators should be partly opened at all times of day and night, and a gentle warmth during wet and foggy weather maintained in the hot-water pipes, if these are available.

STRAWBERRY PLANTS.—In order that good plants may be obtained for forcing next year, the first runners should be early secured. Some adopt the method of placing a small ridge of rich, porous, loamy soil along between the rows of old plants, and pegging the runners down to it; but I have always employed 3-inch pots filled with the same kind of compost, and in a rather loose state, in which to root my plants. In dry weather, watering has to be done whatever plan is adopted, and the pot plants have the advantage when they come to be shifted into their fruiting pots. I have always found, if runners filled 3-inch pots with roots, and the plants were repotted into 6-inch pots before the end of July, very good plants for forcing were obtained, provided their after-treatment was good.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, *Gardener, Moreworth Castle, Maidstone.*

PEACHES AND NECTARINES.—Trees with fruit thickly set, which is now swelling rapidly, should be relieved forthwith of a large proportion of their over-abundant crop, pulling off the smallest and ill-placed fruits first. If the trees were recently lifted and root-pruned, and the shoots rather weak, the crop should be rather lighter than that of an undisturbed tree, so that the wood may be sufficiently strong to produce good fruit next year. Do not (as is frequently done), allow any tree to bear too heavy a crop, or the flavour of the fruit will be poor. The number of fruits to leave on a tree will depend greatly on the size and strength of the trees, and the variety. If at the final thinning these are left evenly distributed all over the trees in the proportion of one fruit to each square of 9 inches, it will be found when they are fully grown that the crop is a very heavy one. Trees not growing evenly, that is, where one side is stronger than the other, should be regulated in this manner, by leaving a lighter crop on the weaker half than on the other. See that the fruits hang clear of nails and snags, these being removed as the tying and nailing-in of the summer wood gets done. Keep well ahead with disabbing and training, securing a good number of the shoots with small bits of hard Fern stems or Privet twigs, &c.; do not attempt to pull or pinch out the shoots, but use the knife. If the trees have been disabbed, &c., twice previously, it will be advisable to leave only those shoots that are required for next year's fruiting. Keep the leaves perfectly free from aphid and red spider by constantly using the garden engine mornings and evenings, more or less freely according as the weather is bright or dull. Young trees should have their shoots put into their proper position, so that a good framework of the future may be built up. In some instances, where there are more shoots than are required for filling up the wall space, the young shoots may be stopped at 6 inches in length if strong, and the subsequent breaks laid in, which will be sufficiently matured by the end of the season. All blistered leaves should be removed and burned.

SWEET CHERRIES.—The foliage of these trees should be cleared with water from the engine before the fruits get too far advanced, and as the fruit ripens early no insecticide should be made use of after stoning, or a bad flavour will be imparted to the fruit. Should black-fly be present, dip the infested ends of the shoots in a vessel containing tobacco-juice water or quassia water, and syringe the trees occasionally with clean water. Keep the leading shoots secured to the walls, and remove some of the breast wood, but do not shorten it back too hard, but leave 4 inches or more of the wood, for if pinched too hard back at this early part of the summer all the basal buds will burst, and the trees become a forest of shoots.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Castle, Swansea.*

LYORAS are just commencing to bloom, and plants which are, at the present time, growing in stove temperatures, will have their period of flowering prolonged by being placed in an intermediate house, guarding against admitting too much air for some

days afterwards, especially if the plants have been grown in a very high temperature, placing them in such positions that a direct current of air does not reach them. During the time the plants are thus kept in a cooler house, less water will be required at the root.

GARDENIAS.—Plants which have been flowering since the winter, and are getting straggly, may have their leading shoots cut back, so as to get them into a bushy form again, when they will take up less space, without there being any lessening of the quantity of bloom. When the plants have begun to grow again, those that may require repotting should be afforded a liberal shift, employing as a potting soil fibrous peat, or, if this be not attainable, some rich loam instead, with a small quantity of decayed manure and sharp sand, will be found to suit them. Give good drainage to the pots, and make the soil moderately firm about the old ball; and in rearranging the plants keep them well apart, and well up to the roof, which will induce sturdy growth, which always flowers better than that which is weak and drawn. Cuttings struck in spring will be ready for repotting. These should be grown in brisk heat, so as to get strong and well-established plants before the autumn. If there is a deficiency in the number of these plants, cuttings may still be struck. The matured wood of Gardenias strikes freely, and that being so, small branches having three or four shoots each, may be inserted singly in 6-inch pots, filling these three-parts full of sifted peat and sand, and the remainder with clean sand, afterwards placing them in the propagating-frame, when they will strike root in about three weeks. These plants being greatly subject to be infested by scale and mealy-bug, will require constant attention in the matter of cleaning them, or foliage and shoots will quickly get unsightly.

GREENHOUSE ERICAS.—To have the flowers of these plants in the best condition the plants must be put outside, or abundantly aired when these are about to open, as anyone who has seen the bright flowers of those which have opened outside, and compared them with the pale colours of those grown under glass, will have remarked the great difference between them. Take, for instance, the yellow-flowered *E. Cavendishiana*, and which is so liable to become greenish when grown under glass, but which, grown in the open, comes of the finest yellow; and so it is with all those species and varieties which have red in their flowers, the hue becoming much richer when the plants are fully exposed; the substance of the flowers is also much improved, and, consequently, their durability. As *Ericas* go out of bloom, pick off all decayed flowers before the seed vessels form, an important matter in view of next season's flowering. By erecting a light wooden framework over the plants, on which some stout canvas can be placed, or spare lights, heavy rains can be kept off them. As soon as the rain is over, the coverings should be removed.

MISCELLANEOUS.—Prick off early-sown *Cinerarias* into pans when large enough, using a compost consisting of one half sifted loam and one quarter each of leaf-mould and sand, placing the pans in a cold frame, and keeping them close shaded till the plants become established, when air should be afforded them, and light shading made use of on bright days. Sow more seed for succession. Primulas should be pricked off before they become crowded in the seed-pans, making use of a compost similar to that used for the *Cinerarias*. Keep them close like those, till established, and when large enough, pot them off singly into 48's. Young stock of the following plants, which may at the present time be growing in small pots, may be moved into 5-inch as soon as they are well-rooted, viz., *Plumbago rosea*, *Justicia speciosa*, winter-flowering *Begonias*, *Thyracanthus rutillans*, &c. A low, heated pit is the best place for them from this time, where they must be kept close to the glass. Young plants of *Eupatoriums*, *Grevilleas*, *Salvias*, *Marguerites*, *Libonia floribunda*, &c., should now be making free growth, and the leading shoots should be stopped occasionally. Shift them into larger pots as required, syringe the plants freely at closing time, and keep them free from aphids.

THE ORCHID HOUSES.

By H. A. BURBERRY, Orchid Grower, Highbury, Birmingham.

THE INSECT PESTS OF ORCHIDS.—Unfortunately for the cultivator of Orchids, the insects which work mischief in a greater or lesser degree are many, and occasion him much labour in their destruction;

and it always happens that at this busy season the time can be ill afforded, yet if they are not kept in check the harm they do at this season is often very serious. The green and yellow-fly, which are sometimes grievous pests, are really unknown to us here, even

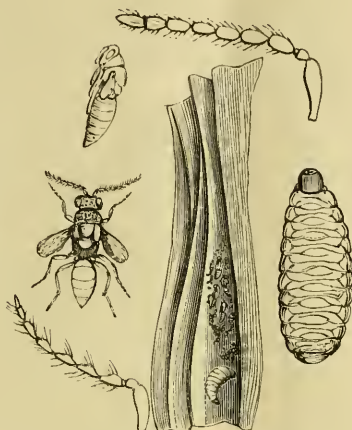


FIG. 108.—ORCHID INSECT, (*Isoptoma chloridrum*. See *Gardeners' Chronicle*, 1889, p. 1231.)

in the *Odontoglossum*-house; and I am acquainted with a gardener near Birmingham who has never seen thrips in his houses, but who has green-fly in abundance. Instructions for the extirpation of these pests will be found in the Calendar for February 20 last. A sharp look-out should be kept if red spider is

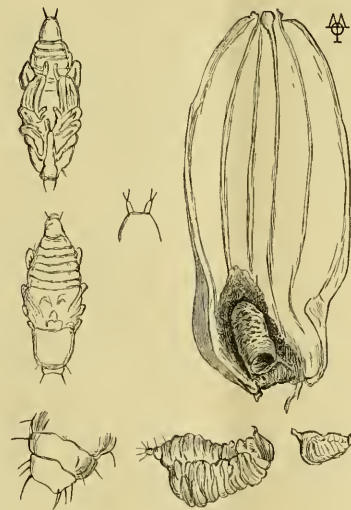


FIG. 109.—WEEVIL OF BULB OF *OEOLAGYNE*.

troublesome, especially in the *Dendrobium* house, for it causes the foliage to become spotted, and cripples the growth if left unchecked. The ants are now getting active, showing how quickly they can carry scale insects and other matter, and deposit these on plants that hitherto were clean; they also

show an undoubted preference for pots full of seedling Orchids wherein they make their nests, the result of which proceeding on their part is soon manifested. I think the best method of destroying ants is to place a piece of meat well saturated with a deadly poison in their tracks, but out of the reach of all animals. Again, the Cattleya fly (fig. 108) should be sharply looked after just now, the growths getting forward enough to make their detection easy. Infested growths must be cut off, or the fly will escape and do fourfold damage another year. A full account of it is given in the Calendar for January 9 this year. There is another species of fly which attacks the roots of Cattleyas, causing them to become clubbed; these roots must be cut away and burned. Then there are the various slugs, cockroaches, woodlice, and others that are partial to Orchids, which occasionally do damage, and should, therefore, be hunted for.

GENERAL WORK.—The weather continues bright and warm, and very favourable to the plants making the strong healthy growth so necessary for good flowering next year. Cases of over-watering will now be rare if the plants have been properly potted, and the materials as well the plants themselves are in good condition. The rule should now be to water just as the moss is beginning to get white, and not letting it become any drier than this colour in it shows. The Mexican Orchids will be best if watered in the afternoon. *Laelia anceps* and the other inmates of the Mexican House may also be syringed both night and morning, but never when the sun shines upon them. Proceed with the necessary repotting of Cattleyas as they go out of flower. These plants generally look a little out of sorts after flowering, especially if they are at all weak, but they soon regain plumpness and vigour if placed in growing quarters and treated liberally. In the case of *Lycaste aromatica* and *L. cruenta*, and others of similar growth, it is best to repot these plants now, before they come into flower, or by the time flowering is past the new growths will be too far advanced.

THE APIARY.

By EXPERT.

TAKING SWARMS.—Swarms sometimes settle in such peculiar places that it is often very difficult to give them. In the case of a swarm settling high upon a tree, which often happens if an after-swarm takes flight with a young unfertilised queen, a skep or light box should be securely fastened to the end of a clothes-prop or long pole, by which means it can be held underneath the swarm, whilst a helper, armed with another pole, is able to shake the branch the bees alighted on, so that they may fall into it. Swarms are difficult to dislodge when they get into the middle of a hedgerow, and this is not by any means an uncommon place in which to find them. If a skep is placed on the top of the hedge, or as close above the bees as possible, they can generally be induced to take possession of it by having a cloth saturated with carbolie solution placed underneath them. Another favourite place for swarms to settle is round the stems or trunks of trees, and they are then rather awkward to have, by reason of their covering a large space, and branches sometimes being in the way. Under these circumstances, the best plan is to brush as many bees as possible into the skep with a large, strong feather, moistened with carbolie acid, and then sprinkle the place where they were with the latter. The remainder will beat a hasty retreat, and join their sisters in the skep, which must be propped up near by. There is nothing more likely to be of use in the apiary at swarming time than the carbolie solution, made in the proportion of 1½ oz. of Calvert's No. 5 acid to 1 quart of warm water. When a swarm is observed to be settling in an awkward place, it can be prevented, and the bees induced to go to another, by sprinkling a few drops of carbolie acid on the spot selected as soon as they first begin to cluster; and if it cannot be reached so as to be done with a feather, a syringe can be employed.

HONEY has been coming in freely lately, and as *Sainfoin* blossoms are almost out in many places, to be followed by white Clover—our two best honey plants—supers should already have been placed on all stocks.

TWO QUEENS IN ONE HIVE.—It speaks well for the new system of bee-keeping that manufacturers are now making and advertising hives suitable for the purpose.

EDITORIAL NOTICES.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

Advertisements should not be sent to the Editor, but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY, JUNE 15 { Royal Botanic Society's Musical Promenade.

THURSDAY, JUNE 16—Linnæan Society.

SHOWS.

TUESDAY, JUNE 14 { Essex Agricultural and Horticultural Show (two days).

WEDNESDAY, JUNE 15—York Show and Gals (three days).

SALES.

TUESDAY, JUNE 14 { Various Orchids, at Protheroe & Morris' Rooms.

WEDNESDAY, JUNE 15 { 1,000,000 Palm Seeds, and Her-
baceous Plants, at Protheroe & Morris' Rooms.

THURSDAY, JUNE 16 { Clearance Sale of Stove and Green-
house Plants, on the Premises,
Ryeotote, Dulwich Common, at
1 P.M., by Protheroe & Morris.

FRIDAY, JUNE 17 { Established and Imported Orchids,
also the entire stock of the new
Cala Rhetotiana, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—60°·8.

So generally have Ferns come to the front as decorative plants of the greatest merit of late years, and so enormously have their cultivators increased in numbers, that we feel certain most of our readers will be instructed, and likewise interested, by the following facts and speculations as to the future developments of the Ferns of these islands from the pen of so enthusiastic a cultivator and hybridiser of this order as Mr. C. T. DRYVER, F.L.S.:—

"To those who make a special study of the development of our native Fern varieties, under that selective culture to which of late years they have been subjected, their wonderful capacity for further variation in the direction of greater delicacy of cutting, and refinement of detail, is a source of ever-increasing astonishment.

"Contrasted with the most delicate exotics, such as the *Todea superba* and *pellucida*, some of the finely-cut species of *Asplenium*, *Davallia*, *Gymnogramma* and others, our normal forms, pretty as they undoubtedly are, certainly stand far in the background as decorative plants; but it has been found that, starting from some of these species, the spores possess a power of divergent variation which enables the cultivator, in a few generations, or it may be in only one, not only to bring them into equal rank with the best of their foreign confrères, but in some cases altogether to surpass them.

"As a most salient and patent instance of this, we may point to the beautiful strain of Plumose Shield Ferns, *Polystichum angulare*, which were exhibited at the Fern Conference and Exhibition of 1890 and 1891 at Chiswick and Westminster under the auspices of the Royal Horticultural Society. These charming plants, which excited universal admiration,

originated some years ago under the skilful hands of the late Colonel A. M. JONES, of Clifton, and his friend and neighbour, Mr. E. F. FOX, of Brislington, near Bristol (who, alas! has also joined the majority), both of whom, though ardent Fern lovers in general, had drifted finally into the position of *Polystichum* fanciers in particular, this family possessing, in addition to unlimited powers of variation, the great virtue of being thoroughly evergreen, which naturally adds materially to their decorative value.

"These gentlemen sowed the spores of a decomposite wild variety of *P. angulare*, which though much more divided than the normal form, could by no means be regarded as plumose; yet, nevertheless, among the young plants resulting, there were several seedlings of such dense and delicate frondage, that although Mr. FOX, relying on his record, was firm in his belief in their origin, Colonel JONES scouted the idea of their having sprung from such inferior parentage, and it was only when Mr. FOX repeated the experiments, and raised a second batch with like results, that he carried conviction to the Colonel's mind.

"The outcome in this case, at one stride, be it observed, was a set of Shield Ferns which absolutely defy any exotic to rival or even approach them in fineness of cutting, density of growth, or general beauty.

"Naturally, among the batch a select few took foremost rank, three especially, which were named respectively *P. a. divisilobum plumosum densum*, *laxum*, and *robustum*. These are reputedly barren of spores, and hence have, so far, only been propagated sparingly by bulbils, which are produced occasionally at the bases of the fronds. From this, one would imagine that the possibilities of development were concluded, since bulbils notoriously yield plants quite true to the type, being, in fact, offsets; but, according to Mr. E. J. LOWE, twin bulbils—i.e., two bulbils at the base of one frond of '*densum*'—have yielded two remarkably distinct forms differing widely not only from the parent, but also from each other. One of these, named *Baldwinii*, would seem to be the *ne plus ultra* of fine division, the frond being built up of long silky filaments, in which not a trace remains of the mitten-shaped divisions peculiar to the Shield Fern family. The other form is much coarser in make, and considerably denser in growth than even *P. densum* itself, the pinnae overlapping each other to such an extent that the frond is like a thick mat of mossy verdure. Cases of bulbil variation are so extremely rare that we cannot look in this direction with any confidence for further development; it is fortunate, therefore, that though these Ferns are, as we have said, 'reputedly' barren of spores, *densum*, at least, is not absolutely so, since one plant two seasons in succession has yielded a crop, microscopic indeed, consisting of one or two solitary capsules, which could only be detected by a powerful lens. Three little plants, however, resulted from the first batch of spores, very small as yet, but showing their parentage unmistakably, and a score of prothalli exists from the second crop, so we have reasonable hope of making progress through the ordinary channel of the spores, and getting even finer types than the parental ones, the progeny being almost certain to vary both ways, i.e., to be better and worse.

"Through the spores, too, thanks to the demonstrated capacity of Ferns for crossing, we may look in the near future for the alliance of these splendid plumose forms with some of the symmetrically tasselled or cristate ones, though it is

really a moot point whether the result would be an improvement. Since, however, it has been repeatedly found that Nature's combinations of this sort are very apt to transcend altogether our preconceived ideas, or to strike out into a new and unimagined line altogether, we may reasonably expect that we should not merely gain variety by crossing, but that the variety would also be charming.

"As an example of the unexpected, we may instance Mr. CHOPPER's beautiful new type of the crested Male Fern (*Lastrea pseudo-mas fimbriata cristata*) raised from the old and well-known crested form, which has been well-named the King of the Male Ferns. Here we have from a comparatively coarse and heavy-tasselled Fern, a charming silky-surfaced plant with delicately-fringed flat tassels of the most refined character, and of altogether new type. Fortunately, though of a plummy nature, which often means sterility, it is by no means barren, and its spores yield remarkably true progeny, careful search through a large batch failing to show a trace of reversion. Strange to say, in this species and, in fact, in the whole genus, numerous as the varieties are, only two true plumose forms have been found, *L. f. in Bollandia* which is far from perfect, and *L. montana plumosa* which we have not seen, but which is described as a splendid form. As *Bollandia* was found in Kent, which is comparatively poor in Ferns, we may reasonably hope that somewhere in our 'ferny' western counties some lucky hunter will be able to add some truly plumose *Lastreas* to the Ferns of the future.

"Among the Lady Ferns, undreamt of possibilities have quite recently been realised by the advent of the 'superbum' strain of plumose forms raised from the Axminster source. Some of these plants were exhibited at the Royal Horticultural Society's show last year, and formed worthy compeers of the remarkable Shield Fern aforesaid. The development of some of these is really marvellous, the best being actually quinque-pinnate, or five times divided. As this strain improves in type, it loses rapidly in fertility, which points to a line being drawn by Nature before very long. Some of the plants, however, have inherited the faculty of yielding dorsal bulbils; but these, of course, are useless for crossing purposes.

"The curious part of this subject is, however, the fact that a wide range of forms, embracing all types of creting, and a number of types of plumation, sprang into existence in two generations from one uncrested variety without any crossing whatever; while a recent sowing from one of these has yielded a crop which, so far as the young plants have declared themselves, is true throughout to the parental form. We have thus constancy and inconstancy mixed up in the one strain in a very perplexing but interesting way, as follows:—First, spores of a perfectly uncrested Fern, yield over 90 per cent. of heavily-crested plants. From one of the best of these a sowing is made which yields a veritable host of diverse forms, crested of all grades, and uncrested of all degrees of delicate cutting; and then the spores from one of these uncrested ones are found to have resumed the constancy of its great-great-grand-parents.

"From the instances given, it is obvious that with careful selection our British Ferns of the future are destined to something better than the popular neglect to which they have been long subjected; but it is equally obvious that the word—careful—wants to be strongly impressed upon the cultivator. Nature is so generous with her varietal gifts to the Fern tribe, that it is simply

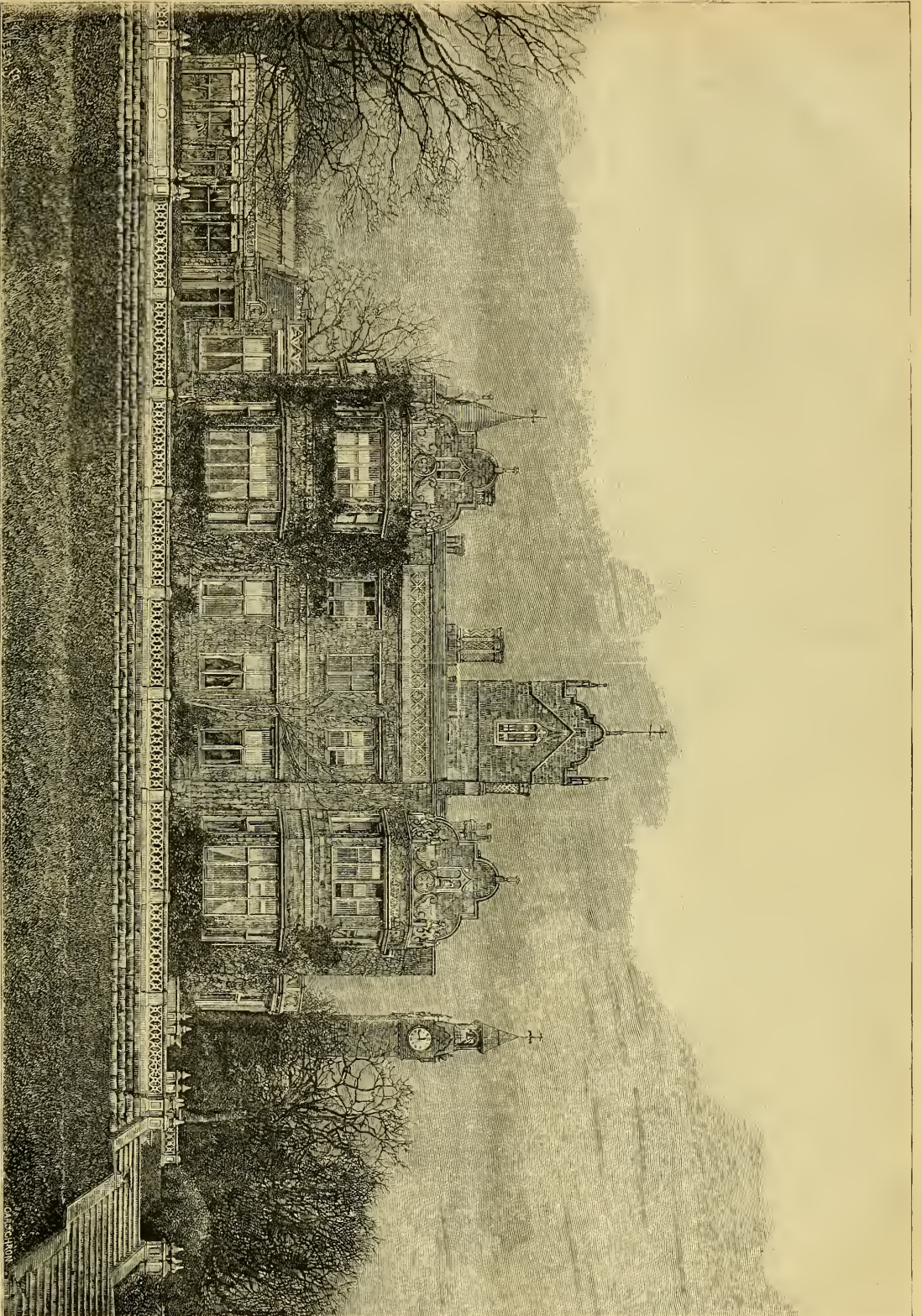


FIG. 110.—PALACE OF PARLIAMENT, LONDON. (SEE P. 700.)

ridiculous for those who raise from spores, to grow on the inferior types, which frequently have a knack of asserting their presence obtrusively among their choice companions. These intruders are frequently curious examples of freakishness and eccentricity, but he who aims to do good work and leave behind him something better than he started with, must form a good ideal, and stick to it; and if he takes our advice, that ideal will involve perfect symmetry, perfect constancy, and as much refinement as his imagination permits of.

"Finer and finer types will then reward his labours, and add their quota to the Ferns of the Future."

As the Potato season will once again soon be upon us, the following result of experiments in the Horticultural Division of the Rhode Island State Agricultural Experiment Station, conducted by Mr. L. F. KINNEY, B.Sc., may be of interest and value.

Convinced by experiments tried at this station and elsewhere in previous years, as to the merits of the Bordeaux Mixture as a means of checking the "blight" and "rot" of Potatoes, in 1891 the mixture was prepared in bulk and applied to the entire Potato crop of this station, excepting sections of fields left untreated for trial purposes.

While the blight of the haulm, and particularly the rot of the tubers, were much less prevalent in this locality in 1891 than in 1890, few fields, if any, of late Potatoes, were entirely exempt from it, and many suffered more or less serious injury from the premature dying-off of the haulms, due to the ravages of the disease. Its presence was first noticed on these grounds soon after the middle of July. An application of the Bordeaux Mixture was immediately made, July 20 and 21. This was repeated July 29, and again a third application was made August 8. This treatment of the haulms checked the spreading of the disease to such an extent that all of the varieties formed good-sized and well-matured tubers, which were practically free from the Potato rot.

As is frequently the case, the disease seemed to spread rather slowly at first, in the untreated plots; but by the end of July nearly every Potato plant began to manifest its presence, and by August 10 all growth of the haulms had ceased, and many of the haulms of the late varieties were already dead and dry, while those of the same varieties immediately adjoining them which had grown under exactly the same conditions excepting the treatment that the haulms had received, were yet growing in a comparatively healthy and vigorous condition.

The yields of merchantable tubers of four varieties of these Potatoes were calculated, per acre, both where the haulms were sprayed with the Bordeaux Mixture, and where the haulms were not sprayed, and are given in the following table:—

Variety.	Haulms Sprayed.	Haulms not Sprayed.
	Bushels per Acre.	Bushels per Acre.
Alexander's Prolific	197½	153½
Champion	168½	125½
Climax	135	96½
Green Mountain	208	121
Total, 4 Acres	709½	496½
Average	177½	124½

The average increase in the yield of the merchantable Potatoes due to the application of

the Bordeaux Mixture is shown in the foregoing table to be 53½ bushels per acre; an amount, the value of which considerably exceeds the cost of the Bordeaux Mixture used, and the expense of applying it. This increase in the yield where the haulms were sprayed was mainly due to the large size of the tubers, although there was a slight falling off in the yield of the untreated plots caused by the Potato rot. These results fully sustained the results of previous experiments.

It may also be mentioned that at this same station last year it was found that spraying the seed Potatoes and the soil about them with Bordeaux Mixture, after the seed had been dropped in the furrows, considerably checked the development of "Potato scab" upon the product—at least, in fields not previously contaminated with the disease.

THE TEMPLE SHOW, 1892.—Notwithstanding certain adverse circumstances, the show of the Royal Horticultural Society, held in the Temple Gardens this year was in every respect as great a success as in previous years. The action of the Council in raising the price of admission for the first few hours was evidently keenly appreciated by the Fellows of the Society, who were enabled to obtain a good view of the exhibits without undergoing the discomfort of doing so in a crowd. On the second day gardeners also availed themselves of the privilege to see the show as early as possible, and were able to make their notes before the inrush of the general public at 1 o'clock. It may be added that, from a financial point of view, the show was a greater success than any which have preceded it.

THE GARDENERS' ORPHAN FUND.—At the monthly meeting of the committee, held at the Hotel Windsor, on the 3rd inst., WILLIAM MARSHALL, Esq., presiding, the following special subscriptions and donations were announced:—Ealing District Gardeners' Mutual Improvement Society, proceeds of lecture, £10; The Manchester Local Committee, proceeds of concert at Altrincham, per Mr. W. PLANT, £20; Mr. JOHN WILLS, annual birthday gift, £10 10s.; Miss GIBBONS, per Mr. J. HUGHES, local secretary, Birmingham, £5; Tadcaster Paxton Society, per Mr. H. J. CLAYTON, £1. The Hon. Secretary brought up a report of the recent annual dinner on behalf of the fund, which was considered highly satisfactory. The death of Lady GORNSMID having been announced, the following resolution was unanimously passed:—"The committee of the Gardeners' Orphan Fund, having learned with deep regret of the death of Lady GORNSMID, desires to express their sense of the kind interest taken in the fund by her ladyship, as was particularly shown by her attendance at the floral *fetes* in aid of the fund, held in the wholesale Flower Market, Covent Garden. The committee tender to Sir JULIAN GORNSMID, then President, and the members of his family, their sincere condolence and respectful sympathy under the great bereavement they have sustained." The two following resolutions were also unanimously passed:—"That this committee express to Sir JAMES WHITEHEAD, Bt., their high appreciation of the great services he rendered to the Fund by taking the chair at the recent annual dinner, and for his exertions in securing such a highly satisfactory subscription list. The committee also desire to tender their hearty thanks to Sir JAMES for his eminent services thus rendered to the Fund; and they have the gratification of placing on record their sense of the unprecedented success which marked the new departure in the matter of the annual dinner." "This committee, in recording their sense of the marked success which attended the celebration of the recent annual dinner of the Fund, desire to express their hearty thanks to the Chairman, Mr. WILLIAM MARSHALL; their Hon. Secretary, Mr. A. F. BARRON; and to Mr. BRIAN WYNN, for arranging the details of the dinner, and in carrying out the same in so highly satisfactory a manner; also to

those friends who supplied flowers, and who so kindly assisted in decorating the dinner-tables." The proceedings closed with the usual vote of thanks to the chairman.

LINNEAN SOCIETY.—At an evening meeting to be held on Thursday, June 16, at 8 p.m., the following papers will be read:—1, "Contributions to Indian Carcinology," by Professor J. R. Henderson, F.L.S.; 2, "The Thames as an Agent in Plant Dispersal," by H. B. Guppy; 3, "On some Abnormal Development of the Flowers of *Cypripedium*," by Miss M. F. Ewart; 4, "Supplementary Notes on the Fauna of the Mergui Archipelago," by R. J. Pocock; and 5, "Lantern Demonstration."

MANCHESTER BOTANICAL GARDENS.—Friday, June 3, was a special *fête*-day in connection with the Old America Exhibition at the gardens at Old Trafford. The horticultural show was held in the glass-covered avenue, where Messrs. WATERER & SONS, nurserymen, Bagshot, Surrey, afforded visitors a treat of beauty in their large display of hardy Rhododendrons. The plants were covered with expanded and expanding trusses of brilliant flowers. The dazzling display made by these plants was toned down by masses of Japanese Maples and groups of Palms. The annual dinner of the Council of the Royal Botanical and Horticultural Society of Manchester, was held in the gardens on Friday, the 3rd inst., under the presidency of Mr. S. BARLOW. "Prosperity to the Society" was proposed by Mr. E. J. BROADFIELD, who expressed the belief that before many years had passed some new developments would take place. The county council had large funds at its disposal for the purposes of technical education, and he ventured to hope that part of those funds might be devoted to the special sort of technical education which the society had at heart. Apart from educational purposes they owed much to the gardens. The Society had solved the problem of finding healthy summer recreation for the people in Manchester. He believed the chairman of the county council would be favourable to a proposal for giving a grant to classes in botany to be held at the gardens. Mr. BARLOW, in responding, said he was not without hope that the county council would awaken to a sense of its responsibilities, and he believed that ultimately the suggestion which Mr. BROADFIELD had made would be adopted by the council.

NATIONAL ROSE SHOW, CHESTER.—We understand that owing to local circumstances, it has become necessary to alter the National Rose Society Show at Chester from July 14, to Saturday, July 16.

DINNER OF THE HORTICULTURAL CLUB.—The usual monthly dinner of the Horticultural Club was held at their rooms on Tuesday evening. Owing to the Whitsuntide holidays there was not a numerous attendance. The discussion was on "Nature versus Cultivation," opened by a paper by Mr. F. W. BURRIDGE, Trinity College Botanic Gardens, Dublin, read by Mr. GEO. BUNYARD. It was followed by an interesting discussion, in which all the members present took part.

THE NEILL PRIZE.—At a meeting of the Council of the Royal Caledonian Horticultural Society held on Wednesday, June 1, the Neill Prize for the biennial period, 1890 to 1892, value £37 10s., was awarded to Mr. JOHN PATERSON, formerly gardener at Millbank, Edinburgh, as a distinguished and successful horticulturist.

BERLIN PUBLIC PARK.—The public park at Berlin, "Humboldtshain," says the *Daily News* of June 3, is just now glorious in its spring dress. It is divided into so many zones for native and foreign plants. Each is provided with a tablet, giving its scientific and German name, its country, &c. In the Asiatic zone, many examples of *Pirus koribunda* are now in full and beautiful flower. The views from the different paths, says the *Vossische Zeitung*, become each year prettier. In the south border of the park is the school garden, provided with plants

for the instruction of scholars; there are a nursery of nearly three million young plants; a vivarium, an Alpine garden, and a "geological profile," as studies for both teachers and pupils. Then there are hot-houses, and glass pits, where the plants for the decoration of the public gardens in the city are cultivated. There is plenty of vegetable material for instruction in drawing in the industrial and other schools, and a botanical museum is located in the house of the director of this park. This interesting place is easily reached from the centre of Berlin by means of the trams.

THE TOMATO IN GREAT BRITAIN.—The following report by the United States Commercial Agent SAVIN, has been kindly placed in our hands by the Director of Kew for publication:—"Although known in this country as far back as the sixteenth century, very little effort has been made to cultivate the Tomato as an article of food until late years; and as a well-informed writer in one of the magazines for the current month remarks, it was only within the last ten years that its value in this respect has been properly appreciated. Half a century ago it made its appearance in the London market alongside its democratic congener in the Solanum family, the Potato, but made very poor progress in public favour until a comparatively few years since. Both came from the western hemisphere about the same time. To-day there are over one million square feet of glass surface in Great Britain exclusively devoted to the cultivation and production of Tomatoes for market purposes; and these Tomatoes are sold at prices from 8 cents to 16 cents per pound in the season. Just now, as the crop is about gathered, the price has advanced to 20 and 25 cents, and up it will go until it reaches the high-water mark of 50 cents per pound in the middle of winter. Tomatoes at 50 cents per pound are somewhat of a luxury. The principal source of supply for the Tomato out of season lies in the Channel Islands, Guernsey, Jersey, &c. The climate there suits the plant, where it can be grown in the open air. In the year 1890 these islands supplied the London market with over a thousand tons, valued at 250,000 dols. The Azores and the Canary Islands also sent their quota; and so did France and Spain. Notwithstanding the fact that the inhabitants of these countries enjoy special advantages in the matter of climate for the growth and development of the Tomato, and are able to conduct a large traffic in its sale for most of the year, the facilities for transportation are not such as to enable them to maintain absolute control of the London market. The epicurean taste prefers the hot-house article, from a singular notion that it is superior to the natural growth. This gives it a value that does not properly belong to it, and accounts for the large amount of money invested in hot-houses in the London suburban districts, and particularly in Sussex and the midland counties. The cultivation on both sides is on the increase, for the consumption is becoming greater every year. In ten years from now the trade will be five times what it is to-day. Such a prospect should not fail to act as a strong incentive to our horticulturists to consider the question of its export and its practicability, as well as the commercial possibilities which it possesses. The revolution in steamship service in the past two years should encourage them. Rapid transit at sea as on land has removed a great many obstacles which have hitherto interfered with the transportation of fruit, and confined the products of the American gardener to the local market. It would appear ridiculous to assert that a shipment of Tomatoes in the splendidly equipped and well-ventilated steamers of the Inman and White Star lines could not be delivered at the docks in Liverpool in tip-top condition ready for sale in the market at a substantial profit. The objection to those shipped from the Azores and the Canary Islands is not, properly speaking, based so much on the effects of delay in transit as from those which are directly attributable to irregularities in the methods of packing. Latterly, improvements in

this respect have been introduced. Instead of coarse, solid packages, light, strong wicker baskets, holding about 25 lb. each, are used. These baskets are lined with paper, then filled, when another sheet of paper is placed on top, the necessary cording done, and the package is ready for shipment. The French use similar baskets, and with their characteristic fancy for the picturesque, employ paper of different colours for packing purposes. The idea is to encourage the sale by making them look as attractive as possible. I have no doubt in my mind but that American Tomatoes can be placed on the London market in first-rate condition, and that eventually they could be made an important article of export. I am confirmed in my opinions on this point by my experience on board English steamers on homeward-bound trips, when American Tomatoes could be obtained up to the docks in Liverpool on the seventh and eighth day as sound and fresh as on the first day out. For these reasons I believe there is an opportunity here for the American horticulturist. The trade is becoming so extensive that the capacity of the home production is overtaxed, and the consequence is the price is high and the consumption not near what it would be were the Tomato reduced to the level of the popularity it occupies in the United States. To accomplish this we must look to that country from which England is now drawing seventy or eighty million dollars worth of breadstuffs and provisions each year. We ship fruit in abundance—Pears, Apples, &c., and why not the Tomato? Once established in these markets, it would soon be within the reach of all, the poor as well as the rich. Commercial intercourse between England and the United States has been instrumental in influencing the Englishman's taste in more respects than one. In a hygienic sense he is indebted to it for a great deal. Having become acquainted with the porterhouse steak, it was in concord with the eternal fitness of things that the same instrumentality should fashion his taste for the Tomato. What was once the Love-Apple of his forefathers, a mere object of romance and curiosity mixed up with all sorts of mythological traditions, is now served on his table and eaten "blood-raw"—no longer "Like to the Apples on the dead sea's shore, all ashes to the taste." *William P. Smyth, United States Commercial Agency, Huddersfield, November 6, 1891.*

THE CULTIVATION OF PERFUME PLANTS IN SOUTH AUSTRALIA.—It is of course well-known that the principal seat of the cultivation of perfume-yielding plants is at Cannes, Grasse, and Nice, and that some few kinds are grown more sparingly in this country at Mitcham, Ilitchin, and in Lincolnshire. Besides these centres of cultivation the attention of our principal perfume-makers was, many years since, specially directed to Australia as a country most suitable for the cultivation of this class of plant, where it was thought that the oils distilled from the leaves of the several species of Eucalyptus might well be developed. Since then, however, as has been recently seen, Eucalyptus oils have been distilled in other countries besides Australia in consequence of the widely extended cultivation of the plants themselves. We now learn that the South Australian Government have a perfume farm at Dunolly, which is progressing most favourably. Quite recently, it seems, that they have erected stills of 50 and 300 gallons capacity, respectively, and made several improvements in the machinery. The Director of the farm reports very successful experiments with the leaves of the Iron Bark, which has not hitherto been considered of any value in the production of oil, several other species of Eucalyptus had also been tried, all of which had yielded very fragrant oils; besides these, oil of Peppermint and oil of Wild Thyme, both of excellent quality, had been distilled, as well as oils of Laurel, Tansy, Anise, Lavender, Verbena, &c., and an extract of Vanilla, which had attracted considerable attention. It is stated that the operations on this South Australian flower farm are attracting much interest, not only in the colony itself, but also in other colonies, so that

the cultivation of these plants promises to become a very important branch of industry.

THEOPHRASTA JUSSIEU.—A tall plant of this rare-flowering species was in flower recently in the Palm-house, Kew. The pale buff-coloured flowers, arranged in a lax raceme, are finer, and more numerous than they are shown in our illustration, published in the *Gardeners' Chronicle* on October 8, 1887.

LECTURES ON HORTICULTURE IN LINCOLNSHIRE.—Mr. H. HUNTLEY, formerly gardener at Fowls Castle, Welshpool, has just commenced his second lecturing tour on horticulture in Lincolnshire, under the Lincoln County Council. For the next three months the lectures, weather permitting, will be given in the open air.

CYCLONE IN MAURITIUS.—The following letter has been forwarded to us for publication:—

"Royal Gardens, Pamplemousses, May 12, 1892.
"Since I wrote to you last we have had a sad disaster here. A cyclone of terrific force swept over the island on April 23, and almost laid it in complete ruin. Hundreds of people have been killed and wounded, and thousands are homeless. One-third of the town of Port Louis is a heap of ruins. The Canes have been levelled, and their leaves thrashed into fibre. The gardens at Pamplemousses are a complete wreck, the oldest and finest trees have been uprooted, and the trees that are still standing are reduced to bare poles. The fruit trees have been so smashed up, that I can hardly recognise them. I have sent you a photograph of my house, showing a little of the wreck. I shall send you some more when I can get them. In some parts the wreckage is piled up 9 feet high. It will be months before we get it cleared away. I have sent you an overlaid paper, with a complete account of the disaster.

"WILLIAM SCOTT,
"Assistant-Director, Forest Department, Mauritius."

ANCIENT SOCIETY OF YORK FLORISTS.—Mr. MCINTOSH presided at the usual monthly meeting of the York Florists' Society, held at the White Swan Hotel, Goodramgate, recently, when a paper on the subject of soils, their formation, composition, &c., was read by Mr. J. RIDDELL. The essayist first dealt with the conversion of rocks into fine earthy particles by the elements, passed on to treat of alluvial deposits, and the formation of peat. The many compositions of soil, with hints and advice on their cultivation, were also referred to at length. A vote of thanks was passed to Mr. RIDDELL at the close of the paper.

OPENING OF PUBLIC PARKS IN LONDON.—A public recreation ground, called Avondale Park, after the late Duke of CLARENCE and AVONDALE, was formally opened on June 2, at Pottery-lane, Notting-dale, by Mrs. F. C. FAY, wife of Mr. FAY, the Liberal candidate for North Kensington. The park is situated in a very crowded district. The ground covers an area of a little over four acres, and was purchased for £9,200, towards which the London County Council have contributed £4,250, and the Metropolitan Public Gardens and Open Spaces Association £2,000. Subscriptions were raised towards the payment of the rest through the Rev. C. E. T. ROBERTS, M.A., vicar of the parish, amounting to £667 ls. The work of laying it out was undertaken by the Kensington Vestry, of which Mr. FAY is a member. The land, which used to be a brickfield, has been laid out at an expense of £8,000. The greater portion of the ground has been arranged as a playground for children.—Lord ROSEBURY, on June 6, in the morning, formally opened Brockwell Park, Herne Hill. Although the park was not formally opened until this date, it has really been open to the public for the past twelve months. The park comprises about 75 acres of well-wooded, undulating land, with a frontage to the Norwood Road, and commanding admirable views of Denmark Hill, Knight's Hill, Sydenham Hill, and the surrounding district. The main object of the council in dealing with the space has been to preserve as far as possible its natural beauties. Well-gravelled paths have been laid down in convenient directions, and at the Trinity Road extremity of the park an ornamental lake, in which it is intended to permit bathing, has been constructed. The old mansion has been converted partly into a residence for the

park superintendent, and partly into a refreshment-bar, whilst the stable has been converted into a gymnasium. The work necessary to be done in the park has nearly been completed, but the council hoped to enlarge the entrance at Ilerne Hill, and possibly to provide another entrance at Tulse Hill, and a third on the west side. In concluding his speech, Mr. FLETCHER presented Lord ROSBERRY, as Chairman of the Council, with a key, as an emblem that the park would be from that day dedicated to the service of the public for ever. *Times*, June 3 and 7.

BOOK NOTICE.

THE BOOK OF CHOICE FERNS FOR THE GARDEN, CONSERVATORY, AND GREENHOUSE. By George Schneider. Parts XII., XIII., and XIV. (L. Upcott Gill & Co., London.)

In our issue for February 27, 1892, p. 275, we gave favourable notice of the first eleven numbers of this excellent work, which is to be completed in twenty-one parts, the succeeding three of which are now before us. In the former issues, the general subject of Ferns and all things pertaining to them having been cleverly and intelligently got through, and the enumeration of the species begun, suffice it to say that the succeeding parts will sustain the character of the preceding ones.

Part 12, with a coloured plate of *Gymnogramma calomelanos* var. *chrysophylla*, deals mainly with the genera *Gleichenia* and *Gymnogramma*; and the exhaustive character of the work may be imagined when it is said that about a hundred species and varieties of *Gymnogramma* are enumerated and described, and many of them illustrated.

Part 13, with a coloured plate of *Woodwardia arcolata*, a beautiful plate of *Cyathea medullaris*, and numerous engravings, treats largely of *Hymenophyllum*, *Hemetelia*, *Lindsaya*, and other of the smaller genera; and Part 14, with fine plates of *Sellaginella grandis* and *Lomaria Boryana* Dalgaisnii, takes up *Lomaria*, *Lygodium*, *Marattia*, &c. In *Lomaria* the descriptions and illustrations of the British *Lomaria* spicant and its many quaint varieties are specially interesting; and, indeed, throughout the whole work there runs a vein of interest which prevents it from becoming what is called "dry," even to those but little conversant with the subject.

WARNHAM COURT, HORSHAM.

ABOUT two miles from Horsham station we come to the Lodge which gives entrance to Warnham Court, the fine estate of C. T. Lucas, Esq., and which extends over some 320 acres of as pleasantly-situated land as any in Sussex. A journey up the carriage-drive and beneath the wide-spreading Oaks, with which the property is chiefly wooded, brings us to the mansion and terrace, which form the subject of our illustration (see p. 757). The mansion itself, which contains a grand collection of pictures and rare art treasures, was built in 1828, and its exterior in many parts is now clad with climbing plants, of which a fine *Wistaria sinensis*, heavily laden with its sprays of blue, and a noble Banksian Rose, which reaches to the top of the house, and is now covered with its rich yellow trusses, may be specially noted.

But ascend to the fine expanse of gravel on the highest terrace, look across the grounds, and a fine series of views meet the eye. Immediately below is the first terrace with its closely-trimmed greensward, its few but artistically arranged flower-beds, its broad steps, and vases well filled with flowers; next is the fine lawn-tennis ground, which gives space enough for six sets, and is so arranged as not to spoil the effect of the garden. Beyond, the eye ranges over the undulating ground of the park, and notes the fine herd of red deer some hundred or so in number, besides the lesser fallow and Japanese deer, with an occasional emu. In the bottom glistens the water of the lake; around on

every hand are the flower-laden Hawthorns, and not the least striking feature in the beautiful scene is the Chestnut Avenue, which is one mile in length.

Looking beyond the grounds some fine views taking in the range of Southdowns are obtained, the highest point being Chaucerbury Ring, planted by George III. as a landmark for shipping; and indeed on every hand from Warnham Court beautiful views, both in its own grounds and over the country beyond, are to be seen many of the objects which one beholds being of great historical interest.

Of the gardens generally it should be said that they were laid out principally by Milner in 1864, and have been since improved as occasion required by his scarcely less clever son; but beyond this, Mrs. C. J. Lucas in the garden, and Mr. C. J. Lucas in the Orchid-houses and glass garden, are continually devising improvements, in the carrying out of which and in the general management of this important and extensive garden their gardener, Mr. Duncan, gives ample evidence of his skill.

Turning on one side of the house, and entering a cool wooded walk, we come to the pinetum, which is said to contain every obtainable Conifer likely to succeed on the soil. It was very cleverly planted in 1880 under the personal supervision of Mr. Harry J. Veitch, who has shown that knowledge of the subjects used, the want of which when planting, so generally spoils a pinetum when the specimens grow up, viz., a knowledge of the relative proportions to which the specimens may be expected to attain. If this matter is neglected, either through ignorance or inattention, as it too often is, in a few years there are some of the specimens growing into each other, while the lesser ones do not cover the space allotted to them. The specimens in the pinetum are, of course, not yet large; and when it is said that all likely to succeed are included, we need not particularise—but two very handsome specimens should be noted, viz., *Abies Veitchii*, of which there are but few specimens in cultivation, and *A. bracteata*, a very handsome species.

At the bottom of the pinetum is the bog garden, in which Iris Kemptii, &c., thrive well; and passing round the shady walks at the back of the house, and in which the nightingales are said to abound, we come to a very artistically arranged rockery garden, planned and carried out by Mrs. C. J. Lucas with the assistance of Mr. Leonard, of Guildford, who selected the plants. At present, it is beautiful with the flowers of *Aubrietia*, *Saponaria*, *Saxifrage*, *Veronica*, *Iris*, &c., and among other things, a nice tuft of *Edelweiss*. When the newness wears off, this will be a still more beautiful feature in the garden, as while providing the necessary accommodation for the plants, it has none of the square-crib, all-over-alike appearance of many rockeries, neither is space wasted by ponderous large stones.

On the other side of the house we come to the American garden and the roseery, the former with clumps of large *Rhododendrons*, &c., and the latter with the background of them, both literally covered with the richly-tinted flowers, which have opened unusually well this year. On the lower level extends the long terrace-walk, which runs down one side of the great quadrangular garden under glass; one side of this is backed by a broad Yew hedge, closely clipped, and on the other is a border; while on the smooth grass beside the walk are numerous circular beds planted with summer bedding. And here we must conclude our feeble description of the few things we noted out of the many noteworthy in this extensive and well-kept garden. Suffice it to say, that the aspect of all the flowering things has changed since our earlier notice of the place appeared in these pages. The Orchid-houses now have the main show made up of fine *Cattleya Warscewiczii* (gigas), *C. Mendelii*, *C. labiata* Warnerii, and *Lælia*, among which is a most wonderful variety of *L. grandis tenebrosa*, a fine new *Sobralia*, *Promenaea xanthina*, with over eighty flowers on a single plant, *Epidendrum vitellinum*, *Odontoglossums*, &c. The collection of

Sarracenia, *Droseras*, &c., are in fine condition, the greenhouses glowing with flowers; the *Vinerias* and other fruit houses are looking first rate, and everything about the place, to use a common expression, as neat as a new pin.

HOME CORRESPONDENCE.

CUCUMBER BLUE GOWN.—My experience of this variety of Cucumber does not agree with that of "A. D.," in *Gardeners' Chronicle*, p. 663. I grow it at the present time in a house alongside of Telegraph, and the difference noted in the relative freedom of cropping of the two varieties is very remarkable, for to a certainty we cut five fruits of Telegraph to one of Blue Gown. This also is the experience of a grower for market in this neighbourhood, who had a fancy to try the variety, Blue Gown this year. The fruit may be larger than that of Telegraph, but if larger fruit be desired, Tender-True is, in my opinion, much to be preferred as a variety to grow. *E. M.*

CYPRIPEDIUM CALCEOLUS.—The flowers of this plant have had a short season this year, as the heavy thunder showers filled the slippers with water, and this accompanied with great heat and sunshine, has made them wither soon. Last year they came out earlier, and were much damaged by sharp frosts in the last week of April. This Orchid thrives better, and is more easily pleased in the climate of Cheshire than the North American kinds. It likes best to be planted in the projecting battlement near the top of a rockery, where a pocket of soil is surrounded by vertical stones, so as to secure rapid and perfect drainage. It wants but little soil, but that little should be very stiff loam and full of lime. I have several clumps in such situations which have not been moved for ten years or more. It is surprising from how small a base these produce a large number of stalks. One, of which I measured the area occupied by the plant, and found it less than 3 inches square, has sent up eighteen flower-stalks, with twenty-four fine flowers in all. Another of which I took the dimensions, has made stalks 20 inches high, with flowers 6 inches across, measured to the end of the extended wings. The plants are better for watering in summer, and a dressing of stiff loam mixed with rough lime in winter. *C. Wolley Dod*, Edge Hall, Malpas.

THE GARDENERS' ORPHAN FUND.—Mr. Penny's alarm note in last week's issue of the *Gardeners' Chronicle*, in regard to the funds placed at the disposal of the Committee, as the result of the recent successful dinner, seems to require some notice, especially as Mr. Penny states that his information has been derived from the columns of the *Gardeners' Chronicle*. How easy it is to assume that the committee is bent on some ruinous policy; and having no responsibility, how very easy to advise. Mr. Penny's anxiety and eagerness may readily be forgiven, but a little inquiry would have saved him all this trouble, because it so happens that the subject has not been brought under the notice of the committee in any shape or form up to the present time. The responsibility in this matter rests with the committee, who may surely be trusted to do what is best in the interest of the charity. The holding of the dinner, which was so worthily presided over by Sir James Whitehead, is intended, as you rightly infer, to mark a new departure, the dinners hitherto not having been looked upon as sources of revenue. We put the late dinner forward as typical of what we wish to have annually, and from which we expect to receive at least £500 every year. *A. F. Barron*, Hon. Secretary.

ANEMONE HORTENSE, 'ST. BRIDGID'S' VARIETY.—This variety of Anemone does remarkably well in the red sandloam at Bursley, Stamford, and is a useful plant for cutting; the flowers—especially the double kinds—lasting a long time when placed in water. Many of them are upwards of 4 inches in diameter when expanded, and there is a great variety of colours, some of them being selfs, but they are all very pretty, and look best when arranged loosely in vases with some of their own foliage, or with the wild "Fool's Parakey." By sowing the seed of this plant in shallow drills outside as soon as it ripens, and attending to it carefully with water till it germinates, Mr. Gilbert is able to flower the plants within twelve months from the time of sowing the

seed. Owing to its woolly covering, the seed should be rubbed in dry sand, or some similar material, before sowing, to separate the seeds, and in order to prevent it being sown too thickly. The *Anemone hortense* likes a rich, warm soil, and a sheltered position, as in such case the flowers appear early in the spring, a matter of some moment when cut flowers are in request always. *W. H. Divers, Kettton Hall Gardens, Stamford.*

LARCH FUNGUS.—In the issue of the *Gardeners' Chronicle* for June 4, p. 729, there is an interesting article under the above heading, in which it appears a Mr. Alex. Wilson, of West End, about two miles from Hambleton, Hants, has been a large planter of Larch for many years past. One of his plantations, we are told, which comprises an area of 12 acres, and was planted thirteen years ago, made good growth till the year before last, when disease first appeared; but so rapidly has the disease progressed, that not one healthy tree now remains. "The trees were planted 4 feet apart, and they average from 15 to 18 feet high" (a small size for Larch planted thirteen years ago). "Many only last season made a growth of 2 and 3 feet." Surely there must be some mistake here, as that is very good growth for trees in a healthy progressive condition. "The ground is on a gentle slope from top to bottom, loamy, with a chalk subsoil." The cause of the failure is not far to seek, and Mr. Wilson has made a great mistake in planting his Larch on this class of ground. The trees appear to have been in a healthy progressive state until such time as their roots came in contact with the chalky subsoil, then their doom was sealed, and is just what any experienced planter could have told before a single plant was put into the ground at all. The Larch should never be planted on the chalk formation, nor on the mountain limestone rocks; and in my writings I have repeatedly warned planters against this mistake, for it cannot be too widely known that the Larch never attains a profitable size on this class of ground. I have, however, cut very good Larch on marly soil that contains from five to ten per cent. of lime, but when the soil contains about twenty per cent. of lime, it is then understood to be a calcareous soil, and as such unsuitable for the Larch. Much has been said and written about the Larch fungus, but the fungus is only a secondary stage of the disease, and this example shows a fine illustration of this. When the trees contract a stunted growth, and gradually lose their vitality for want of food suitable for their requirements, they then form a suitable pabulum for the fungus spores, which are always floating about in the air, and although the fungus may be found in this Larch, which I think is questionable at this stage, yet Mr. Wilson may rest assured the soil was the first and principal cause of the failure. *J. B. Webster, Planter and Wood Surveyor, Fairview, Stangmore, Dungenannon.*

NICOTINE FUMIGATOR.—I can fully endorse all that "W. R." says, p. 729, about Nicotine. As a fumigating material it is far before any tobacco-paper that I have ever used. We have used it here in the Peach-houses and vineries, in the Rose-house, for Melons and Cucumbers, in the fernery, and for miscellaneous plants, and have never been able to detect the slightest harm to the most tender plants. The Ferns were fumigated several times early in the spring, when there were little else but young fronds, and with no bad effects. If paper had been used, the whole would have been blackened and browned the first time. If the fronds escape in fumigating with paper, most certainly the aphides will. Not so with Nicotine; it kills the fly, without hurting the youngest fronds. This alone is a great deal in its favor, but when one comes to consider the small amount of trouble and time it takes to fumigate a house or pit with it compared with that needed for tobacco-paper, and the comfort attached to the manipulation of it, there is no real comparison between them. It is only necessary to put the requisite amount into some old flower-pots, as "W. R." says, and place them about the house, and leave the substance to burn out, for there is no need for the operator to fumigate himself along with the green-fly. The fact is, it is a boon to gardeners. *W. M. A., Poles, Ware.*

STEAM HEATING IN HORTICULTURE.—The question raised by "W. D." in his letter in your issue of the 4th inst., is one of considerable interest and importance to all growers of glasshouse plants. The objection to the use of steam, on the ground that it necessarily involves a dry and scorching heat un-

suitable to plant-life is, as "W. D." shows, unfounded; for the temperature of the radiating pipes can be regulated to a nicety by the amount of steam allowed to enter them. Indeed, the ability to command a "dry" heat on occasion is an obvious argument in favour of steam. But to the majority of growers the question must always be, "which is the more economical—by means of which can I obtain the greatest possible result for a given expenditure?" With the view of answering this question, some very thorough experiments were conducted a short time since in one of the admirable agricultural experiment stations in the United States, the report of which was published about eighteen months or two years ago. I regret that I have not this report by me, and that I cannot, therefore, quote figures. The experiments, however, were substantially as follows:—Two forcing-houses of precisely similar size and construction were heated by hot water and steam apparatus respectively—both of the latest and most approved pattern. In the first series of experiments, which were continued for a considerable period of time, a careful record was kept of the temperature of the external air, and of the air in each of the houses. Exactly the same weight of fuel was supplied to the two systems, with the result that the temperatures registered in the water-heated house considerably exceeded those of that for which steam was used. In the second series of experiments, as far as I can recollect, equal temperatures were maintained in the two houses, with the result that a larger consumption of fuel was needed in the case of the steam apparatus. The objection to the use of steam mentioned by your correspondent, namely, that steam apparatus requires constant attendance is, in small places at all events, a very real one; while the advantage that almost any kind of rubbish can be burnt may, I think, fairly be claimed for any furnace—steam or water—which has a strong draught. *Apologies of this subject, may I be allowed to suggest that if some of the readers of the Gardeners' Chronicle—whose collective experience must be enormous—would state their views as to what is the most economical form of boiler among the very many at present in the market, they would be conferring a very real benefit upon the gardening fraternity in general.* *C. W. Herbert Gravels, Bournemouth.* [It would lead to no result. Ed.]

ANEMONE FANNINI.—For seed of this plant—a native of Natal—I am indebted to the editor of the *Gardeners' Chronicle*. I raised a crop of seedlings about six years ago, and two or three plants placed under a south-west wall have proved quite hardy, but have not flowered till this year, when one flower-scape has come which produced three flowers at the beginning of May. The flowers last a long time, and are still fresh, after being out for three weeks. They have about ten white petals of irregular length, the whole flower being nearly 4 inches across. The habit of the plant is not unlike that of a giant *A. narcissiflora*. The flowers form an umbel, each being on a pedicel 4 or 5 inches long, growing out of a node formed by three clasping and overlapping involucral bracts, the stem below being naked and about 20 inches long. *C. Wolley Dod, Edge Hall.*

SOUVENIR DE LA MALMAISON CARNATIONS AT CANFORD MANOR, WIMBORNE.—Before these notes appear in print, many of your readers will have seen staged at Earl's Court, on May 26 a fair sample of the magnificent lot of plants of the above-named flower, which I had the pleasure of observing in the houses at Canford on May 19; and Mr. Crasp, Lord Wimborne's gardener, should be congratulated on being so successful in working up such a fine lot of plants of Malmaisons (about 3000) within the last few years. The plants are the picture of health. A span-roofed house, 90 feet long, and in three divisions, well ventilated at the top and in the front, is filled with successions of flowering plants. Arranged on the floors in two forcing-houses, two rows of specimen plants were noticed, which were being gently pushed into flower for conservatory decoration at Lord Wimborne's London house. Several pits were also seen, which were filled with plants that will flower the next and following years. The specimen plants are grown in 16-size pots, in good loam, and a sprinkling of fertilising moss, with which latter material the soil in all the pots is mulched, and into which the roots freely push. *H. W. W.*

TABERNEMONTANA CORONARIA, FL.-PL.—At the beautiful seat of Colonel G. H. Morrell, Headington Hill Hall, Oxford, so rich in fine trees and

shrubs, I noticed on a recent call some truly magnificent and well-flowered plants of this growing in tubs. The two largest plants were fully 8 feet across and 6 feet high. How very useful its pure white double flowers are for button-holes and bouquets. A brief note as to Mr. W. Hovell's (the gardener) system of treatment which has produced such satisfactory results may not be out of place, and be of practical service to cultivators of this plant. A healthy cutting struck in the ordinary way, with *Gardenias*, *Crotons*, &c., grown on with them in the stove, and given every encouragement to make free growth, will be a nice plant in two years, and begin to flower. If they show before this time, it is Mr. Hovell's practice to pick the buds off as soon as possible, not only when the pots are very full of roots, after this they will take liberal supplies of manure-water and surface-feeding. Pot the plants in good loam with just a little peat, finely broken charcoal, and coarse sand added. *J. L.*

NURSERY NOTES.

MESSRS. H. CANNELL & SONS, SWANLEY.

Most nurserymen have their *spécialité*, and everyone knows that florists' flowers are the specialties of Messrs. H. Cannell & Sons. It was to see these that we went into the Hlop county on a recent occasion. The visitor soon notices that all Mr. Cannell's houses are alike in construction. Not many Nurseries are famous for diversity in their houses, or for great architectural beauty, if we except such a firm as Messrs. Sander & Co., St. Albans, but in the establishment of which we are speaking there appears scarce a solitary exception to the uniform type of construction. This, of course, is accounted for by the fact that Messrs. Cannell grow comparatively few indoor plants that require much head room. Consequently, these houses are span-roofed, about 8 feet high, and with a steep slope. All of them are 100 feet long, some more, and over thirty in number.

For Pelargoniums, *Cinerarias*, *Begonias*, *Gloxinias*, *Fuchsias*, &c., of course such houses are excellently suited, but all gardeners are not so fortunately placed as to be able to afford house accommodation for these plants, and they are relegated to the frames. The first house we entered contained a large collection of Ivy-leaved Pelargonium, some of the newer varieties serving to show the great advance recently made with this most useful plant. Ernest Bergman is an exceptionally large double variety, of a very good crimson colour, the largest yet produced. Beauty of Castle Hill is a pretty salmon-coloured semi-single variety, then there is the distinct puce-coloured Jeanne Gillot, and Victoria, a large single bright red flower, the two upper petals of which are very prettily marked with light maroon. These are all comparatively new ones, having flowered last year for the first time, and are improvements in some particular or another; but even now, for general usefulness and colour, it is difficult to beat *Souvenir de la Chas. Turner*.

Zonal Pelargoniums are strongly in evidence at Swanley, and some seedlings have just now commenced to bloom. One of these, *White Lady*, Mr. Cannell considers the best white yet seen. It is a large single flower, of pure white, except the bright orange stamens. Madame Rozain is a double white, Miller's Gem is a double variety, of a purple shade, with transparent stems, like West Brighton Gem, and some others. *Colossus* is a good crimson-scarlet, semi-double. In another house were about 1000 plants in 6 and 7-inch pots, all best varieties, including new ones, that are to furnish both sides of one of these houses during the summer.

The display of fancy, decorative, and show Pelargoniums is practically over. We noticed a good decorative variety, sent out in 1891, called *W. C. Boye*, a large flower of a salmon shade, with dark chocolate blotch. Mrs. Stanley is a lilac flower with maroon blotch, sent out this year.

Of *Begonias*, there is a splendid show just now, and in one house we saw many hundreds of double and single seedlings of all the shades, and some possessing exquisite markings. As regards size of bloom, it would almost appear that we had nearly

reached the highest perfection possible with this plant, and that the next "advance" that florists must try to obtain is a strain possessing stronger stems. However, Mr. Cannell says that the crimson section is still capable of much improvement.

A bright, almost dazzling array of colour is afforded by upwards of 1000 herbaceous Calceolarias, just passing their meridian; all are one uniform height and habit, but not quite so dwarf as Mr. James exhibited them at Earl's Court.

Amongst a large number of Carnations was Mrs. Cannell, which was certificated at the recent Temple show; and another variety called Engerdine, a deep salmon, somewhat like the pink form of *Souvenir de la Malmaison*, but much darker, quite as large, but seems to be a little disposed to splitting. Amongst other general stuff inside were a nice batch of *Caladiums*, some *Clivellas*, a very large batch of *Cyclamens*, hundreds of *Cinerarias* and *Primulas*, which are being kept for seed purposes; some thousands of young *Fuchsias*, in good condition, but not yet in bloom; and a good number of *Gloxinias*, just commencing to bloom. *Chrysanthemums* are now being put into their flowering pots, some 3000 to 4000 being reserved for the firm's own use, whilst there are many thousands in 3-inch pots plunged outside for distribution. In another house is a large collection of *Cactus* and other succulent plants that Messrs. Cannell seem to have taken quite a liking to lately, and they are trying to create a demand for these undoubtedly interesting plants by exhibiting collections of them at exhibitions, &c.

Many thousands of small *Begonias* are now being planted into three large brakas outside, and preparations are being made to plant out an equally large number of seedling *Dahlias*. Amongst the herbaceous plants in flower were several species of *Phlox*, and the dwarf blue-flowered *Veronica prostrata*. Mr. Cannell says he shall have a real floral display about the middle of July, which is really the best time for visitors to see the "Home of Flowers."

SWEET CHESTNUTS.

(Concluded from p. 721.)

THE Chestnut tree was undoubtedly one of those introduced into Great Britain by the Romans. This may seem an amazing assertion to those unversed in the history of the greater part of the forest and orchard trees, and other familiar plants of this country. But only the following are truly indigenous, viz., the Oak, Birch, Willow, Alder, Ash, Wych-elm, Maple, Aspen, Service, Hawthorn, Apple, Elder, Hazel, Bullace, Slow, Holly, Spurge Laurel, Butchers' Broom, Furze, Dog-Rose, Raspberry, Blackberry, Ivy, Mistletoe, Yew, Scotch Pine, and Juniper; and all the following were brought over by the Romans, viz., the Vine, Peach, Cherry, Pear, Damson, Medlar, Mulberry, Walnut tree, Chestnut tree, Sycamore, Poet's Laurel, Box, Beech, Elm, Lime, Spindle tree, Privet, and Silver Fir. Yet the old Chestnut tree at Totworth Court, the seat of the Earl of Ducie in Gloucestershire, was already remarkable for its size in the reign of King Stephen, A.D. 1135. In 1820 it measured, at 5 feet above the ground, 52 feet in circumference, and 12 feet in diameter. (See fig. 111, p. 763.)

The correct English name of the Chestnut tree and sweet Chestnuts is abbreviated from the Middle English form of *Chesten-nut*, which was derived, through the old French *Châtaigne* (now *Châtaigne*), from the Latin *Castanea* and Greek *Kastanea*, so called from the Magnesian town of Casthanæa, one of the first places on the mainland of Europe into which the nuts were imported, and where the tree was planted. In the fifteenth century the name took the form of *Chesten-nut*, and from that the change to Chestnut was rapidly made, and became permanent. The manor of Northwood Chasteners and the town of Cheston, also spelt Chesthunte and Shesterhunte, in Hertfordshire, and Norwood Chesney and Chestnut Hill, in Kent, are all believed to derive their names from the Chestnut trees that are

said to have formerly flourished in their neighbourhood.*

At one time it was supposed that the woodwork of Westminster Abbey, and other old buildings in England, and of the Louvre in Paris, was of Chestnut, but it is now known that in all these cases it is of Chestnut Oak (*Quercus Robur var. sessiliflora*). The grain of the two woods is similar in appearance, but in all the qualities required for timber construction the wood of the Chestnut tree is comparatively worthless. They can readily be distinguished by working them for a little with a moistened chisel, which the Oak wood, owing to the presence of tannic acid, soon stains, but the Chestnut wood leaves clean. The fact is, that the Chestnut tree was never held in much esteem in England, except to provide hop-poles in Kent, and pig-mast generally. For long its naturalisation seems to have been left to chance, of which the great grove of Chestnuts at Ashted Park, in Surrey, is an interesting illustration. Mr. William Forsyth, gardener to George III., in his *Treatise on the Culture and Management of Fruit Trees*, published in 1806, tells us it was first sown about 1744 by Thomas Davie, gardener to Mr. Richard Howard, who at the time Forsyth wrote owned Ashted Park. Davie had bought three shillings' worth of Sweet Chestnuts in London on purpose to treat his fellow servants, but finding they would have none of them, he put them into a forcing bed in the nursery garden at Ashted, then in the possession of the Earl of Suffolk, and a year or two later planted out the young trees where they now stand, or stood until lately. On Forsyth measuring them in 1806, when they were 62 years old, they had an average circumference of 7 feet at 3 feet from the ground, and the trunks upwards of 50 feet high. The systematic cultivation of the tree, and its present wide-spread growth in the United Kingdom, is entirely due to the action of the Society of Arts at the end of the last and the beginning of the present century in offering prizes to those landowners who showed themselves most zealous in forming plantations of the tree. The idea was to increase the production of building timber in England. But this was soon found to be quite an illusory hope as regards the Chestnut tree; and it is now chiefly planted out for coppice and for fruit in England, particularly in Kent, and for ornamental effect in Scotland and Ireland. The best English Sweet Chestnuts are produced in Gloucestershire and Devonshire.

The late Dr. J. Forbes Royle was the first, so far as I have discovered, to propose the introduction of the Chestnut tree into India. "The common Spanish Chestnut, which," he adds, "seems well suited to Northern India, and the Himalayas, and would yield an additional article of food to the inhabitants of the mountains, who are sometimes forced to subsist upon acorns and bitter Horse Chestnuts." Subsequently, small plantations were successfully formed by the late Dr. Jameson at Dehra, and by Sir John Strachey at Kumaoon; while the seeds of the plantations laid out, and now reported on by Sir Edward Buck, were supplied by my distinguished predecessor in this office, Dr. J. Forbes Watson.

In connection with the prospect of the ultimate success of these tentative experiments, of which the history of the world-wide migrations of the Chestnut tree should leave us in little doubt, I would here again, as I have already done in my *Report on the Old Records of the India Office*, draw attention to the fact that Nicolo Conti, the Venetian merchant,

* The Chestnut tree has certainly given its name to the villages of Castagna and Châtaignets in Tuscany. The number of places in England named after trees is very large. Thus from the Alder—Alderhot, Allerlade, Allerton, Ellerton, Olney; from the Apple—Appley, Appleton, Arvalou, i.e., "Apple Island"; from the Ash—Ashley, Ashton; from the Beech—Buckhurst, Buckland; from the Birch—Bircholt, Birkeley, Birbeck; from the Broom—Bromley and Brompton; from the Cherry—Cherry Hinton; from the Elm—Elmton, Elmsted, Elmwell; from the Hazel—Hazelmore (and Nottingham-hill from its nuts); from the Linden or Lime—Lyndhurst, Linfield; from the Oak—Oakley, Okeley, Auckland, Acton; and from the Thorn—Thorne. Again, Farnham and Farnborough derive their names from Ferns; Rodney and Redford from Reeds; Rushmore from Rushes; Edgemoor and Edgely from Sedges; and Shrewsbury from shrubs.

who travelled in India and the East for twenty-five years, between 1414 and 1444 A.D., writes:—"Leaving Ava, I arrived at the mouth of a moderately-sized river, where there is a port called Keythons, and having entered the river, at the end of ten days arrived at a very prosperous city called Panconia. . . . Here they have the Pine,* Oranges, Chestnuts, Melons, white Sandalwood, Camphor, &c."

The trees producing these Chestnuts are the *Castanea indica* of Roxburgh, and the *C. tribuloides* of Kurz, both now included in the genus *Castanopsis*. But both produce edible Chestnuts; and, probably, wherever they are found growing spontaneously, the true Chestnut tree would grow; and it would prove a boundless blessing to the wild tribes of Upper Burmah and Assam if it could be acclimatised to those countries.†

Yet with all the enlarged knowledge placed at our disposal by modern botanical science, and with the whole equipments of an empire, untostled over every quarter of the globe, at our command, how little shall we ever be able to accomplish in promoting an interchange of economic plants between the east and the west, and adding in this way to the happiness of mankind, compared with the unstudied, casual, and almost unconscious transformation effected in the vegetation of the countries of the Mediterranean Sea, with such incalculable results in the increase of their material wealth, and the impulse thus given, and still operative, to human civilisation, by the propagation throughout them of the worship of the gods of Phœnicia and Greece.

It is impossible to stigmatise as superstitious, beliefs and rites that conferred such enduring benefits on the world. But for them the civilisation of Europe might possibly never have advanced beyond that of the Newer Stone Age, preceding the Age of Bronze, ushered in with the westward advance of the commerce and religion of the Phœnicians; and it is evident, in view of the facts here adduced, that they were the divinely-appointed means for working out, in the long-suffering patience of Providence, the eternal purposes of God toward man.

SOCIETIES.

ROYAL HORTICULTURAL.

JUNE 7.—The meeting at the Drill Hall, Jamaica Street, Westminster, was the occasion for a pretty display of brilliant hardy flowers from Messrs. Kelway & Son's nursery, at Langport, an extensive array of cut blooms of hardy *Rhododendrons* from Messrs. Paul & Son, and some fine things in *Orchids* and *Pansies*.

Floral Committee.

Present: W. Marshall, Esq., in the chair, and Messrs. R. Dean, H. Herbst, E. T. Bause, H. B. May, C. T. Drury, R. B. Lowe, B. Wynne, J. Fraser, H. H. D'Ombraim, G. Paul, C. E. Pearson, H. Turner, G. Phippen, and E. Mawley.

The exhibitors were more numerous than we expected to find them on Whit Tuesday, and several of the nurserymen's collections were bright and attractive.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, showed a miscellaneous group of *Alpines*, &c., in most cases cut specimens, including *Peonia rubens*, *Rosa rugosa alba*, the pretty little *Thalictrum rubellum*, and *T. aquilegifolium*; *Geum minimum*, *Dictamnus dahuricus*, *Vancouveria hexandra*, *Aquilegia chrysantha*, *Silene maritima rosea*, &c., as well as some very fine cut specimens of different species, and varieties of *Iris*. (A Silver Banksian Medal.)

Lord Wimborne (gr., Mr. Crasp) obtained 1st prize—the Kelway Silver Medal—for twelve varieties of cut blooms of double and single-flowered *Pyrethrum roseum*, which were fine and bright-looking. Leonard Kelway is a very large double pink variety; *Aphrodite*, a double white; *Melton*, a double crimson; *Mary Anderson*, very large, single,

* That is "Pinus," not the Pine-apple, a native of America, not yet discovered when Nicolo Conti wrote.

† *Castanea americana* also produces a small sweet Chestnut, occasionally imported into Liverpool from the United States.

pale pink; and Gazelle, a good single, of a shade of crimson.

J. Donaldson, Esq., Tower House, Chiswick (gr., Mr. T. Bones), showed three exceptionally fine plants of *Gloxinias*—The Beacon, a very rich velvety-carmine (Award of Merit); and Ensign, a charming variety, most beautifully marked with puce and white, and having a silver band around the margin (Award of Merit); Silver-edged, another fine variety shown, was of a deep puce colour, with a white throat. The same exhibitor had a seedling Carnation from Pride of Penshurst, called Yellow Queen, of capital form and habit, and possessing a good number of blooms of a desirable lemon-yellow

Mrs. Miles, Ham Green, Bristol (gr., E. F. Crocker), exhibited a *Dracena* called Ham Green Seedling, a cross from *D. hybrida* × *D. suberba*, a pretty, well-coloured variety, but was not considered to be an advance upon existing varieties.

For twelve hardy *Rhododendrons*, the Duke of Northumberland (gr., Mr. Wythes), Syon House, Brentford, obtained 1st prize with large trusses of the following:—*Rhododendrons* James Bateman, *Delicatisimum*, *Curriennum*, *Kate Waterer*, *Concessum*, *Masculatum*, *Lady Dorothy Neville*, *Fastuosum* fl.-pl., *Mrs. R. S. Holford*, and *Lady Eleanor Cathcart*. The Earl of Dysart, Ham House, Richmond (gr., Mr. G. Sage), was 2nd.

and was awarded a Silver-gilt Flora Medal; and an Award of Merit was given to a new single white *Pyrethrum*, *Princess Marie*. The collection also included a good number of *Amaryllis* blooms, possessing great merit.

Mr. Robert Erisly, Worden Hall, Preston, had six plants of *Tagetes pumila* Little Gem.

Messrs. Sander & Co., St. Albans, were awarded a First-class Certificate for *Dipladenia atropurpurea* var. *Clarkei*. Flowers are of a beautiful dark crimson-purple, with exquisitely-lined throat of a lighter colour; leaves small, and habit apparently slow; exhibited in a 9-inch pot, and bearing two dozen or more buds and blossoms.



FIG. 111.—GIANT CHESTNUT AT TORTWORTH COURT. (SEE P. 762.)

colour. This plant also obtained an Award of Merit.

Messrs. Dobbie & Co., Rothesay, had a collection of *Viola* blossoms, also of *Pansies* and *Sweet Peas*. Some of the shades of colour in the *Violas* and *Pansies* were certainly exquisite; but so numerous were the plants that it would serve no good purpose to specify only a few of them. A Silver Banksian Medal was awarded for the collection.

A very large collection of cut specimens of hardy *Rhododendrons* came from Messrs. Wm. Paul & Son, Waltham Cross, including about 60 varieties, most of which were of very fine quality (Silver Floral Medal). Also a few plants of their *Rose* (H. P.) *Clio*, were shown in very good condition.

The Rev. W. Wilks had blooms of *Gladiolus Byzantinus albus*, which he described as a white variety of the common garden *Summer Gladiolus*, and as having been grown in the open border at Shirley, Surrey. It is a perfectly hardy variety.

Messrs. De Rothschild (gr., James Hudson), Gunnersbury House, showed trusses of bloom from *Ixora Westii* and *I. Fraserii*; the trusses of the former were exceptionally large, and this variety was awarded a First-class Certificate. The whole were fine and clean specimens.

Messrs. Kelway & Son, Langport, Somerset, had a very large miscellaneous collection of cut blooms of *Pyrethrums*, double and single, and of *Paonias* in both forms, and in almost endless variety. This exhibit brightened up the entire length of the hall,

Fruit Committee.

Present: Philip Crowley, Esq., in the chair, and Messrs. William Warren, Geo. Taber, J. Cheal, Geo. Bunyard, H. Balderson, A. H. Pearson, A. Dean, G. H. Sage, Geo. Wythes, Rev. W. Wilks, Harrison Weir, and D. Morris.

The exhibits under the Committee included a good number of seedling Melons, as well as some good Peaches and excellent Nectarines. A. Pears, Esq., Spring Grove, Isleworth (gr., F. J. Debnam), sent a dish of Peaches, Dr. Hogg, of fair size, and well-coloured. Also a seedling Melon, Spring Grove hybrid, a large fruit, netted, with white or pinky flesh. A cultural commendation. Dr. Frankland, F.R.S., F.R.H.S., Reigate Hill, Surrey, showed a new Melon called *Ritchins' Perfection*, obtained from a cross between Wm.

Tillery and Read's Scarlet. Fruit yellow and netted, rather small, green flesh (Award of Merit). Another seedling Melon, Worden Hall Favorite, came from Mr. Robt. Frisby, Worden Hall, Preston; this is a large and rather coarse-looking fruit, yellow, with green flesh. T. W. T. Drake, Esq., The Gardens, Shardlow, Amersham, Bucks (gr. Mr. J. Thomas), showed three new seedling Melons.

The Duke of Northumberland, Syon House (gr. Mr. G. Wythes), exhibited a dish of Peaches, "Amaden June," which have ripened in fifteen weeks after being started, and carry a heavy crop.

Messrs. De Rothschild, Gunnersbury House (gr. Mr. J. A. Hudson), showed twelve large well-coloured fruits of Lord Napier Nectarine, and he was awarded a Silver Banksian Medal.

From Mr. J. B. Bowerman, Hackwood Park, Basingstoke, came another seedling Melon, with white flesh, obtained from Blenheim Orange \times The Countess. From the Royal Horticultural Society's garden at Chiswick came four samples of well-grown Spinach, and some very fine sticks of Rhubarb, Victoria and Ryder's Perfection.

Mr. Wythes received a Vote of Thanks for a bunch of extra early Milan Turnip, evenly sized, and clear looking.

Mr. W. H. Castle, The Gardens, Castlemeans, Twyford, sent new seedling Cucumbers from Sutton's Prize-winner \times Lockie's Perfection, some of which appeared to possess considerable merit.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. James O'Brien (Sec.), H. M. Pollett, H. Ballantine, J. W. B. Bond, El. Moon, J. A. Douglas, W. H. White, T. B. Hayward, and A. H. Smea.

Sir Trevor Lawrence, Bart., M.P., Burford Lodge (grower, Mr. W. H. White), sent a small group of rare and interesting Orchids, comprising the fine orange-tipped *Oncidium Loxense*, the new hybrid *Masdevallia Shatruxana* \times (*Shuttleworthii* \times *Harayana*), the beautiful *Odontoglossum Pescatorei*, Prince of Orange, *Dendrobium Parishii* albens, and the curious *Bulbophyllum elegans*, with singularly inflated flowers.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), also exhibited a small but select group, in which the fine *Lælia grandis*, Warnham Court variety, which was admitted to be the best form of *L. g.* tenebrosa which had yet appeared; *Promexia xanthina*, with over eighty golden-yellow flowers; five well-grown and flowered plants of *Dendrobium McCarthiae*, and a curious *Epidendrum* and *Eria*.

C. Ingram, Esq., Elstead House, Godalming (gr. Mr. J. W. Bond), staged a good specimen of the plant which is known in gardens as *Cymbidium Loise-Chauvierii*, but which is more like a *Grammatophyllum*. It had a strong branched spike of greenish and black flowers, closely resembling those of *Celeogyne pandurata*; also *Lælio-Cattleya Canhamiae*, under the name *C. Elsteadiana*.

Baron H. Schroder, The Dell, Egham (gr. Mr. H. Ballantine), sent grand cut examples of *Odontoglossum Dellenae*, a yellow hybrid *Pescatorei*, certificated last year, and the grandly spotted *Odontoglossum crispum Wolstenholmiae*, and O. C. R-x. The Rev. E. Handley, Royal Crescent, Bath, also sent a spike of a very large form of O. crispum, curiously tinged with lilac.

H. Shaw, Esq., Stamford House, Ashton-under-Lyne (gr. Mr. J. Cliffe), exhibited *Cattleya Mendeli Shawiana*, a fine white variety with a slight tinge of pink and a yellow central patch on this labellum.

Drewett O. Drewett, Esq., Riding Mill-on-Tyne (gr. Mr. A. J. Keeling), sent cut flowers of his fine *Masdevallia falcata* \times , and of the parents M. Lindenii and M. Veitchiana; also a flowering spike of his fine hybrid *Cypripedium Alice* \times .

F. Wigan, Esq., Clare Lawn, East Sheen (gr. Mr. W. H. Young), sent a fine plant of *Cypripedium Rothschildianum*, a very distinct and beautiful *Odontoglossum citrosomum* var. *roseum*, *Dendrobium Falconeri*, *Lycaste aromatica*, *Cypripedium Veitchii*, and the Clare Lawn variety of *Cattleya Mendeli*.

W. Furze, Esq., Roselands, Teddington (gr. Mr. Coombe), arranged a varied and effective group of Orchids with *Adiantums*, *Caladiums*, &c. Conspicuous were the numerous fine varieties of *Cattleya Mossiae*, and especially the very pretty C. M. \times Mrs. W. Furze; there were also many fine C. Mendeli, *Lælia purpurata*, *Cypripediums*, *Masdevallias*, *Vanda Denisiana*, *Epidendrum vitellinum*, &c.

His Grace the Duke of Northumberland, Syon House (gr. Mr. G. Wythes), staged a group consist-

ing chiefly of *Cypripedium barbatum*, in variety, and *Miltonia vexillaria*.

J. W. Temple, Esq., Leyswood, Groombridge (grower, Mr. E. Bristow), staged some very fine specimens of the large-flowered *Cattleyas*.

Mr. Bridger, The Gardens, Penshurst Place, showed *Dendrobium latifolium* (*Phytoclinis*).

Messrs. Linden (*Phorticulture Internationale*), Parc Leopold, Brussels, sent their handsome *Warszewiczella Lindenii*, with large pure white flowers, with a few purple lines in the centre of the lip; *Cycnoches peruviana*; a grand specimen of the yellow *Oncidium auriferum*; the curious *Coryanthes leucocorys* and *Odontoglossum Lucianum*, with the lip of O. Hallii, but with sepals and petals of a rich brown colour, tipped with yellow.

Messrs. F. Sander & Co., St. Albans, exhibited their superb hybrid, *Lælio-Cattleya Arnoldiana*, for which they took the medal for the best hybrid last year, and they were again successful in accomplishing the same feat this season. Messrs. Sander also sent *Cattleya Forbesii* Sander's variety, &c.

The Right Hon. J. Chamberlain, M.P. (gr. Mr. H. A. Burberry), sent fine cut examples of *Cattleyas*. Cut spikes of *Lælia purpurata* superbiens also came from Messrs. De Rothschild, Gunnersbury (gr. Mr. Hudson); *Cattleyas* from R. B. Cater, Esq., Bath; and Sir Chas. Strickland, Bart., Hildenley, Malton, Yorks, submitted a fine colored photograph of a bank of *Cattleya citrina* in bloom, as cultivated at Hildenley.

COMPETITION IN ORCHIDS.

The competition in the specially-arranged classes was reduced to a very fine point, the only exhibitor in Class 2 (two fine Orchids, cut trusses) being Mr. Wythes, gr. to His Grace the Duke of Northumberland, who produced a meritorious exhibit, and was, of course, adjudged 1st prize.

In Class 4, for the best Seedling Orchid, Messrs. F. Sander & Co. took the Silver-gilt Flora Medal with *Lælio-Cattleya Arnoldiana*, same as last year; and Chas. Ingram, Esq., Elstead House, Godalming (gr. Mr. T. W. Bond), was 2nd, with the form of *Lælio-Cattleya Canhamiae*, raised at Elstead House.

List of Awards.

ORCHID COMMITTEE.

Silver Flora Medal.

For group of Orchids, to W. Furze, Esq., Teddington.

Bronze Flora Medal.

For group of Orchids, to His Grace the Duke of Northumberland.

First-class Certificate.

To *Warszewiczella Lindenii*, to Messrs. Linden.

Award of Merit.

To *Lælia grandis*, Warnham Court variety, from C. J. Lucas.

To *Cypripedium Alice* \times , from Drewett O. Drewett.

To *Odontoglossum crispum* Rex, from Bron Schroder.

To *Odontoglossum Wolstenholmiae*, from Baron Schroder.

Botanical Certificate.

To *Cymbidium Loise-Chauvierii*, from C. Ingram.

To *Cycnoches peruviana*, from Messrs. Linden.

To *Oncidium auriferum*, from Messrs. Linden.

To *Coryanthes leucocorys*, from Messrs. Linden.

To *Bulbophyllum elegans*, from Sir Trevor Lawrence.

Cultural Commendation.

To C. J. Lucas, for *Promexia xanthina*.

To C. J. Lucas, for *Dendrobium McCarthiae*.

PAPER ON THE SUMMER PRUNING AND TRAINING OF FRUIT TREES.

By Mr. A. Yoona, Appleby Gardens.

In the absence of the author, a paper bearing the above title was read by the Secretary, Rev. W. Wilks. After some preliminary remarks upon the subject, setting forth the different methods of pruning which had existed, and also some of which are still in use, the essayist said that Apricots, Plums, and Cherries with the exception of Morellos, were amenable to the same treatment as each other. They could be trained on the fan system, and they are all subject to gumming. They all bore fruit upon natural spurs, and upon spurs the result of stopping or pruning, and it was necessary to aim for as many natural spurs as could be produced. It was desirable to aim at a well-balanced tree, equally divided, and a well-lush wall. A few leading shoots near the centre of a young tree would try to get away, but these must be stopped. The lower branches may require but little stopping, but should any of them be exceptionally strong they should be checked.

If a young tree had six shoots, then Mr. Young would lay three upon each side. He did not advise to let one leading branch ascend from the centre

upwards, unless the tree had an unequal number, when the centre one should be cut back. Each shoot should be given a straight course, and never stopped unless any individual branch requires it. The same principle applied to secondary shoots also. All crossing of shoots should be prevented. Sometimes there are too many shoots arising from the ends of the branches, and these require to be stopped. Pears on walls are usually trained in the fan system, the horizontal system, or the cordon system. The pruning and management varied somewhat according to the stock; the Pear being very much stronger on the Pear stock than on the Quince. In anxiety to ensure great neatness, many people commenced pinching very early, and continued to do so at intervals during the summer. It is necessary that it should be done, that light can get to the wall and to the fruit buds, but it should not be done until the wood is somewhat ripened. Old unfruitful trees must be root-pruned, if they are to become fruitful again. It is a mistake to pinch the leading shoots of young trees, and it has a tendency to create a bunch of shoots, and also to give to the tree a gross habit. If left alone they will extend cross and form natural spurs. Mr. Young said that as regards the fruit trees in the open, the old system of close pruning must be abandoned. Those grown on the semi-extension system (Apples and Pears), do not require stopping before the end of August, when they may be stopped to three leaves. Any leading shoots can also be stopped and checked. When fruit has been gathered, the bush fruits should be thoroughly well overhauled, and any branches not required cut out. Cherries and Plums merely required that the branches should be thinned out. The more pruning fruit trees are subjected to, the more would the cultivator have to prune. Mr. Young admitted that closely-pruned trees could be made fruitful if they are continually subjected to that treatment.

The Chairman (Mr. G. Bunyard) invited any comment or question, and a gentleman asked for information respecting "ringing," and said that he had seen a Pear tree that had been practically barren for some years bear some good fruit upon a branch that had been subjected to this process, and asked if it was thought that the system was a good one, and whether it would not be dangerous to the tree in the long run.

The Chairman said that many good results had followed ringing, and that an instance was seen in that hall last year in the case of a Jefferson Plum tree that had been practically barren, but a branch that had been cut or "ringed" with the label wire was covered with large fine fruit.

Mr. Hooper said that "ringing" was principally practised in France upon Vines after the berries were set, and by so doing the sap is retained in the branch, and the fruits are larger.

Another gentleman, who owned that "ringing" had temporary results of a beneficial nature, believed that it was dangerous, and had a tendency to kill the branch. He had also noticed that branches so treated were especially subject to disease. The Rev. W. Wilks had seen a golden Gage Plum three years ago growing wonderfully strong and rank, but after an application of the centre-bit, which took out almost one half of its circumference, it did not grow or fruit much the next year, but the following year it was covered with fruit.

Mr. A. H. Pearson said that he knew from experience that breaking the shoots was a better method than cutting them, as they were not so eager to start again directly. With wall trees, he recommended the system of laying-in the shoots the entire length, equally Apricots, and he thought that the absence of cawes to the boxes was the reason that Apricots were often so unsatisfactory.

The chairman could not agree with the essayist in leaving all the summer pruning until August, and said that in Kent, Pears are always ready for pinching in July, and Apples in August, but no doubt, much would depend upon the district. Mr. Wythes thought that Apricot trees lost their branches through lack of moisture.

ROYAL WESTERN HORTICULTURAL.

MAY 31 AND JUNE 1.—A very successful exhibition was held by the above at the Guildhall, Plymouth, and in a large marquee erected in the Guildhall Square, which formed the approach to that part of the show which was held in the building.

The grouping of tall subjects, as Palms, &c., was effectively done, but on this occasion the entries were fewer by 100 than last year, and the show differed from

its predecessors owing to the absence of fruit, which was hardly represented, and the fewness of vegetables. The paucity of these exhibits was due to the early date fixed for the show, it usually occurring in July.

The horticultural part was the best represented, and here the good prizes offered by the Society for twenty stove and greenhouse plants excited a lively competition. The highest prize, £20, was taken by Mr. J. Cypher, Queen's Road Nursery, Cheltenham; and the 2nd prize, £10, was gained by Mr. John Curry, West End, Salisbury.

Good prizes were offered for the best groups of *Azalea indica*, but no entries were received. Groups of stove and greenhouse plants effectively arranged were a distinct feature of the show, and the 1st prize fell to Mr. Cleave, and the 2nd to Mr. J. Curry. Mr. W. G. Hodge had a well-arranged group of Ferns, Selaginellas, *Dracenas*, *Begonias*, &c.

E. Coppen, Esq. (gr. Mr. A. Cornish), was 1st for a group of twenty *Orchids*.

Table decorations and specimens of the floral artists' work in bouquets, &c., were numerous, and non-competitive exhibits of stove and greenhouse plants were staged by Mr. J. T. R. Chalice; flower and foliage plants, by Mr. R. Meers, Colling's Park Nursery; Messrs. H. Veitch & Sons, Royal Nursery, Exeter; had a special feature in alpinas; Mr. J. R. Williams, Compton Nurseries, Plymouth, had *Hydrangeas*, Ferns, *Petunias*, &c.; and Mr. W. B. Smale, Torquay, showed a large quantity of plants of a miscellaneous description.

TRADE NOTICE.

MORRIS AND GRIFFIN, LIMITED.

OUR advertising columns to-day contain the prospectus of Morris and Griffin, Limited, a well-known firm of artificial manure manufacturers, who have registered their business as a limited liability company. The concern was started so far back as 1821, and during this long period it has had a steady and continuous accession of business, not only throughout the United Kingdom, but also in the western provinces of France and other parts of the world. The chief object of the conversion is to secure new capital for a large extension of the works at the sea-board. Recent experience shows that a very considerable saving can be effected, and that the highly remunerative character of the industry can be still further increased by a larger outlay of capital. The board of directors will consist of five gentlemen of well known business capacity, and their names will carry considerable weight with the investing public. The Board includes Mr. W. Moxon Fuller, the managing partner of the late firm, who has successfully conducted the business for thirty-five years, and who has agreed to act as managing director for a period of at least ten years. The share list will remain open for three days from the 15th to the 17th of June.

LAW NOTES.

CHARD v. CORRY & CO., LIMITED.

THIS case occupied the attention of Mr. Justice Hawkins and a special jury at the Royal Courts of Justice for two days last week, June 2 and 3. Mr. Walter appeared for the plaintiff (who was a florist and floral art designer, carrying on business at the Brunswick Nurseries, Stoke Newington), and Mr. Moyes for the defendant company. It appeared that the plaintiff was the registered proprietor of a design for a floral arch for table decoration, No. 174,349, pursuant to section 58 of the 46 & 47 Vict. c. 57, as amended by section 7 of 51 & 52 Vict. c. 50, and the plaintiff claimed damages against the defendant company, and also sought for an injunction to restrain them from continuing to infringe his registered design. Many beautiful specimens of arches decorated with flowers occupied the tables in the court, giving it a most unusual appearance. It was alleged that the defendants in November, 1891, at Coventry, in the county of York, offered for sale, and sold openly, floral

arches, which were fraudulent and obvious imitations of the plaintiff's floral arch. It was also alleged that the defendants had applied the plaintiff's design in a fraudulent way to floral arches, for the purpose of their being sold by them to the public. It was also stated that the defendants had sold large quantities of floral arches which were an imitation of the plaintiff's design. The case of the defendants was that the design was not a fit subject for registration under the Act, and that it was not in fact the design of the plaintiff at all, but of a Mr. Henry Walker, a wire-basket manufacturer of Shackwell Lane, and who was called as a witness on behalf of the defendants, the suggestion being that the design was invented by Mr. Walker before the plaintiff's design was brought out, and that consequently there had been no infringement of the plaintiff's design. After a very patient hearing and elaborate summing up on the part of the presiding judge, the jury found a verdict for the plaintiff, with damages £20, and his lordship granted the injunction which was asked for against the defendant company, ordering the same to deliver up to the plaintiff all arches in their possession, and awarded costs on the High Court scale.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

FRENCH ASPARAGOS.—Would any of the readers of the *Gardeners' Chronicle* kindly furnish A. S. H. with particulars of the method of cultivation adopted by French gardeners in raising and forcing giant Asparagus.

DENDROBIUM PHALENOPSIS SCHRODERIANUM.—J. E. Nostell Priory, would be glad if some of our readers who grow the above-named Orchid, would kindly say what is the greatest number of perfect flowers they have had on a single spike; the pseudobulbs carrying them having been grown in this country. He has a plant which made a fine growth this past winter, and is now carrying fourteen perfect flowers of fine shape and colour. At the Temple Show he did not observe a spike with more than eight flowers.

PUBLICATIONS RECEIVED.—*Annual Report of the Agricultural Research Association*, Mr. JAMIESON.—*Annales des Sciences Naturelles, Septième Series*, M. PH. VAN TIEGHEM.—*Bulletin de la Société Royale de Botanique de Belgique*,—*Bulletin of the Agricultural Experiment Station of the Louisiana State University*, and A. and M. College at Baton Rouge La.—*The Rescue of an old Place*, By MARY CAROLINE ROBBINS.—*A Soldier's Sweetheart*, By GEO. DALZIEL.—*Dictionnaire Pratique d'Horticulture et de Jardinage*, By G. NICHOLSON and S. MORTET.—*Bulletin of the Botanical Department, Jamaica*,—*Reports, Catalogue, and Price Lists of the Cassipore Practical Institution of Horti-Flori-Agriculture*,—*Lehrbuch der Botanik*, By Dr. A. B. FRANK.

APPLES, ETC., FROM TASMANIA, ETC.—The Orient Company's steamer "Orutava" is to-day (June 8) unloading at Tilbury Dock 6,671 cases of Apples from Hobart. A few days previously the steamers "Elderslie" and "Ormuz" discharged—the former 31,051 cases, and the latter 497 cases from Melbourne; 2735 from Hobart and six from Adelaide; a total of 40,960 cases of Apples. The "Ormuz" also brought eleven cases of seeds and one of plants from Sydney.

PÆONIA LUTEA.—We learn that this new and interesting Chinese species is in flower in the Jardin des Plantes, at Paris, where also the Poison-tree of Madagascar, *Tanghinia veneniflua*.

THE WEATHER.

By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.	
	ACCUMULATED.								
	Above (+) or below (—) the Mean for the week ending June 4.								
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Incb.				
1	82	0	+ 10	+ 207	8	+ 107	18.1	15	30
2	78	0	— 19	+ 237	5	+ 69	9.7	35	35
3	106	0	+ 38	+ 186	2	+ 82	8.4	43	34
4	116	0	+ 24	+ 207	1	— 77	7.3	65	37
5	106	0	+ 63	+ 244	3	+ 70	7.7	49	36
6	109	0	+ 8	+ 138	1	+ 59	5.9	58	40
7	71	0	+ 6	+ 193	7	+ 83	15.3	28	34
8	98	0	+ 16	+ 166	4	+ 81	12.0	35	35
9	88	0	+ 29	+ 117	4	+ 75	10.2	45	42
10	77	0	— 14	+ 122	12	+ 87	12.9	32	32
11	87	0	+ 3	+ 132	12	+ 80	13.7	37	36
12	110	0	+ 15	+ 42	3	+ 80	11.1	58	46

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts—0, Scotland, N. 1, Scotland, E.; 2, England, N.E.; 3, England, E. 4, Midland Counties; 5, England, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

THE following summary record of the weather for the week ending June 4, is furnished from the Meteorological Office:—

"The weather was again unsettled and rainy in the western and northern districts, but over the eastern and southern parts of the Kingdom it was generally fine, although somewhat heavy showers occurred at times. Thunderstorms were experienced in nearly all places, generally on the 30th or 31st of May.

"The temperature just equalled the normal value over Ireland and Scotland, W.," but exceeded it in all other districts; the excess over Scotland was slight, but over England it varied between 3° and 5°. The highest of the maxima were recorded at most stations on May 31, when the thermometer rose to between 80° and 84° over central, southern, and eastern England, and to 74° or 75° in the other parts of England; in Ireland and the north and west of Scotland, however, the readings were below 70°. The lowest of the minima, which were registered on June 3, in the west and north, and on the following day over England, ranged from 34° in 'England, S.W., to 45° in the 'Channel Islands.'

"The rainfall exceeded the mean in all districts, excepting 'England, E.,' over Ireland and in 'Scotland, N.,' the excess was large.

"The bright sunshine was very prevalent, and considerably exceeded the mean in eastern, central, and southern England, but in Ireland, the west of England, and the north and west of Scotland it was rather less than the normal. The percentage of the possible duration ranged from 15 in 'Scotland, N.,' and 28 in 'Scotland, W.,' to 58 in 'England, S.,' and the 'Channel Islands,' and to 65 in 'England, E.'"

MARKETS.

COVENT GARDEN, June 9.

A brisk business has been doing all the week, with prices improved. Hothouse Strawberries coming shorter against an increased demand. James Webber, Wholesale Apple Market.

PLANTS IN POTS—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Genistas, per dozen.	6 0-10 0
Arum, per dozen	6 0-9 0	Heliotrope, per dozen.	4 0-8 0
Aspidistra, per doz.	18 0-35 0	Hydrangea, per doz.	6 0-15 0
Begonia, per doz.	6 0-12 0	Ivy Geraniums, doz.	5 0-9 0
Calceolaria, per doz.	4 0-10 0	Lilium Harrisii, 12	18 0-30 0
Cinerarias, per doz.	4 0-8 0	Lobelia, per doz.	4 0-6 0
Coleus, per doz.	4 0-6 0	Mignonette, per doz.	6 0-10 0
Cyperus, per dozen	4 0-10 0	Musk, per doz.	2 0-4 0
Dianthus, each	1 0-5 0	Palms, various, each	2 0-10 0
Echeveria pyramid.	15, per doz.	— specimens, each	10 0-24 0
Erica, various, doz.	12 0-24 0	Pelargoniums, p.doz.	9 0-15 0
Ferns, various, doz.	4 0-9 0	— scarlet, p.doz.	3 0-6 0
— per 100	8 0-15 0	Roses, Fairy, p. doz.	5 0-8 0
Ficus elastica, each	1 6-7 6	Spiraea, per doz.	6 0-12 0
Fuchsia, per doz.	6 0-9 0		

Bedding plants, various, in boxes, 1s. to 3s.

FRUIT—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, 5-sieve	1 0-4 0	Lemons, per case	8 0-14 0
Apples, Tasmanian,	—	Pine-apples, St. M.	—
— per case	2 0-14 0	Malinal, each	2 0-6 0
Grapes, per lb.	2 0-4 0	Strawberries, per lb.	1 6-5 0

CUT FLOWERS—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum, per doz. bl.	2 0-4 0	Orchids—	
Azalea, p.doz. sprays	8 0-12 0	Oisidoglossum	—
Carnations, 12 blms.	1 0-2 0	Hydrangea, 12 blms.	1 0-4 0
Cinerarias, 12 bun.	4 0-6 0	Panicle, each	1 0-2 0
Cornflower, 12 bun.	2 0-4 0	Paeonies bunches	4 0-18 0
Eucharis, per dozen	2 6-4 0	Pelargoniums, scar-	—
Gardenias, per dozen	6 0-8 0	— set, per 12 bun.	4 0-6 0
Heliotrope, 12 sprays	6 0-9 0	— 12 sprays	9 0-1 0
Iris — bunches	6 0-12 0	Poppies —	2 0-6 0
Lilac Wilts (French)	—	Primula, double	4 0-6 0
— per bunch	4 6-5 0	— set, per 12 bun.	4 0-6 0
Lilium Harrisii, doz.	2 6-4 0	Ranunculus —	1 0-3 0
Lily of the Valley per	—	Roses, Tea, per dozen	9 0-2 0
doz. bunches	3 0-9 0	— coloured, dozen	1 0-3 0
Maiden Hair Fern,	—	— yellow (Ore-	—
12 bunches	4 0-6 0	— chals), per doz.	2 0-5 0
Marguerites, per doz.	—	— red, per dozen	2 0-4 0
— bunches	3 0-4 0	— Moss (French)	—
Mignonette, 12 bun.	4 0-6 0	— 12 bunches	12 0-13 0
Myosotis, or Forget-	—	— outdoor, 12 bun.	6 0-10 0
me-not, 12 bunches	1 6-4 0	Spiraea, 12 bunches	4 0-6 0
Orchids —	—	Tuberose, 12 blms.	6 0-1 0
Cattleya, 12 blms.	4 0-8 0	— Wallflowers, per	—
— bunches	2 0-4 0		

ORCHID-BLOOM IN VARIETY.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes Globe, ea.	4 0-6 0	Lettuces, per doz.	1 6-2 0
Asparagus, per bund.	1 6-8 0	Mushrooms, punnet	2 0-—
Beane, French, lb.	2 0-—	Mustard and Cress,	—
Beet, red, per dozen	2 0-3 0	punnet	0 4-—
Carrots, per bunch.	4 0-6 0	Parsley per bunch.	0 3-6 0
Cardinalflowers, each.	0 6-—	Peas, per lb.	6 0-—
Cucumbers, each	6 0-9 0	Spinach, per bush.	3 6-—
Endive, per dozen	2 0-3 0	Tomatoes, per lb.	1 0-2 0
Herbs, per bunch	0 9-1 0	Turnips, per bunch.	0 4-0 0

POTATOS.

NEW POTATOS.—Supplies from Jersey and Cornwall have commenced, and are the best in the trade. Prices from 18s. to 20s. Tendency downward.

OLD POTATOS.—Dull, with lower prices. J. H. Thomas.

SEEDS.

LONDON: June 8.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, London, S.E., write that today's market presented quite a holiday appearance, with but little business doing. Consumptive sowings requirements are now at the lowest ebb, and no speculative activity has sprung up. Tares are still wanted; stocks appear nearly exhausted, and prices have advanced about 1s. For Peas there is an improving enquiry. Birdsseed kept steady.

FRUITS AND VEGETABLES.

SPITALFIELDS, June 7.—Quotations:—Asparagus, 3d. to 1s. 6d. per bunch of 12; head of Asak, 1s. to 1s. 1p. per punnet; Cabbages, 2s. to 5s.; Cauliflowers, 5s. to 6s. 6d.; Radishes, 3s. to 4s. 6d. per tally; Greens, 1s. 6d. to 2s. 6d.; Dutch Turnips, 3s. to 3s. 6d.; old Carrots, 2s. 6d. to 3s.; new do., 5s. to 6s.; Parsley, 1s. 6d. to 2s.; Spring Onions, 4s. to 5s. 6d. per dozen bunches; Endive, 9d. to 1s.; Cabbage Lettuce, 6d. to 1d.; Leeks, 2s. to 2s. 6d.; frame Cucumbers, 2s. to 2s. 6d.; natural do., 1s. to 1s. 6d.; Beetroot, 4s. to 5d. per dozen; Cress, 1s. 6d. to 2s. 6d. per score; Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; Egyptian Onions, 5s. to 5s. 6d. per cwt.; Mint, 2s. 6d. to 3s. per dozen bundles; New Zealand Apples, 8s. 6d. to 9s. 6d. per case; foreign Tomatoes, 1s. to 2s. per box; Rhubarb, 1s. to 1s. 6d. per dozen bundles.

BOROUGH, June 7.—Quotations:—Broccoli, 12s. 6d. to 15s.; Cabbages, 3s. 6d. to 6s. per tally; Peas, 6s. to 7s.; Spinach, 1s. to 3s. per bushel; Greens, 2s. to 3s.; Carrots, 1s. 3d. to 1s. 6d.; Spring Onions, 4s. to 4s. 6d. per dozen bunches; Egyptian do., 5s. to 6s. per cwt.; English Apples, 6s. to 10s. per bushel; Canadian do., 12s. to 20s. per barrel.

STRATFORD, June 8.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done at the ordinary and quotations:—Spring Cabbages, 3s. to 4s. 6d. per tally; Greens, 2s. to 3s. per bag; ditto, 2s. 6d. to 3s. 6d. per dozen bunches; Cauliflowers, 1s. 6d. to 2s. 6d. per dozen, 6s. to 7s. 6d. per

tally; Spinach, 1s. to 1s. 6d. per sieve; Turnips, 4s. to 6s. per dozen bunches; Carrots, household, 2s. to 3s. ditto; Rhubarb, 1s. 6d. to 2s. 6d. per dozen bundle; Asparagus, 3d. to 1s. 6d. per bundle; Cucumbers, 2s. to 4s. per dozen; Horseradish, 1s. to 1s. 6d. per bundle; Radishes, 3s. to 4s. per tally; Mangels, 17s. to 21s. per ton; Onions, Egyptian, 110s. to 120s. per ton; ditto, Lisbon, 5s. to 5s. 6d. per case; Apples, American, 15s. to 25s. per barrel.

POTATOS.

SPITALFIELDS: June 7.—Quotations:—New: Jersey Kidneys, 18s. to 18s.; Malta Rounds, 8s. 6d. to 10s. 6d.; Lisbon do., 8s. to 9s.; Malta Kidneys, 15s. to 16s. 6d. per cwt. Old:—Magnaums, 80s. to 75s.; Imperators, 60s. to 75s.; Hebrons, 60s. to 80s.; Bruce Magnaums, 80s. to 100s.; Snowdrops, 60s. to 70s.; Main Crop, 75s. to 100s.; Sutton's Abundance, 70s. to 80s. per ton.

BOROUGH: June 7.—Quotations:—New: Lisbon, 8s. 6d. to 9s. 6d.; Malta, 14s. to 15s. per cwt. Old:—Bruce Magnaums, 80s. to 100s.; Dunbar do., 110s. to 120s.; Fenland do., 60s. to 70s. per ton.

STRATFORD: June 8.—Quotations:—Light-land, 70s. to 90s.; Dark-land, 65s. to 75s.; Scotch, 80s. to 100s. per ton.

GENERAL MARKET AVERAGES: June 8.—Magnaums, 70s. to 100s.; Dunbar do., 110s. to 120s.; Hebrons, 60s. to 80s.; Snowdrops, 60s. to 80s.; Imperators, 80s. to 100s. per ton. New:—English, 2d. to 4d. per pound; Jersey, 14s. to 18s.; and Lisbon, 8s. to 9s. 6d. per cwt.

NOTICES TO CORRESPONDENTS.

. PHOTOGRAPHS, DRAWINGS, OR SPECIMENS.—We shall be pleased to receive from our Correspondents notes relating to interesting Gardens, together with Specimens or Illustrations of interesting Plants. Although circumstances prevent us in all cases from reproducing them, we are nevertheless glad to receive them, and as far as possible to utilize them for the benefit of our readers.

BOWLING GREEN: F. C. E. The turf sent consisted of moss, with scarcely any plants of grasses. If you require a turf for the bowling-green which shall consist of the finer grasses, and the green is now covered with Moss of the nature of that sent, nothing short of digging it up, draining it with under-ground drains, made with stones, tiles, or pipes, and working some good rich manure into the upper crust before laying new clean turf, or sowing it with the finer grasses and Clover will be of any use. Turf-laying may be performed in October or during late winter and early spring. Sowing may be done in September or March. If the moss be present in patches only, rake off as much as possible with a long-toothed iron rake, scatter good loam over the whole, and give the lawn in the early spring a dressing of burnt earth and wood-ashes, finely sifted; or cover it with a layer of rich manure in December, and let it lay the whole winter, occasionally raking it about, or bush-harrowing it, and raking the whole of it clean off before the grass grows.

CUTTING FURZE: G. T. At the end of winter after the danger from hard frost is past—that is if the Furze is old and thick. Young Furze may be cut at almost any season, if it be not cut hard back.

EUCHARIS: F. D. S. To enable you to form some idea of the requirements of Eucharis amazonica—imagine a plant with thick fleshy roots, and broad evergreen leaves, located on the banks of a tropical stream, just above the usual level of the water, but at flood time buried in water many feet deep; at others, exposed to great heat and little or no moisture in the soil, owing to the falling of the stream in the dry season, and at that time dependent on what its deep striking roots can obtain from the sub-soil. From this, it would be natural treatment to employ stiffish soil, deep rather than shallow wide pots; and, as the plant dislikes disturbance at the root and does not readily take to new soil, the potting materials should be such as will last for two or three years without much deterioration, therefore no manure should be mixed with the stiffish fibry loam used, and only sufficient sand to prevent water-logging. Some gardeners seldom if ever water their plants with a watering-can, but keep them moist by syringing twice and thrice daily; after flowering, reducing the syringing in amount, so as to afford the plants a kind of rest, when no leaf growth is apparent. In winter the warmth to be applied to growing plants is by day 70°, and by night 60° to 65°, according to the state of the weather—the lower degree in very cold weather. In spring, these figures may be increased by 2° or 3°, and in summer the night warmth maintained should not be less than 70°, whilst by day at closing time 90° to 95° will do no harm. In autumn there should be a gradual fall towards the winter temperatures. Sometimes

Eucharis are planted in narrow beds or borders, whose surface is about 2½ to 3 feet from the glass, and if these are made of lasting materials, the plants give good returns in bloom for a number of years. Whether in pots or beds the upper layer of soil should be renewed annually in early spring, if repotting or replanting is not going to be performed. Pot plants should be examined once a year to see that the drainage is in good order; manorial aid may be afforded by means of some of the fertilisers (artificial) in common use, guano or much diluted farm-yard sewage; and these are best applied when the plants are in growth, not when they are at rest. Sometimes Eucharis are rested in a house with a temperature a few degrees lower than that in which growth and flower were made, water being in a great degree withheld, but the plant dislikes low temperatures or rest enforced by the entire withholding of root moisture, and the warm treatment is best.

EUCHARIS MITE: J. L. This should be called properly the bulb mite, as its attacks are not confined to Eucharis. For a full account of the insect, see *Gardeners' Chronicle*, April 4, 1885, p. 440.

INSECT, W. F. Bee-like saw-fly.

JOURNAL: Ch. Havenich Van Put. *Garden and Forest*, weekly, by the Garden and Forest Publishing Company, Tribune Buildings, New York.

LILY OF THE VALLEY: G. C. The result of using fresh animal manures, probably.

NAMES OF PLANTS: W. W. Potentilla fruticosa.—Z. M. L. B. Genista praecox.—Captain F. Croker, Lilium gigantum.—J. C. I. Vaccinium corymbosum.—2. Staphylea trifoliata; 3. Zenobia speciosa.—D. D. Castanea Awa.—G. M. 1. Cupressus Lawsoniana aurea; 2. seedling form of Cupressus Lawsoniana; 3. Cryptomeria japonica; 4. Abies Pinsapo; 5. Cryptomeria elegans; 6. Lep-tospermum fruticosum. S. W. F. Cattleya labiate.—W. D. 1. Asperula odorata (Woodruff); 2. Veronica variegata; 3. next week; 4. Colutea cruenta; 5. Geranium pratense; 6. Tradescantia virginica.—W. C. Begonia corallina, a good variety of it.—Lea. Daphne Cneorum; 2. Lilium martagon, yellow; 3. Veronica gentianoides; 4. Iris foetidissima; 5. Polemonium ceruleum album.—Constant Reader. Crataegus Crus-galli. T. S. Anemone sylvestris. J. W. Trifolium minus.

ONION MAGGOT: G. N. The insect attacks the plant in various ways, sometimes through the leaf descending into the bulb, and sometimes the maggot eats into the stem just about the ground level. The infested bulbs, which may be easily recognised by their flagging, should be carefully raised, base and all, and carried to the stovehole fire. If the bulbs or young plants are left near the bed after being pulled up, the entire crop may be lost. To make the plants and soil distasteful to the fly, use a weak solution of petroleum and water. We should advise you to relinquish Onion growing for a few seasons, then the insects might die out from lack of their accustomed food, or at any rate their numbers would become very much fewer.

ORCHID BLOOMS: A. B. The *Laelia purpurata* blooms are good, coming from a plant so heavily laden. The spike of *Epidendrum pictum* is very beautiful. It should be more commonly grown; and the plant you possess with twenty-six spikes must be highly ornamental.

PALM: Perplexed. The effects, probably, of gas fumes and want of water at the root.

PANSY: J. K. An ordinary case of the blending of two stems.

WOODLICK IN CUCUMBER AND MELON FRAMES: W. M. Place small pots on their sides in the frame stuffed with hay. These will form hiding places during the day, and may be emptied daily into scalding water. Pour boiling water into the chink between the sides of the frame and the soil.

COMMUNICATIONS RECEIVED.—P. Barr & Son.—J. Benbow.—T. M. C. (we were obliged to make use of an earlier report of the case).—Enquirer, Bolton (we will examine carefully, and report in our next).—C. G. Van Tubergen.—J. Wiggins (it was impossible, owing to the arrangements at the Show, to ascertain in every case what the award is, if any).—H. A. Bunsard, Toronto.—S. Woolverton, Ontario.—S. P. O.—T. C.—J. R. W. (stay your hand somewhat).—D. T. F.—J. R.—R. J. G. B.—C. T. D.—H. E.—R. D. Kilmartin.—W. M. (next week).—J. G. Bishop.—F. G. Austin.—T. C. D.—W. Cutbush & Son.—H. J. V.—S. D. & Co.—R. H. Smith.—W. Clibbar (will refer to the plant shortly).

SANKEY'S famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

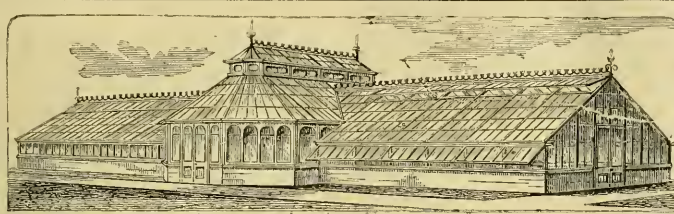
Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still had them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO., HOTHOUSE BUILDERS and HOT-WATER ENGINEERS, ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and amooes guaranteed in all cases. Melon Frames, Sashes, Hotbed Boxes, &c., always in stock.

Plans, Estimates and Catalogues Free. Customers wanted on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

THE BEDDING PLANT OF THE SEASON—GRAND NEW DWARF TROPÆOLUM, "MRS. CLIBRAN."

Colour, lovely shade of Orange-yellow; habit, compact, and about 6 inches high; free and continuous bloomer, producing a brilliant display.

Gardeners' Chronicle: "The colour is decidedly very good. An excellent bedder."

Journal of Horticulture: "The variety must be regarded as an acquisition."

Gardeners' Magazine: "A distinct bedding variety; will make a gay display in bed or border."

Mr. D. MELVILLE, Durbin Castle Gardens: "I think your Tropæolums should be most useful. An excellent substitute where Calceolarias die off."

Mr. W. INGRAM, Belvoir Castle Gardens: "Seems to promise an effect not afforded by any other dwarf bedder."

Mr. W. M. EARLEY, Hford: "I am charmed with Mrs. Clibran Tropæolum."

Mr. G. DOUGLAS, Great Gortree: "A very distinct novelty."

This Splendid Novelty has been Awarded several Certificates. Plants ready end of May. Price, 1s. 6d. each; 6 for 7s. 6d.; per dozen, 12s.

For full Description of above, also other distinct Novelties and Specialties, including NEW BEDDING PELARGONIUMS, see NEW CATALOGUE (No. 115), Free on Application.

CLIBRAN & SON, Oldfield Nurseries, Altrincham; 10 & 12, Market Street, Manchester; and Principality Nurseries, Llandudno Junction, N. Wales.

Mr. D. T. FISH, Bury St. Edmunds: "Mrs. Clibran Tropæolum is unique in its beauty."

R. IRWIN LYNCH, Esq., Cambridge Botanical Gardens: "A splendid novelty; perfectly charming in colour."

Mr. H. W. WARD, Longford Castle Gardens: "The colour is quite distinct from any shade of golden I have hitherto seen."

Mr. E. MOLYNEUX, Swanmore Park Gardens: "The colour, too, is so taking; it is sure to be welcome."

W. E. GUMBLETON, Esq., Queenstown: "The colour is bright and clear; it should be an acquisition."

CHARMING MUSIC FOR SUMMER EVENINGS.

CAMPBELL'S

PATENT BROAD REED

MELODEONS

Have the Largest Sale of any Musical Instrument in the World.

GRAND NEW MODELS

FOR SEASON 1892.

Highest Awards, Grand Diploma, and Gold Medal, 1891.

£100,000 TESTIMONIALS.

Money returned if not satisfied.
SUMMER MUSIC.
Gardeners' Chronicle:—
THE "GEM" MELODEON, 6s. 6d.
THE "MINIATURE" MELODEON, 10s.
THE "PARAGON" MELODEON, 14s.
THE "FAVOURITE" MELODEON, 16s. 6d.
Sent, Carriage Paid, in Great Britain, on receipt of Post Office Order, as above.
CAMPBELL'S, 116, TROINGATE, GLASGOW.

VIOLIN MAKERS and REPAIRERS.
CORNET and BRASS BAND INSTRUMENTS (Own Make).
We are the only Practical Brass Instrument Makers and Repairers in Scotland.

N.B.—All lovers of Music should at once send for our New Illustrated Privilege Price List for Season 1892, now ready. 100,000 of these valuable lists sent out yearly. Send 1d. stamp to CAMPBELL and CO., Musical Instrument Makers, 116, Troingate, Glasgow. Established 50 years.

FORMICACIDE ANT DESTROYER

thoroughly destroys all Ants and Insects in Greenhouses, and other places troubled with Ants. Sold in Bottles, 1s., 1s. 6d., 2s., 6d., and 4s. Full particulars from CORY and CO., Limited, 16, Finsbury Street, E.C., and to be obtained from all Seedsmen and Florists.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Gw., and Oil Mixtures, Free to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W. 15, VICTORIA STREET, WESTMINSTER, S.W. 1, and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

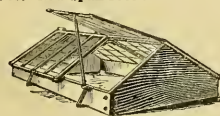
BOULTON & PAUL, NORWICH.

No. 60.—PORTABLE PLANT PRESERVER.



6 ft. by 3 ft. £2 0 0 | 6 ft. by 4 ft. £2 5 0
12 ft. by 3 ft. 3 2 0 | 12 ft. by 4 ft. 3 15 0

No. 73.—New Span-roof GARDEN FRAME.



4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 14 0
8 ft. by 6 ft. 4 4 0 | 16 ft. by 6 ft. 7 4 0

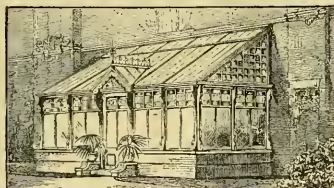
All Frames made of selected Red Deal, painted three times, and lights glazed with 21-oz. sheet glass.

CUCUMBER FRAME LIGHTS.

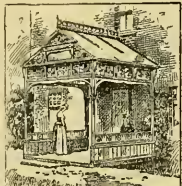
6 ft. by 4 ft., glazed and painted ... 14s. each.
Un glazed and unpainted ... 5s. 6d. each.

CASH PRICES.

SURVEY
MADE
IN ANY
PART
OF THE
COUNTRY.



ESTIMATES ON APPLICATION.



CONSERVATORIES AND GREENHOUSES IN ALL STYLES.

GLAZED VERANDAHS
AND
PORCHES
To Suit any Situation.



BOILERS

Of all makes and sizes supplied at the cheapest rates.
VALVES, PIPES, and FITTINGS always in Stock.

LADIES
AND
GENTLEMEN
WAITED
UPON BY
APPOINTMENT

No. 74.—THREE-QUARTER SPAN GARDEN FRAME.



4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 17 0
8 ft. by 6 ft. 4 5 6 | 16 ft. by 6 ft. 7 8 6

No. 75.—MELON AND CUCUMBER FRAME.



4 ft. by 6 ft. £2 0 0 | 12 ft. by 6 ft. £4 3 0
8 ft. by 6 ft. 3 0 0 | 16 ft. by 6 ft. 5 6 0

Wall Fruit Tree Protectors, Hand Lights, Propagating Glasses, &c.

No. 77.—SMALLER SIZE FRAME, Similar to No. 76.

6 ft. by 4 ft. ... £1 15 0 | 8 ft. by 4 ft. ... £2 7 6
12 ft. by 4 ft. ... £3 0 0

Carriage Paid on Orders of 40s. value.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.							
4 Lines	..	£0	3	0	15 Lines	..	£0 8 6
5 "	..	0	3	6	16 "	..	0 9 0
6 "	..	0	4	0	17 "	..	0 9 6
7 "	..	0	4	6	18 "	..	0 10 0
8 "	..	0	5	0	19 "	..	0 10 6
9 "	..	0	5	6	20 "	..	0 11 0
10 "	..	0	6	0	21 "	..	0 11 6
11 "	..	0	6	6	22 "	..	0 12 0
12 "	..	0	7	0	23 "	..	0 12 6
13 "	..	0	7	6	24 "	..	0 13 0
14 "	..	0	8	0	25 "	..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.
If set across three Columns the lowest charge will be 30s.
Page, 2s; Half Page, 2s 10s.; Column, 2s.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months; Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

	STOCK		SIZES	
	Inches.		Inches.	
	14x12		20x15	
	16x12		20x16	
	18x12		22x16	
	20x12		24x16	
	16x14		20x18	
18x14	22x18			
20x14	24x18			

ALBERT'S

HIGHLY CONCENTRATED HORTICULTURAL MANURE.

A Chemically Pure Plant Food.

UNPARALLELED FOR ITS RAPID ACTION AND
FRUITIFYING PROPERTIES.

BEST AND ONLY RELIABLE COMPLETE FERTILISER
for all VEGETABLES, FRUIT TREES, VINES,
FLOWERS, LAWNS, &c.

UNPRECEDENTED RESULTS obtained by its use.

For Prices and Descriptive Pamphlet, apply to—

H. & E. ALBERT,
17, GRACECHURCH STREET, LONDON, E.C.
Responsible Agents wanted.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

Strongly Recommended
For Ripening Tomatoes Early in the Open Border.

Cambridge, September 12, 1891.
"I have formed a very high opinion of the value of the Patent Silicate Manure, especially for Tomatoes, Grapes, and Peaches.

(Signed) E. HOBBARD."

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ½ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.



FOR DESTROYING WEEDS, MOSS, &c.

ON CARRIAGE DRIVES,
GARDEN WALKS, ROADS, STABLE-YARDS,
WALLS, STONEWORK, &c.

Saves more than twice its cost in Labour. No Smell. One application will keep the Walks and Drives clear of Weeds for at least Eighteen Months.

Mr. W. G. HEAD, Crystal Palace, says:—"We are so satisfied with your composition and its price that we have used it absolutely. I have every confidence in recommending it."

Mr. R. IRWIN LYNCH, Curator, Botanic Gardens, Cambridge, says:—"There can be no question with regard to its efficacy."

Prices:—In 1 and 2-gallon Tins, 2s. per gal. (Tins included); in 5-gallon Drums, 1s. 6d. per gallon. 10, 15, and 20 gallons, 1s. 4d. per gallon. Special quotation for larger quantities. Carriage paid on 10 gals. and upwards.

Used in the proportion of one gallon to twenty-five gallons of water.

THE ACME SUMMER SHADING, White and Green.

FOR SHADING GREENHOUSES, CONSERVATORIES, &c. Does not wash off with the rain. Can be used WARM or COLD. 1 lb. makes 3½ gals. In tins, 1 lb., 1s.; 2 lb., 2s.; 4 lb., 3s. 9d.

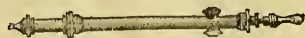
For particulars of **ANTI-FUNGI POWDER** for Tomato Disease, Mould and Mildew on Roses, Vines, &c.; **KENTISH PLANT MANURE**, SOLUBLE MANURE, ZINC LABELS, NEW METALLIC INK, &c., apply to the Sole Proprietors and Manufacturers,

THE "ACME" CHEMICAL CO., Ltd.,
Tunbridge, Kent;
and Carlton Street, Bolton, Lancashire.

SCOTT'S WASP DESTROYER has stood many years' test as the only effectual Protection for Fruit Trees, &c., from Wasps and Flies. Prices, 1s. 6d. and 2s. 6d. per bottle.—Makers, **CORRY & CO., Limited**, 16, Finsbury Street, E.C. Sold by all Nurserymen and Florists.

HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

THE "STOTT" PATENT SYRINGE.



With Patent "Sprayer" and Insecticide Chamber attached. 21s. complete.

THE "STOTT" PATENT SPRAYER.



GIVING A MIST-LIKE SPRAY. CANNOT CHOKE. 4s. to 5s. complete.

INSECTICIDE 'KILLMRIGHT'.

CERTAIN PREVENTIVE OF MILDEW.
DEATH TO CATERPILLARS, and all INSECT PESTS on Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and other Plants. NON-POISONOUS.
2-lb. Tins, 1s. 9d.; 14-lb. Tins, 9s.; 56-lb. Kegs, 34s.

FERTILIZER 'FEEDMRIGHT'.

Most Invaluable for
Roses, Chrysanthemums, Greenhouse, & Stove Plants, 2-lb. Tins, 1s.; 14-lb. Bags, 4s. 6d.; 56-lb. Bags, 10s.
PRICE LISTS and TESTIMONIALS on Application.
2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE and RETAIL FROM THE
"STOTT" FERTILIZER & INSECTICIDE
Distributor Co., Ltd., MANCHESTER.
Retail from all Ironmongers, Seedsmen, &c.
See Stand 54, Horticultural Exhibition, Earl's Court.

BENTLEY'S—BENTLEY'S

WEED DESTROYER

Has paved the way for many imitators, but maintains its position of superiority, and acknowledges no equal. Has the largest sale, and the confidence of the leading gardeners. 3 gallons, 5s. 6d.; 6 gallons, 10s.; 12 gallons, 18s.; 18 gallons, 27s. 6d.; 40 gallons, 50s. Carriage paid.

SOLE INVENTOR—

JOSEPH BENTLEY,

CHEMICAL WORKS,

BARROW-ON-HUMBER, HULL.

See Stand 56, Horticultural Exhibition, Earl's Court.

LETHORION (VAPOUR CONE).

PATENT.



They are now universally admitted to be thoroughly uniform in strength, and safe for any plant or flower, even if four times the quantity are used. Scale and mealy-bug may be completely eradicated by using the Cones double strength.

PRICES:—For frames of 50 to 100 cubic feet, No. 1 reduced to 6d. each; 500 feet, No. 2, 1s.; 1000 feet, No. 3, 1s. 6d.; 4000 feet, No. 4, 5s.

The house should be well secured.

CORRY & CO., LIMITED.

13, 15, & 16, Finsbury Street, London, E.C.

May be had through all Seedsmen and Chemists.



Prices:—1 Gall, 3/- (tins included), 5 Galls, 2/6 per Gall, 10 Galls, 2/6 per Gall, 20 Galls, 2/6 per Gall, 40 Galls, 2/6 per Gall. Carriage paid on 5 Galls. and upwards.

Kills all Weeds on Garden Walks, Carriage Drives, &c., &c. Brightens the Gravel. One application will keep the Walks Clear of Weeds for a whole Season.

Prepared Solely by

The Boundary Chemical Co., Ltd.,
LIVERPOOL.

PATENT DANDELION, PLANTAIN, DOCK and DAISY ERADICATORS. By this simple and effectual invention, the time and expense usually involved by removal of these noxious weeds is reduced to a minimum. No digging up the turf. A long felt want supplied.

Price, 4s. 6d. Postage and package, 6d. extra.
Of all Ironmongers, Seedsmen, and Florists.
WILKES AND SON, Ironmongers, Salisbury.

BOILING WATER OR MILK.

E P P S'S
GRATEFUL—COMFORTING
C O C O A
BREAKFAST—SUPPER.

THE RAILWAY PASSENGERS' ASSURANCE CO.

Pay over £2,700 weekly
as **COMPENSATION** for
ACCIDENTS OF ALL KINDS.
64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN, {

LIFE ASSURANCE AT COST
ABOUT HALF THE USUAL RATES.

MUTUAL RESERVE FUND
LIFE ASSOCIATION
OF NEW YORK.

E. B. HARPER, PRESIDENT.
PURELY MUTUAL.

ABSOLUTE SECURITY. STRICT ECONOMY.
The most successful Life Assurance Company in the World.
Total amount of Insurance in force, 1891 ... £4,190,535
New Business, 1891 ... £10,270,988
New Business accepted, 1891 ... £9,100,403
Total Death Claims paid ... £2,464,065
Savings to Members by its System, about ... £5,000,000

Chief Office for Great Britain:

90, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

THE SYDNEY MAIL,
AND
NEW SOUTH WALES ADVERTISER.

CONTENTS:—

INTERCOLONIAL and GENERAL NEWS.
SPORTING and the FIELD, in which is incorporated BELL'S LIFE IN SYDNEY.
RECORD of RACES, and NOTES on the TURF.
CRICKET and AQUATICS.
THE FLORA of AUSTRALIA. (Drawn and engraved especially for this Journal.)
NATURAL HISTORY. (Original Articles.)
AGRICULTURE, PASTORAL, HORTICULTURE.
GOLD FIELDS and MINING generally.
STOCK and SHARE REPORTS.
ORIGINAL and SCIENTIFIC ARTICLES.
TALES by POPULAR ENGLISH and AUSTRALIAN AUTHORS.
THE FASHIONS. DOMESTIC ECONOMY.
INDOOR AMUSEMENTS.
THE CHESS PLAYER. THE HOME CIRCLE.
COMMERCIAL NEWS.
SHIPPING INTELLIGENCE.
THE SYDNEY MAIL has a wide circulation throughout the Australian Colonies, New Zealand, Polynesia, &c. It contains a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.

Single Copies, 6d.; Stamped, 7d.
Publishing Office—Hunter Street, Sydney, New South Wales.

ENGLAND.

The undermentioned Newspaper and Advertising Agents are authorised to receive ADVERTISEMENTS for the SYDNEY MORNING HERALD and SYDNEY MAIL:—

LONDON Messrs. Geo. Street & Co., 30, Cornhill, E.C.
Mr. F. Algar, 8, Clement's Lane, Lombard Street, E.C.
Messrs. Gordon & Gotch, 21, Bride Street, Fleet Street, E.C.
Messrs. W. H. Smith & Son, 186, Strand.
BRISTOL James and Henry Grace, Royal Insurance Buildings.
MANCHESTER... James and Henry Grace, 73, Market Street.
EDINBURGH Robertson & Scott, 13, Hanover Street.
GLASGOW W. Torrance & Co., 15, Royal Exchange Place.

Copies of each Journal are filed at the above Offices for the use of Advertisers.

DROVERS' BOOK on the **CHRYSANTHEMUM** (Illustrated), now ready, giving full and practical instructions of eighty-four varieties, and particulars and information never before published. Post-free, 1s. 2d. To be had of the Authors, W. AND G. DROVER, Nurseries, Farnham.

FARMS, ESTATES, RESIDENCES.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "Midland Counties Herald Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

Agricultural Economist.

An ILLUSTRATED MONTHLY MAGAZINE, of 62 pages and cover. Exponent of scientific and high farming; advocate of co-operation in agriculture; in the supply of farm requisites, and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of pure oilcakes, complete manures, reliable seeds, and implements on wholesale terms. Specimen copy free. Subscription, per annum, 5s., inclusive of postage. Single copies, 6d., each through all Newsagents.

3, Agar Street, Strand, London, W.C.

GLASS! CHEAP GLASS!

In Stock Sizes.
15-oz., per 100 ft., 8s. 6d. 12x10, 18x12, 18x14, 24x14
21-oz., " 11s. 9d. 14x12, 20x12, 18x16, 24x16
16x12, 16x14, 20x16, 24x18, &c.
Paints and Varnishes at Low Prices. Flooring, 8s. per square; Matching, 4s.; 2x4, at 2d. per foot run; 2x7 at 1d.
Horticultural Work of all descriptions, Ironmongery, &c.

THE CHEAP WORK COMPANY,

72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

THE FRUIT GARDEN of the UNIVERSE.

THE AUSTRALIAN IRRIGATION COLONIES (Chaffey Brothers), established and approved by Government. Offer an enjoyable life and OCCUPATION, a sunny and salubrious climate, and most highly remunerative returns to Cultivators with small or large capital; pamphlet free. CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street, London, E.C. J. E. M. Vincent, Chief Commissioner.

ORCHID PEAT; best Quality; **BROWN FIBROUS PEAT** for Stove and Greenhouse use. RHO-DODENDRON and AZALEA PEAT. Samples and Prices of WALKER and CO., Farnborough, Hants.

GARDEN REQUISITES—Sticks, Labels, Vining Cork, Raffles, Mats, Bamboo Canes, Rustic Work, Manures, &c. Cheapest Prices of WATSON and SCULL, 90, Lower Thames Street, London, E.C.

EXTRA STOUT strong-tanned NET, 2 yards per 100; 1yd. yard; 4 yards wide, 3d. yard; or 2 yards wide, 10s. per 100; 4 yards wide, 20s. per 100 yards. NEW TINE NETTING, 1 yard wide, 1d. yard; 2 yards wide, 3d. yard; 4 yards wide, 6d. yard; 12 yards wide, 1s. 6d. yard. COTTON NET, nine meshes to square inch, 18 yards wide, 7d. yard run. W. CULLINGFORD, 24, Eastern Road, Finsbury, E.

HORTICULTURAL SHADINGS and WADDINGS, TIFFANY, COTTON WOOLS, and JOSEPH COOKSON, 21, New Cannon Street, Manchester.

SIX CABINET PORTRAITS, 3s.; three for 2s. Twelve Carte Portraits, 2s. 2d.; six for 1s. 4d. Eight-inch Enlargement, 3s.; three for 2s. Stamp size, 2d. for 1s. 6d.; 100 for 3s. 2d. Send Carte or Cabinet and Postal Order, and in about ten days you will receive Highly-finished Copies, with Original.—FRANCIS & CO., 2, Creed Lane, London, E.C.

GARDENING APPROPRIATE.

Mr. J. ROGERS, for the past five years Gardener to T. B. WATKINSON, Esq., Leedwood, Rufford, as Gardener to General ELPHINSTON, West Ashley Grove, West Ashley, Horncastle.

CATALOGUES RECEIVED.

CUNNINGHAM & WYLLIE, 6, West Nile Street, Glasgow.—General Catalogue.
WILLIAM BULL, 533, King's Road, Chelsea.—Catalogue of New and Rare Plants.

PARTNERSHIP—A young Gentleman, with small capital, wishes to find sound opening in Nursery Trade as JUNIOR PARTNER, or would take position of trust in good business with view to same.—Address, CROWLEY, 38, Bramley Hill, Croydon.

H. CANNELL and SONS are desirous of ENGAGING the MOST EFFICIENT and PRACTICAL MAN to MANAGE their Seed and Bulb Department.—In the first instance, send full particulars, in own handwriting.—Swanley, Kent.

MR. A. COCK, The Gardens, Havering, to take the lead in the Outside Department.—Must be most willing and attentive, and have a good knowledge of Flower Gardening, Herbaceous Borders, &c. Wages, 18s. per week, with good cottage and garden.

WANTED, MAN and WIFE, without family; to MANAGE BRANCH SHOP (Florist, Seeds, and Fruit) in country town. Furnished rooms provided; must be persevering Man.—W. WELLS, Earlswood Nurseries, Redhill, Surrey.

WANTED, for Normandy (France), a good steady and trustworthy WORKING HEAD GARDENER.—Nursery, no incubance. Must be of good character, experienced in the culture of all kinds of Flowers (especially Roses), and Vegetables. Also, WANTED, an UNDER GARDENER (Single).—Write to REID, 2, Avenue Hoche, Paris, stating wages and particulars. None need apply without good testimonials.

WANTED, a HEAD WORKING GARDENER, without incubance, for the neighbourhood of London.—Age between 30 and 40. Must be thoroughly experienced in all branches of Modern Gardening; energetic, industrious, and particularly systematic. Wife to look after the house.—Write, with full particulars, to H. Bates, Hendy & Co., 37, Walbrook, E.C.

WANTED, a GARDENER (where two men and two boys are kept) to attend to Glass and Flower Garden; must be thoroughly competent. Wife to undertake laundry for small family. Personal character indispensable. Cottage and good wages given.—Apply, S. The Elms, Fosse Cray, Kent.

WANTED, GARDENERS with first class characters. Wages 30s. weekly. Apply to THE CRICHTON FLORAL COMPANY, 37, Sicane Street, S.W.

WANTED, SEVERAL really good PRACTICAL MEN, Married preferred. Must be of good character, thoroughly practical and efficient in their departments.—Send full particulars to W. C. & Co., *Gardeners' Chronicle* Office. (No Market Men need apply.)

GARDENERS OUT OF PLACE can have EMPLOYMENT at GRAPE THINNING. Fair wages offered, and overtime can be made.—STEPHEN CASTLE, F.R.H.S., Manager, Ashford Vineyard, Fordbridge, Salisbury.

WANTED, GRAPE THINNERS.—Two or THREE good hands, at once. Men waiting for situation would suit.—Apply, TITE, Hampton-on-Thames. Also WANTED, TWO respectable MEN, quick at FOTTING. Apply as above.

WANTED, as UNDER GARDENER, a careful, intelligent, and industrious young man; must be experienced in Orchids and Stove Plants.—Reply, stating age, experience, wages, &c., to J. P., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, an UNDER GARDENER. Married, no incubance; 18s. per week, with lodge close to garden. Good character indispensable.—Apply, S. WEBB, The Gardens, Holbrook Park, Horsham.

WANTED, a married man as UNDER GARDENER.—Must understand Potting, Watering, Cucumbers and Melon Growing, French House, &c. Wages 15s. per week, and House and good Garden.—P. *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

WANTED, a Respectable, Honest, Sober MAN as FOREMAN in a Market Garden of 30 Acres. None need apply who have not held a similar situation. Good wages, and house and garden.—Apply JOSEPH COCK, Rushwick, Worcester.

WANTED, a WORKING FOREMAN, to take charge of about 20 Houses. A thorough trustworthy character, and of a sound practical experience. Character will be strictly investigated.—Full particulars to EDWIN HILLIER, Nurseries, Winchester.

WANTED, a MARRIED FOREMAN, for a medium-sized private establishment, a short distance from London. A good all-round knowledge of Glass and Outdoor Gardening essential. Wages, 21s. per week, with lodge, &c. Apply, by letter, enclosing copies of recent testimonials, to E. James Veitch & Sons, Royal Exotic Nursery, Chelsea, S.W.

WANTED, a thoroughly experienced young MAN, as FOREMAN, for the Houses. Wages, 21s. per week, and both. State age and experience to J. H. STEVENS, The Gardens, Sidbury Manor, Sidmouth, Devon.

WANTED, a Young MAN, with a good knowledge of Palm and Fern Growing, and the usual work of a Market Nursery. Permanent situation. No Fires. Sundays paid for. Wages, 18s. per week.—MARSHALL BROS. and CO., Barnham Junction, Bognor.

WANTED, a young MAN, about 18, for a Market-growing place, where Grapes, Tomatoes, Cucumbers, Chrysanthemums, and Bedding Stuff are the chief things. State wages required, also where last employed.—S. G. RANDALL, St. Paul's Nursery, Skegness.

WANTED, a young MAN, used to Growing Plants, Tomatoes, &c., for Market.—GEO. TAYLOR, Tudor Nursery, Southampton.

WANTED, for Kent, a MARRIED COUPLE without young children. Man as Coachman, and to overlook stock and make himself generally useful. Wife good Landress. Address Z., care of Steel and Jones, Advertising Agents, Spring Gardens, S.W.

WANTED, for a Market Nursery, an active MAN, Must be thoroughly up to date in Cucumbers, Tomatoes, and Mushroom Growing.—Apply, stating references, experience, and wages, to J. HODGES, Springfield Nursery, King's Heath, Birmingham.

WANTED, a young MAN for the Houses, principally pot Roses. Wages, 15s. per week. Apply to Mr. W. RUMSEY, Joyning's Nurseries, Waltham Cross.

WANTED, as JOURNEYMAN, a smart active young MAN for the Houses, under a Foreman. Must be well up in his work, Early and Late Forcing of all Plants and Fruits connected with a large establishment. Wages, 16s. per week. Bothy, reasonable, and milk Address, with reference, to Mr. BUGGINS, The Gardens, Lattrellstown, Clonsilla, Dublin.

WANTED, a Strong YOUTH for the Kitchen Garden, and to help in the Houses occasionally. State age and experience to J. H. STEVENS, Sidbury Manor Gardens, Sidmouth, Devon.

WANTED.—Will any Gardener recommend a good JOURNEYMAN for the Houses; 15s. per week, bothy, &c.—Apply, HEAD GARDENER, Temple Newsam, near Leeds.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should Write for Prospectus of the Scientific Dress Cutting Association, 272, Regent Street, London, W. Situations found for all pupils at good salaries. No Lady's education is complete without a knowledge of Dressmaking.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Head Gardeners.

JOHN LAING and SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BAILIFFS, or GARDENERS.

JAMES CARTER and CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

GARDENER (HEAD).—Mr. CLARKE, Head Gardener to the Earl of Lonsdale, Lowther Castle, Penrith, can with every confidence recommend his Foreman to any Lady or Gentleman requiring the services of a thorough practical man, experienced in all branches.

FRUIT, FLOWERS, and VEGETABLES, thoroughly understood and well-grown, either for Market or Private Gentleman's place. Seventeen years' practical experience in good establishments. Age 32, married; good references.—GARDNER, Mrs. Ireland, Adelaide Place, Castle Street, Canterbury.

£10 BONUS will be paid by Advertiser to anyone that will give such information that will lead to his appointment as HEAD GARDENER, where not less than eight or ten men are kept. Highest testimonials from present and previous employers. Age 35.—T. L. T., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD).—Age 35; thoroughly experienced in all branches. Wife as laundress. Well recommended by his present employer, Sir Alec Wilson.—**GARDENER**, Eastwood, Sydenham, S.E.

GARDENER (HEAD), where three or four are kept.—A LADY wishes to recommend her late brother's excellent Head Gardener. Leaving through breaking up of establishment. Thoroughly competent in all branches.—**Mrs. HUNTLY GARDEN**, Rishton, near Bagshot.

GARDENER (HEAD), where one or two are kept.—Age 25, married. Fruit, Flower, Kitchen Garden and Orchids. Good character.—**G. L. W. Ridgewell**, Baker Street, Enfield, Middlesex.

GARDENER (HEAD).—Age 27; single till suited. Experienced Inside and Out; two years in present place; excellent references; abstainer.—**T. R. 3**, Paradise Street, Northwich, Cheshire.

GARDENER (HEAD).—Age 29; where three or four are kept. Experienced in the general routine.—**D.**, Fruit Salesman, Wellington Heath, Leobury.

BONUS to anyone furnishing Advertiser with information of Gardening changes that will lead to his obtaining a situation as **HEAD GARDENER**, where three or more are kept. Highest references from previous employers.—**CHRYSTANTH, Mr. Locke**, The Cottage, Church Path, Woking, Surrey.

GARDENER (HEAD WORKING).—Age 32, married. Thoroughly understands Grapes, Peaches, Melons, Cucumbers, Flower and Kitchen Gardens. Highly recommended.—**D. FOSTER**, Head Gardener, New Place, Upminster, Essex.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 43, married; twenty years' experience in all branches.—**G. H. 18**, Devonshire Terrace, Hertford Road, Lower Edmonton, N.

GARDENER (HEAD WORKING).—Age 44, married, no children; thoroughly practical in all branches of Flower, Fruit, and Kitchen Gardening. Accustomed to Land and Stock. Thirteen years in last situation. Highly recommended.—**S. L.**, Shipborne, Tonbridge, Kent.

GARDENER (HEAD WORKING).—Age 32, married, no family; life experience. Thoroughly practical in all branches. Excellent testimonials and references. Left through death.—**H. T.**, Wellfield Road, Streatham, S.W.

GARDENER (HEAD WORKING).—Age 33, married. Practical in all branches, 18 years' experience, 2 years excellent character from present employer.—**COOTE**, 4, Cemetery Road, Wellington, Salop.

GARDENER (HEAD WORKING).—Age 37, married; twenty years' experience in the Growing of Grapes, Peaches, Melons, Tomatoes, Cucumbers, Orchids, Store and Greenhouse Plants, Flower and Kitchen Gardens. Ten years' good character. Abstainer.—**WHITE**, 5, Topfield Cottages, New Road, Hornsey, London, N.

GARDENER (HEAD WORKING), where others are kept.—Age 46, married, no family. Abstainer; life experience in Early and Late Forcing of all kinds of Fruit, Flowers, Vegetables, and Mushrooms; also Kitchen and Flower Gardens and Pleasure Grounds. Eight years' good character from late employer, and sixteen years' references.—**J. D.**, Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 39, married; thirteen years' experience in Vines, Melons, Cucumbers, Greenhouse Plants, Kitchen Gardens and Pleasure Grounds; three years in last place.—**J. D.**, Money Hill Cottage, Rickmansworth, Herts.

GARDENER (HEAD WORKING).—A LADY wishes to recommend a thoroughly practical all-round Gardener who lived fifteen years in the family; only left through establishment being broken up through death.—**W. BROWN**, 1, Stockwell Street, Cambridge.

GARDENER (HEAD WORKING).—Age 30, married. G. CYRUS would be pleased to recommend W. BROWN, as above. Over three years in present situation as Foreman. Good experience in Plants, Fruit, and Orchids.—**W. BROWN**, Gardens, Lypiatt Park, Stroud, Glos.

GARDENER (HEAD WORKING); age 39, married.—**W. EVANS**, four and a half years with the Venerable Archdeacon Robeson, would be glad to meet with a situation requiring a thoroughly experienced man.—**Abbeey House**, Tewkesbury.

GARDENER (HEAD, or good SINGLE-HANDED).—Vines, Melons, Cucumbers, Tomatoes, &c. Store and Greenhouse Plants, Flower and Kitchen Garden. Good character.—**A. BOOKER**, 143, Steel Road, Acton Lane, Willesden.

GARDENER (HEAD, of SINGLE-HANDED).—Middle age, married; all versed in all departments, Glass, &c. No objection to a Cow. Leaving through breaking-up establishment. Good character. Please state wages.—**GARDENER**, Avenue House, Belsize Park Gardens, Hampstead, N.W.

GARDENER (good SINGLE-HANDED, or where help is given).—Age 27, married; thoroughly practical in all branches. Four years in present situation. Abstainer.—**A. E. MENY**, 2, South Row, Voluntary Place, New Winstead, Essex.

GARDENER (SINGLE-HANDED).—Age 25; twelve years' experience in all branches. One year 6 months' good character, and three and a half years' previous.—**F. H.**, Grove Park Gardens, King'sbury, Middlesex.

GARDENER (SINGLE-HANDED, or UNDER).—Age 25, single; seven years' character.—**HOLNESS**, Jubilee Road, Littlebourne, Dover.

GARDENER (SINGLE-HANDED).—Age 25, single; eight and a half years' good character.—**WALTER LIVERMORE**, Normandy, Surrey.

GARDENER (good SINGLE-HANDED, or where help is given).—Age 30, married, one child; thoroughly experienced in all branches. Good character.—**HIGGS**, Wykeham Park, Frimley Green, near Farnborough, Hants.

GARDENER (SINGLE-HANDED, or where help is given).—Age 36, married. Life experience in Flower and Kitchen Gardens.—**CHONGGUD**. Five years' character.—**H. BLANCHARD**, Higher St. Marys, Blandford.

GARDENER (good SINGLE-HANDED).—Age 38, 39, married; thoroughly experienced in all branches. Good character.—**W. H. 171**, Shakespere Road, New Brompton, Kent.

GARDENER (SINGLE-HANDED).—Age 30, married, one child, age 5. Practical experience in all branches. Willing to make himself useful in house if required. Excellent references.—**A. PUSEY**, Lock's Cottages, Ashford, Middlesex.

GARDENER, where help is given.—Married when suited; thoroughly practical in all branches, including Hardy Alpines and Herbaceous Plants, &c. Excellent character.—**J. FULLEN**, The Gardens, Jollywinds, Dorking.

GARDENER (SECOND or THIRD), where four or more are kept.—Age 21; five years' experience. Good reference.—**E. H. 20**, Swaby Road, New Wandsworth, S.W.

GARDENER (SECOND), Inside, or Inside and Out, where three or four are kept.—Age 23; nine years' experience. Good references.—**H. TILLEY**, Hainton, Lincoln.

GARDENER (SECOND), where three or four are kept.—Age 24. Single; Inside and Out preferred. Good references.—**W. TURNER**, 2, Clifton Place, Cova Road, Farnborough, Hants.

GARDENER (SECOND), in the Houses.—Age 23; nine years' good character from previous and present situations. Both preferred.—**S. FUNNELL**, Stanmore Park Gardens, Stanmore, Middlesex.

GARDENER (SECOND), Inside, or Inside and Out, where three or four are kept.—Age 21. Good references from previous places.—**F. PIKE**, The Cottage, Iping, Midhurst, Sussex.

GARDENER (SECOND).—Age 24; ten years' practical experience in well-kept private places, both Inside and Out. Can be well recommended.—**FOREMAN**, 20, King Street, Chelsea, S.W.

GARDENER (SECOND), where three or four are kept.—Age 27, single. Four years in last place, inside and out. Good character.—**A. CHAPMAN**, 3, Lewis Road East, Loughborough Junction, S.E.

GARDENER, or UNDER.—Eight years' experience, Inside and Out, chiefly Inside. Good references from present and previous employers.—**P. COOKE**, Union Walk, Chesterfield.

GARDENER (UNDER).—Age 20; one and two years' previous good character.—**W. BARTER**, Chidcock, Bridport, Dorset.

GARDENER (UNDER), Inside and Out.—Age 19; four years' good experience. Both preferred.—**T. MILNER**, The Hoo Gardens, Welwyn, Herts.

GARDENER (UNDER).—Age 18; three years' good character. Disengaged now.—**A. DEERING**, Manor House, Wendover, Bucks.

GARDENER (UNDER).—Age 23; steady and obliging; single. Good character. Understands Outdoor Work well.—**BALLEY**, Gadsden, Hayes, Beckenham, Kent.

GARDENER (UNDER), in a Gentleman's Garden.—Eight years' experience, single-handed. Excellent character. Both preferred.—**E. M.**, Mrs. Markham, Stationer, Oundle.

Seed and Bulb Trade.

MANAGER, or SHOPMAN (FIRST).—Thorough knowledge of the Retail Trade. First class references.—**SEESMAN**, *Gardeners' Chronicle*, Office, 41, Wellington Street, Strand, W.C.

To Nurserymen.

PROPAGATOR.—Well up in Roses, Clematis, Rhododendrons, Conifers, Vines, General Hardy Climbers; also Stone, Greenhouse, Bedding Plants, &c.—**H. SARGANT**, Craiglith Nursery, Comely Bank, Edinburgh.

FOREMAN, PROPAGATOR, and SALESMAN.—Thoroughly experienced, reliable, and energetic. First-class hand in Bouquets, Wreaths, and Floral Decorations.—**W. Messrs. Hewitt & Co.**, Solihull, Birmingham.

FOREMAN, PROPAGATOR, GROWER.—Many years successful in Tea Roses, Clematis, Bouvardias, Ferns, Climbers, Chrysanthemums, Tree Carnations, and General Indoor Plants. Good Salesman, and Maker of Bouquets and Wreaths.—**BETA**, 41, Wellington Street, Strand, W.C.

FOREMAN, or MANAGER, in a small Nursery.—Age 30. Experienced in Farns, Grapes, Tomatoes, Cucumbers, Wreaths, &c.—**A. W.**, 6, The Terrace, Grove Road, Mitcham, S.W.

FOREMAN (Inside).—Age 27. Twelve years' experience; nearly two years in present situation as Foreman. Good references from present and previous employers.—**C. W.**, Brooklands, Weybridge.

FOREMAN, in a good establishment.—Age 26; twelve years' experience in good places (Castle Howard, Stoke Edith Park, and Birdslip House).—**H. BELL**, Sewerby, Hull, Yorkshire.

FOREMAN.—Age 27; thirteen years' experience in good places. Fourteen months' Foreman in last place; two years previous. Good references.—**T. WADE**, South Street, Oakham, Rutland.

FOREMAN, under Glass; age 24, single.—**Mr. MOLYNEUX**, Swanmore Park Gardens, Bishop's Waltham, Hants, can recommend a good man as above. Wide experience; hard worker; well up to his duties.—Apply as above.

FOREMAN, in a Gentleman's Establishment; age 26.—**H. NIGHTINGALE**, Sandhurst, Tunbridge Wells, wishes to recommend Thomas Smith as above. Thoroughly experienced in all branches of the profession.

FOREMAN, in a good establishment.—Age 24; eleven years' experience in Fruit and Plant Houses.—**E. SHUTT**, Hestfield Garden, Ascot, would be pleased to recommend J. GODDARD, as above.

FOREMAN, or JOURNEYMAN (FIRST), in Houses.—Age 23; nine years' experience in good establishments. Excellent references.—**JOURNEYMAN**, The Gardens, Tyntesfield, Bristol.

JOURNEYMAN, in the Houses.—**Mr. MARTIN** can highly recommend Philip Bolt as above to any Gardener in want of a steady, trustworthy young man. Both preferred.—**C. MARTIN**, The Hoo Gardens, Welwyn, Herts.

JOURNEYMAN (FIRST), in the Houses, in a good establishment.—Age 23; seven years' experience. Good characters. Total abstainer.—**J. CARTER**, 11, Canterbury Terrace, Maids Vale, London, W.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 19; two years' good character. Both preferred.—**G. J.**, Lavington Park, near Petworth, Sussex.

JOURNEYMAN, in the Houses, or in a good Establishment, or SECOND, where five or six are kept.—Age 24; both preferred. Two and a half years' excellent character.—**W. A.**, Little Lufford, Newport Pagnell, Bucks.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 19; can be highly recommended.—**A. STARINER**, Scrubby, near Spilby, Lincolnshire.

JOURNEYMAN, Inside and Out.—Respectable young man (age 23), willing to make himself useful. Three years in last situation. Disengaged.—**W. MANSBRIDGE**, Cliffe, Paddick Hall Road, Hayward's Heath.

JOURNEYMAN, in the Houses.—Age 20; six years' experience. Two years in present situation. Well recommended. Both preferred.—**HEAD GARDENER**, Finkney Park, Malmesbury, Wills.

IMPROVER.—Age 19; has had experience Inside and Out. Both preferred. Good character.—**A. LOVEGROVE**, The Gardens, Plumtree, Nottingham.

IMPROVER in the Houses.—Age 21; 4 years' experience Inside and Out, excellent character, abstainer.—**A. H. 7**, Dulka Road, Battersea Rise, London, S.W.

IMPROVER, Inside, in Gentleman's garden.—Age 18; two years' good character. No both.—**A. H.**, Watlington Park, Downham, Norfolk.

TO NURSERYMEN.—Advertiser (age 29), wishes to place himself with a good firm near London, for a year, in order to perfect his knowledge of the business. Small premium offered.—**E. R.**, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

Seed Trade.

SHOP ASSISTANT. age 20, wants an engagement with a good firm. Five years with present employers. Good reference.—**DICKSON, BROWN, and TAIT**, Corporation Street, Manchester.

CLERK, or to Assist in Nursery.—age 27.—Advertiser requires a situation as above.—Good reference. South coast preferred.—**S. D.**, 1, Melborne Cottages, St. Michael's Road, Bournemouth.

TO GARDENERS.—Youth, age 16, to learn practical gardening in all branches.—Apply, stating terms, &c., to **A. DEAN**, Newdigate, Dorking.

TO FLORISTS.—Situation wanted by a Young Lady. Knowledge of the Flower, Fruit, and Seed Trade.—**A. WHITING**, 23, Eign Street, Hereford.

HOLLOWAY'S PILLS.—Hale Constitutions. When the human frame has become debilitated from the effects of exposure, excess, or neglect, these Pills will repair the mischief. If they be taken according to the laid directions wrapped round each box, Holloway's Pills exert the most exemplary tonic qualities in all cases of nervous depression, whereby the vital powers are weakened, and the circulation is rendered languid and unsteady. They improve the appetite, strengthen the digestion, regulate the liver, and act as gentle aperients. The Pills are suited to all ages and all habits. A patient writes: "Your Pills to be valued require only to be known. During many years I sought a remedy in vain, was daily becoming weaker, when your Pills soon restored me."

PATENT "MANCHESTER" LAWN MOWER.

Awarded numerous
National and Inter-
national Prize
Medals, including—

VIENNA,

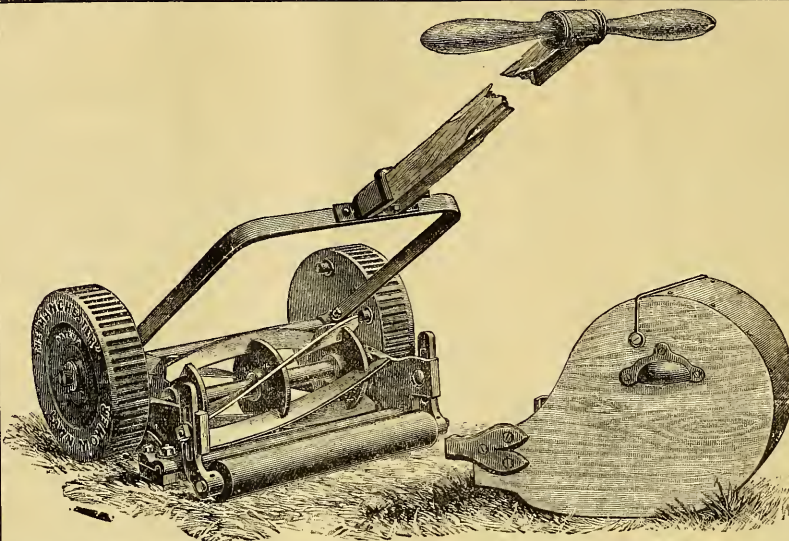


1873.

ROYAL HORTI-
CULTURAL
SOCIETY OF
ENGLAND, 1872.

ADELAIDE, 1887,
FIRST ORDER
OF MERIT.

NEVER BEEN
BEATEN in OPEN
COMPETITION.



Awarded numerous
National and Inter-
national Prize
Medals, including—

PARIS,



1873.

ROYAL BOTANI-
CAL SOCIETY,
MANCHESTER,
1873.

ADELAIDE, 1887,
FIRST ORDER
OF MERIT.

NEVER BEEN
BEATEN in OPEN
COMPETITION.

THE PATENT "MANCHESTER" LAWN MOWER continues to command a large sale, notwithstanding many inferior imitations which do not contain the vital points so essential in a Perfect Mower. It still remains the cheapest and most grass on level or uneven ground, and making most excellent work, quite equal and not inferior to that done by the more costly machines. It is put together well, and is too simple with ordinary care to get out of order, and in point of durability superior to anything of the kind in the market at the same price.

THE gearing is boxed in; the wearing parts are interchangeable. The handle adapts itself to the height of the operator, and the patentees recommend it with confidence both to Amateurs and Gardeners.

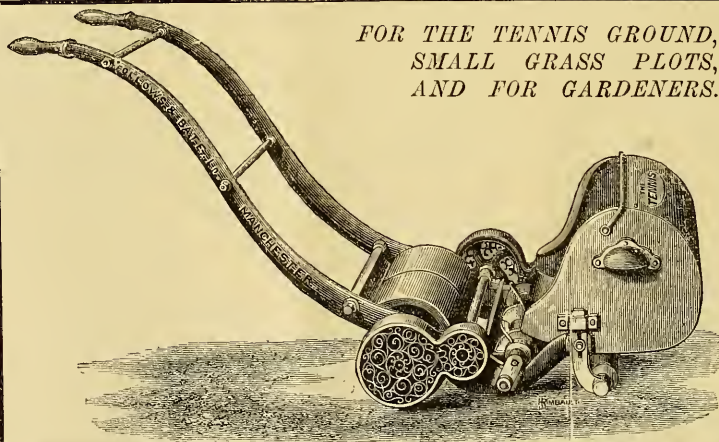
GRASS COLLECTING BOXES are usually supplied with these machines for use in WET or HUMID WEATHER, but in DRY and HOT WEATHER they may be dispensed with, and the cuttings may be scattered on the lawn with advantage.

THE "TENNIS" LAWN MOWER.

THE New "TENNIS" LAWN MOWER is a strongly made and durable geared machine, very light in draught, of excellent design, superior finish, and fitted throughout with modern adjustments. The cylinder is driven by machine-cut wheels running with the greatest accuracy, and at such a speed as to ensure a beautiful smooth and velvet-like appearance on the lawn.

FROM 25/- EACH.

PRICE LISTS ON
APPLICATION.



FOR THE TENNIS GROUND,
SMALL GRASS PLOTS,
AND FOR GARDENERS.

THE gearing is neatly covered in on both sides of the machine, as illustrated.

The New "TENNIS" LAWN MOWER in the small sizes is eminently suited for verges, ornamental gardening, or for young ladies to use on the Tennis Ground, whilst the larger sizes will be found all that can be desired for more extensive work. A considerable number have been sold, and are giving the greatest satisfaction.

FROM 25/- EACH.

PRICE LISTS ON
APPLICATION.

To be obtained from all respectable Ironmongers and Seedsman throughout the Kingdom, or, if any difficulty is experienced, direct from the Manufactory,

FOLLOWS & BATE, Lim.,

GORTON, MANCHESTER.

PATENTEES AND MANUFACTURERS OF THE
"Climax," "Manchester," "Tennis," and Royal
Prize Medal "Anglo-American" Lawn Mowers.
Upwards of 80,000 sold since 1860.

Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BLADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, June 11, 1892. Agent for Manchester—JOHN BETWOOD.

The GARDENERS' CHRONICLE

No. 2686,

ESTABLISHED 1841.

No. 286.—VOL. XI. {THIRD
SERIES.}

SATURDAY, JUNE 18, 1892.

{Regt. as a Newspaper.} PRICE 3d.
Post-FREE, 3d.

CONTENTS.

Buddleia Colvillei	788	Papaver rapifragum	790
Chicago Exhibition, horticulture at	789	Potato, disease of the	789
Culture v. Nature	786	Rhododendron Falconeri	790
Cucumbers for exhibition	790	Scotland—	
Eucalyptus Guinai	787	Fruit prospects	793
Eurybia Guianensis	789	International fruit	
Gardeners' Royal Beethoven Institution	788	exhibiting	791
Grasses, flower distillation at	779	Late Broccoli	791
Guelldes Rose, &c.	790	Scottish Horticultural Association	791
Horticulture: practical teaching of	788	Smith, M. S., Esq.'s garden	788
Larch fungus	790	Societies—	
Lario-Cattleya x Phoebe	791	Birmingham Pansy show	789
Kew, plants in flower at	789	Butley Tulip show	793
Kingston gardeners at	789	Linnean	788
Claremont	788	Royal Botanic	788
Meehan, Professor	789	Royal Horticultural	792
Monwout Fero	789	Royal National Tulip	792
New market for London	789	Yorkshire Gala	793
New or noteworthy plant—		The Rosery	783
Aloe aurantica	780	Stocks and soil for roses	783
Orchid notes and gleanings	781	Tropaeolum	790
Cypripedium x chrysocomes	781	Week's work	784
Cypripediums in hanging baskets	781	Forestry	785
Orchids at Burford Lodge, Dorset	782	Fruits under glass	785
Orchids at the Hon. J. C. Abbott's, Montreal, Canada	782	Hardy fruit garden	785
		Orchid-houses	784
		Plants under glass	784

ILLUSTRATIONS.

Distillation of perfumes at Grasse	781
Eucalyptus Guinai	787
Lario-Cattleya x Phoebe	791

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY IN THE WEEK as possible.

"Paxton's Calendar." New Edition, "The Cottagers' Calendar of Garden Operations," Price 3d., post-free, 3½d. 41, Wellington Street, Strand, London, W.C.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. The PUBLISHER, 41, Wellington Street, Strand, W.C.

Intimation.

MESSRS. LITTLE AND BALLANTYNE beg to intimate that Mr. WM. F. TAYLOR, who has been employed by them as one of their TRAVELLERS for nearly seven years, is NOT NOW IN THEIR SERVICE.

MR. W. F. TAYLOR, who has for nearly seven years taken A LEADING PART IN THE BUSINESS of MESSRS. LITTLE AND BALLANTYNE, Seed Merchants and Nurserymen, Carlisle, herewith intimates that HIS CONNECTION WITH THAT FIRM HAS CEASED, as from May 28.

The Villa, Stainton, Carlisle, June 1, 1892.

BUY DIRECT FROM THE GROWERS.—

Lowest prices in the Market. LILUM HARRISII, TUBEROSES (the true Pearl), PAMPAS, SEA-OATS, FAIRY FLOWERS in all colours, SEA-MOSS, &c.

F. W. O. SCHMITZ and Co., of Jersey City, America, Gardeners' Chronicle Office, 41, Wellington Street, London, W.C.

PAUL'S PÆONIES at BROXBOROUGH are NOW splendidly in FLOWER. The Nurseries adjoin the Brookline Station of the Great Eastern Railway. PAUL AND SON, The Old Nurseries, Cheshunt.

CARTERS'—THE BEST SEEDS. CARTERS' HOLBORN PRIZE PRIMULA. CARTERS' VICTORIA PRIZE CALCOLARIA. CARTERS' BRILLIANT PRIZE CINERARIA. The finest strains in cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN.
237 and 238, HIGH HOLBORN, LONDON, W.C.

150,000.—Special Offer of Kentias. WICETON has a large quantity of the above to offer, very reasonable, at from 27 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £30 per 1000.

W. ICKETON, Putney, S.W.

CACTUS DAHLIAS and FUCHSIAS.—Twelve choice named Exhibition kinds of either, fine, strong, healthy, established plants, from single pots, 2s. 6d.; dozen of each, 4s. 6d.; Moleworth and Nancy included in the Fuchsias. Carriage free.

COOPER and SON, The Nurseries, Hadleigh, Suffolk.

BARR'S Beautiful DOUBLE PÆONIES.—A fine display of CUT BLOOMS of these lovely flowers is maintained at 12 and 13, King Street, Covent Garden, W.C.

500 MAIDENHAIR FERNS, in 24's, large stock plants, or Exchange Miss Jolliffe Carnations, Eucharis amazzonica.—JOHNSON & CO., Hampton-on-Thames.

Ficus elastica variegata. H. B. MAY offers the above, of which he now has a fine stock of the best variety, well-furnished, healthy plants, of various sizes. Prices on application. Dyson's Lane Nurseries, Upper Edmonton.

London New Central Market, Smithfield. JOHN PRINGLE, Stand 596, SELLS on COMMISSION PLANTS, CUT FLOWERS, FRUIT, TOMATOES, CUCUMBERS, MUSHROOMS, & VEGETABLES.

W. D. BUNDAY, of Covent Garden Market, and 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOES, GRAPES, &c. Good references.

JOHN COLLINGRIDGE is open to receive Consignments of Choice CUT FLOWERS for SALE, on COMMISSION. Highest references. New Flower Market, and 5, Russell Court, Strand, W.C.

MESSRS. SQUELCH and WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOES, CUCUMBERS, and all kinds of HOTHOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empty and labels supplied. Reference, London and County Bank, Covent Garden Branch.

Hooper's Flower and Fruit Agency. MESSRS. HOOPER and CO. (LIMITED), will be pleased to RECEIVE CONSIGNMENTS of CHOICE CUT FLOWERS and FRUIT for SALE, on COMMISSION. Having been established in Covent Garden for upwards of half a century, they have a very large connection, which affords them great facility in the disposal of choice stuff. Account Sales, with Remittance, posted same day as Sale. HOOPER'S Flower and Fruit Agency, Covent Garden, W.C.

WANTED, FIVE large AGAVE AMERICANA VARIEGATA.—State size and price to—WM. PAUL AND SON, Nurseries, Waltham Cross.

WANTED, for Cash, or in exchange for Orchids, AGAVE AMERICANA VARIEGATA, must be a splendid specimen, in perfect health and condition. All particulars to SANDER and CO., St. Albans.

WANTED, AGERATUM, Dwarf Blue. Price per 100 to F. SEABROOK, Ramsey Abbey, Huntingdonshire.

WANTED, a quantity of CHOICE and OTHER FLOWERS for the 24th inst. Particulars and price to W. TROUGHTON, Nurseryman, Preston, Lancs.

Sow in June. SUTTON'S IMPROVED DOUBLE GERMAN WALLFLOWER.—A magnificent strain of Double Wallflower, including many beautiful colours, which are not obtainable from ordinary seed. Mrs. JAMES MOORE, Coston Hall, says:—"The Double Wallflowers were simply splendid, and the admiration of all who saw them." Price of Seed, six varieties, separate, 3s.; mixed, 1s. 6d. per packet.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON and SONS, THE QUEEN'S SEEDSMEN, READING.

CABBAGE PLANTS.—Special Offer, 2,000,000 very strong plants: Enfield, Early Sheepsfoot, Drumhead, Savoy, and Sutton's Giant Drumhead, 1s. 6d. 500; 2s. 6d. 1000. EDWARD LEIGH, Cranleigh, Surrey.

The Best Present for a Gardener. VINES and VINE CULTURE. The most complete and exhaustive Treatise on Grapes and their Culture ever published. New Edition. Price 6s., post-free, 5s. 6d. A. F. BARRON, Royal Horticultural Society, Chiswick.

Sow now for early flowering in Spring. ROEMER'S SUPERB PRIZE PANSIES. (The finest strain of Pansies in the World.) Introducer and Grower of all the leading Novelties. CATALOGUE free, on application. FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

500,000 VEITCH'S AUTUMN GIANT CAULIFLOWER PLANTS, 4s. 6d. per 1000; Clark's White Spring BROCCOLI, superb stock, 4s.; Dalkeith's BRUSSELS, 3s.; CABBAGE, SAVOY, CURLY KALE, Sprouting BROCCOLI, all 3s.; by post, 1s. 6d. per 1000 extra.—N. HORNE, Ferry Hill, Chislehurst, near Rochester.

Hyacinths, Tulips, Crocus, Lilies, &c. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to Messrs. R. SILBERRAD and SON, 25, Savage Garden, Crutched Friars, E.C.

N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

Boulton & Paul's Outdoor Requisites. BOULTON AND PAUL, MANUFACTURERS, NORWICH. Every Requisite for the Kennel and Poultry Yard, Aviaries, Pigeon Cotes, Pleasure Grounds. Requisites for the Garden, Park, Pleasure Grounds. Wire Netting for Game and Sheep. Iron and Wire Fencing, Gates, &c. Send for Illustrated CATALOGUE, post-free, on application.

FOWLER'S MEALY BUG DESTROYER. For the eradication of this most troublesome pest. It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s., 6d., and 10s.; or half gallon, 21s.; one gallon, 42s. each. CORRY and CO., Limited, 13, 15, 18, Finsbury Street, E.C. Sold by all Seedsmen.

THE CHADBORN and COLDWELL MFG. CO., Makers of the Patent "EXCELSIOR" LAWN MOWER, 223, UPPER THAMES STREET, LONDON, E.C. Registered Telegraphic Address: "LAWN MOWERS, LONDON."

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.

King's Road, Chelsea, S.W. THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent: Mr. GEORGE W. VICTORIA ROAD, PUTNEY. W.M. THOMSON and SONS, Clonsford, Galashiels, N.B.

Prices and Full Particulars sent post-free on application.

EXHIBITIONS.

BRIGHTON AND SUSSEX HORTICULTURAL ASSOCIATION.
The SHOW fixed for the 29th and 30th of this month WILL NOT BE HELD.
R. GARDENER, Secretary.

ROYAL BOTANIC SOCIETY,
GARDENS, REGENTS PARK,
SPECIAL FLORAL FETE, and CHILDREN'S FLORAL PARADE, WEDNESDAY NEXT, JUNE 22.

Gates open at Two o'clock. Exhibition of Flowers and Procession of Flower-decorated Children's Mail Carts, Ponies, &c. The Bands of the 2nd Life Guards and the Royal Horse Guards will be in attendance. Tickets, admitting one adult or two children, to be obtained at the Gardens only by vouchers from Fellows of the Society, price 5s., or on the day of the Fete, 7s. 6d. each.

GRAND ROSE and BEGONIA SHOW,
BATH.—THURSDAY, JULY 7.

First Prizes, Nurseries, &c. varieties ... £3 8 0
" Amateurs, 36 ... £1 0 0
" " 24 ... £3 0 0
Second and Third Prizes in proportion.

Several other Classes for Roses, Bouquets, Strawberries, and Plants, Tuberoses Begonias, Plants and Cut Blooms, 97 classes in all. Entries close Friday, July 1. For Prize Schedules, &c., apply to B. R. F. PEABODY, Esq., F.R.S., Secretary, 2, Northumberland Buildings, Bath.

SHREWSBURY GREAT FLORAL FETE,
AUGUST 17 and 18, 1892.

Schedules for 1892 are now ready. SIX HUNDRED AND SEVENTY POUNDS IN PRIZES.
ADMITT AND NAUGHTON, The Square, Shrewsbury.

EWING'S MILDEW COMPOSITION.—The original certain and safe remedy. In bottles, 1s. 6d. and 3s. per gallon, 12s. CORY & CO., Limited, 13, 15, and 16, Finsbury Street, E.C. Sold by all Seedsmen.

CAULIFLOWER and BRUSSELS SPROUT PLANTS.—A large quantity for sale at 2s. 6d. per 1000, for Cash.—Apply As AUGER, Orange Tree Farm, Dartford.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Maiden Vale, London, W.

Trade Offer of Large Palms.
W. ICKTON has a lot of Stock of the leading kinds of Decorative PALMS from 6 to 25 feet high, fit for Conservatory and House Decorations; Dracaenas, Bamboos, and Foliage Plants. Lowest Prices quoted on application.
W. ICKTON, Putney, S.W.

KENTIAS, in many useful sizes for furnishing, also large quantities in 60's, Cocos Weddelliana, and many other Palms. FERNS in many sizes, grown hardy for furnishing. Cheap for Cash.
GEORGE CLARK, Clarence Lane, Putney, S.W.

Many Acres of Lilies of the Valley!

T. J. JANNON the Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNON (Lily of the Valley Grower) by special appointment to H.R.H. the Prince of Wales, Deringham, King's Lynn, Norfolk.

FERNS! FERNS!—Trade.—Greenhouse and Stove, 25 saleable sorts, 12s. per 100; out of pots, 10s. Large Adiantum cuneatum, Aralias, Cyperus, Rhodanthes, all in 48's, 6s. per doz. Palms, Cycas, Hydrangea, 1s. each. Large Ferns, 10 best sorts 5s. 6d. per doz., in 48's. Spineas, Marguerites, and Pelargoniums, in bloom, 8s. per dozen, in 48's. Adiantum cuneatum and P. tremula, extra size, in 24-inch pots, 16s. and 20s. per 100. Packed free, Cash with Order.
J. SMITH, London Fern Nurseries, Loughboro' Junction, S.W.

L'HORTICULTURE INTERNATIONALE
(Orchid Emporium), Leopold Park, Brussels.

THE GRANDTEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New Rare, or Popular Orchids in Cultivation. Grand Importations every week. LISTS and CATALOGUES on application.

LOBELIA! ASTERS! DAHLIAS!

LOBELIA.—True EMPEROR WILLIAM, lovely dwarf dark blue, guaranteed from Cuttings, not Seedlings. Massively-rooted bushes, for immediate effect, 5s. 1s. 9d.; 10s. 3s.

ASTERS.—Choice Mixed VICTORIA, the most popular variety. Extra strong Plants, 2s. 1s. 6d.; 10s. 2s. 6d.; 10s. 4s. 6d.

DAHLIAS.—From choicest sorts—Cactus, Double Showy varieties; the best only. Quite ready. 6s. 2s. 3d.; 12s. 4s., worth double.

All strong, healthy Plants, packed with moss, and Carriage Paid. Order Early.

W. H. HUDSON, F.R.H.S.,
199, HIGH ROAD, KILBURN, LONDON.

FOR ORCHIDS, and GARDENERS
to Grow Them, apply to SANDERS', St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

200,000 CELERY PLANTS, Clay worth
Friede, all transplanted and strong, 6s. per 1000; for 5000 and over 5s. per 1000. Autumn Giant Cauliflower, 6s. per 100, 6s. each with order. Also, Robinson's C. Cabbage Plants, 6s. per 1000.—GEO. YORKER, Seedsmen, Bedford.

ARTHUR FLINSCH,
LOSCHWITZ, near DRESDEN.

LARGE PEACH CROWNER
In Hothouses and Open Air.
Export of Fruit to all Parts.

If You want LOVELY GARDENS, you must have
BEAUTIFUL FLOWERS

Buy Now for a **Gay Display**. Alternantheras, in variety, fine stuff in pots, 2s. 6d. per doz., 16s. per 100; from stores, 10s. per 100. Calceolarias, Golden Gem, out of pots, 2s. per doz., 10s. per 100. Argemones, in variety, in pots, 2s. per doz., from stores, 5s. per 100. Iresine, Lindenii and Brilliantissima, in pots, 2s. 6d. per doz., 18s. per 100. Mesembryanthemum variegatum, in pots, 2s. 6d. per doz., 18s. per 100. Verbenas, Oldfield White (New), dwarf habit, pure white-flowered, does not require pegging down, 1s. each, 6s. per doz. Tropaeolum, Dr. Miles, crimson, rapid grower, 3s. per doz.; T. main pygmy, scarlet, dwarf bedding variety, 3s. per doz. Begonias, in variety, for bedding, our unrivalled strain, dwarf erect habit, brilliant large flowers, mixed, 4s., 6s., 8s., and 12s. per doz. Musk, "Harrison's", 3s. per doz. Geraniums, Golden Tricolors, 4s. and 6s. per doz.; William Lingard (New), splendid Golden-yellow Leaf, 6s. per doz.; White West Brighton Gem, and Crimson West Brighton Gem, two grand new Bedding Geraniums (see Catalogue for full descriptions), 1s. 6d. each, 4s. for 1s. 6d., 12 for 12s. Mentha pulegium gibraltarium, 2s. per doz. Heliotropes, 3s. 6d. per doz.; Salvia, 12 in 6 varieties, 3s. 6d., Abutilons, 12 sorts, 4s. 6d. Fuchsias, 3s. per doz., 25 for 6s. 6d. Petunias, 12 varieties, 5s. 6d. each, 4s. per doz., 25 for 6s. 6d. Lantanas, 5s. 6d. per doz.

Succulents for Bedding, &c. In variety, 6s., 9s., and 12s. per doz. Echeveria metallica, 9s. per doz.; E. agaveoides, 6s. and 12s. per doz.; E. farinosa and Peacockii, 6s. and 12s. per doz.; E. metallica rosea, 1s. 6d. and 2s. 6d. each. Haworthia crenata, 6s. and 9s. per doz. Mesembryanthemum vulpinum, 6s. and 9s. per doz.

Superior Dahlias. Immense Collection, the finest varieties, all named and distinct—Show, Fancy, Bedding, Bouquet, and Singles—12, in 12 splendid varieties, from any section, 4s.; 50 for 15s., 100 for 25s. Tom Thumb Dahlias.—New Dwarf Bedders, in variety, 1s. 6d. each, 15s. per doz.

For everything required for the Garden at this season, see NEW CATALOGUE (No. 115), post-free.

Oldfield Nurseries, **CLIBRAN'S**, 10 & 12, Market St., Ayr, Scotland, and Principality Nurseries, Llandudno Junction.

ORCHIDS.
CLEAN, HEALTHY PLANTS at LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.

PEPP'S ^{selected} **PEAT,**

For ORCHIDS, STOVE PLANTS, Hardwood do, Ferns, and Rhododendrons, by sack, yard, ton, or truckload. SPECIAL ORCHID PEAT, in sack, yard, ton, or truckload. RICH ROUNDO LOAM, superior LEAF-MOULD, Compost, Crystal and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE, fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSECTICIDES, and all other Garden Requisites. **Peat Moss Litter.** The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d. SELECTED, in blocks, very fibrous, 8s. per sack; 5 for 37s. 6d. SECOND QUALITY, 6s. per sack; 5 for 29s. 6d. BROWN FIBROUS PEAT for Azaleas, Rhododendrons, and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d. PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM, each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to THE FORESTER, Joyden Wood, near Bexley, Kent.

RICHARDS'
NOTED ORCHID AND OTHER PEATS,

Loam, Sand, Manures, Mats, Netting, Sundries, Tobacco-Paper, Insecticides, Weed-Killer, and all Garden Sundries, at the Shortest Notice. Special Railway Rates to all parts. The Horticultural Stores, 1, Belvedere Crescent, Lambeth, London, S.E. Chief Peat Depot and Grounds—Ringwood, Hants. Samples and Price List post-free.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vinerias, Greenhouses, Plant and Forcing-houses, Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. HOT-WATER BOILERS and HEATING APPARATUS, for large or small greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for 6s. stamps.

PALACE FLAIN HORTICULTURAL WORKS, NORWICH.

GLASS! CHEAP GLASS!
In Stock Sizes:

15-oz., per 100 ft., 8s. 6d.; 12x10, 18x12, 18x14, 24x14 21-oz., " 11s. 9d.; 14x12, 20x12, 18x16, 24x16, 16x12, 16x14, 20x16, 24x18, &c. Paints and Varnishes at Low Prices. Flooring, 5s. per square; Matching, 4s.; 2x4, at 4d. per foot run; 2x7 at 1d. Horticultural Work of all descriptions, Ironmongery, &c.

THE CHEAP WOOD COMPANY,
72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

EXTRA STOUT strong-tanned NET, 2 yards
wide, 14d. yard; 4 yards wide, 3d. yard; or 2 yards wide, 10s. per 100; 4 yards wide, 2s. per yard. NEW TWENTY NETTING, 1 yard wide, 14d. yard; 2 yards wide, 3d. yard; 4 yards wide, 8d. yard; 12 yards wide, 1s. 6d. yard. COTTON NET, one mesh to square inch, 1 yards wide, 7d. yard run.
W. CULLINGFORD, 24, Eastern Road, Plaistow, E.

ORCHID BASKETS,
RAFTS, BOATS, AND CYLINDERS,
AND ALL GARDEN SUNDRIES.

SEND FOR A
PRICE LIST

from the Largest Manufacturer in the Trade

H. C. SMYTH,
21, GOLDSMITH STREET,
DRURY LANE, W.C.

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

If you fail to obtain this Valuable Canvas from your local Seedsman, send a post-card to—

BENJ. EDGINGTON,
(LIMITED),
2, DUKE STREET,

London Bridge, S.E.,

Who will reply by return, with Samples and full Particulars.

"FRIGI DOMO" CANVAS.

GARDEN REQUISITES, as supplied to the Royal Gardens—COCO-NUT FIBRE REFUSE, 1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton truck, 30s. for rail near works. FINE ORCHID PEAT, 11s. 6d. per sack. BROWN FIBROUS do, 5s. per sack, 5 for 22s. 6d. BLACK do, 4s. 6d. per sack, 5 for 20s. FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD, each 3s. per sack. Coarse SILVER SAND, 1s. 6d. per bushel, 14s. 4 ton, 24s. per ton. CHOCOLATE-PAPER, 1s. per sack. SPHAGNUM, 10s. 6d. per sack; all sacks and bags, 2d. each. RUSSIA MATS, 15s. 6d. to 18s. per dozen. RAFFIA, VIRGIN CORK, STAKES, &c. BONES, 3-inch, 11s. per cwt. or 4s. 6d. per 100. TOBACCO-PAPER, Speciality, 10d. per lb., 28 lb. for 21s. CLOTH, 1s. 10s. 28 lb. for 26s. Price List, free.

W. HERBERT AND CO.,
Hop Exchange Warehouses, Southwark Street, London, S.E.

The Original and Only Makers of the

GENUINE RIVETED TRENTHAM BOILERS

WITH SOLID ENDS. Also—

SILVESTER'S PATENT TRENTHAM,

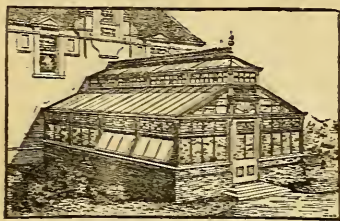
With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Durable Boilers in the Market.

Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,
General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

RICHARDSON'S



HORTICULTURAL BUILDINGS.

The Most Complete Illustrated
NEW CATALOGUE.
 Conservatories, Greenhouses,
 Vinerias, Peach Houses,
 Stoves and Orchid
 Houses, &c. Also
 Boilers, Pipes,
 and all
 Fittings.
 Many
 PRIZE METALS.
 Temporary London
 Office and Exhibits—
 Stand 14, Group A,
 International Horticultural
 Exhibition.

W. RICHARDSON & CO.,
 DARLINGTON.



JAS. BOYD & SONS,
 HORTICULTURAL BUILDERS
 AND HEATING ENGINEERS,
 PAISLEY.

HORTICULTURAL STRUCTURES
 of every description,
 in either Wood or Iron,
 or both combined.



Wooden Chapels,
 Shooting Lodges, Cottages,
 Tennis Courts, Verandahs, &c.

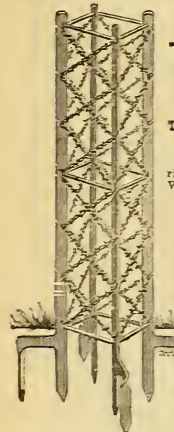


Hot-water Apparatus
 for warming Churches,
 Schools, Public Buildings,
 Mansions, Harbours, Rooms,
 Drying Rooms, Hothouses, and
 Buildings of every Description.
Illustrated Circulars
 Post-free.

Complete Catalogue, 3s.

HILL & SMITH,

BRIERLEY HILL,
 STAFFORDSHIRE,
 And 113, QUEEN VICTORIA STREET, LONDON, E.C.



NEW PATTERN TREE GUARD, "The Porcupine."

The maximum of utility and
 the minimum of cost.

Constructed of Strong Iron Up-
 rights and Galvanised Barbed Steel
 Wire.

Price 10s. 6d.

TESTIMONIAL.

"The Whittiers, Herefordshire,
 "Dec. 28, 1887.
 "DEAR SIR,—I have now had
 an opportunity of trying
 your PORCUPINE TREE
 GUARDS, and they seem
 quite to answer my pur-
 pose, so you may send me
 50 more as before. I en-
 close cheque for your
 account.

Yours truly,
 RICHD. GREEN.
 Messrs. Hill & Smith.

GARDEN REQUISITES.—
 Sticks, Labels, Virgin Cork, Raffia, Mats, Bamboo
 Canes, Rustic Work, Manures, &c. Cheapest Prices of—
 WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

Cattleya Mossiæ in bloom!

OVER 1000 FLOWERS NOW OPEN.

HUGH LOW AND CO. cordially invite inspection of the above, and
 many other CHOICE ORCHIDS NOW IN FLOWER, by all Gentlemen interested in
 their culture.

CLAPTON NURSERY, LONDON, N.E.

SANKEY'S famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong
 and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden
 Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your
 'Garden Pots,' and still find them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10
 Orders. Half Carriage on £5 Orders. Samples Free.



PRICES of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
ARMOURD.—The Excelsior Wire-Armoured Hose secures
 a Perfect grip, will not uncoil when cut at any part, stands
 enormous pressure, and wears for years. Prices:—
 1-in. dia., best quality ... 28/0 1-in. dia., ex. stout qual. 52/0
 1 1/2-in. dia., best quality ... 21/5 1 1/2-in. dia., ex. stout qual. 52/0
 2-in. dia., best quality ... 45/0 2-in. dia., ex. stout qual. 60/7
PLAIN.—Unlinkable Smooth-Surface Hose, will not
 crack. Is made of pure rubber and canvas. Quality guaranteed.
 1-in. dia., specially cheap 18/3 1-in. dia., best quality ... 28/0
 1 1/2-in. dia., best quality ... 21/5 1 1/2-in. dia., ex. stout qual. 52/0
 2-in. dia., best quality ... 45/0 2-in. dia., ex. stout qual. 60/7
 All Hose Carriage Paid and despatched same day as order is received.
 Oldest and most RELIABLE HOUSE in the TRADE.
 Also Maker of Hose for Delivery, Steam, Fire, Suction, and Liquid Manures, &c. Supplied to all the Principal Corporations,
 Parks, Estates, &c., at Home and Abroad. Over 3,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING,
 ROOFING FELTS, SACKING, &c., Post Free. MAKER TO HER MAJESTY THE QUEEN.

ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

HORTICULTURAL BUILDER.

Every description of GREENHOUSES, LIGHTS, &c.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft.,
 iron bars across and very strong. 4s. 6d. each, 50s. doz., £10 for
 50 light, free on rail in London. Cash or ex. change with order.

CUCUMBER HOUSES.

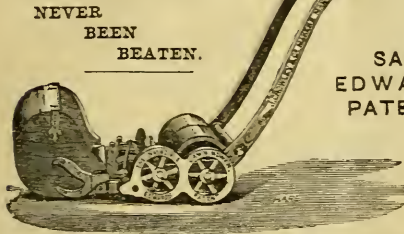
Timber sufficient to build 100 feet by 12 feet house, lights,
 door, &c., Put on rail in London. Price, £9 10s. Send
 for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.



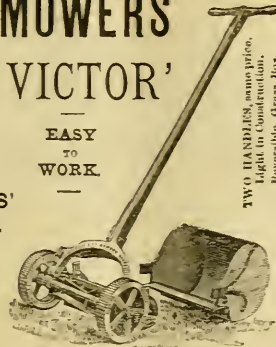
Send for Illustrated Catalogue, just issued.

GOLD MEDAL LAWN MOWERS 'INVINCIBLE' 'VICTOR'



NEVER
BEEN
BEATEN.

SAM'L
EDWARDS'
PATENTS.



EASY
TO
WORK.

TWO HANDLES, same price,
Light to Construct, &
Invaluable Grass Bar.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

DURABILITY OF STEEL. FLEXIBILITY OF INDIARUBBER.
THE ORIGINAL AND ONLY GENUINE PATENT

SPHINCTER GRIP HOSE

"HERCULES" BRAND (Regd.).

DURABILITY & SUPERIORITY Over all Other HOSES GUARANTEED. (See Warranty).



"Are you not afraid those children will injure the Hose or stop the water?"
"Oh, no! This SPHINCTER GRIP ARMOURD HOSE will stand anything. It is far superior to any other Hose I have used, seen, or heard of."

Contractors to all Departments of Her Majesty's Government and the Horticultural and Agricultural Societies. Hundreds of Unsolicited Testimonials.

BWARE OF WORTHLESS IMITATIONS, and send for ILLUSTRATED and DESCRIPTIVE CATALOGUE (sent free on application) of HOSE and GARDEN WATERING APPLIANCES and FITTINGS of every kind.

MR. JOHN KNIGHT, Rose of Kent Nurseries, Dartford, writes, April 26, 1892, ordering a supply of our "A Quality" Hose:—"I had no end of trouble with another firm's make of Garden Hose last year; it wore clean out in less than three months—went into hundreds of holes in this time—so that I do not want anything of the sort again."

HIGHEST AND ONLY AWARDS:

London, 1887; Paris, Birmingham, & Brighton, 1889; London, Edinburgh, & Birkenhead, 1890; Antwerp, 1891.
No Exhibition Medal or Award has ever been secured by any other firm for Armoured Hose.

SPHINCTER GRIP ARMOURD HOSE CO., Ltd.,
OFFICES and SHOW ROOMS—**9, MOORFIELDS, LONDON, E.C.** Works—LONDON and NORTHAMPTON.

WE ARE THE ONLY LAWN MOWERS BY ROYAL WARRANT. MAKERS OF APPOINTED WARRANT. MAKES TO HER MAJESTY THE QUEEN AND HIS ROYAL HIGHNESS THE PRINCE OF WALES.

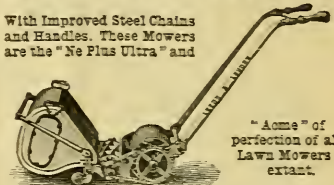
GREEN'S PATENT "SILENS MESSOR" LAWN MOWING MACHINES

ARE THE
FIRST, FOREMOST,
AND
BEST IN THE WORLD.

ALSO
TENNIS COURT MARKERS
AND
GRASS EDGE CLIPPERS.

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains and Handles. These Mowers are the "No Plus Ultra" and



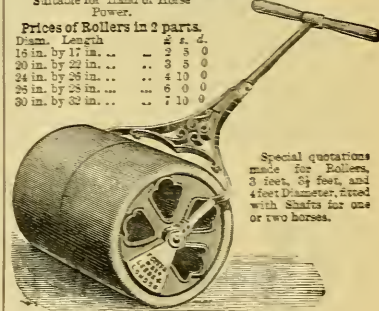
"Acme" of
perfection of all
Lawn Mowers
extant.

They have stood the test for upwards of thirty years, and have carried off EVERY HIGHEST PRIZE which has been given in all cases of competition.

GREEN'S Patent ROLLERS,
For Lawns, Drives, Bowling Greens, Cricket
Fields, and Gravel Paths, &c.

Suitable for Hand or Horse
Power.

Prices of Rollers in 2 parts.		
Diam.	Length	s. d.
14 in. by 17 in.	..	2 5 0
20 in. by 22 in.	..	3 5 0
24 in. by 26 in.	..	4 10 0
28 in. by 28 in.	..	6 0 0
30 in. by 32 in.	..	7 10 0



Special quotations
made for Rollers,
3 feet, 4 feet, and
4 feet Diameter, fitted
with Shafts for one
or two horses.

Price Lists on Application.

They can also be had of any Ironmonger, Merchant, or Factor,
in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments
for the Trade, as well as Others.

THOMAS GREEN & SON,
LIMITED,
LEEDS AND LONDON.

BARR'S SEEDS, BULBS AND PLANTS.
VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION.
FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION.
BULBS.—Gladioli, Lilacs, Anemones, Ranunculus, Hyacinthus candicans, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.
PLANTS.—Michaelmas Daisies, Perennial Sunflowers, Double and Single Peonies, Irises, Oriental Hellebores, Carnations, &c. LISTS FREE ON APPLICATION.
BARE AND SON, 12, King Street, Covent Garden, London.

ORCHIDS A SPECIALTY.—Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants.
W. L. LEWIS AND CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

FERNS
If you wish to have a CHOICE, VARIED & BEAUTIFUL COLLECTION OF FERNS different from those commonly seen you can obtain such from
W & J. BIRKENHEAD.
FERN NURSERIES SALE, MANCHESTER who have 1400 DIFFERENT KINDS to select from. CATALOGUE ON APPLICATION.

Seeds for Present Sowing.
DICKSON AND ROBINSON'S
Superb Strains of the following are unsurpassed:—
CALCEOLARIA, CISTERARIA, and PRIMULA, Red, White, and Mixed Colours, each 1s. 6d. and 2s. 6d. per packet, post-free.
EXHIBITION DWARF EVERGREEN LAWN GRASS, per lb. 1s. post-free, 1s. 3d.; per cwt., 100s., carriage paid.
Descriptive Priced CATALOGUE, post-free, on application.
Seed Warehouse, 12, Old Millgate, Manchester.

JUST arrived from the Brazils, FRESH SEEDS
of
COCOS WEDDELIANA, CARIOTA URENS, LATANIA BORBONICA, LATANIA RUBRA.
For Sale in Small or Large Lots.
Apply to—
E. WAHNCAP, Hamburg, Steckelhorn, No. 9.

EARL'S COURT, LONDON.

INTERNATIONAL HORTICULTURAL EXHIBITION, And BUFFALO BILL'S WILD WEST.

Chairman of the Executive Committee—H. E. MILLNER, F.L.S., Assoc. M.Inst.C.E.

A FLORAL FAIRYLAND.

ALL THE FLOWERS THAT GROW.

THE GARDENS OF OLDEN TIMES REPRODUCED.

ELECTRIC FOUNTAINS. THE FLORAL MAZE.

Leafy Avenues and Floral Bowers.

THE FINEST ENGLISH AND FOREIGN BANDS

WILL PLAY EVERY AFTERNOON AND EVENING.

FOR DETAILS, SEE DAILY PAPERS.

BRILLIANT ILLUMINATIONS.

BATTLES OF FLOWERS.

THE MOST DELIGHTFUL PROMENADE IN LONDON.

All the LEADING NURSERYMEN represented by their FINEST SPECIMENS; EVERY DESCRIPTION OF FLOWER and FOLIAGE being contributed, including Palms, Ferns, Flowering Shrubs, Insectivorous Plants, &c., from the RAREST TROPICAL EXAMPLS to the COMMONEST NATIVE PRODUCTIONS.

ADMISSION:—ONE SHILLING, including one of 2500 FREE SEATS at **BUFFALO BILL'S WILD WEST.**
Season Tickets, 10/6, now ready. **GATES OPEN** from 11 a.m. to 11 p.m. Secretary—G. A. LOVEDAY, B.A.

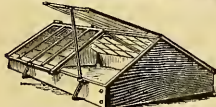
BOULTON & PAUL, NORWICH.

No. 60.—PORTABLE PLANT PRESERVER.



6 ft. by 3 ft. £2 0 0 | 6 ft. by 4 ft. £2 5 0
12 ft. by 3 ft. 3 2 0 | 12 ft. by 4 ft. 3 15 0

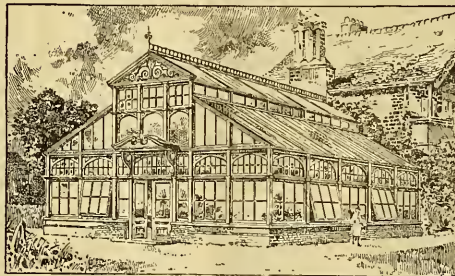
No. 73.—New Span-roof GARDEN FRAME.



4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 14 0
8 ft. by 6 ft. 4 4 0 | 16 ft. by 6 ft. 7 4 0
All Frames made of selected Red Deal, painted three times, and lights glazed with 21-oz. sheet glass.

CUCUMBER FRAME LIGHTS.
6 ft. by 4 ft., glazed and painted ... 14s. each.
Un glazed and unpainted ... 8s. 6d. each.
Carriage Paid on Orders of 40s. value.

**WINTER GARDENS, CONSERVATORIES,
FERNERIES, ORCHID-HOUSES, PEACH-HOUSES, VINERIES,
and GREENHOUSES, in all styles.**



No. 77.—Frames { 6 ft. by 4 ft. £1 15 0
9 ft. by 4 ft. 2 7 6
12 ft. by 4 ft. 3 0 0
BOILERS of all makes and sizes supplied at the cheapest rates. VALVES, PIPES, and FITTINGS ALWAYS IN STOCK.

No. 74.—THREE-QUARTER SPAN GARDEN FRAME.



4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 17 0
8 ft. by 6 ft. 4 5 6 | 16 ft. by 6 ft. 7 8 6

No. 75.—MELON AND CUCUMBER FRAME.



4 ft. by 6 ft. £2 0 0 | 12 ft. by 6 ft. £4 3 0
8 ft. by 6 ft. 3 0 0 | 16 ft. by 6 ft. 5 6 0
Wall Fruit Tree Protectors, Hand Lights, Propagating Glasses, &c.

CATALOGUES of all our Manufactures, including Horticultural Buildings and Appliances, Iron Buildings, Poultry and Kennel Requisites, &c. Carriage Paid on Orders of 40s. value.

HEATING! HEATING!! HEATING!!!

THE THAMES BANK IRON COMPANY

Undertake the complete erection of **HEATING APPARATUS** for **GREENHOUSES, OFFICES, PUBLIC BUILDINGS, &c.** Have the largest stock of **BOILERS, PIPES, and CONNECTIONS** in the Trade to select from, and invite inspection of same.

BOILERS of the latest and most approved class, including the

PATENT HORIZONTAL TUBULAR, with WATER BARS; CAST-IRON SADDLE, with WATERWAY-END, Etc.; VENTILATING GEAR and VALVES.

In the event of a Pipe requiring to be replaced in the Patent Horizontal Tubular Boiler, an arrangement has been perfected whereby same may be effected in the course of a few minutes, without the necessity of disturbing the brickwork setting.

ILLUSTRATED CATALOGUE, 1s. PRICE LIST FREE.

UPPER GROUND STREET, BLACKFRIARS, LONDON, S.E.

Telegraphic Address—"HOT-WATER, London."

Telephone. No. 4763.

NOTICE TO THE SEED AND NURSERY TRADE.

OUR NEW WHOLESALE CATALOGUE,

CONTAINING

Illustrations of Novelties, and Prices of Sundries generally, being NOW READY, we shall be pleased to send a copy gratis to any Firm who have not already received one.

CORRY & CO., Ltd.,

13, 15, and 16, FINSBURY STREET,
LONDON, E.C.

EDWARD LEIGH, Cranleigh, Surrey, will supply the next few weeks, plants at the following low rates, carriage paid, for cash with order:—Double CARNATIONS, PICOTEES, FANIES, splendid show varieties (simple blooms, 6d.), 1s. per doz., 5s. per 100, 40s. per 1000. Longellow Double DAISY, PURPLE ARABIS, DIANTHUS HEDEWIGII, VIOLAS (Black, White, Sky-blue, Yellow), also Mixed, 1s. per dozen, 4s. per 100, 20s. per 1000. ALYSSUM SAKATILE, SWEET WILLIAM (choicest varieties), 9d. per dozen, 3s. per 100, 20s. per 1000. WALLFLOWERS (many best varieties), 9d. per dozen, 2s. per 100, 15s. per 1000. HERB PLANTS: Sage, Winter Thyme, Winter Savory, 1s. 6d. per dozen, 3s. per 50, 5s. per 100. Above are good year-old plants, from open ground. Send for LIST of Flower, Vegetable, and Herb Plants.
EDWARD LEIGH, Cranleigh, Surrey.

PAUL & SON'S NEW CHESHUNT ROSES, 1892

Ready in Pots, May 20.

H.P. VIOLET QUEEN, 7s. 6d. each.

HYBRID, FRANCES BLOXAM, 5s. each.

And ready during summer.

SWEET BRIAR, JANET'S PRIDE, with semi-double, shaded with lake, flowers. First-class Certificate R.H.S., 5s. each.

"OUR" NEW ROSES of 1891.

BOURBON MRS. PAUL, 3s. 6d. each, 30s. per dozen.

H.P. BRUCE FINDLAY, 3s. 6d. each, 30s. per dozen.

The New Giant Indian Single Rose, ROSA GUANTEA, with flowers 5½ inches across, and making in India and the Temperate House at knee shoots of 50 feet, 3s. 6d. each.

New French and English Roses of three previous years, 18s. to 40s. per dozen.

CACTUS DAHLIA, Claxton's Harlequin.

Three First-class Certificates. "Yellow striped with crimson." A first-class novelty. 3s. 6d. each.

NEW ROSE and SPRING LISTS Post-free, on application.

THE "OLD" NURSERIES, CHESHUNT, N.

SPECIAL TRADE OFFER OF PALMS.

ARECA LUTESCENS, in 4½, 18s. and 24s. per dozen.

" " in 40's, 3 feet, 30s. per dozen.

" " in 32's, 30s. and 42s. per dozen.

CORYPHA AUSTRALIS, in 32's, 30s. dozen.

" " in 45's, 15s. dozen.

KENTIA, in 48's, 24s. per dozen.

LANTANA BORNEO, in 48's, 18s. and 24s. per dozen.

" " in 40's, 30s. per dozen.

" " in 32's, 30s. and 42s. per dozen.

SEAFORTHIA ELEGANS, in 48's, 18s. and 24s. per dozen.

" " in 32's, 30s. per dozen.

" " in 24's, 7s. 6d. each.

FICUS ELASTICA, 3 feet, in 32's, 24s. dozen.

" " 4 feet, 36s. dozen.

All the above are exceedingly strong, and well-grown. Packing free for cash with order.

J. ROCHFORD, Page Green Nursery, South Tottenham.

DAFFODIL BULBS,

FOR FORCING PURPOSES.

Hartland, of Cork, is now raising his Crop of Ard-Righ and Countess of Annesley, Golden Plover, &c., for the Trade, and shall be glad of immediate Orders. The Bulbs are simply magnificent. Please write for Prices and Samples.

Daffodil Grounds at Ard-Cairn.

WM. BAYLOR HARTLAND, F.R.E.S., Seedsman, Cork.

MICHIGAN ORCHIDS, FERNS, SHRUBS and TREES, BOG PLANTS, and AQUATICS, for Parks, Flower Gardens, Bookeries, Bogs, Ornamental Waters, and Carp Ponds. The World's Columbian Exposition buys them.

Retail, Wholesale, and Carp Pond CATALOGUES, each free.

WILFRED A. BROTHERTON,

ROCHESTER, MICH.



NEW ROSES.

WM. PAUL & SON

Respectfully Solicit Orders for the following First-class NEW ROSES, their introductions of 1892 & 1891, Plants of which are Now Ready:—

SPENSER (H.P.), Three First-class Certificates; Award of Merit Royal Horticultural Society; fine Satin-Pink, magnificent and effective. 10s. 6d. each.

LADY HENRY GROSVENOR (H.P.), Award of Merit Royal Horticultural Society; Flesh-colour; exceedingly free. 7s. 6d. each.

ZENOBYA (Hybrid Moss), Soft Rose, large and handsome; a fine addition to the Moss Roses. 5s. each.

CLIMBING QUEEN OF QUEENS (H.P.), a Climbing Sport of the elegant Pink-Rose Queen of Queens. 3s. 6d. each.

SALAMANDER (H.P.), Gold Medal National Rose Society; Bright Scarlet Crimson; very brilliant and attractive. 3s. 6d. each.

MEDEA (Tea-Scented), First-class Certificate; Lemon-Yellow, with Canary-Yellow centre. 3s. 6d. each.

WABAN (Tea-Scented), Award of Merit, Royal Horticultural Society; a Carmine Sport from CATHERINE MERMET; excellent. 3s. 6d. each.

The New CONTINENTAL ROSES of 1892. 2s. each, 30s. per dozen.

The New CONTINENTAL ROSES of 1891. 2s. each, 21s. per dozen.

For full descriptions of the above, and particulars of other New Roses, see DESCRIPTIVE CATALOGUE, which will be forwarded Post-free on Application.
N.B.—All other New Roses can be supplied at advertised prices.

A Large General Collection of ROSES IN POTS, for Planting-out, Climbing, and Pot Culture, 9s. to 18s. per doz.; Extra Strong, 24s. to 42s. per dozen.

PAUL'S NURSERIES, WALTHAM CROSS, HERTS.

TRADE OFFER OF PALMS.

COCOS Weddelliana, in thumbs... .. at 20s. per 100.

" " in 60's, at 55s. per 100.

KENTIA Fosteriana & Belmoreana, in thumbs, at 20s. per 100.

" " in 60's, at 60s. per 100.

" " in 48's, at 24s. per doz.

" " in 32's, at 48s. per doz.

SEAFORTHIA Elegans, in 60's, at 32s. per 100.

" " in 48's, at 48s. per 100.

W. Jeceton has a fine Stock of Asparagus plumosus aureus, in 48's and 60's; Pandanus Veitchii, Draecena Lindenii, and Ficus elastica.—W. JECETON, Putney, S.W.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

ORCHID EXHIBITION.—Now OPEN.

ORCHID EXHIBITION.—Admission Free.

ORCHID EXHIBITION.—One of the most beautiful sights in London.

ORCHID EXHIBITION.—A vision of loveliness unparalleled in Europe.

ORCHIDS.—Must be seen to be realised.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

SPLENDID

NEW DWARF BEDDING TROPÆOLUM,

"**MRS. CLIBRAN,**"

The finest new, soft-wooded plant sent out for years.

See last or next week's advertisement;

Or, send for CATALOGUE No. 115, containing full description and price.

CLIBRAN'S OLD-FIELD NURSERIES, ALTRINCHAM;

10 & 12, MARKET STREET, MANCHESTER;

and Principality Nurseries, Llandudno Junction.



THE

Gardeners' Chronicle.

SATURDAY, JUNE 18, 1892.

FLOWER DISTILLATION AT GRASSE.

(Specially Contributed.)

RECENTLY, a visit was paid by the writer to Grasse, the celebrated flower-producing land of the Riviera. Twice previously the neighbourhood had been visited, but not the town itself, nor its blossoming uplands. The train is taken from Cannes, and in about forty-five minutes the district of perfumery-makers is reached. The railroad is a climb nearly all the way, so that the dozen or so miles to be covered takes time for the train to rumble over.

Grasse gained, an inspection was made of some of the principal flower-distilleries. Among the more important is the concern of Roure-Bertrand et fils, noted as a house for the pureness of its extracts of flowers and essences. Mona. Roure, junior, acted as guide over the extensive establishment, explaining the multiplicated mechanism used in the factory, and revealing part of the vast stores of products already made. In the production of Rose essence, he said 10,000 to 12,000 kilos. of Roses were needed to make 1 kilo. (2½ lb.) of extract. This was sold at the high price of 2,000 francs (£80, or \$400) per kilo. It is the dearest of all the "first matters," or *matières premières*, used by manufacturers of perfumery. In fact, it is such a costly article to handle, that but a few firms can afford to manipulate it. Generally, it is only made on order given a long time in advance of the month of manufacture, which is May. The attar of Roses made in Turkey is the *cicecone* went on, stronger than that made in Grasse, but not so fine. Probably because in the dwindling Ottoman State they have not the perfected machinery which prevails in the Alps—Maritimes department—machinery which, to their further credit, be it noted, is locally made.

In the Grasse country, acres of certain regions are laid out for the growing of the hosts of different flowers which go to make the numerous perfumes for which the town is noted. Violets and Narcissus are especially cultivated and brought in by tons; as a rule, only the unequalled "Parma" Violets are sent into the still; all others are considered too weak, odoriferously, to merit the steaming process. These pale-blue fragrant "Parma" Violets do not come from Italy, but are grown in the immediate neighbourhood. According to the supply and demand, or according to whether it is a good or bad

season for their growth, these choicest of modest flowers are bought wholesale at from 2½ to 10 francs the kilogramme. Sometimes even 16 francs is paid (so the retailers, who are not particular as to fact, will say). But at, say, 3 francs the kilogramme of 2½ lb., a private person on the spot might, if so favoured by the grower (who may hesitate to sell to particular individuals), have enough Violets to form forty or fifty of the small bunches, for which he would have to pay from 30 to 75 centimes per *bouquette* to the street vendor. These retailers—big and little—make money while the flowers last. Of course, when they buy them of the producers at 3, 4, or 5 francs per kilogramme, the Violets are in a confused, entangled mass. They have to make them into neat and pretty bunches to make them saleable, and manage to dispose of them for at least an advance, in all, of 25 to 30 francs. If they sell all, they have a profit of from 20 to 23 or 26 francs. Their risk in having any over, which may wither and become unsaleable as fresh flowers, is now reduced to a minimum, for all the old and stale Violets are disposed of cheaply to the sweetstuff-manufacturer, who steams them in and coats them pretty thickly with flavoured sugar, and then sells such at a high price as “confitures of Violets.”

Neither in Britain nor in the United States has the writer ever seen a battle of flowers, nor does he believe such a *fête* is an institution to be found in those countries. In the Latin-American Republics, yes—the *batalla de flores* is becoming common enough there. But it is in these Riviera visitors' resorts that the *batalla des fleurs* is to be seen at its best. All the towns and townlets have two or three per year. Prizes are awarded for the best shows made, the money prizes or banners (as the case may be) being paid for by the municipality of the town. It is expensive fun, this peltling of each other with loose and small bouquets of flowers. Thousands of francs are thus pitilessly wasted. Though sad is the waste, it is of great benefit to one class of citizens—the florists; they do the roaring trade on these occasions. Then, it is private rich people who spend the money, not the commune; so the expense does not fall on the people.

Carriages and horses present a very pretty sight during these flower-battles. Every sort and condition of equipage will be seen, from the wagonette to the go-cart—most artistically bedecked with flowers. The vehicle is almost hidden by garlands of Roses, Violets, Narcissi, Lilies, &c. In most cases, the harness of the horses is also covered with floral tributes. Wealthy and plebeian take part in the diversion; the costermonger will be there with his vegetable “brougham,” the opulent foreign resident with his mail-coach, and both conveyances so weighted down with the offerings of Nature as to appear quite as good as each other. Further, types of vehicles are temporarily made for the day, which one would never dream of seeing on other occasions; they are veritable curiosities of carriage construction. The best flower corsos are to be seen at Nice, Cannes, Monte-Carlo, and Mentone. Fine souvenir views of these are obtainable in Cannes of the photographer, at Boulevard de la Croisette, 8 (F. Carbasse); and of I. Colombi, Promenade des Anglais, 15, Nice; also W. Bray, Rue Centrale, 57, Cannes.

The principal houses in and about Grasse interested in the raising of flowers of every kind from which suitable essences are extracted, are the following (all in the Avenue des Capucins):—Robertet Concern, A. Pilar, Lautier Fils, Hugues-Guizet, J. Hugues, A. Chiris,

Veuve Cavalier, and B. Roure. There are nearly a score of other firms, of more or less extent; but in the foregoing list, it will be found that the leading trading firms have been fairly summarised.

The best time to visit Grasse is, of course, in advanced spring. Then all is an undulating forest of flowers. The air is filled with a thousand fragrant odours. A three weeks' sojourn spent during the spring-time in this country will never be forgotten. While there, one should get out and about as much as possible; take evening walks along the well-kept lanes, crossing the flower-reserves, when the sweet perfumes are the most powerful and best appreciated. The visitor should never make the ignorant mistake of sleeping with closed windows. Leave them in fine weather wide open all night, and half-open during wet or damp nights. Take no notice of those silly know-nothings who say the nocturnal air is dangerous.

Being situate on a gentle slope of an offshoot of the Maritime Alps, the view of Grasse and vicinity is highly picturesque. It offers ever-changing and charming prospects with every hundred metres the tourist ascends. Up on the hills above the town a magnificent view is had of the town, with its numerous important and busy perfumery manufactories, surrounded on all sides by flower-clad lands, a smiling valley at the foot, and a range of hills closing the view to the sea.

It is a very pretty sight, that of seeing the harvesting of the flowers for the distiller. The flowers are brought into sheds, heaped on long tables, and every grade of poor woman-kind set to work sorting them (see fig. 112). They are so scantily paid, that they can barely exist. Their employers verily exploit and sweat them. Old and young women, little boys and girls—all are at it earning a miserable pittance. On following the carloads of flowers into the distilleries, one will be first pleased with the sense of the all-pervading perfume. But getting right inside, and into the depositing sheds, it becomes too much of a good thing: the odour is so strong and rank as to lose its fineness to the sensitive nasal organs, and becomes nothing more than a strong, almost nauseous smell, permeating everything damp—even your handkerchief, although you may not have taken it from your pocket.

Many beautiful private gardens are found in the Grasse district. The natives, being naturally skilful horticulturists, they make their garden models of good culture and work.

For the verification of a few forgotten names of Grasse flower-people and makers of perfumery, the writer acknowledges his indebtedness to the yearly publication of the Rue Clotilde, 1, Nice, known as *l'Annuaire des Alpes Maritimes*, L. A.

EURYBIA GUNNIANA.

If this subject can be afforded a position near to a wall, it repays one with a profusion of bloom at this season of the year; or if need be, it may be grown in pots, and gently forced into bloom quite early in the year. It may easily be grown from cuttings taken in the month of August and dibbled into 6-inch pots, in prepared sandy soil, and placing them in a frame, from which frost can be excluded. In the spring these may then be potted and grown on. Where white flowers are in demand, this is a most useful plant, although too tender for full exposure. *H. May, Markree Gardens, Collooney, Ireland.*

NEW OR NOTEWORTHY PLANTS.

ALOE AURANTIACA, n. sp.*

THIS is a fine new species of Aloe from the Cape, intermediate in habit between A. arborescens on the one hand, and on the other, A. ciliaris and tenuis. I first saw it growing in the celebrated garden of Mr. Thomas Hanbury, at La Mortola, last November, and mentioned it in my paper in the *Kew Bulletin*, 1892, p. 10. Now Mr. Hanbury has kindly sent me a plant in flower, from which the present diagnosis and description have been drawn up. Stem suberect, several feet long, ¾ inch diameter. Leaves approximate on the upper part of the stem; internodes about ½ inch long, white, with faint shades of green; blade lanceolate, erecto-patent, 8 to 9 inches long, 1½ inch broad low down, narrowed gradually to the point, apple-green, not at all glaucous, not spotted nor striped, flat near the base only, ¼ inch thick, margined with minute pale green deltoid teeth. Peduncles as long as the leaves. Racemes very dense, 5 to 6 inches long, 2 inches diameter; flowers bright yellow, just tinged with red in a young state; pedicels very short; bracts minute. Perianth cylindrical, 1½ inch long; tube short, campanulate; inner segments flat, linguulate, outer narrower and complicate. Stamens exerted half an inch; filaments and anthers yellow. Style finally protruded beyond the stamens. *J. G. Baker.*

PLANTS IN FLOWER AT KEW.

Rhododendrons.—The collection in the Dell has lately been most attractive with flowers. Besides the popular garden kinds, there are also several of exceptional interest, the best of them perhaps being one of those shown recently at the Drill Hall, and which is a hybrid between R. Fortunei and R. Thomsoni. This beautiful plant was raised by Mr. Luscombe some twelve years ago, and was shown at a meeting of the Royal Horticultural Society by the late Mr. Mangles several years since. It has not yet received a name, so far as I can ascertain, so we propose to call it R. Luscombei X. Another hybrid, which has flowered well this spring, is R. kewensis X, raised at Kew from R. Aucklandii and R. Hookeri. It is not quite hardy at Kew, the late frosts nipping the young shoots, but in milder localities it would, no doubt, thrive out-of-doors; it has all the charm of R. Aucklandii plus a tinge of deep rose, which it derives from its other parent. R. Aucklandii has been beautiful in the temperate-house; it has, in my opinion, no equal among Rhododendrons. R. glaucum, a dwarf small-leaved shrub, with raspberry-coloured flowers, is perfectly hardy. R. ferrugineum, the Alpine Rose, and R. cinnabarinum (Blandfordiaeflorum) are also flowering. We can go a good deal further in the matter of the hybridisation of Rhododendrons than we have got up to the present.

The American species of Azaleas have been better than ever this year. A. rhombifolia, a deciduous-leaved Chinese species, with bright mauve flowers, has been a mass of bloom for the past fortnight.

Solanum Wendlandii.—This is grand in the Water Lily-house, and also in No. 5, where it has been a feature for the last three summers. For those who do not know it, it may be described as a robust, somewhat succulent stove climber, with large lacinated leaves of a green colour, and enormous corymbs of purple-blue flowers, which are borne freely during the whole of the summer.

Sreptocarpus Dunnii.—The large-leaved species, with crowded masses of brick-red flowers, is now flowering freely in the succulent-house. It is certainly the most remarkable plant in the genus,

* *Aloe aurantiaca*, n. sp.—Caulis erecto elongato valido, foliis segregatis ascendebus lanceolatis viridibus concoloribus; aequalis marginalibus parvis deltoidis viridibus vagiis albis striis viridibus; pedunculo foliis aequilongio racemo densissimo floribus aurantiacis deflexis; pedicellis brevissimis; bracteis minutis; perianthio cylindrico tubo brevi campanulato, genitalibus longe exsertis.

if not exactly the most ornamental, for the habit is sprawling.

Tricuspidaria Hookeriana is flowering well in the conservatory (No. 4), where there is a large bush of it, 4 feet in diameter, now bearing scores of drooping, fleshy, urceolate, crimson flowers. A smaller plant of it is flowering in the temperate-house.

Cineraria aurita, in the conservatory, and *C. lanata*, in the temperate-house, are special attractions. The former is a noble-looking greenhouse annual, and valuable as a source of cut flowers. As much may be said for the second named species, which has the additional charm of fragrance, besides being perennial.

Primula imperialis, the true Java plant, is again flowering in the T range. This Primrose, it may be remembered, has leaves 16 inches long, and a stout erect scape 3 or 4 feet high, bearing whorls of yellow flowers.

stove are as good plants as *Eucharis*, the former especially, which has a head of ten flowers, each as large as those of *Eucharis candida*, and of sparkling white. Both species come from tropical Australia, and will thrive in the stove. They must be kept dry for a few weeks after the leaves wither.

Amorphophallus campanulatus.—About a dozen flowers of this plant have lately been open in the Water Lily-house. They are singular-looking objects, like inverted bells, but they have not an agreeable odour; a heathenish friend the other day remarking that they were, no doubt, the "pigs" of the vegetable kingdom.

Aristolochia Goldiana, &c., another big-flowered evil-smelling plant, has just produced a fine flower; *A. longifolia*, *A. brasiliensis*, *A. hians*, and several other species, are still in bloom in the Palm-house. *Nelumbium speciosum* and several of the *Nymphaeas* are already in flower. Talauma Candollei, with its

ORCHID NOTES AND GLEANINGS.

CYPRIPEDIUMS IN HANGING BASKETS.

AN effective feature in the well-arranged conservatory at Benham Park, Newbury, is made by baskets of *Cyripediums*, which are arranged around the structure. Mr. Howard, the gardener, informed me that they had been in their present position for some years. They are evidently at home thus treated, for the plants are in robust health, and bloom freely, some of the individual flowers measuring from 5 to 6 inches across. The species are *C. insignis*, *C. barbatum*, and *C. villosum*. *J. B.*

CYPRIPEDIUM × CHRYSOCOMES, Hort.

In the collection of R. H. Measures, Esq., of The Woodlands, Streatham, may be seen at the present time a fine series of the species and hybrids of the



FIG. 112.—DISTILLATION OF PERFUMES AT GRASSE: SORTING ROSE BLOOMS. (SEE P. 779)

Protea nana.—This plant is found in the Cape-house, and almost every one of its many shoots is terminated by a drooping scaly cup of a deep blood-red colour. It is a good plant for the cool greenhouse.

Pentapterygium serpens is equally fine, and is in the same house as the *Protea*. It has long, arching shoots, clothed with small Box-like leaves, and bearing numerous axillary pendent crimson, urn-shaped flowers, not unlike those of some of the Cape Heaths. It was introduced to Kew by Captain Elwes twelve years ago.

Hemantus Katherinea superba is a better stove plant than most persons imagine. It likes heat, moisture, and plenty of sunshine, and then it will grow freely, and produce its large globular heads of bright scarlet flowers every year. It is now finely in bloom in the Begonia-house.

Eurycles sylvestris and *E. Cunninghamii* in the

creamy *Magnolia*-like, deliciously fragrant blooms, is in the Palm-house, where also is the remarkable *Erythrochiton hypophyllanthos*, with its white, waxy flowers springing directly from the underside of the long leaf about half-way from the base, a most extraordinary looking thing.

Orchids.—There is a good display of interesting plants in bloom at present, including *Dendrobium clavatum*, *Cirrhopetalum Collettii*, *Bulbophyllum Lobbianum*, *Miltonia flavaescens*, *Disa tripetaloides*, *D. racemosa*, *Masdevallia Chestertonii*, *M. muscosa*, *M. cucullata*, *M. rosea*, *M. demissa*, *M. Svertiaefolia*, *Vanda Roxburghii*, *Epidendrum bicornutum*, *Aganisia incoptera*, *Oncidium lanceanum*, *O. macranthum*, *Sobralia* and *Herschellia coerulescens*, the blue *Disa*. There has also been a good show of North American *Cyripediums* in the cool Orchid-house until a few days ago. *W. W.*

Selenipedium group, and among them is a very handsome form bearing the above name. It is said to have been obtained from a cross between *C. caudatum roseum* and *C. × conchiferum*, which cross is also said to have produced *C. × nitidissimum*. The two, however, as compared side by side, are markedly different, which perhaps illustrates once more the sportive character of these secondary hybrids. The dorsal sepal of the present one is over 4½ inches long, and arches over, as in *C. caudatum*, which it also resembles in colour; while in *C. × nitidissimum* the same organ is erect, greener, and with much less undulate margins. This latter has also very flat, dark-coloured petals; while the lip has nearly parallel sides; the infolded side-lobes are richly spotted with brown, and the pouch is strongly suffused with the same colour. In *C. × chrysocomes* the petals are more slender, more twisted, and lighter

in colour; while the lip bulges more at the sides, and the colour is light yellowish-green, with fewer spots on the side lobes. The leaves, however, of the present one are much broader, which is clearly due to the Roetzli influence, and is not easily accounted for if the parentage is correctly understood. Mr. Measures is not the raiser of the plant, but the pedigree given is that received with it. Whatever its parentage, however, it is very distinct and handsome. *R. A. R.*

ORCHIDS AT BURFORD LODGE, DORKING.

In the pretty gardens of Sir Trevor Lawrence, Bart., M.P., the President of the Royal Horticultural Society, and in their commodious and well-kept houses, perhaps the most varied and interesting collection of Orchids in cultivation is to be found; for not only is it replete with the best varieties procurable of all the showy genera, such as *Cattleya*, *Lælia*, *Odontoglossum*, &c., but it embraces a large number of rare species which are generally said to be of only botanical interest, but which, when well grown and flowered, as here, never fail to command the admiration of florist and botanist alike. Take, for example, the genus *Epidendrum*. Some of the species are always making a good show; *Epidendrum Wallisii* and some others seem never to go out of bloom, and at present the genus is represented at Burford by these perpetual-flowering species, together with fine plants of *Epidendrum prismatocarpum*; the fine purple *E. evectum*, the scarlet *E. radicans* and their product the fine *E. O'Brienianum* ×, which grows to a great size, and produces its large heads of deep red flowers in profusion. Also in bloom were *E. elongatum*, *E. stenopetalum*, *E. tampense*, *E. aciculare*, the fine white *E. bicoloratum*, *E. variegatum*, *E. raniferum*, *E. arachnoglossum*, &c.

Cirrhopetalum, *Bulbophyllum*, and *Megacelium*, too, are continually producing some quaint and pretty flowers, which never fail to attract attention, and even at the present time there are among them in flower the singular *Megacelium falcatum*, the pretty little *Cirrhopetalum elegantulum*; a probably new yellow *Bulbophyllum* and other species. Taking the houses in rotation, in the first we come to a fine batch of *Vanda* teres in bloom, many being very dark-coloured varieties, while one is nearly white. In the same house, in flower, is a plant of the singular *Luisia volucris*, with its long erected petals; the pretty *Dendrobium tridenum*, and in a shady corner a grand batch of the fine vermilion *Habenaria militaris*, propagated at Burford—a triumph of cultural skill reflecting great credit on Mr. W. H. White, the grower, as indeed all the Orchids here do.

In the first cool-house, among many things of ordinary interest, we found the fine golden yellow *Odontoglossum Pescatorei* "Prince of Orange"; a noble specimen of the large yellow-lipped *Ocoidium Loxense*; a beautiful and distinct *Odontoglossum crispum*, with dead-white flowers, the petals bearing many little purple dots, and the sepals fewer of them. Here the noble *Maxillaria Sanderiana* has borne three flowers, and other *Maxillarias* are in bloom; while in a cool corner *Sobralia macrantha* is finely flowered, and in this cool situation its flowers are said to last considerably longer than in heat.

In the next cool house, in which the large boat-like rafts containing the fine specimens of the chimæra section of *Masdevallia* are suspended, we noted a large plant of *Oncidium bifolium* with many spikes, an equally good golden-yellow *O. auriferum*; some very large-flowered *Dendrobium Jamesianum*, *D. Falconeri*, the showy scarlet *Cochlidia Nozliana*, the fragrant yellow *Epiphora pubescens*, various *Miltonia vexillaria*, &c.

Prominent in the next house was a grand plant of *Calanthe Dominiana*, with twenty large heads of its pale blue flowers; here also many *Epidendrums* were in bloom, and on one side a fine lot of *Celogyne cristata*, among which some of the specimens, apparently from excessive vigour, are again pushing up numerous flower-spikes from the centres of the young growths.

In the next house a batch of *Miltonias* are thriving remarkably well, their large pseudobulbs plump, and not of that sickly yellow hue which these plants have when grown too warm. The main feature here was the fine pure white *Cattleya intermedia Parthenia*, which is one of the best white Orchids we have, but, unfortunately, extremely rare. A fine variety of *Celogyne speciosa*, too, is here, and also the bright yellow and brown *Oncidium Foerstermanni*.

In the *Dendrobium*-house there is a good show, in which the varieties of *Thunia Bensoniæ* are prominent, and one of them is probably the largest and richest-coloured known. *Thunia Marshalliæ*, *T. Veitchiana*, and others, too, are in bloom, with fine plants of *Dendrobium suavisimum*, *D. aduncum*, *D. Lowianum*, *D. secundum*, the curious *D. lamellatum*, *D. binoculare*, *D. transparens*, *D. Parishii albens*, *Oncidium Lanceanum*, *Celogyne pandurata*, &c. At the end is a group of *Cypripedium bellatulum*, *C. Godefroyæ*, and *C. niveum*; and on one side a fine lot of *Phalaenopsis*, among which in flower are a large variety of *P. Sanderiana*, *P. samatrana*, *P. Micholitzii*, and *P. Luddemanniana*. The large specimens of *Cypripedium* have exceptionally well bloomed. *C. Swainianum* ×, with many flowers; *C. marmorophyllum* ×; *C. Curtisii*, *C. Lawrenceanum*, *C. Stonei*, and beside it a vigorous plant of the rare *C. S. platytanum*; *C. selligerum majus*, &c.

Passing through other houses in which *Vandas*, *Aërides*, *Cycnoches*, *Catasetums*, *Lælias*, *Cattleyas*, &c., are in flower, we come to the lobby filled with fine forms of *Cattleya gigas*, making a great show; then through the little new house in which it is thought the rather troublesome *Lissochili* and *Eulophias* will thrive, we come to the house of seedling Orchids raised at Burford, all of which are in remarkably fine health. In this house the beautiful *Zygopetalum Lindenii* is in bloom, and the plants of *Phajus tuberculatus* thriving well. The *Masdevallia*-house also is literally glowing with colour. A glance through the rest of the glass-houses, under the able management of Mr. W. Bain, the gardener at Burford, showed the Burford Anthuriums in fine condition. In one of the stores a large lot of *Tydeas* and other gesneraceous plants are magnificent, the *Begonias* very fine, *Schubertia grandiflora* and other specimen flowering plants profusely bloomed, and the whole place in fine condition, the hardy herbaceous plants, which are extensively cultivated outdoors, giving a very bright display of flowers.

CANADA.

ORCHIDS AT THE HON. J. J. C. ABBOTT'S, MONTREAL.

Horticulture in Canada has steadily increased of late years, and with the rich collection of Orchids and other choice and valuable plants in the possession of the Hon. J. J. C. Abbott [since this notice was penned, Mr. Abbott has received the honour of knighthood, Esq.] now Premier of the Dominion of Canada, as an example of the highest order, I venture to think that the many readers of the *Gardeners' Chronicle* would like to hear of the numerous good things your correspondent saw when he last visited this (in Canada) well-known collection. On the fashionable Sherbrook Street, Montreal, the beautiful town residence of this enthusiastic patron of horticulture, is situated, and here are the conservatory and greenhouses which are managed by Mr. W. Wilshire. Mr. Abbott's hobbies are white-flowered Orchids, winter-flowering species of *Cattleya*, and all such fine foliage plants as *Heliconia aurea striata*, &c.

At the time I saw the gardens (May), the large conservatory was at its best, filled as it was with many handsome Palms and foliage plants, in the centre of which stood a noble specimen of *Latania borbonica*. Artistically arranged amongst these, with due allowance for contrast of colour, was a

remarkably fine lot of well-flowered Orchids, the most prominent being *Cattleyas*, some remarkably fine varieties of *C. Trianae* predominating, and yet it was somewhat late for the species. *Cattleya Skinneri* was well-flowered (fifty-two flowers), and a specially dark form of it, with a dark lip, and *C. Skinneri* alba, very delicately tinted, attracted the eye on entering the house. The favourite *Cattleya citrina* is grown in baskets, and, as seen here, the idea that this plant deteriorates under cultivation would be at once dispelled. One plant, with six fine flowers, reminded one of that fine *Tulip*, *chrysocolora* suspended by the stem, than aught else. *C. Mendeli*, *C. Mossii*, and the rare variety, *Wagneri*, the grandest of all white *Cattleyas*; also *C. Warneri*, and *C. chocoensis* seemed to be perfectly at home.

From the crossbars and trellises hung many well-flowered *Dendrobiums*, the old favourite, *D. Wardianum*, with the variety, *Lowii*, specially grand; *D. crassinode*, *D. thyrsiflorum*, and its variety, *Walkerianum*, far superior to the type, with its long closely-flowered racemes; *Dendrobium chrysotoxum*, a grand piece with twenty-one spikes; *D. superbum*, with forty-seven flowers, showed high cultural skill. I may also mention the neat and pretty *D. draconis*, not often seen; *D. crepidatum*, and the recent introduction, *Dendrobium Phalaenopsis*, of which Mr. Abbott has quite a number—the flowers come on the old wood, and they are a soft pink colour.

Epidendrum bicoloratum, so rarely observed in collections, is to my thinking, the best of the genus, a somewhat despised one. Its *Phalaenopsis*-like flowers contrast well with those of *E. vitellinum majus*. Near by, the fine arching spikes of *Odontoglossum Pescatorei* bowed to their more fortunate brethren, *O. citrosimum* and *O. c. var. album*, a specially good piece of which courted notice.

I must tell you also of a remarkable piece of *Trichopelia snavis alba* (true) carrying thirteen well-flowered buds of waxy whiteness. It is the best that I have hitherto observed.

Half a house is devoted to *Cypripediums*, and all the more popular species and varieties were well represented, some of them carrying many flowers. There were *C. grandæ* ×, *C. Boxalli*, *C. Sedeni candidulum* ×, *C. bellatulum*, a very fine dark-spotted variety; *C. Dayanum*, *C. Lawrenceanum*, and a variety named in honour of Mr. Abbott, *C. Lawrenceanum* var. *Abbottianum*, an immense flower, with deep vinous red markings; and last, but not least, the fine *C. Morganianum* and *C. Schroderi*.

Cymbidium Mastersonianum was well represented, and one plant carried eleven flowers; *C. eburneum* and *C. Lowianum* also held their own.

Among other too numerous to mention, all well flowered, were:—in the cold-house, *Ada aarantias*, and numerous varieties of *O. Alexandræ*. In the *Vanda*-house, the pretty *Vanda caroleusensis* was conspicuous, and vied with the gorgeous-coloured racemes of *Aërides Fieldingii*, and the more modest-coloured *Saccolabium giganteum*. The quaint *Epidendrum Stamfordianum*, and the bold spikes of *Phajus Wallichii* and *grandifolius*, which had lately borne 680 flowers, are only a few which assisted to make up this really good collection. Some pieces of *Celogyne Massangeana* and *C. cristata alba* are worthy of notice.

Among the foliage plants, the best were *Anthurium Veitchii*, *Maranta nitens*, *M. Veitchii*, and *M. Macoyana*, a grand *Bromeliad Nidularium striatum*, *Paritra borbonica*, and the lovely *Heliconia aurea striata*. Of Palms, there were specimens of *Thrinax elegans*, *Geonoma gracilis*, *Verschoffia splendida*, and the compact-growing *Livistona rotundifolia*.

Adiantum Williamsii and *A. Farleyense* were good among the Ferns, and foliaged *Begonias* were very conspicuous, *Arthur Mallet*, *Lucy Glosson*, and the pretty *Otto Foster* catching the eye at once.

An American or Canadian garden invariably has a Rose-house, and this place is not an exception to the rule; and at the time of my visit it was resplendent with *The Bride*, *Catherine Mermet*, *Perle des Jardins*, and *Sunset*, the latter reminding me of the close of the day and my visit. *New York Correspondent*.

MARTIN R. SMITH, ESQ.'S GARDEN AT HAYES, KENT.

MR. SMITH is the President of the Southern Section of the National Carnation and Picotee Society, and not President in name only, but an energetic worker, and a leader whom it is a pleasure to follow. The Carnation is his favourite flower, and he takes infinite pains not only to know their floral properties, but to thoroughly master cultural details. Mr. Smith, if I may be allowed to say so, is ably seconded by his head gardener, Mr. Chas. Blick, who is a good all-round gardener, but is wise enough to give his personal attention to the Carnation, and is a most successful cultivator. Mr. Smith kindly invited me the other day to see a batch of seedling Carnations which he has in flower, and of which I was able to take the following notes. Carnations are found everywhere in the gardens, but hardy plants of all kinds are also carefully grown, and in large numbers, and yet it is easily seen that the resources of the garden in this direction are not exhausted, for, hidden out of sight from the mansion by a belt of trees and shrubs is a stretch of uncovered ground, purposely left in its wild state, and covered with heather, gorse, and bracken, which will be some day utilised as a wild garden.

The beds of Carnations and other beautiful flowers are in their right place on the well-kept lawn, backed up by the aforesaid belt of choice trees and shrubs, and on the other side is Nature free and unrestrained. When walking round I pictured to myself what would be the effect of large masses of single-flowered Roses, as *Rosa rugosa*, and even the Briar Rose growing as they liked amongst the bracken, purple heather, and yellow gorse.

Allan Ramsay, the Scottish lyrical poet of 150 years ago, has the following picturesque sketch of the wild garden:—

"I love the garden wild and wide,
Where Oaks have Plum trees by their side;
Where wood-vines and the twisting Vine
Clip round the Pear tree and the Pine.
Where mixed Jonquils and Gowans grow,
And Roses mid rank Clover blow
Upon a bank of a clear strand,
In wimplings led by Nature's hand;
Though Docks and Brambles here and there
May sometimes cheat the gardener's care,
Yet this to me's a paradise
Compared with prim cut plots and nice,
Where Nature has to art resigned,
Till all looks mean, stiff, and confined."

The worthy author of the *Gentle Shepherd* gives us a hint for a wild garden; but I do not contemplate Docks, Thistles (except the Scottish Thistle) or Nettles in it. Coarse-growing weeds must be rigorously excluded.

But a careful look round this interesting garden reveals the fact that the gardener is great in cultural skill. Carnations demand our attention first, and as we enter the garden we find seedlings of the current year in preparation to flower next year, every plant carefully labelled with the names of both seed and pollen parent; all fine thrifty plants, planted in soil well prepared for them, and to be again transplanted into other beds where they are to flower, the soil being specially prepared with good fibrous loam. Last year's seedlings here, there, and everywhere give promise of an immense display of blossoms when we remember that a hundred or more blooms may be produced by one plant.

But here we are at the greenhouse, where the flowering seedlings are. The entire stock of plants have been produced from seeds obtained by crossing Madame Warocque, a crimson Carnation of the *Souvenir de la Malmaison* type; and Mrs. Reynolds Hole, a buff or apricot-coloured Carnation. There are perhaps 150 seedlings in flower, and one cannot repress a certain feeling of pleasurable excitement on beholding such an array of perfectly distinct well-grown Carnations. I am also a seedling Carnation raiser, and know something of the feeling of disappointment when promising crosses

which have been tended with great care prove to be failures; but I also know something of the elation that comes of a "good hit," and I can realise how much pleasure the possession of such plants affords their owner. As some evidence of the way in which seedlings put on the characteristics of, not only their parents, but their grand-parents, I noted one seedling which has been named Mrs. Stuart MacRae: it has flowers of a pink shade, deeper than that of *Malmaison*, and with larger and better flowers. Lord Rosebery is a fine reddish-crimson variety, with *Malmaison* foliage and flowers. Sir Evelyn Wood is of the type of the flaked *Malmaison* named Lady Middleton, the flowers streaked and flaked rose on a pale pink ground.

There are numerous other deep-coloured large-flowered Carnations of the *Malmaison* type. Many there are, too, which resemble neither parent, and yet have perfect flowers as border Carnations. Of these, *Hayes' Crimson* is of a handsome deep ruby-crimson colour, with large and full flowers, and petals of good substance. *Adonis* is of ruby-crimson, and is a well-formed flower. President Washington has large deep rose-coloured flowers, of good form. Dick Swiveller, likewise rose-coloured, has broad petals, of good substance, and the form is nice. *Bride of Abydos* has a pink-coloured ground, densely streaked and flaked with rosy-red.

The five varieties named above have little in common with either parent; but, as might readily be supposed, there are some with a suffusion of the apricot-colour of Mrs. Hole. Mrs. George Devas is a beautiful variety, with much refinement of petal and form of the flowers, which are of a yellowish-buff colour, flaked with rosy-red. Mrs. Seymour Bouverie has the same ground-colour, with broad, well-formed petals, and handsome flowers; it is flaked much like the other. The Golden Dustman is of yellowish-buff, broadly flaked with rosy-scarlet, and it is a very fine bloom. *Hercules* has a buff-coloured ground, but the flowers are lacking in the refinement of the above-named three; they are of immense size, and full of promise, flaked and streaked rose of two shades.

THE ORCHARD-HOUSE.

In this I found trees of Peaches, Nectarines, Plums, Cherries, Apricots, and Pears, all of which are in pots, and well grown. I have for twenty-five years advocated the culture of trees in this manner, well knowing that, with good management, the best results may be obtained; and the fruitful condition of the trees here, with the fine quality of the ripe and ripening fruits, show very clearly how much of very real enjoyment can be obtained from pot fruit trees. Cherries were ripe and ripening; the trees being laden with fine large fruit. The best black Cherry in the house was *Early Rivers*, a fruit of good quality, rich colour, and large size. *Bigarreau de Schreken* is also a fine early black Cherry, and very free-bearing, but it is not so early as *Early Rivers*, or so good. Of white Cherries for the orchard-house, Governor Wood is supposed to be the best; it is followed by *Bigarreau Napoleon*, or late Mottled *Bigarreau*.

Plums are of superb quality from these pot trees; but the fruits were not ripe at the time of my visit, but Mr. Blick says that *Monarch* is one of the best purple Plums, the fruit very large and of excellent quality; *Curlew* is recommended, the fruit is of a deep blue or purple colour. *Reine Claude de Comte Athens*, a late red Gage is also recommended.

Of Nectarines, *Humboldt*, a large-fruited variety, the fruit yellow-fleshed, is much prized. *Pine-apple* also holds a high position, and Lord Napier is the largest and best early variety. [Mr. Rivers has one that is much earlier than this. *En*] *Sea Eagle* was said to be one of the best mid-season Peaches, and *Crimson Galande* is an excellent Peach for forcing.

Pears are extensively grown as pot trees; some of them are turned out-of-doors to ripen, others are always kept under glass. *Doyenné du Comice* was named as one of the very best for pot culture. Mr. Rivers says of this variety that the fruit will ripen on the tree into November in the orchard-house, and

may then be gathered and eaten from it. *Beurré Superfin* is also highly commended. *Magnate* is a fine variety for the orchard-house, ripening in September and October; *Fondante d'Automne* is one that can be depended upon to bear a good crop of fine quality; *Beacon* is said to be the best early Pear. *Souvenir du Congrès* also bears fruit freely, is early, and of large size; fruits have been gathered from the pot-trees, weighing 24 oz. Fruit culture is evidently the next special feature in these gardens after the Carnations; Peaches and Nectarines being particularly well grown, both planted out and in pots.

The Melon-house contained vigorous plants, bearing heavily; and substantial vineries were well furnished with Vines, bearing well; and I noted that although the Grapes were colouring, no traces of red-spider were to be seen anywhere. This Mr. Blick fancied was owing to soot being placed in the evaporating troughs; I fancy a good deal also depends upon the general management of the Vines, careful and regular ventilation, damping down the house at the right time, and also seeing that the roots are well supplied with water. Something, too, depends upon the way in which gardeners are backed up by their employers, and whether or not they are promptly supplied with materials for carrying out their work effectually. There is such a thing as being "penny wise and pound foolish," and too many hard-working gardeners know something of its application. *J. Douglas.*

THE ROSERY.

STOCKS AND SOIL FOR ROSES.

ALTHOUGH the question of stocks is most important, I venture to say that due regard is not given to another feature in the cultivation of Roses, and one to which the stock question is far more closely related than many would apparently consider, seeing how very vigorously they uphold one stock against another. I allude to the nature of the soil your Roses are to be grown in. Rose stocks, like all other plants, are very much influenced by the soil, and due regard is not paid to this fact by the majority of writers when recommending their particular favourite as being the best stock for Roses.

I may say at once that there is no stock for Roses that will do equally well in all soils. In proof of this, let us remember that our largest and most successful growers do not all use the same stock, and yet each wins in his turn, so to speak.

It is only natural that a grower should uphold the stock that thrives best with him, and did he but describe his soil and remain content with advocating the merits of his stock for similar ground, his observations would be of considerable value; but, unfortunately too many writers are stumbling-blocks to amateurs, through upholding one stock against all others, without the slightest consideration as regards soil. Even in the confines of one garden, the action of this may often be noticed. How much more so, then, when totally distinct soils and localities are being considered.

For some time past, much abuse has been directed against the *Manetti* stock. This is unfair, and although the maligners of this most useful stock may have found some other to be more suitable for their soil and the particular varieties of Roses that they cultivate, it is hardly just to run it down for no other reason, as in many gardens the *Manetti* is the most useful of all stocks.

No Rose grower of much experience would advise all varieties of Roses to be grown upon one stock in all classes of soil, but several amateur friends of my acquaintance have drawn this impression from some of the articles upon this subject which have appeared in the gardening press during the last four or five years. In many cases the discussion upon stocks for Roses has scarcely been carried out in an impartial manner, too many being led away by their partiality for some particular stock, and seeming to entirely forget that the fact of any stock doing well

with them does not guarantee its doing equally well in a totally or even slightly different soil.

Due consideration must be given to the variety of Rose, and also to the class of soil they are to grow in, before any definite answer can be given as to the best stock to cultivate them on. In some few instances it may be better to grow some kinds upon their own roots, and so eschew stocks altogether. I will endeavour to give my impressions upon this matter after considerable experience and careful observation extending over the past twenty years.

There are three distinct stocks for Roses that are in general use, viz., the Briar, the Manetti, and De la Grifferaie. All of these have their good qualities, and although, generally speaking, the Briar will be found the most useful, this is no reason why it should be grown to the exclusion of the two others.

The Briar is grown in three forms: as a seedling, as cuttings, and as standards. As a general rule, seedling Briars are the best stock to use upon a deep loamy soil, the struck cuttings being preferable for the same class of soil when shallow. The hedge Briar, used as standards or half-standards, is an excellent stock for the strong-growing Roses of all classes, and also for the weaker-growing Teas; these last, however, should be grown as dwarf standards, as they have not sufficient vigour to derive enough nourishment from the Briar, when under the necessity of drawing it up through a long stem. Standard Briars will do well upon a stiff loamy soil, whether deep or shallow.

The Manetti stock is well suited for the majority of Hybrid Perpetual and Bourbon Roses, more especially upon a light loamy soil, or one of a warm and sandy nature. This is really an excellent stock, but is no more suited for all classes of Roses and soil than is the Briar. For pot-culture, the Manetti and cutting Briar are by far the best. As a pot-plant, the majority of the Tea-scented and Noisette varieties do very well upon the Manetti; this I attribute to the confinement the roots are subjected to, and which restricts this stock from making the coarse and vigorous roots it is apt to do when planted out. It is also a singular fact that grafted Tea-scented Roses do much better on this stock than when the same varieties are worked by budding. The chief complaint of amateurs against this stock is its tendency to throw suckers; these it is certain to produce when the plants are badly worked; but when the bud is inserted in the proper position—i.e., close upon the crown of the roots, there will not be any greater proportion of suckers accruing from a Manetti stock than there are from a cutting or seedling Briar. The Manetti has many staunch supporters among experienced growers, and many of our finest Roses are very successfully grown upon this stock. I have plants of such sterling varieties as Marie Baumann, La France, A. K. Williams, Alfred Colomb, &c., upon both the Manetti, the cutting, and seedling Briar; and provided the soil is suitable to the stock, I do not recognise the slightest superiority in one over the other.

The De la Grifferaie stock is not so extensively used as the two I have previously noticed. It is, however, a very useful stock for strong growers like Gloire de Dijon, Wm. A. Richardson, and Maréchal Niel, more especially when they are grown upon light sandy soils, in which case the Briar would not obtain nearly so much nourishment as the De la Grifferaie. I would never advise its being used for any of the medium or weak-growing kinds, but for the climbing Teas and Noisettes it is particularly serviceable in light soils.

So much, therefore, for the stock and soil in relation to one another. We will now give a little attention to the question of which stocks are best for certain classes or varieties of Roses. This is a wide question, and can only be approached in a general manner in the limits of my paper. It has often been said that the Manetti is altogether unsuitable for Tea Roses. I grant that it is generally so—but there are exceptions; and as I have previously pointed out, this is a very suitable stock for pot

plants. A few of the stronger-growing Teas will do fairly well upon the Manetti when growing in a light soil. This stock is also an excellent one for almost all of the Hybrid Perpetuals; but here again exceptions occur. For example, Captain Christy, Marie Verdier, and a few others, do not take kindly to this stock, and seldom effect a strong and complete union.

Such varieties are better grown upon the cutting Briar or the seedling Briar stock, according to the nature of the soil they are to occupy. Briefly speaking, the Manetti is suitable for H.P.'s, the Briar for H.P.'s or Teas, and the De la Grifferaie for a few of the strongest growers when cultivated upon light soils.

There is one more point that I think is worthy of consideration, and that is the relative earliness and lateness of these different stocks. I would arrange them in the following order:—Manetti, cutting Briar, De la Grifferaie, and seedling Briar. For late autumn flowers, no stock can surpass the last-named upon suitable soil, and I am fully convinced that we obtain a greater intensity of colour in the dark red and scarlet kinds when grown upon the seedling or cutting Briar stocks. *A. Piper.*

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By R. MILNER, *Gardener, Penrice Castle, Swansea.*

GESNERAS.—No time should now be lost in starting the roots of the winter-blooming species of Gesneras. The best method I have found is to place two or three tubers in a 4-inch pot, or should they be very large, one in a 3-inch pot is better. The pots should be well-drained, and the potting compost of fibrous loam and peat in equal parts, with a liberal addition of sharp clean sand. Place the pots on a shelf near the glass in a house, whose night temperature does not fall below 60°, and after they have started into growth they should have a light shading put over them when the sun shines.

SUMMER-FLOWERING SPECIES OF GESNERAS.—Those tubers which were early started will now be showing bloom, and may be assisted with a clear weak manure water once a week, and the plants should be frequently looked over in case mealy-bug should have established itself. Where the roots are strong, and the foliage has been kept in good condition, the plants can remain in the stove after blooming, keeping the soil after that period moderately moist. They will throw up a succession of shoots, which will come into bloom during the autumn.

CELOSIA PYRAMIDALIS.—Seedlings raised this spring will now be ready for placing in their flowering-pots, employing a compost of three-parts rich loam, one of rotted dung, and sand in quantity sufficient to keep the soil porous. When the pots get well filled with roots, frequent applications of weak manure water are needed. Grow the plants in a light position, in a pit or low house, keeping them well up to the glass, using a light shade during the hottest part of the day, as if the foliage is exposed to the fierce rays of the sun, it soon loses its green colour. Syringe the foliage freely every day to keep down red spider, which is very partial to the Celosia. Another sowing may still be made, the plants from which will be found very useful during the autumn.

ACHIMENES.—The latest batch of tubers which was started to form a succession, should now be placed in baskets to be suspended, or into the pots in which they are intended to bloom. Few plants are more suitable for basket-culture than the Achimenes, and these baskets should be of a good size, as they look better when hanging in the conservatory than small ones. Until the plants show for bloom, they may be grown in an airy intermediate-house well up to the glass. Pay careful attention to watering, and when closing the ventilators in the afternoon; the plants should be thoroughly syringed with tepid water, which will be a means of keeping the foliage clean and healthy until the plants have finished blooming.

THE FINAL POTTING OF CHRYSANTHEMUMS.—The time is now at hand in which to give these plants their final shift. Have the required number of 8 and 9-inch pots thoroughly cleaned. Pots larger than this are not necessary, as manual

stimulus can always be afforded. Good crocking is an essential. A compost for their final shift may consist of three parts rich loam, in a rough state, one part each of leaf-soil and spent Mushroom-bed dung, with some sharp sand. In case the loam is not of the best kind, a little soot and a sprinkling of some one of the well-tried fertilisers may be added with advantage. When potting, it is necessary to make the compost in the pots firm with a potting-stick, leaving the top of the ball 2 inches below the rim, so that good waterings may be afforded, and if needed at a later date, top-dressings of manure. If the potting soil is in a moist condition, no water will be required at the roots for two or three days after potting the plants, but a dewing over with the syringe every evening if the weather is bright will be sufficient. Stand the plants in an open but sheltered position till established, and afterwards put them where it is intended they shall be grown, but do not crowd them together, or weak growth will result.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, *Gardener, Moreworth Castle, Madingley.*

PYRAMID AND BUSH PEARS.—A great many of these, owing to the lightness of their crops, are making exuberant growth, and will soon stand in need of having the shoots thinned and stopped so as to admit light and air to the interior of the heads, or the incipient blossom-buds will not develop properly. At this early date I would advise that there be no wholesale cutting out of shoots, as this will but lead to a denser growth of soft shoots. But where for appearance sake the trees must be trimmed, the shoots should be left from 8 to 10 inches long, and be again shortened at a later date, when the wood has become more matured. Stunted trees usually fruit more freely, but make less wood than free-growing ones, and such should be relieved of much of their fruit, leaving only those which are the most exposed and the best shaped, so that these may swell to a fair size. Freely feed the roots of these stunted trees at short intervals, and mulch the ground with manure, particularly if it is light and dry. The leaders of young pyramids should have some support to prevent them being broken off; a bit of lath will do very well fastened to the firmer part of the stem, and broad soft bass used for tying. The bushes should have the central shoots taken out, and the side shoots regulated and fastened out at regular intervals, so as to form the main branches of the future bush.

Cordons, whether upright or horizontally trained, should have all the leaders made secure to the walls or wires before they get damaged by wind. If trained to wires, the ties should not be tightly fastened, strips of wood or thin sticks may be used to keep the shoots straight. Pear cordons are usually trained obliquely, and should stand not more than 18 inches apart, the first one being planted close to the end, and the stem trained upright; the others should be arranged at equal distances apart, so as to fill the space devoted to them; while at the other end of the row a shoot should be trained horizontally along the bottom of the wall about 12 inches from the soil, and from this others should be trained, so that the wall be covered from end to end.

Trees that are well furnished with fruitful wood, and are bearing heavy crops, should be thinned early, and should the border in which the trees are growing be narrow or shallow, or stand in need of nourishment from some cause, mulch it well with manure, and water it abundantly in dry weather with pond or river-water. Lightly-cropped trees making strong wood will need no manual stimulus. Remove clay from grafts that have made a perfect union, and secure the young growths.

THE ORCHID HOUSES.

By H.A. HURBERT, *Orchid Grower, Highbury, Birmingham.*

If alterations are needed in the heating apparatus, these are better if left till we are well into the month of July, or even in August, if the alterations are not extensive ones, for any inability to make use of the apparatus at this part of the season when needed is an evil, the weather being very capricious. During the last few nights the thermometer outside has fallen to 33°, and this following almost tropical warmth, compelled me to have recourse to artificial heat, even in the Odontoglossum-house, as any check from cold while the plants are in active growth should be carefully avoided, it being possible that a malady which shows itself in the form of black spots on the foliage and pseudobulbs is caused thereby; and the loss of new and immature growth, and in some instances the

sudden stoppage of the new growth of Dendrobiums, which afterwards ripens up without ever gaining its proper dimensions, may be attributable to this cause.

Angracum Scottianum is now in flower; in fact, it is nearly always so. A large specimen of this species would be invaluable, and it is an easy plant to grow, if afforded plenty of heat and moisture. Like most others of the genus, it is both pretty and curious, and the flowers, which are white, are large in comparison to the size of the plant that carries them. The species of Angracum seem to like heat and moisture in abundance whilst growing; but I think that *A. sequepedale* does best if grown in the cooler part of the East India-house. All species must now receive liberal supplies of water, and be kept very clear of insects by occasionally sponging them.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

THE ORCHARD-HOUSE.—Apples, Pear, Plum, Apricot, and Cherry trees (in pots) which may be carrying heavy crops will require to be supplied with artificial manures at every alternate watering, the recent warm weather having caused a very rapid growth, and manurial aids are very necessary as well as abundance of water at the roots. When the trees are planted out on the borders of the orchard-house, a good deal of discretion should be exercised in affording manure, as it is only those trees which are making weak wood and bearing heavily that require any of this kind of assistance; for to feed plants already vigorous enough, and perhaps not carrying heavy crops, will only tend to make matters worse, by causing the production of gross growth, which may not ripen satisfactorily. Superphosphate of lime, kainite, and nitrate of soda are good fertilisers, but must be used sparingly, especially the nitrate. Ferrous sulphate applied once during the season of growth, at the rate of a teaspoonful to a 12-inch pot, will aid the swelling of the fruit, and the solidifying of the wood of the current season. Attend closely to the stopping of shoots, but do not follow any hard and fast lines, as the more vigorous plants will benefit from an extension of their shoots, whilst less vigorous, or less healthy trees, would be weakened by the practice. Thin the fruits of the Apricot where too numerous, the thinnings being used in cooking. Make free use of the syringe amongst the trees on sunny afternoons, and keep down insect life by either fumigating or applying some of the washes recommended for the purpose, the best of which, I believe, is Fir Tree Oil. Afford plenty of air by keeping the ventilators open. Cherries, whose crop is gathered, may be turned out-of-doors, but they should not be neglected, or the chances of a good crop next season will not be promising. Stand the pots on a hard bottom, supply them with water when it is needed, and give them an occasional syringing with clean water; a mulch would also not be amiss.

POT-VINES which were placed early into 10 or 12-inch pots will now be in a condition to take liquid manure, which should be frequently afforded in a well-diluted state at first, but gradually increased in strength. When pot-Vines are not so robust as they should be, any of the artificial manures mentioned above will be found useful, and may be employed alternately, and an occasional watering with soot-water will also be found beneficial. Keep laterals stopped to one leaf, but allow one leaf or joint to grow each time the leader is stopped.

ORANGES.—Trees which have set their fruit may be syringed twice daily in bright weather, and occasionally watered with liquid manure. Afford the trees abundance of air and a minimum temperature of 65°.

THE KITCHEN GARDEN.

By G. WYTTES, Gardener, Syon House, Brentford.

ASPARAGUS.—When midsummer day has come, the cutting of Asparagus should cease, and more especially, if heads are required early next year. For late supplies, a bed or two should be set apart, and means taken to preserve the plants in good growth, by means of copious waterings and various kinds of top-dressing. The beds should be laid down in a cooler part of the garden than the other beds. The plants in the latter should be encouraged to make good growth, as in the case of the late ones, and by the same means. Fish manure raked in lightly, and followed by a good watering, does much good, as does a drenching with cowyard drainage, and top-dressing of dung from the same source, which is better if it be in a partly-decayed state. Beds which may have been forced, will need to have similar treatment. The strong shoots should be tied to sticks, or a few bushy

Pea-sticks may be stuck into the soil among the stems. Seedling Asparagus should have a final thinning.

SEAKALE.—The crowns should be reduced on each plant to one, and that the strongest. Apply a dressing of agricultural salt to the soil between the rows, doing it in rainy weather; fish manure is equally good as a manure, if raked in lightly. The growth of Seakale is finer if this kind of assistance be given at the present season.

GLOBE ARTICHOKEs.—Heads will now be turning in freely, and to give added succulence to these, the plants should not lack moisture at the root, and a mulch of decayed manure if the land be light. Fly the hoe between the rows of Jerusalem Artichokes, destroying all stragglers.

BETROOTS.—The rows of the main crop should be thinned, and if any have to be transplanted, choose wet weather for the job, and take care to get the roots entire. If small Turnip-rooted Beets are required, sowings may still be made, watering the bed in hot weather to promote germination of the seed.

TOMATOS.—Stopping and training should now be closely followed up, but manure need not be applied before a good set of fruit is secured, and then it should be in the form of a mulch. For Tomatos out of doors a restricted root-run is quite as desirable as for the indoor plants. Strong plants from 2 to 3 feet high planted out, or in large pots sunk in the earth, will give more fruit than if planted out in rich soil, as they run much less to leaf.

CUCUMBERS should have the bine stopped occasionally, and be top-dressed with decayed manure; water will be required in fine weather.

CAPSICUMs, if in robust health, should have liquid manure, and be frequently syringed after their fruits are set. If large fruits are desired, thinning must to some extent be practised.

MUSHROOMS.—In making beds in the open at this season, the manure requires to receive heavier waterings, so as to have it in good condition for making up; and after the beds are made and spawned, and covered with a good thickness of loam, cover them with dry litter. Those who possess cool cellars will not need out-of-door beds, but a moist air at 60° should be the aim of the grower.

ENOIVE.—A small sowing may now be made of the curled variety on a cool border. Frequently water the beds, covering them with mats till germination takes place, when they must be removed.

TURNIP-ROOTED RADISHES, ETC.—Sow on a cool border. The present is a good season to make a sowing on a cool border of Corn-salad, a useful salad plant in autumn, when others are not plentiful.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

CARPET BEDDING.—The planting of the panels of geometrically-designed beds with *Alternantheras*, *Mesembryanthemum cordifolium variegatum*, *Pyrethrum partheniifolium aurea* (Golden Feather), *Leucophyton Brownii*, and similar plants, should be pushed on to completion. The plants of *Alternantheras* and *Mesembryanthemums* propagated late should have been gradually hardened off, and fully exposed for a few days before being planted out. The plants should be well watered before planting, and not much disturbed at the roots. Set the plants rather closely together, and make the soil firm about them. In the absence of rain, afford water to settle the soil, and repeat the watering every afternoon in bright weather. The colours of the foliage plants employed in carpet beds should be well contrasted, and they should be in harmony with the other foliage plants, and also with the flowering plants in the vicinity. The dividing lines, if of Sedums, should be kept to their proper limits, pulling out the flowers and seed pods, pressing the plants down, and trimming the sides with a pair of sheep-shears, so that the several parts forming the whole pattern may be well defined.

WATERING SHRUBS.—Beds of American plants should have a thorough watering two or three times during the next six weeks, if dry weather prevail. Even during summers that are moderately wet, these plants are all the better for thorough waterings, as it is seldom that the rain reaches the roots of *Rhododendrons* and *Kalmias* in close-planted beds in sufficient quantity to be of much service. It is only in places where a good supply of water is at hand that this kind of work can be properly done.

Clumps of *Azalea mollis*, *Lily of the Valley*, and other forced plants, which were planted out in the grounds, should also receive due attention in affording them water.

WALLFLOWERS.—Seedling Wallflowers resulting from sowings made last month should be pricked out in a fully-exposed situation. The beds should be formed of a layer of short dung 2 inches thick, placed on a hard bottom, and over the dung there should be a like thickness of fine loamy soil. Prick them out 6 inches apart, and afford a little shade during the heat of the day for a few days.

GENERAL WORK.—This consists in bedding out and picking off the flowers of some to induce a rapid growth; and mowing which has got in arrears during the last few weeks. There being a pretty good growth on the grass, the scythes will have first to be used, and then after the removal of the mown grass, the mowing machine should be run over the lawn, raising the knives a little at the first cutting. Trim all edgings, and make paths, &c., neat and clean.

FORESTRY.

By J. B. WEBSTER, Furrier, Stangmore, Dugganion.

The preparation of the ground for autumn and winter planting now claims the attention of the planter, as the crust of impervious soils on the mountains and elsewhere requires to be broken up, in order to convert it into a condition fit to sustain tree life, while bog and marsh land requires to be drained to rid it of water. The erection of fences round plantations for shelter and defence against animals, should engage the forester's attention whilst there is plenty of daylight for the workmen to travel to and from long distances, as they needs must in mountain planting, &c. Dry hilly ground resting upon a hard subsoil should be broken up, and loosened with a "tramp-pick" at the spots where the trees are to be planted, and in performing the work, any rough scrub should be removed, in order to admit air, rain, and heat. Heather, however, when it is but 6 or 8 inches high, need not be removed to any great extent, as I have found it beneficial in promoting the growth of the plants in cold wind-swept situations, through the shelter it affords them at starting; and when the trees become established, they gradually smother the Heath out of life. In all cases where a mixture of hardwood trees are to be planted, pits had better be dug for them of such a size as to allow the roots of the plants being spread out in a regular manner to their full length, and straight from the base of the stem. The size of the pits will vary a little according to the size of the plants to be used, but I have had them dug by contract about 15 inches wide and one spade deep, at an average rate of 1s. per 100. The stuff excavated should be left in a rough state at the edge of the pit, to become pulverised by the weather. The distance at which permanent hardwood trees should be planted apart will depend a good deal on the character of the site and the capabilities of the soil, but from 15 to 20 feet asunder may be considered a fair average on ordinary soil, where the exposure is not so very great. In places where the ground is stocked with furze, bramble, and tall surface scrub, these had better be grubbed up, and burned on the spot, or utilised for the erection of wind screens on the more exposed parts. This work of grubbing can be done by contract, at an average rate of about 40s. per acre. In all cases, however, where the plantations are for ornament and utility combined, and where a large size of plant will be used, the ground had better be trenched 16 or 18 inches deep forthwith, and although this will add considerably to the expenses, yet the more rapid growth, and healthy development of the trees in early life, will, in a great measure, compensate for the outlay. This work of trenching may also be done by contract, the cost of which will vary according to the texture of the soil, and the rate of pay common in the district; but, under ordinary circumstances, I have had it done at an average cost of £5 per acre.

ROADS.—Before planting is commenced, roads had better be laid off and there for the removal of timber, and to afford facilities to sportsmen, and as this can be done to the best advantage when the ground is bare, and the configuration of the surface seen at a glance, it also claims the attention of the planter as a preliminary step. The size of these roads may vary considerably according to the wish of the proprietor, but when they are formed, say, from 12 to 24 feet broad, according to circumstances, they generally give satisfaction.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on one side only of the paper, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

PLANTS, &c., TO BE NAMED.—Correspondents sending plants or fruits to be named, or asking questions demanding time and research for their solution, must not expect to obtain an answer to their enquiries in the current week. Specimens should be carefully packed and numbered, and not more than six should be sent at one time.

LOCAL NEWS.—Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturalists.

ILLUSTRATIONS.—Photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c., are particularly solicited.

NEWSPAPERS.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see. Advertisements should not be sent to the Editor but to the Publisher.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

TUESDAY, JUNE 21. Royal Horticultural Society's committees at the Drill Hall, James Street, Westminster. Lecture by Mr. W. Thibiston-Dyer C.M.G., director of the Royal Gardens, Kew, on "The Management of Trees in Parks and Gardens."

SATURDAY, JUNE 25—Royal Botanic Society.

SHOWS.

TUESDAY, JUNE 21. National Rose Society show at the Drill Hall, James Street, Westminster.

WEDNESDAY, JUNE 22. Royal Botanic Society: special floral fete.

SALES.

FRIDAY, JUNE 24. Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms at 12.30.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—61°·8.

OUR readers will remember the brisk discussion which took place some time since in our columns, on the relative advantages of intelligence as compared with empiricism in the cultivation of plants. The subject has come to the front again in the shape of a paper prepared by Mr. BURBRIDGE, and read on his behalf at a recent meeting of the Horticultural Club. Mr. BURBRIDGE's opinions are specially important, inasmuch as he is a gardener bred and born. He studied what corresponded to his humanities at Chiswick and at Kew. He is a gardener, too, who profited by the lectures he heard at Kew, and by the examinations he underwent, and what he has gained by the study of DARWIN and other writers on the philosophy of horticulture, is shown in his admirable little book on the *Propagation and Cultivation of Flowers*. Moreover, he has had the opportunity of seeing tropical plants in their native luxuriance, and of observing the conditions most favourable to their growth. Mr. BURBRIDGE's opportunities have thus been exceptional, and give him a special right to speak on this particular subject. The expression "Culture versus Nature," does not quite commend itself to our notions, seeing that it is by aiding Nature and by profiting by her indications, not by opposing her, that our triumphs are won; but we are generally in such thorough accord with Mr. BURBRIDGE's sentiments that we shall not carp at a phrase. Taking for his text a dictum of Professor MICHAEL FOSTEN's in our columns—

"All knowledge is of use if applied aright; no knowledge is of use if applied awry,"—Mr. BURBRIDGE proceeds as follows:—

"The cultivation of vegetables, fruits, and flowers for domestic use, or for profit in other ways, is now one of our most important national industries, and it is a pleasure to see the interest now being taken in the matter by the different county councils, for we cannot have too much light and learning thrown upon such an interesting and profitable theme.

Your secretary asked me for a paper on the "adaptability of plants to cultivation," so I have glanced at the subject, and headed it, "Culture versus Nature." The fact really is, we do not know much of the adaptability of plants until we actually cultivate them, each for ourselves; for one of the charms of gardening is the ever-varying development of the same plant under different cultural conditions. Now, let us simply ask ourselves, What is the meaning of the word "culture," as applied to plants? Culture to us means improvement; and as FORB has it—

"If vain our toil,
We ought to blame the culture, not the soil."

Then culture or improvement consists of many things. Firstly, for example, the plant selected is isolated; thus competition with other plants for food and light and air and space is removed. Not only does the gardener thus enable a plant to naturally gain the greatest advantage from any one selected plot of soil, but he often augments the food supply by irrigating the soil, and by adding special plant food or manures for special crops; while pruning and training often increase the resultant crop by enabling growth force to develop freely along definite lines, and just where and when it is most wanted, or when the greatest strain of fertility bears upon the plant as an individual.

Now, Culture versus Nature is a big question; and, secondly, let us ask ourselves point-blank whether culture of the best ever surpasses Nature at her best?

In asking this question, I do not wish to limit your views of culture to the glass-house or market-garden point of view; but I do ask it from the cultivator's or human standpoint, and not from Nature's point of view, which is often, if not always, very different. As thus limited, there can be no doubt but that culture "is an art that doth mend Nature, change it rather, but the Art itself is Nature." That is a very suggestive history in the Bible, of CAIN with his flocks and herds, and of his brother ABEL, who cultivated the fruits of the earth, and it shows to us how early the practice of cultivating wild plants and the taming of wild animals began.

As an example of what I mean by improvement, let us take the common Violet (*Viola odorata*), as existing on a soil where it grows and flowers very luxuriantly, and on the same soil the gardener will easily surpass Nature, as I said before, from the human point of view. It is so in tropical lands where Pineapples or Bananas exist in what I may call a state of Nature, much finer crops of fruit being gained by culture; and the same is true in Asia Minor with the Fig and the Vine. Of all fruits, perhaps the Vine is the one most amenable to changed conditions, i.e., culture, and even allowing that Grape growing in Great Britain is the best in the world, yet, I believe, still finer cultural results could be obtained at Alicante and elsewhere in S. E. Europe or Asia Minor where the Vine is more thoroughly at home.

Cultivation really means the conservation and enhancing of growth, force, or energy for particular ends or aims.

One of the earliest and hardest lessons for a gardener to learn, is to rid his mind of prejudice in plant culture. As a rule, we want plants to grow where we like rather than where the plant likes, and sometimes the man and the plant are not agreed on the point, for the question of position, of moisture, and of shelter, is one the plant naturally knows and feels more of than the man, and though the plant cannot speak, its evidence to knowing eyes is unmistakable.

I must now define what I mean by the human

point of view, as before alluded to. Well, it very often means succulent leaves, or large pulpy fruits, or large many-petalled or shapely flowers, rather than the perfectly ripened seeds, actual life, and not mere beauty, after which Nature more generally strives.

Flowers, fruits, or vegetables, constitute the gardener's object, but Nature is lost unless she goes to the end of her cycle of growth, and finishes up by ripening her seeds. With us the gardener and the seed-grower find it more economical to complete the cycle by co-operation, the one growing produce, and the other ensuring the seed.

I have sketched out culture as embracing isolation of the crop, tillage and irrigation of the soil, pruning and training, and manuring or special feeding, all factors in good culture, but factors of widely different value in various localities and soils. In a word, it is a gardener's duty to adapt his methods of cultivation to suit his crops, rather than for him to expect plants to adapt themselves to his system of culture. The best cultivators are facile and elastic in their methods, and so succeed where the "rule-of-thumb" practitioner often fails.

It has been said "many men, many minds," and so of plant culture one may say, "many gardens, many methods." We must not be dictatorial on this question, but preserve a broad and catholic frame of mind; for a course of practice perfectly successful in one place may happen to be the very worst to adopt in another, where geology and climate may be different.

If we study the cultural practice of, say, the best Peach or Grape growers in England, in France, and in America, we shall perceive at once how necessary it is that cultural methods must vary, in order to be successful under different climatic conditions. But we need not go so wide in our geography to note the truth of this statement, for gardeners will tell us that Apples and Pears, or Strawberries or Plums, or any other garden plants, vary enormously as grown in different gardens adjacent to each other, or even as grown in different parts of the same garden. That Orchids will thrive in one part of a hothouse, and not in another, is a fact well known to all cultivators of these plants. Moisture and shade may have something to do with this; but all stiff-leaved Orchids, such as Cattleyas, *Lælias*, &c., in growing, erect or deflect their leaves at a certain angle, so as to receive a certain amount of light, and when once the leaves harden or stiffen, they cannot alter their position, and so, if shifted, or turned round so as to expose the backs of their leaves to sunlight, great harm is often unconsciously done. A Fuchsia, or a Pelargonium, readily readjusts its leaves to altered conditions of light, but to many Orchids this is impossible.

The main facts that influence vegetation may be set down as light, heat, moisture, and the nitrogen-absorbing and nitrogen-yielding qualities of the soil. Elevation, shelter, and aspect influence these in a marked degree.

I have elsewhere said that the gardener, like the poet, is born, rather than made, but, other things being equal, of course, in all arts, the most logical practitioner is sure to succeed best. In a word, cultural success is a matter of accurate observation, careful experiment, and just reasoning powers.

The greatest difficulty in gardening is making quite sure of our facts before we deduce any conclusions from them, or build up a course of practice upon them. When we are not quite sure of our facts, we do what DARWIN advised—i.e., we try "fool's experiments," or index trials, so as to get "guesses at truth."

The difficulty not only consists in the intricate complexity of Nature, but in the circumstance that her facts and figures often form a shifting index from year to year, or from one year to another. Thus gardening becomes an intellectual game, far ahead of the Sirdak's chessboard or the German krieg-spiel, since both her squares and her counters are different every time, and so not only every garden but every season becomes a special study of itself.

We have been told that the gardener's art is an empirical one; but this is a statement only half



FIG. 113.—EUCALYPTUS GUNNII: 50 FEET IN HEIGHT.

(IN THE GARDENS OF J. RASHLEIGH ESQ., MENABILLY, PAR., CORNWALL.)

true. All arts are empirical up to a certain point, but become more and more exact and scientific as accurate knowledge is gained.

Again, we are told that gardeners must be taught by actual work in a garden, just as carpentry is best taught at the bench, smith's-work at the anvil, or surgeon's in a hospital. This again is a half-truth, dangerous in its subtlety. Up to a certain point, actual practice is truly the best way; but work in a garden, if well directed, and supplemented by good reading and good lectures in addition to the work, must in the long run be better than either alone.

I should be one of the first to admit that books and lectures are merely the reflex of actual things, but by them we gain concrete knowledge, and life is, as we all know, too short to allow of our testing or experimenting on all things for ourselves. As HUXLEY says, "Science not only teaches us how to act rightly, but is especially valuable as often preventing our making useless experiments." Any one man's practice is necessarily limited, and books are as valuable to the gardener, if well used, as they are to the lawyer, the architect, or the engineer. If it be thought that they are not so, I must ask the objector for his reason why books are considered a help or aid to one artist or craftsman and not to another?

Speaking of the natural limitation of any one man's power, I am reminded of once speaking to the late Mr. JOHN DOMINY on this very subject. Everyone knows how much DOMINY really did in opening the way of hybridisation amongst Orchids and Nepenthes, and he always felt that "Art is long and Time is fleeting." "Ah!" said he to me, "the fact is, a gardener should have nine lives like a cat, and three or four pairs of hands like a Hindoo idol, and then something might be done in a lifetime."

We must use books as aids to knowledge, just as all wise men use them, and young gardeners may well treasure up Sir JOHN LEBNOCK'S words, that books wisely bought and rightly used are a good investment, and not an expenditure." [The remainder of Mr. BURRIDGE'S paper will be given in our next issue. ED.]

EUCALYPTUS GUNNII.—Our illustration shows a fine specimen of *Eucalyptus Gunnii* in the grounds of J. RASHLEIGH, Esq., of Menabilly, Cornwall. Together with the photograph, Mr. RASHLEIGH sent us ripe fruit and seeds, so that the hardihood of the tree, at least in that locality, may be assumed. At Kew, it will be remembered, this tree, though usually somewhat injured every winter, has now braved the rigours of our climate for many years, being partially sheltered by surrounding trees. The height of Mr. RASHLEIGH'S tree may be estimated by the height of the gardener, Mr. W. H. BENNETT, standing at its base. *Eucalyptus Gunnii*, the Swamp Gum tree, or Cider Eucalypt, occurs abundantly in Tasmania and in Victoria, where it sometimes attains a height of 250 feet, but much less on the islands. Judging from the account in Baron Sir FRED. V. MUELLER'S excellent *Eucalyptographia*, the species is subject to considerable variation, according to the altitude at which it grows. Doubtless, different plants would differ in their power of resisting cold, and those who plant this tree should by preference obtain seeds from plants growing at high elevations. The photograph from which our illustration was taken was executed by Mr. R. V. SHERRING.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Royal Horticultural Society in the Drill Hall, James Street, Victoria Street, Westminster, will be held on Tuesday, June 21, and promises to be of more than ordinary interest. In addition to the usual display of plants and flowers, there will be competitions among amateur growers of Peonies, Delphiniums, and Pinks. The National Rose Society will also hold its first show of the season in connection with the Royal Horticultural Society. At 3 o'clock, Mr. W. T. THISELTON DYER, C.M.G., Director of the Royal Gardens, Kew, has kindly consented to deliver a lecture on "The Management of Trees in Parks and Gardens."

PRACTICAL TEACHING OF HORTICULTURE.—

We have received the subjoined note for publication. For the moment we are precluded from making any further comment than that of congratulating the Society on taking its rightful position. In an early issue we shall revert to the subject.

“To the Editor of the *Gardeners' Chronicle*:—As you may be aware, the Technical Education Committee of the Surrey County Council, instituted (amongst other things) during last autumn and winter, lectures on gardening in various centres in Surrey, and, in compliance with the request of the County Council, our Society undertook to examine all who had attended the lectures regularly, and were desirous of sitting for such examination. Special interest attaches to this examination, as it is the first of the kind that has been made after any county council's technical lectures on gardening; and I, therefore, hope you may be able to find space for the publication of the following Class Lists.—W. WILKS, Vicar of Shirley, Surrey, Secretary, Royal Horticultural Society.”

Class List.—Examination in Gardening, conducted by the Royal Horticultural Society, after Lectures given under the direction of the Technical Education Committee of the Surrey County Council. (Maximum number of Marks obtainable 300.) Higher Grade—28 Candidates. First Class:—1. Stephen Morril, Carshalton (Winner of the Royal Horticultural Society's Medal), 225 marks. Second Class:—2. William Thorpe, Betchworth, 170 marks; 3. Joseph Parry, Reigate, 160 marks; 4. Francis Bradbeer, Bletchingham, 155 marks; 5. W. Green, Horley, and J. P. Owen, Brockham, Betchworth, 150 marks. Third Class:—7. John Harrison, Capel, 135 marks; 8. T. Painter, Redhill, and W. White, Sutton, 130 marks; 10. Felix Crawford, Horley, and Walter Waller, Reigate, 125 marks; 12. R. A. Stone, Horley, J. A. Smith, Wallington, and Rose Jarman, Sutton, 115 marks; 15. John Langdon, Sutton, and W. A. Strong, Sutton, 105 marks; 17. C. F. F. Hutchings, Carshalton, 100 marks. (Candidates obtaining less than 100 out of the 300 marks, not classed.) Lower Grade—44 candidates.—First Class:—1. Walter Smith, Kenley (winner of the Royal Horticultural Society's Medal), 205 marks; 2. Eli Cessar, Farnham, 200 marks. Second Class:—3. G. Miller, Ashstead, 160 marks; 4. W. H. Galsworthy, Farnham, W. H. Woodgate, Kenley, and Geo. King, Egham Hill, 150 marks. Third Class:—7. F. Fernor, Englefield Green, 125 marks; 8. Jesse Morris, Ashstead, 120 marks; 9. W. Goody, Kenley, 107 marks; 10. A. Everard, Kenley, 105 marks; 11. Eleanor Partridge, Ashstead, and J. Auchet, Aldershot, 100 marks. (Candidates obtaining less than 100 out of the 300 marks, not classed.) Generally speaking, and taking into consideration the novelty of the scheme, the candidates showed as good an average acquaintance with the subjects upon which they were examined as could have been expected. We cannot doubt but that such practical teaching as has been given in the county of Surrey, and such testing of results, will be of great service by calling attention to the points of greatest practical importance in cultural matters, and by showing how and why these points are important. Information of the highest practical value has thus been conveyed to a class of persons whom daily experience teaches us are not likely to be reached by the medium of the horticultural press. MAXWELL T. MASTERS, M.D., F.R.S., F.R.H.S., JAMES DOUGLAS, F.R.H.S., Examiners; W. WILKS, Secretary, R.H.S.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The committee of the Gardeners' Royal Benevolent Institution regret to announce that, in consequence of the lamented death of Lady Goldsmid, the 53rd Anniversary Festival Dinner, at which Sir JULIAN GOLDSMID had kindly consented to preside on the 29th inst., is unavoidably postponed to a date which will be duly notified. Meanwhile the committee earnestly trust that the many friends who have supported the institution in the past will not relax their efforts, but rather increase them on behalf of its funds. A sum of nearly £700 is required on

July 1, to meet the quarterly payments then due for pensions alone, and the committee therefore sincerely hope that the institution will not be allowed to suffer from any diminution in the amounts collected on account of the unforeseen and regrettable circumstances which have led to the postponement of the Festival for a short time. All moneys should be remitted to the Secretary, GEORGE J. INGRAM, 50, Parliament Street, London, S.W., who will be pleased to send collecting cards to any who may desire them, and also to reply to any communications that may be addressed to him.

LINNEAN SOCIETY.—On Thursday, June 2, the above Society met, Professor STUART, President, in the chair. The Vice-Presidents for the year having been nominated by the President, and a vote of thanks to the officers of the Society having been proposed by Mr. THOMAS CHRISTY, seconded by Mr. C. J. BREESE, and carried, a ballot took place, when the following were declared to be elected:—Messrs. H. A. JAMES, J. R. LEESON, W. B. SCOTT, R. H. WALLACE, and E. H. ALLEN. Mr. D. MORRIS exhibited and made some very instructive remarks on plants yielding Sissal Hemp in the Bahamas and Yucatan, and pointed out their distribution and mode of growth. He also exhibited and described the preparation of a gut silk from Formosa and Kiuichow. Mr. SCOTT ELLIOTT gave a brief account of a journey he had recently made to the west coast of Africa, and described the character of the vegetation of the particular region explored, and the plants collected by him. On behalf of Mr. ERNEST FLAYER, a paper was read by the Secretary on “The Disappearance of Certain Desert Plants in Egypt through the Agency of the Camel.” The President announced that the last meeting of the session would take place on Thursday, June 16.

HORTICULTURE AT THE COLUMBIAN EXHIBITION.—The most enterprising firms of the United Kingdom appreciate the advantages to be derived from a creditable display at the Columbian Exposition, as they will there reach not only their patrons in this country, but from all parts of the world. Applications have been made for liberal amounts of space. Other firms, desiring to more widely cultivate a taste for horticulture, and let the world receive the benefit of their experiments in producing new and choice varieties of trees and other plants, have made large donations to the Exposition, and the department of horticulture is in almost daily receipt of fine collections. There are some large and rare species of plants which can only be procured at the world-famous Kew Gardens, and I am very anxious to secure the donation or loan of some of them. Any exhibits from Kew will be a great source of pride to Englishmen from all parts of the world. The following is a list of plants that will be very desirable, and which will attract general attention:—*Aristolochia hians*, *A. longifolia*, *A. Goldieana*, *A. ringens*; *Dracontium* albo-stipes, *D. annulatum*, *D. asperum*, *D. Carderi*, *D. phyllanthum*; *Amorpha phyllanthus campanulatus*, *A. grandis*, *A. Lacourii*, *A. nivosus*, *A. Titanum*, *A. Leopoldianus*, *A. Teuszi*, *A. virosus*, *A. gigas*, *A. fecundum*; *Pancratium guianensis*. There may be other curious specimens which could be supplied, and the Curator of the Gardens will know the many unique and curious species and varieties that will be of interest to the millions of visitors. The handling and care of the exhibits will be under the control of the most skilled help obtainable, which fact will insure against loss, and when desired, the safe return of all loans will be guaranteed. *J. M. Samuel, Chief Department of Horticulture, to Hon. Robert McCormick, Official Representative in London of World's Columbian Exposition.*

THE COMING PINK SHOWS.—What is known as the Midland Section of the National Pinks Society, will hold an annual exhibition in connection with the Wolverhampton Floral Fête on Tuesday, July 12, and the Northern Section at the Botanical Gardens, Old Trafford, on July 16. So far, there is a promise of a large head of bloom, and a good display may be anticipated on both occasions. The

border Pinks are well cared for, and every encouragement given to this useful class.

DWARF TROP OLUM, MRS. CLIBRAN.—We have received from Messrs. CLIBRAN, nurserymen, Altrincham, Cheshire, a nice form of bedding *Tropæolum*, of dwarf habit, very floriferous, and of a pleasing shade of orange colour. It is likely to be much sought after for window-boxes, bedding, front lines of greenhouse benches, &c.

ROYAL BOTANIC SOCIETY OF LONDON.—A children's floral fête will be held on Wednesday, June 22, from 2 to 7 P.M. The idea of the floral fêtes at the gardens has been to encourage the use of floral decorations as in the south of Europe, in public and family rejoicings, such as public festivals, weddings, majorities, and garden and children's parties. It is to be distinctly understood that all decorations, dresses, &c., are for out-of-door use. The awards will be presented at the royal days. Prizes will be offered for children's flower-dressed carriages, &c.; designs and groups of plants and flowers, &c.

KINGSTON GARDENERS AT CLAREMONT.—The body of gardeners of Kingston and Surbiton which recently promoted a concert in aid of the Gardeners' Orphan Fund, in company with several lady friends, enjoyed a very delightful outing to the Royal Gardens at Claremont, on Friday, June 10, on the invitation of Mr. E. BURRELL, with the sanction of H.R.H. the Duchess of ALBANY. The pleasure-grounds were found in singularly beautiful form, the immense masses of *Rhododendrons* blooming profusely. The grounds are of a very undulating character, some portions forming lofty mounds, upon which stand respectively a huge quadrangular tower, erected in 1714; a fine Camellia-house, and a pretty Gothic chapel, erected to the memory of Princess CHARLOTTE. From these eminences the grounds beneath presented most beautiful pictures, and elicited enthusiastic admiration. The numerous vineries, Peach-houses, plant-houses, &c., with pits and frames, were all found in full use, and having within abundant produce; every part of the place was in splendid order. The party took tea under a giant *Pterocarya caucasica*, and were otherwise most hospitably entertained, enjoying a singularly delightful afternoon.

RHODODENDRON SHOW.—Messrs. ANTHONY WATERER & SONS, of Bagshot Nurseries, opened an exhibition of their world-famed *Rhododendrons* on Monday last on the Victoria Embankment. It is held in a spacious tent, some 165 feet by 45 feet, and the plants occupy groups along the centre and around the sides, with a few specimen-plants in various positions. There is an abundant wealth of bloom, and, as the proceeds are to be given to the London General Hospital, we shall be pleased to hear that it has been well patronised.

BUDDLEIA COLVILLE.—Mr. GUMBLETON writes:—“This beautiful and most distinct hardy shrub from the Himalayas, figured on Plate XVIII. of CATCHEAT & HOOKER's illustrations of Himalayan plants, is flowering with me this summer (I believe for the first time in Europe), but on this point I shall be glad of correction from any of your readers who may be better informed. I had the plant many years ago from a leading shrub nursery in the immediate neighbourhood of London, and up to its coming into flower, had strong doubts as to its being really true to name; indeed, shortly after I bought it, one of the most intelligent foremen of the firm in question, now, I believe dead, said to me, ‘I hope it may prove to be true to name, but I almost fear that it will not be so.’ In the descriptive letter-press accompanying the plate, Sir J. D. HOOKER writes:—‘This is very unlike any other Asiatic species of *Buddleia* in its size, form of flower, colour, and the locality it inhabits, its congeners being almost without exception tropical or sub-tropical plants. In several respects it more closely resembles some of the species of the Andes, but it has no rival anywhere for beauty or graceful habit. It is abundant towards the summit of Tonglo, from an altitude of about 9000 feet to the top 10,000, and it is

also frequent in the Lachen and Lachong Valleys, at similar elevations, even ascending to 12,000 feet.' The beautiful deep rose-coloured bell-shaped flowers are produced as shown on the plate, in large loose open bunches at the extremities of the young growth of the branches, and though the first bunch of flowers produced by my bush is very far from being as fine as represented in the plate, it is to be hoped that now that it has begun to bloom, especially if we are favoured with a good warm ripening summer and autumn (as seems now probable), the bunches produced next year will be much larger and finer than those now opening. Another rare and very beautiful shrub, *Lonicera Maackii*, introduced by the late Dr. REEGL, of St. Petersburg, with bunches of pure white Honeysuckle flowers, has bloomed most abundantly and beautifully in my shrubbery during my absence from home."

DISEASE OF THE POTATO: REPORT OF THE BOARD OF AGRICULTURE.—A report just issued by the Board of Agriculture on recent experiments made both at home and abroad in checking Potato disease, is one, says the *Daily Graphic*, Monday, June 13, that will well pay perusal by all who are interested in the Potato crops. The volume, of some 200 pages, is to be purchased for ninepence from Messrs. EYRE & SPOTTISWOODE, East Harding Street, Fleet Street, E.C.; Messrs. J. MENZIES & Co., 12, Hanover Street, Edinburgh, and 90, West Nile Street, Glasgow; and of Messrs. HODGES, FROGIS & Co., 104, Grafton Street, Dublin, and contains a wealth of information down to a recent date concerning the history and cause of the Potato disease, and full descriptions of experiments made both in Great Britain and Ireland, and in foreign countries, as well as in the Colonies, for checking the disease; and, in addition, papers on Potato culture in these several groupings of countries. The Director of the Intelligence Department of the Board of Agriculture prefaces the volume with a succinct statement as to the causes which have led to the several series of experiments made in this country, and as to the results obtained. Copper dressings have been the materials employed, with generally satisfactory results as regards checking the progress of the fungus to which the disease is due (*Phytophthora infestans*), but the advent of the disease was not anywhere prevented. The results, however, appear to justify the conclusion that the outlay on the dressing and its application is more than repaid by the extra crop yielded; but since no confident opinion can be formed on the experiments of a single year, they are to be repeated this year, and in view of the experience already gained, ought to be even more successful than those of 1891, and to lead to definite recommendations for the future guidance of all Potato growers. The boon to be derived from a satisfactory termination of the extended experiments would be enormous, and nowhere, perhaps, more than in Ireland.

PROFESSOR MEEHAN may well feel some honest pride in remembering that the modest gardener who left the Isle of Wight in his 18th year to seek his fortune in the States is now an honoured citizen of Philadelphia, a vice-president of the Academy of Sciences of that city, and respected throughout the world of horticulture for his many contributions to the literature of his science and his craft. We cite the following from a Philadelphia paper:—"As a sequel to the resolutions of numerous bodies commending Common Councilman MEEHAN, of Germantown, for his unwearied and successful efforts to secure public parks having historical associations, it is proposed to present him with a substantial and appropriate testimonial. It is a plaque on which is engraved a copy of the original city charter with some notable historical structures—The Wister house, Germantown, the residence of James Logan, the Stenton mansion, and the Bartram House. The presentation will take place in September. This is a matter, says our contemporary, in which the entire community is interested. That the public services of Mr. MEEHAN in every capacity are fully

appreciated in his home ward is amply shown by the telling majorities by which he is returned to councils. The word "popular" scarcely describes his relation to his constituency, and a new word must be added to the lexicon to meet the case.

NEW FRUIT AND VEGETABLE MARKET FOR LONDON.—The new Central Fruit, Vegetable and Flower Market, was opened in state, by the Right Hon. DAVID EVANS, Lord Mayor, on Monday, June 13, 1892. This section of the London Central Markets completes the series of markets erected under the Act of Parliament of 1875 by the Corporation of the City of London, at an expenditure of about £1,794,000. Of this sum the new market has cost, beyond the value of the site, about £70,000. The new market is at the junction of Charterhouse Street and Farringdon Road, two leading thoroughfares, having a frontage to Charterhouse Street of about 370 feet, and to Farringdon Road of about 184 feet. Of this area, representing about 54,000 feet, the building now erected occupies 30,000 feet super., having frontages of 165 feet to Charterhouse Street, and 184 feet to Farringdon Road, and therefore leaving ample room for extension when required. The building is designed of iron and glass, and special regard has been paid to the matter of light and ventilation, so necessary a point in a building of this description, while the general requirements of the fruit and vegetable trade have been fully considered. The height of the building to the plate-level is 28 feet, and to the ridge 46 feet. The basements under this and the adjoining markets will be occupied by the Great Northern Railway Company, whose lines of rails and platforms will traverse the entire length from Charles Street to Snow Hill. The area of these basements is about 100,000 feet. Large hydraulic lifts are designed to raise the market produce brought by the railway companies to the markets above, and inclined roadways for horse traffic are provided as means of access from the basement to the street level. The rent of standings, as provided by the bye-laws approved by the Board of Trade, is 1½d. per foot super. per week; but, by a special order of the Corporation, a rebate will be allowed for the first year of one-half, viz., three farthings; and for the second year, one-third, viz., one halfpenny, the full rental of 1½d. coming into operation at the commencement of the third year. Charges for temporary accommodation are:—

Wagon stand, per day	...	...	...	...	...	s. d.
Ditto, for Holly or evergreens, per day	...	...	...	...	...	0 1
Cart stand, per day	...	...	...	...	...	0 2
Ditto, for Holly or evergreens, per day	...	...	...	...	...	0 9
Fitching stands, not exceeding 10 feet square, per day...	...	...	...	...	...	0 1

The size of the standings varies from 150 to 300 feet, and apart from pitching and wagon stands, the number available is forty-two, and most of these have already been applied for. The tolls to be charged under the bye-laws approved by the Board of Trade are:—

For every wagon containing vegetables or fruit (except Potatoes)	...	...	...	...	...	s. d.
Ditto, containing Holly or evergreens	...	...	...	...	...	0 1
For every cart containing vegetables or fruit (except Potatoes)	...	...	...	...	...	0 6
Ditto, containing Holly or evergreens	...	...	...	...	...	0 9
Potatoes, per cwt.	...	...	...	...	...	0 1
Vegetables or fruits in sacks, sieves, hampers, or other packages, per bushel	...	...	...	...	...	0 0½
Ditto, ditto, less than a bushel	...	...	...	...	...	0 0½
For any number of packages of fruit or vegetables not exceeding 5, and containing not more than 12 lb. weight in each	...	...	...	...	...	0 0½
Oranges, per box, containing not more than 500	...	...	...	...	...	0 2
Watercresses, per hamper	...	...	...	...	...	0 2
Ditto, per ½-hamper	...	...	...	...	...	0 1½
Ditto, per pad	...	...	...	...	...	0 1
Use of scales, per draught	...	...	...	...	...	0 0½

Under section 24 of the London Central Markets Act, 1875, Farringdon Market, the site of which was recently sold by public auction, ceases to be used as a market from the opening of the present market. The market, which is built from the designs of the late ALEXANDER PEBBLES, Esq., City Architect, has been constructed under two contracts, that for the substructure and basement having been carried out by Messrs. RUDD & SON, of

Grantham; and the superstructure by Messrs. PERRY & Co., of Bow. The foundation-stone was laid in October, 1890, by the then Lord Mayor.

CHICAGO EXHIBITION.—The State of Pennsylvania intends to make a horticultural exhibit which will surpass anything of the sort ever made. Apart from fruits and viticulture, in which the State will not attempt to outdo other portions of the country, all branches of horticulture will be splendidly represented. Messrs. GEORGE W. CHILDS, A. J. DREXEL, and several others, who have large and valuable collections, will give or lend to the exhibition their finest and rarest plants, some of which cannot be duplicated. The California Bee Keepers' Association is preparing a notable exhibit for the Fair. Besides honey and bees, the exhibit will include pressed flowers of all the different honey flora, specimens of the birds and insects which are the enemies of bees, models and photographs of apiaries, and novelties in the shape of production distinctive to California, especially in the line of beeswax and foundation.

THE NATIONAL UNITED ORDER OF FREE GARDENERS, says the *Standard*, of June 7, commenced their annual meeting at Wednesday yesterday, under the Presidency of Grand Master Wilson, who, in the course of an address, said, during the year there had been 6533 members initiated, but 656 had died, and 4592 had seceded from various causes, including the juveniles and honorary members. There were now 57,076 members in the Order, and the funds were £147,000, an increase of £5000. He expressed the opinion that compulsory insurance was not yet sufficiently understood to be satisfactorily dealt with, but the Friendly Societies would not tolerate any State system which did not desire their co-operation and help. There was a generally expressed hope that during the year convalescent homes would be established for members of the Order.

PANSY SHOW IN BIRMINGHAM.—The Birmingham and Midland Horticultural Society held its second annual show of Pansies and Violas on Thursday, June 9, at the Central Hall, Corporation Street. During the past week or two the district in Scotland from which all the best Pansies come has been visited by severe hailstorms, and the heat of the last day or two has destroyed many of the blooms sent to Birmingham for exhibition. The show, however, was larger than last year's, over 2000 blooms having been exhibited. The Scotch growers, on the whole, made a very fine display; while the good influence of this and other societies is testified by the fact that there is a decided improvement in the exhibits of local amateurs and gardeners. Among the seedlings, the most important novelties are John Kreo, by Mr. IRVINE, of the Kyles of Bute; and Andrew Fraser, by Mr. FRASER, of Ochiltree. Some charming examples of the Viola were shown, including one by Mr. SYDENHAM, a local grower, remarkable for the depth and richness of the central colouring.

RHODODENDRONS, ETC., IN THE PARK.—The display of Rhododendrons and Ghent Azaleas in Hyde Park by Mr. WATERER is exceedingly gorgeous, and has seldom been finer than this season. The greater part of the collection is to be found at the east end of the Serpentine and along the sides of Rotten Row from Park Lane to Albert Gate. The great heat of last week was very trying to the plants, but the cooler weather that has prevailed since Sunday, the 12th inst., will prolong the season of bloom. Mr. WATERER's collection of these plants in the Botanic Gardens, Regent's Park, is still very fine, and contains many very superb varieties, both new and old.

FARNHAM ROSE SHOW.—The managers of that excellent society, the Farnham Amateur Rose and Horticultural, are making a bid for further support by increasing the value of the prizes offered for twenty-four Roses diverse. The secretary is Mr. C. C. Knight, Monk's Hill, Farnham.

PUBLICATIONS RECEIVED.—*Report on Phenological Observations for 1891*, by EDWARD MANLEY, F.R.Met.Soc., F.R.H.S.—*Supplement to the Botanical Jarrook*, 1892.—*Further Observations on the Spiral Torsion of Plants*, by HUGO DE VRIES.—*Report on Recent Experiments in Checking Potato Disease in the United Kingdom and Abroad*, 1892: Board of Agriculture.

HOME CORRESPONDENCE.

CUCUMBERS FOR EXHIBITION.—That Mr. T. Lockie, gardener at Oakley Court, Windsor, has brought the culture of Cucumbers for exhibition to the level of a fine art there can be no doubt, for in any competition with a brace of Cucumbers he nearly always takes the first prize, with fruit so perfect in shape and even in size, as to command general admiration. One fruit is in every respect so closely a *fac simile* of the other in appearance and length, that the question is often put, How is it accomplished? Mr. Lockie's experience as a cultivator of Cucumbers for exhibition dates back as far as 1890. At that time the leading varieties grown for exhibition were Sutton's Berkshire Champion, Webb's Imperial, Crawshaw's Prize-taker, Lynche's Star of the West, Manchester Prize, &c.—all being more or less rough-spined, long in the neck, and more or less coarse in appearance. It was at a time when spined Cucumbers, and especially the black-spined types, were leading favourites with growers. New varieties were then, as now, constantly being introduced, and after testing most of them, Mr. Lockie selected as the most desirable, Turner's Favorite, Godfrey's White Spine, and Hamilton's Market Favorite; and these he grew and selected from them the handsomest and most finished fruit for seed purposes. The seedlings from these were cross-fertilised, and each succeeding year produced some improvements. With some of these I proved successful at exhibitions, and this induced me to try for further improvements. At length he selected a very promising seedling, which he named Blue Gown, after the celebrated racehorse of that year, and which was subsequently sent out by the late Mr. Charles Turner, of Slough. It was much grown and exhibited the first year or two, and awarded fifteen 1st prizes and five First-class Certificates of Merit. While the stock remained in Mr. Lockie's hands it was never once beaten; it was, however, a very shy seeder, and he eventually quite lost it. Then Tender and True took the lead as an exhibition variety, and it would appear to have originated as a sport from Blue Gown with Mr. Douglas, then of Loxford Hall Gardens. Being somewhat deficient of fertile blooms, Mr. Lockie endeavoured to overcome this by crossing it with Kirkless Hall Defiance, a variety raised in the neighbourhood of Leeds, and regarded as a great improvement upon the old Sin House. From this cross Mr. Lockie obtained a very handsome seedling, quite distinct from either of its parents, and exhibited it successfully for several years, and it was ultimately sent out by Messrs. Sutton & Sons, of Reading, under the name of Royal Windsor. Mr. Lockie still considers it to be one of the finest varieties in cultivation for summer crops and show purposes. Finding that smaller but handsomest and well-finished fruit were finding favour on the exhibition table, as well as being grown for general purposes, and especially for market, Mr. Lockie turned his attention to the production of such, and effected a cross between Verdant Green and Purley Park Hero, making the latter the seed parent, and was rewarded by producing a very handsome dark green variety, growing about 16 inches long, perfectly even, with scarcely any heel, and carrying a beautiful bloom; this I named Lockie's Perfection; it has been awarded seven First-class Certificates, and numerous 1st prizes, through being extensively exhibited both in London and the provinces, and when well shown, has scarcely been beaten. In growing Cucumbers for exhibition, Mr. Lockie states the principal points to observe are, to allow the plants plenty of room; to avoid crowding with lateral growths; to crop rather slightly, but at the same time to grow sufficient fruit as a natural balance to a vigorous and healthy habit; to shade lightly in bright weather; to employ plenty of moisture, but to avoid hot pipes and scalding steam. But how does Mr. Lockie secure two fruits so beautifully symmetrical and even in every respect, and such a perfect pair? Much—I may state, also—depends

upon cutting at the right time. It may be necessary to cut one fruit a few hours before the other; it is, therefore, a question of knowing how long it takes a fruit to become perfectly developed, and then cutting it at the nick of time. R. D.

MOONWORT FERN.—There is now a very unusual abundance of this Fern (*Botrychium lunaria*) in several old pastures near here, and it would be interesting to know whether the same has been observed in other parts of the kingdom. In one field I crossed to-day, it would have been easy to gather a hundred specimens, and yet, though I am often in the field and observe plants, I have never seen it there before. In the same field *Habenaria viridis* is found sparingly, and I have several times looked for specimens of this Orchis. I could not have helped noticing the Moonwort, which flowers at the same time, if it had been there in any quantity. In another place about 3 miles away, some young botanists, who have lately come to live there, told me that the old pasture adjacent to their house was reputed to contain Moonwort, but that they have searched for it in vain for three years in succession, but this year they find plenty. The intermittent appearance of such plants as this, and the Bee Orchis and the broad-leaved *Helleborine* is perhaps due to different causes in each case, but I read in *Sowerby's Botany*, 3rd Ed., Vol. 12, p. 26, that the buds of the Moonwort are developing under ground for four years before they produce leaves; therefore, it seems possible that we must look back to the hot summer of 1887 as the cause of the plentiful crop of the present season. C. Wolley Dod, Edge Hall, Malpas.

TROPÆOLUMS.—Referring to the paragraph under this heading on p. 725, middle column, the name "Cattle" should have been spelt "Cattell." The late John Cattell of Westerham sent out some years ago two dwarf varieties of *Tropæolum*, viz., Cattell's dwarf scarlet, and Cattell's dwarf crimson, and as far as my recollection serves me they were raised between T. majus, and a selected form of T. minus, known in those days under the name of Coccineus. I have always regarded these two dwarf *Tropæolums* of Cattell's raising as the progenitors of the compactum varieties grown in the present day. Mr. J. George, of Putney, when a gardener at Stamford Hill, took in hand these dwarf *Tropæolums*, and with the aid of Cattell's varieties and a good form of T. minus, led them on still further in the march of improvement, and it was from Mr. George's productions the compactum forms of Bedford Rival, Lustrous, and the new dwarf spotted, were obtained at Bedford, all of which received certificates of merit from the Royal Horticultural Society. The compactum varieties exceed the ordinary Tom Thumb types in the form of the flowers, and in their being sparing seed producers, which causes them to bloom much more continuously. R. Dean.

LARCH FUNGUS.—As I actually saw Mr. Wilson's plantations of Larch a fortnight since, I can speak confidently as to all the facts, and their present appearance, as affected by a most virulent and subtle disease, which Mr. J. B. Webster attributes wholly to the Larch having been planted on a chalky subsoil. This may, perhaps, be true in a measure, but it certainly does not account for such a sudden visitation in the present instance, as there are several depths of loamy soil throughout the plantations, which are situated on a gentle slope, and consequently the roots would not be likely to come in contact with the chalk all at once, but there is no doubt as to their simultaneous destruction from whatever cause it may be. Mr. Wilson pointed out that many had made a 2 and 3 feet growth only last year, which they would scarcely have done were Mr. Webster's theory the correct one. The average height of the larger plantation, 15 to 18 feet, is a very fair average for twelve years' growth, but many very fine trees were above that average. All, however, are totally destroyed, and not one healthy tree remains alive in the whole plantation. In my opinion it is not the soil alone that is accountable for such a disastrous result, but a most virulent attack of some particular fungus which may have been assisted by the last two seasons' drought. It is without doubt a very serious matter, as there appears no remedy beyond Mr. Webster's suggestion that it is very injudicious to plant Larch on a chalky subsoil instead of Scotch or Pinus laricio or P. austriaca, over which the disease appears to have no power. W. H. Rogers, Southampton, June 13, 1892.

RECENT EXTRAORDINARY WEATHER.—On Thursday, June 9, the temperature at this place reached 100° in the sun, and on Monday morning, the 13th inst., we had a sharp frost, which has blackened the Potatoes and Runner Beans growing in the open. T. H. Slade, Mongevell, Walsingham, Berkshire.

After the great heat of last week, when for several days the thermometer registered 86° in the shade, there was a sudden change on Sunday, when, at midday, the temperature was at 45° in the shade; and on the night of Monday, the 13th inst., the temperature was 5° below freezing point. The Vegetable Marrows and French Beans are blackened, and damage was done to several other tender plants. H. Turner, Fineshade, Stamford.

QUELDRES ROSE, ETC.—I should feel obliged for some information about the Guelldres Rose, which is in unusual beauty this year. It is a form of the wild Guelldres Rose (*Viburnum opulus*), and I want to know if that form is now ever found wild. It is a very old garden favourite, and was grown by Gerard three hundred years ago under the name of the Rose Elder. It was described by other writers before him, to whom, the eldest, according to Caspar Bantini, was Cordus who, in 1525, described it as *Sambucus aquatica flore globoso pleno*. As far as I can make out from Pritzell, it has never been figured. [The plant is British, and in the ordinary wild form the outer flowers have neither stamens nor styles, whilst the cultivated garden form, secured probably by selection, possesses no fertile flowers. There exists in gardens a dwarf form of the sterile plant. We have no means of knowing if Gerard's plant was the ordinary wild or the improved form now existing in gardens. En.] I should also be much obliged if anyone could tell me where I can meet with *Saxifraga virginica pleno* and the white *Melittis Melissophyllum*. They are old favourites which I have lost for some years, and are liable to get again. Henry T. Ellacombe, Bilton Vioarage.

PAPAYER RUPIFRAGUM.—This rare Poppy from Mount Atlas is becoming common in gardens. It is very like a miniature *P. orientale*, with brick-coloured flowers like those of *P. pilosum*. I call attention to it, because I have raised forms from seed of *P. rupifragum* which show no line of demarcation between this species and *P. orientale*, and hybrids in *Papaver* are so exceptional that I ask the question whether *P. orientale* and *P. rupifragum* are not forms of one species? The line of distinction between *P. orientale* and *P. bracteatum*, which E. Boissier made two species, has disappeared in garden seedlings, though I still retain the grand upright *P. bracteatum*, with a very stout straight stem 5 feet high, and blood-red flowers 10 inches across, as introduced fifty years ago, but seedlings from it no longer come true. C. Wolley Dod, Edge Hall, Malpas.

BOUVARDIAS.—In the note on Bouvardias, which appeared in the *Gardener's Chronicle*, 719, a selection of varieties is given, but no mention is made of President Cleveland, which is by far the best of the bright-coloured forms, being greatly superior to those named in the article, and which has now, to a great extent, superseded them. It is an introduction from America, and was first seen here in the autumn of 1887, at which time it attracted a good deal of attention, and soon became popular. Since then a pink sport (Mrs. R. Green) has been obtained from it, and it is one of the best of that tint. Again, the statement that Alfred Neuner is the most popular market kind, is at least open to doubt, while anyone expecting the blooms of Dazzler to be of a rich scarlet colour will certainly be greatly disappointed. T. C.

RHOODENDRON FALCONERI.—I was surprised to read of your correspondent in the *Gardener's Chronicle* of May 28 describing this handsome Himalayan *Rhododendron* as having shaded lilac blossom; ours here, on the contrary, are of a rich creamy-yellow, and large, the black stamens contrasting well against the bell-shaped corolla, and very delicately scented. [The flowers are white, with a tinge of lilac at the base. En.] Here we have two specimens growing outside, one of which is quite a tree. It is surrounded by many plants of other fine species, and, like them, is afforded no sort of protection. Our largest specimen is 12 feet high, and the same in diameter, and produced this year sixty-two well-developed trusses of blossom, each truss having twenty-five and more flowers. The other plant is the more remarkable, being but a small standard of 6 feet high and wide,

consisting of twenty-two branches, each, with but one exception, producing trusses of bloom equal to those of the larger plant. This plant stands in a shrubbery in peat soil, and is surrounded by specimen Figs, Myrtles, and white Azaleas. I hope to be able to send a photograph of this small tree later on. [Do so, please, En.] *J. Benbow, gardener to the Earl of Ilchester, Abbotsbury Castle, Dorchester.*

FRENCH ASPARAGUS.—If "A. S. II." is a Fellow of the Royal Horticultural Society, and will turn to the issue of the *Journal* for March, 1890, which contains the report of the Vegetable Congress of the previous autumn, held at Chiswick, there will be found some interesting remarks with respect to the production of French Giant Asparagus by that eminent authority Mr. Henri Vilmorin. In the course of a very able paper read just previously by the late Mr. Shirley Hibberd, that gentleman referring to the Giant Asparagus of Argenteuil, said that the soil of that district was specially fertile in calcareous salts. Mr. Vilmorin said that he had carefully

LÆLIO-CATTLEYA × PHEBE. *New Gard. Hybrid.* CATTLEYA MOS- SIE & LÆLIA PURPURATA.

Thus, the reverse cross to that from which Messrs. J. Veitch & Son obtained their pretty L. C. Hippolyta, is one of the products in which the hybridiser is afforded a good excuse for his work, which, unfortunately, is not the case in all hybrid Orchids. It was raised in the gardens of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, by his diligent gardener, Mr. Murray, and was exhibited and gained a First-class Certificate at the Royal Horticultural Society on May 3. L. C. Phoebe brings a much-wanted colour into our Orchids, the sepals and petals being of a rich Indian-yellow, while the middle lobe of the neatly-arranged labellum is of the richest purplish-crimson. It may be that Mr. Cookson keeps his poorer hybrids at home; but, certain it is, that he seldom exhibits even an indifferent one *J. O'Brien.*



FIG. 114.—LÆLIO-CATTLEYA × PHEBE.

studied Asparagus growth, and could state that the production of these fine heads was as much the product of selection as of cultivation. It was assumed that the selection of seed from centre plant growths was of importance, but he held that it was of more importance to select seed from plants which produced the finest stems, and as the strength of each plant was necessarily limited, the roots which produced the strongest growths naturally produced the fewest, and seeds saved from these gave the best seed-strain. Then the French growers gave greater width between the plants than we did, the usual distance being 4 feet one way, and 3 feet the other. Thus it is seen that as compared with our British methods of culture, if our heads are not so large, they are far more numerous on a given area. Still it was found in France that only Giant heads paid to grow. The soil was deeply worked and heavily manured. Of course, the soil must be naturally good, otherwise the plants would not produce stout grass. It was the French practice to remove some of the surface soil in the autumn to expose the crowns to the influence of the atmosphere, but these were again covered deeply with soil in the spring, as the heads are blanched almost their entire length of from 9 to 10 inches; in that respect also differing materially from home-grown heads. *A. D.*

SCOTLAND.

SCOTTISH HORTICULTURAL ASSOCIATION.

A LARGELY attended meeting of the above Association was held at 5, St. Andrew Square, Edinburgh, on June 7, 1892, Mr. W. M. Welsh, President, in the chair. Professor McAlpine, Edinburgh, gave a most interesting lecture on "The Germination of Seeds," in which he minutely explained the process of germination, stating that the three principal agents were—water, air, and heat, and giving also the different modes of germinating, exhibiting a model illustrating his own particular mode as adopted at Murto House. After an animated discussion, taken part in by Messrs. Grieve, McHattie, Smile, Dr. Wilson, and the Treasurer, Mr. A. McKenzie, the lecturer was accorded a very hearty Vote of Thanks. The exhibits were a fine stand of Calceolarias and Broccoli Methven's June, from Mr. Henderson, of Clermiston; several fine specimens of Hydrangeas, from Mr. Petrie, of Westerlee; a fine seedling Pelargonium,

from Mr. McMillan, of Trinity Cottage; a fine new Pelargonium, a sport of Queen Victoria, from Mr. McHattie, of New Battle; and a collection of tufted Pansy blooms, from Messrs. Dickson & Co., Pirbright Park Nurseries.

INTERNATIONAL FRUIT EXHIBITION.

Without doubt many of our northern friends will now be suffering disappointment by the postponement of the proposed great fruit show till 1893. Many cannot see a reason, from a horticultural point of view, why exhibitors require such long warning prior to the period when they wish to table their exhibits. Good cultivators are "Aye, ready," and we remember well the short notice given to exhibitors who competed so successfully in 1882 at the great International Fruit Show, held at South Kensington, during October of that year, but there was not then the excitement of "a parliamentary election," in the near future. If the more impulsive exhibitors are contented with the arrangements of the executive (and I think they should be), those who are precluded from joining in the legitimate warfare of a horticultural exhibition, ought to be amicable also. Reverting to cultivators' readiness, I would like to make a few remarks on the condition in which some of my friends stand as to their adequateness at the present time, and who have been for a number of years past able to take largely fine produce to the exhibition tables, without making much difference in the appearance of what remained at home. Where everything is good and plentiful, exhibiting is rendered a very simple matter. For example, at Park Hall, Stirlingshire, Mr. Murray, gardener to Mr. Learmouth, could take scores of perfect bunches of Grapes and many hundreds of stone fruits, Tomatos, &c., from his huge glass structures, and almost without their being missed by his own keen eyes, the crops are always so heavy, and of such uniform size, and the quality of high order. September to January is when the crops are most abundant and best. One range, for stone fruits, Grapes, Plums, and Pears, is between 400 feet and 500 feet in length, forming three sides of a square; besides, there are two large span-roofed houses, each about 100 feet long and 24 feet wide for late Grapes alone, and numerous other structures for fruits and plants, and the general forcing of Cucumbers, &c.

Mr. Murray has been well encouraged to throw his energies into the work which has raised Park Hall to be one of the most extensive private fruit-growing establishments in Britain. Mr. Learmouth is one of those extensive employers of labour on his estates which renders that gentleman a real benefactor of his race. Farming in a wide and varied form is also a specialty at Park Hall. There is another Murray of Culzean Castle, who is a *giant de batailles* among exhibitors, and often high up on the list of successful exhibitors, and always ready to come to the front, and by no means afraid of long journeys when exhibitions are strong enough to tempt him to leave the beautiful land of Burns in battle array. While strong in fruit growing at Culzean, his talents are by no means buried in that alone, other departments in the esteemed Marquis of Ailsen's fine gardens have consummate cultural attention, and those great Onion growers know something of this when they bring their choicest bulbs to face those from Culzean.

Another well-known exhibitor not far from Park Hall (and a felicitous "crony" of the "Culzean Murray") is the well-known Mr. Tom Boyd at Callendar, near Falkirk, whose name is well established in connection with Grape-growing for exhibition. The prizes which he has taken at Manchester, Carlisle, Dundee, Edinburgh, and Glasgow (winning, among other valuable prizes, three Veitch Memorial Medals), has made him widely known among fruit-growers. His strong points are in the finishing off, in high order, of Muscat, Ham-burgh, and Lady Downe's Grapes. His crops, of all fruits under glass, are at present equal to former years. Peaches and Nectarines are extra-abundant, many thousands having been thinned off. Though

his exhibits are always well tabled, he tells us sometimes of his earliest attempts with carrying Grapes to a leading exhibition, having a pair of extra-fine bunches of Foster's Seedling, and, wishing to transmit them in prime order, Mr. Boyd prepared a coat with capacious pockets; into each a bunch was carefully dropped, and he thus conveyed them to the exhibition-table triumphantly, where (by their excellence) they easily won the 1st prize in their class. His fine bloom on Grapes of recent years shows our friend is now far beyond the "big pouch" method of transmitting them to shows.

While leaving out the names of many of the strongest northern exhibitors—so well known for their prowess at fruit tournaments—we would take note of one more who achieved great victories at Edinburgh last autumn, and may now be termed a veteran at his work of fruit exhibiting. He is often a marked man at provincial shows, carrying off cups and other tangible valuables, with plants as well as fruits. I refer to Mr. Kirk (Norwood Gardens, Alloa), who is believed to be much stronger this season than he was last year. I know that appearances, when I last saw his Vines, were favourable to this opinion, and friend Kirk's enthusiasm has no bounds, although he may not (like his compere) have an opportunity of displaying his cultural skill at Earl's Court, or other place in London next autumn. It is to be hoped that he will be ready to march to the south next year and have a friendly "tug of war" with our southern friends, many of whom I know will give the northerners a hearty welcome. If the latter get their "ricks" it would only be like a "Flodden" to console those who came north and lost a "Bannockburn" at Edinburgh in 1891. *W. Temple.*

FRUIT PROSPECTS.

Notwithstanding the loads of blossoms on Apples, Cherries, and Plums, I fear that in many cases disappointment will have to be met, as many trees were not able to set their fruits by reason of their vigour being impaired from the cold, damp, and sunless autumn of last season, followed by the weakening influences of the superabundant crop of flowers which have adorned them (at least throughout this district) in the season just passed. Some rejoice to see their fruit trees in perfect sheets of flower, but I have noticed that moderate flowering is more likely to be succeeded by an abundant set of fruit. I also notice this season that trees which have fruited abundantly for many years in succession are casting their newly-formed fruit in great quantity, and Seaton House Apple, which is the freest cropper we have among culinary sorts, is relieving itself of a good part of the newly-formed fruit. Plums are generally doing the same. The Victoria as a standard and on walls, is as usual, in the most hopeful condition at present. This is about the most productive variety to be met with in Scotland, and standard trees may often be observed in the Stirling district heavily laden with fruit of fair size and quality. On walls I have seen this favourite sort attain great size, and be of deep purple colour next the sun, while the crop has been immense. The May Duke class of Cherries are likely to thin themselves severely, while Morellos are promising superabundance. Unfavourable prospects of small fruits are coming to hand. Gooseberries and Currants, which were in flower during the severe frosts at the end of April, have been most disappointing. *M. T., Stirlingshire.*

LATE BROCCOLI.

While carefully noting the value of our latest Broccoli, two varieties I had little knowledge of turned out to be the most serviceable both as to hardness and lateness, and are, of course, valued accordingly. Veitch's Model and Ireland's Late were the last which remained on the ground (June 13), and a fortnight longer than any of the others. The first-named do justice to their name, for they are very handsome, and well protected—we have seen no Broccoli so perfect in form as this—and hope to

make it in future a standard sort for late main crop. The other referred to is very hardy, and the heart compact, but the foliage is lanky and coarse, and were it not for the good service which it has done, it would have been discarded.

It is not necessary to advert to the value of late Broccoli, which give supplies till early Caniflowers are coming into use, as ours are doing now, which are from plants sown under glass in gentle warmth during February, and grown on till strong, and well hardened before planting out, and coming in earlier than those sown during early autumn. *M. T.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

JUNE 7.—Present: Mr. Morris, in the chair; Mr. McLachlan, the Rev. W. Wilks, and the Rev. G. Henslow, Hon. Sec.

Cattleya Mendeli, Monstrous.—Mr. Wilks exhibited a spray bearing two flowers, both of which were dimorphic, in that there were only two lateral sepals, the anterior one being wanting. One of the pair of anterior petals was present, and situated nearly normally, but the lip was peculiar in having one half of the form and colour of a labellum, while the other half had that of an ordinary petal. This suggested the idea of a fusion having taken place between a petal and the lip, only half of each organ, however, being present. Without negating the possibility of this being the case, an examination of the origin, form, and distribution of the fibro-vascular cords entering this complex organ, suggested rather that it was not two, but really only one organ which had developed one half as a lip, the other half as a petal, just as in semi-double flowers a stamen will often develop one anther-cell, the other being petaloid. With regard to the position of the parts, while the two sepals were strictly "right and left," the common (transverse) axis of both the petals and of the column was shifted, and so became unsymmetrically situated with regard to the sepals. The ovary-cell was replaced by an irregular cavity, with no trace of placentas or ovules.

Iris florentina.—Mr. McLachlan brought a normal flower taken from the same plant from which he exhibited three petals at the meeting held on June 23, 1891. They were half white and half purple. The question was then raised whether it was an indication of reversion to *Iris germanica*, supposing the plant to be a pale variety of that species, or the result of a cross between *I. germanica* and *I. florentina*. A comparison made at Kew with the present flower proved it to be the typical *I. florentina*, which differs particularly in the form of its "falls," these being markedly different from those of *I. germanica*, in that they are more contracted towards the base than is the case with the latter species. The pale variety is known as *albicans*, and is quite distinct from *I. florentina*; consequently, the appearance of the purple colour on the petals of this species is the more unaccountable.

THE ROYAL NATIONAL TULIP SOCIETY.

JUNE 8.—The annual exhibition of this society was held in the annexe of the Botanical Gardens, Old Trafford, on the above date, and brought together a larger show of flowers, and a greater number of exhibitors than might have been anticipated, regard being had to the hot Whitsun weather, which proved very trying to the flowers. Had the show been a few days earlier, the flowers would no doubt have been seen to better advantage. It is only in an unusually late season, as this at one time promised to be, that the date of the show is fixed during the first week in June, but the setting in of warm weather upset many calculations, and the great heat in the building on the show day caused a number of the flowers to droop almost before the judges could examine them. June is too late for Tulips, even in the north, and it would perhaps be best all round to make the fixture the last Saturday in May, trusting to the kindness of the season to have the flowers fit at the time.

The annexe was singularly gay: the remarkably extensive collection of *Rhododendrons* shown by Messrs. John Waterer & Sons, of the Bagshot

nurseries, are just now at their best, and they made a splendid display. Some two thousand plants of varied colours formed an exhibition that atoned in large measure for the absence of the usual Whitsun floral display. One of the features of the Tulip exhibition was the remarkable success of Sir J. W. Bentley, of Stakehill, the secretary of the society. He is a young grower who has steadily worked his way into the front rank of successful growers, and the chief prizes of the day fell to his share. It is cheering to see that some young men are coming forward to take the place of the veterans in Tulip culture who have passed away during the past few years.

BROKEN TULIPS.

Despite the fact that the competition on this occasion was confined mainly to the growers of Lancashire and Cheshire, one or two coming from Wakefield, as many as five stands of twelve blooms were forthcoming. Mr. J. W. Bentley won the cup with *bizarres*, feathered, John Mills and Sir Joseph Paxton; *flamed*, Dr. Hardy and Sir Joseph Paxton; *byblomems*, feathered, King of the Universe, a very fine bloom indeed, handsomely marked, and very pure; and *Violet Aimable*; *flamed*, Talisman and Perfection; *roses*, feathered, Alice and Mabel; *flamed*, Annie McGregor and Aglaia. 2nd, Mr. J. Knowles, Stratbridge, who had, *bizarres*, feathered, Robert Guey, a flower remarkable for the purity and the deep gold of its ground colour, in the way of Sir J. Paxton in regard to its markings, but quite distinct, and Sir J. Paxton; *flamed*, Prince of Wales and Sir J. Paxton; *roses*, feathered, Modesty and Julia Farnese, the former very pretty indeed; *flamed*, Queen of England and Lady Catherine Gordon; *byblomems*, feathered, Mrs. Hepworth and Adonis; *flamed*, Talisman and Adonis. 3rd, Mr. Samuel Barlow, Stakehill, Castleton, having a few good flowers, but somewhat spent. Two other prizes were awarded.

In the class for six varieties, Mr. J. W. Bentley was again 1st, having *bizarres*, feathered, William Wilson; *flamed*, Prince of Wales; *roses*, feathered, Rachel, *flamed*, Annie McGregor, *byblomems*, feathered, Violet Aimable, and *flamed*, Adonis. To this stand was also awarded the special *Gardeners' Magazine* Medal for excellence of culture. 2nd, Mr. J. Knowles, with *bizarre*, feathered, Lord Fred. Cavendish, and *flamed*, Dr. Hardy; *rose*, feathered, Modesty; *flamed*, Triomphe Royale; *byblomems*, feathered, Mrs. Hepworth, *flamed*, Adonis. 3rd, Mr. J. Jones, Denton. There were nine competitors, and eight prizes were awarded.

A similar class followed for half-guinea subscribers, and here Mr. W. Mellor, Stockport, was 1st, with *bizarre*, feathered, Lord Lilford; *flamed*, Sir J. Paxton; *rose*, feathered, Lizzie, and *flamed*, Queen of England; *byblomems*, feathered, Connersby Castle, and *flamed*, Lord Denman. 2nd, Mr. S. Johnson, Stafford, with *bizarre*, feathered, Lord Lilford; and *flamed*, Dr. Hardy; *roses*, feathered, Mrs. Collier, and *flamed*, Maggie; *byblomems*, feathered, Angelina; and *flamed*, Lord Denman. 3rd, Mr. H. Keeling, Stoke.

In the class for three feathered Tulips, always an attractive one, there were eleven competitors. Mr. Knowles was placed 1st, with *bizarre* Sir J. Paxton; *rose*, Lizzie, and *byblomems*, King of the Universe. 2nd, Mr. J. W. Bentley, with *bizarre*, Garibaldi; *rose*, Mrs. Collier, and *byblomems*, Agnes. 3rd, Mr. J. Jones.

Mr. Bentley also had the best three *flamed* Tulips, staging *bizarre*, Sir J. Paxton; *rose*, Mabel; and *byblomems*, Talisman. 2nd, Mr. C. W. Needham, with *bizarre*, Sir J. Paxton; *rose*, Aglaia, and *byblomems*, Duchess of Sutherland. 3rd, Mr. W. Kitchen, Marple, with *bizarre*, Sir J. Paxton; *rose*, Clio, and *byblomems*, Bienfait.

A class for maiden growers came next, requiring one feathered and one *flamed* bloom—a maiden grower being one who has not yet won the amount of his subscription at a show. Out of five competitors, Mr. W. Mellor was 1st, with *bizarre* *flamed*, Sir J. Paxton; and *byblomems* feathered Mrs. Hepworth. 2nd, Mr. H. Keeling, with *bizarre*, *flamed*, Sir J. Paxton; and *bizarre*, feathered, Magnum Bonum. 3rd, Mr. J. Jones. A similar open class followed, the flowers staged in the preceding class being allowed to compete in this one also. Mr. Mellor was placed 1st here also with the flowers above-named; Mr. J. Bentley was 2nd, with *bizarre*, feathered, John Mills; and *bizarre*, *flamed*, Sir J. Paxton. 3rd, Mr. J. Knowles, with *rose*, feathered, Heroine; and *rose*, *flamed*, Lady Catherine Gordon.

SINGLE FLOWERS.

As is usual, a large number of flowers were staged

in the classes for single blooms. The best feathered bizzarres in the order of merit were William Wilson, shown by Mr. S. Barlow; Masterpiece, Royal Sovereign, General Grant, and Richard Yates. Feathered roses: Modesty, shown by Mr. Knowles; followed by Julia Farnese, Modesty, Annie, McGregor, and Industry. Feathered byblomms:—Mrs. Hepworth, shown by Mr. Knowles; and then came in order of merit King of the Universe, Adonis, Bacchus, and William Parkinson. Bizzarres, flamed, Sir J. Paxton, in very fine character, shown by Mr. Wood, followed by Dr. Hardy, Prince of Wales, and Dr. Hutcheon; roses, flamed, Aglaia, from Mr. S. Barlow, next Chio, Annie McGregor, Madame St. Arnaud, and Mabel. Byblomms: Lord Denman from Mr. Geo. Needham; then Talisman, Dymock's seedling Queen of the Universe, Adonis and May Queen.

The Premier feathered Tulip was byblom King of the Universe and the premier flamed bizzarre, Dr. Hardy, both shown by Mr. J. W. Bentley, in his first prize twelve blooms in Class 1.

BREEDER TULIPS.

As is usual, these were wonderfully attractive. The best six out of five collections, came from Mr. J. W. Bentley, who had, of bizzarres, Sir J. Paxton and Sulphur; roses, Annie McGregor, in beautiful colour, and Miss B. Coutts; byblomms, Glory of Stakehill and Talisman. 2nd, Mr. Samuel Barlow, also with bizzarres, Sir J. Paxton and Sulphur; roses, Annie McGregor and Miss B. Coutts; byblomms, David Jackson, very fine purple, and Hepworth Seedling. 3rd, Mr. Moorhouse.

Mr. J. W. Bentley also had the best three varieties, having bizzarre, Sir J. Paxton; rose, Annie McGregor; and byblomms, Mr. Parkinson, of a silvery soft mauve colour. 2nd, Mr. Mellor, with bizzarre, Sir J. Paxton; rose, Thomas Parker; and byblomms, Queen of May.

The best bizzarre breeder was Richard Yates, shown by Mr. J. W. Bentley, followed by Sir J. Paxton, Hepworth's Seedling, William Wilson, and Goldfinder.

The best rose breeder was Olivia, also from Mr. Bentley; followed by Mrs. Barlow, Annie McGregor, Mabel, Queen of England, and Thomas Parker.

Byblomms breeders.—1st, Mr. Jones, with Lord Denman, followed by Bridesmaid and Seedlings.

The premier breeder was Richard Yates, also shown by Mr. J. W. Bentley.

THE BUTLEY TULIP SHOW.

For sixty-seven years past a Tulip show has been held at the "Orange Tree" Inn, Butley, a small village near Macclesfield, and so popular is it with the Tulip fraternity that many admirers of the flower are attracted to it from Manchester, Macclesfield, Stockport, &c. The show is conducted according to all the old traditions: the flowers are staged in ginger-beer bottles in one room; in another sit the Secretary and the exhibitors, and as the flowers are judged, stewards bring to the Secretary the blooms awarded prizes; the names of the varieties and the exhibitors are entered by him in a book, and the proper cards affixed to them; they are then returned to the show-room and arranged on a sloping stage—like an old-fashioned plant-stage—placed at one end of the room, where they are on view for a few days, non-subscribers being "admitted on payment of silver at the doors." If anyone would witness something of the old enthusiasm which stirs the Tulip-growing fraternity, they should pay a visit to the Butley Tulip show. One curious proviso in the schedule of prizes is, that growers may be required to prove on oath the flowers they bring to the show were grown and bloomed by them.

On the occasion of the annual show on the 10th inst., additional interest attached to it from the fact that Mr. Samuel Barlow, J.P., of Stakehill House, Manchester, the President of the Society for the year, offered a valuable Silver Cup for the best "pan" of six rectified flowers, one feathered and one flamed in each class. There were four competitors, and the Cup was awarded to Mr. J. W. Bentley, the Hon. Secretary of the National Tulip Society, a young grower who has proved most successful during the present season. His flowers were—bizzarres, feathered, Lord Frederick Cavendish; flamed, Sir J. Paxton; rose, feathered, Alice; flamed, Annie McGregor; byblomms, feathered, King of the Universe; and flamed, May Queen.

There being but one prize, the non-successful stands were broken up, and the blooms placed in the

several classes for single flowers, where they again competed.

Mr. Bentley's stand of six blooms occupied the place of honour upon the Tulip stage. The premier feathered flower in the show was byblomms, Violet Amiable, shown by Mr. W. Kitchen, of Marple. The premier flamed bizzarre, Sir Joseph Paxton, one of Mr. Bentley's prize blooms.

A large company sat down to dinner during the afternoon, under the presidency of Mr. Samuel Barlow, when the Cup was handed over to Mr. Bentley with due ceremony.

THE GRAND YORKSHIRE GALA.

JUNE 15, 16, AND 17.—We had had cold weather for some days past, and it was all the more cheering to see such a splendid display of flowers and fruit brought together as was seen at this most popular provincial show. Not only is the gala popular with the Yorkshire people, but is looked forward to by multitudes in the neighbouring counties of Durham and Lancashire. The gala opened at noon on Wednesday last amid fine, if not actually bright weather, and continued for three days. There was a fine display of specimen stove and greenhouse plants, the Earl of Zetland, gr. Mr. E. Letts, taking the 1st prize for ten, with Erica depressa (Silver Medal), Dipladenia amabilis, D. boliviensis. Orchids were also a fine feature. Mr. J. Cypher was 1st with ten, having splendid specimens of Dendrobium thysiflorum, Cattleya Sanderiana, and Dendrobium infundibulum; E. B. Faber, Esq. (Mr. Townsend, gr.), was 2nd. Mr. Wright, gr. to D. Wilson, Esq., was 1st for four Calanthe veratrifolia—a special exhibit.

Another fine feature at the York Gala were the groups, to which a tent is devoted, and the groups are two sizes, occupying 250 and 150 square feet respectively. Mr. McIntyre, gr. to Mrs. G. Pease, was 1st in both classes with choice and well-selected groups of greenhouse, stove plants, Orchids, Palms, and Ferns, their arrangement being very good.

Considering the late character of the season, and the earliness of the show this year, there was a very creditable display of fruit. Lord Hotham (Mr. Alsop, gr.) was 1st, with three fine bunches of Black Hamburg; Mr. Andrews, gr. to A. Milnthorpe, Esq., 2nd. Lord Hotham was again 1st for three bunches of white Grapes. The Duke of St. Albans (gr., Mr. Edmonds) was 1st for Melons; Mr. McIndoe, gr. to Sir J. W. Pease, Bart., Hutton Hall, Guisborough, 2nd; while for Peaches, Mr. McIndoe was 1st.

For ten varieties of fruits and vegetables, Sir W. Pease, Bart., M.P. (gr. J. Corbett), was 2nd.

Cut flowers were a special feature; in fact, we have never seen a finer display at the gala, both of cut Roses, herbaceous flowers, Pyrethrum roseum, single and double Pansies and Violas, Messrs. Harkness & Sons, Bedale, carrying off several prizes both for Roses and other flowers.

Bouquets were so abundant as to be quite a feature of the show. For bridal bouquets, 1st, Messrs. Perkins, of Coventry. H. Stanton, Esq., 1st for hand-basket of flowers; and 2nd, Mr. A. Booty, Harrogate.

By far the most gorgeous display was in the Pelargonium tent, the plants being marvellously fine, and beautifully flowered. The prize-takers were Mrs. Tetley, of Leeds (gr., Mr. Eastwood), Miss Steward, of York, Dr. Wilson, and J. T. Kingston, Esq. The cut Roses were fine, although, perhaps, less numerous than in some previous years. Pot-Roses were fairly represented. Alpine and herbaceous plants were shown, but not well.

Of miscellaneous exhibits, Mr. Jennings, gr. to Leopold of Rothschild, Esq., M.P., Ascot, was there, with a fine display of Souvenir de la Malmaison Carnations (white and pink), as well grown and flowered as we need wish to see them, and which were the admiration of all. Messrs. Cutbush & Son, Nurseries, Highbury, London, had a display of Peonies and other flowers and foliage—altogether an attractive display. Messrs. Birkenhead staged a large collection of greenhouse and hardy Ferns in their excellent way; while Messrs. Dobbie, Rothsay, N.B., had a wonderful display of Pansies and Violas in great variety, as had Mr. Forbes, Hawick, N.B. Mr. Yeld, Clifton, York, had one or two of his seedling Iris germanica, one of which named Sincerely (a hybrid from I. pallida × Queen of May) was attractive; he also exhibited a hybrid Hemerocallis named Apricot, raised from H. flava × H. fulva. Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, staged a group of miscellaneous Orchids, interspersed with Ferns and other plants,

THE WEATHER.

[By the term "accumulated temperature" is meant the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named; and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

DISTRICTS.	TEMPERATURE.					RAINFALL.		BRIGHT SUN.		
	Above (+) or below (—) the Mean for the week ending June 11.	ACCOMULATED.				More (+) or less (—) than Mean for the Week.	No. of Rainy Days since Jan. 3, 1892.	Total Fall since Jan. 3, 1892.	Percentage of possible Duration of possible Duration since Jan. 3, 1892.	
		Above 42°, for the Week.	Below 42° for the Week.	Above 42° difference from Mean since Jan. 3, 1892.	Below 42° difference from Mean since Jan. 3, 1892.					
0	3	88	0	+ 48	+ 207	4	109	18.3	31	30
1	3	87	0	+ 8	+ 237	1	83	10.1	42	35
2	3	101	0	+ 63	+ 186	3	85	9.1	47	34
3	3	113	0	+ 45	+ 207	2	79	7.6	60	38
4	4	123	0	+ 95	+ 244	2	72	8.0	65	37
5	2	118	0	+ 27	+ 138	3	80	6.0	64	42
6	3	103	0	+ 36	+ 193	1	85	16.0	38	35
7	4	116	0	+ 54	+ 165	1	83	12.3	58	37
8	3	118	0	+ 56	+ 117	5	76	10.2	62	43
9	4	114	0	+ 23	+ 122	5	89	14.0	40	32
10	4	124	0	+ 40	+ 132	5	81	13.8	50	37
* 1	1	110	0	+ 31	+ 42	0	81	11.1	65	47

The districts indicated by number in the first column are the following:—

Principal Wheat-producing Districts.—0, Scotland, N.; 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, S. Principal Grazing Districts.—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; * Channel Islands.

THE PAST WEEK.

The following summary record of the weather for the week ending June 11, is furnished from the Meteorological Office:—

"The weather was fine and warm during the greater part of the week, but changeable and unsettled at the beginning, and also at the close of the period. Thunderstorms occurred in many parts of England on the 5th, and in a few isolated places on the 10th. On the latter date severe thunderstorms accompanied by very heavy falls of rain were experienced in the north of Ireland.

"The temperature was above the mean in all districts, the excess ranging in most instances between 2° and 4°. The highest readings were recorded mostly on the 9th or 10th, when the thermometer exceeded 80° in all but the extreme northern parts of Great Britain; in 'England, E.' (at Cambridge) it rose to 85°. A very sudden fall occurred in the north at the close of the week, the maximum readings at some of the Scotch stations being more than 30° lower on the 10th than on the 9th. The lowest readings occurred on various dates in the different districts, but in the northern parts of the Kingdom they were observed mostly on the 11th; over the country generally the absolute minima ranged between 40° and 45°, but in 'Scotland, E.' the thermometer fell to 36°.

"The rainfall was a little less than the mean in most districts, but more in 'England, N.E.', 'Scotland, W.', and 'Ireland, N.', and the 'Channel Islands' the amount agreed with the average.

"The bright sunshine was above the average in all districts, excepting 'Scotland, N.', the excess being large over the greater part of England; where the percentage of possible duration exceeded 60. In 'England, S.' the percentage was as high as 67, and in the 'Midland Counties' and the 'Channel Islands' it reached 65, but in 'Scotland, N.' it did not exceed 36°."

MARKETS.

COVENT GARDEN, June 16.

[We cannot accept any editorial responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal elements, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they fluctuate not only from day to day, but often several times in one day, Ed.]

FIRST arrivals of outdoor Strawberries this week, but, owing to the cold nights, are not finished. Business steady, with prices unaltered. *James Webber, Wholesale Apple Market.*

PLANTS IN POTS.—WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Genistas, per dozen.	6 0-10 0
Arum, per dozen.	6 0-9 0	Heliotrope, per doz.	4 0-8 0
Aspidistra, per doz.	18 0-25 0	Hydrangea, per doz.	9 0-18 0
Begonia, per doz.	6 0-12 0	Ver. Geranium, doz.	5 0-9 0
Calceolaria, per doz.	4 0-8 0	Lilium Harris, 12 18 0-30 0	
Coleus, per doz.	4 0-6 0	Lobelia, per doz.	4 0-6 0
Cyperus, per doz.	4 0-10 0	Marguerites, per doz.	6 0-12 0
Draconema, each	6 0-9 0	Primula, each doz.	6 0-10 0
Echeveria pyramidalis, per doz.	12 0-24 0	Musk, per doz.	2 0-4 0
Ericas, various, doz.	12 0-18 0	Palm, various, each	2 0-10 0
Ferns, various, doz.	4 0-9 0	— specimen, each	6 0-24 0
— per 100	8 0-15 0	— 12 18 0-30 0	
Ficus elastica, each	1 6-7 6	Roses, Fairy, per doz.	5 0-8 0
Fuchsia, per doz.	6 0-9 0	Spinacea, per doz.	6 0-12 0
Bedding plants, various, in boxes, 12 to 35.			

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, 4-ieve	1 0-4 0	Melons, each	2 0-3 6
Apples, Tasmanian, per case	7 0-14 0	Peaches, per doz.	5 0-18 0
Grapes, per lb.	2 0-4 0	Pine-apples, S. M.	
Lemons, per case	8 0-14 0	— chaf, each	2 0-6 0
		Strawberries, per lb.	1 0-3 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arum, per doz. bl.	2 0-4 0	Pansies	1 0-2 0
Azalea, p. doz. spray	8 0-9 0	Paeonies, doz. bun.	6 0-12 0
Calla lily, 12 blms.	1 6-4 0	Pelargonium, each	2 0-6 0
Conflower, 12 bl.	1 6-4 0	— list, per doz.	4 0-6 0
Eucharis, per dozen	2 6-4 0	— 12 spray	0 9-1 0
Geraniums, per dozen	1 6-3 0	Poppies	2 0-6 0
Heliotrope, 12 spray	0 6-9 0	Primula, double	6 0-6 0
Iris	1 6-3 0	Pyrethrum	2 0-6 0
Lilac white (French)	4 0-6 0	Ranunculus	1 0-3 0
— per bunch	4 0-6 0	Roses, Tes, per dozen	0 9-2 0
Lilium Harris, doz.	2 6-4 0	— coloured, dozen	1 0-3 0
Maiden Hair Fern, 12 bunches	4 0-6 0	— yellow (Maréchal)	2 0-2 0
Marguerites, per doz.	3 0-4 0	— red, per dozen	2 0-4 0
Mimulus, 12 bunches	3 0-4 0	— 12 bunches	9 0-12 0
Mignone, 12 bl.	4 0-6 0	— outdoor, 12 bun.	6 0-12 0
Myosotis, or Forget-me-not, 12 bunches	1 6-4 0	Spinacea, 12 bunches	4 0-6 0
Orchids	12 blms.	— 12 blms.	0 6-1 0
Cattleya, 12 blms.	4 0-6 0	Wallflowers, per doz.	2 0-4 0
Odonotoglossum, 12 blms.	1 0-4 0		
crispum, 12 blms.	1 0-4 0		

ONION-BLOOM in variety.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes Globe, ea.	0 4-0 6	Lettuces, per doz.	1 6-2 0
Asparagus, per bund.	1 6-6 0	Mushrooms, punnet	2 0-4 0
Beans, French, lb.	2 6-3 0	Mustard and Cress, punnet	0 4-0 6
Beet, red, per dozen	2 0-3 0	Carrots, per bunch.	0 4-0 6
Carrots, per bunch.	0 4-0 6	Shallots, per lb.	0 6-0 6
Calliflowers, each	0 3-0 6	Spinach, per bushel	3 6-0 6
Cumcumber, each	0 6-0 9	Tomatoes, per lb.	1 0-2 0
Endive, per dozen	2 0-3 0	Turpie, per bunch	0 4-0 0
Herbs, per bunch	0 9-1 0		

POTATOS.

NEW POTATOS.—Heavy supply from Jersey and France. Prices, 12s. to 14s.

OLD POTATOS.—Short supply. Market firmer. *J. B. Thomas.*

SEEDS.

LONDON: June 15.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report that the market is thickly attended, with but little business doing. Valuable seed is consequently without important variation. Orders for the seed still drop in. Canary seed is strong: stocks are without doubt very light. Mustard and Rape seed are both firmly held. Other articles at this quiet season offer no subject for remark.

FRUITS AND VEGETABLES.

SPITALFIELDS, June 14.—Quotations:—American Apples, 12s. to 16s. per barrel; New Zealand do., 6s. to 12s. per case; foreign Tomatoes, 1s. to 2s. per box; forced Rhubarb, 1s. to 1s. 6d.; natural do., 1s. to 2s. per dozen bunches; Asparagus, 9d. to 1s. 6d. per bundle of 100 heads; Sea-kale, 9d. to 1s. per punnet; Cabbages, 2s. to 4s. 6d.; Radishes, 2s. to 3s. per tally; Greens, 1s. 6d. to 2s.; Turnips, 2s. to 3s.; new Carrots, 2s. 6d. to 4s. 6d.; Spring Onions, 3s.; Parsley, 1s. 6d. to 2s. per dozen bunches; Spinach, 6d. to 1s.; Peas, 5s. to 6s. per bushel; Endive, 1s. to 1s. 6d.; Cabbage Lettuce, 6d. to 8d.; Lettuce, 2s. to 3s. 6d.; Trams Cucumbers, 2s. to 3s. 6d.; natural do., 1s. to 1s. 6d.; Beet roots, 4d. to 6d. per dozen; Cos Lettuce, 6d. to 1s. per score;

Mustard and Cress, 1s. 6d. to 2s. per dozen baskets; Egyptian Onions, 5s. to 5s. 6d. per cwt.; Horseradish, 1s. to 1s. 1d. per bundle; Mint, 1s. 6d. to 2s. 6d. per bundle.

BOROUGH, June 14.—Broccoli, 12s. 6d. to 15s.; Cabbages, 3s. 6d. to 6s. per tally; Peas, 4s. to 5s.; Spinach, 1s. 3d. to 2s. per bushel; Greens, 2s.; Carrots, new, 6s. to 7s.; Spring Onions, 4s. per dozen bunches; Egyptian do., 5s. to 6s. per cwt.; English Apples, 5s. to 10s. per bushel; Canadian do., 12s. to 20s. per barrel.

STATIONS, June 15.—There has been an excellent supply of all kinds of produce at this market during the past week, and a brisk trade was done at the undermentioned quotations—Cabbages, 3s. to 5s. per tally; Greens, 2s. 6d. to 3s. per cwt.; Cauliflowers, 2s. to 3s. 6d.; Carrots, household, 3s. to 4s. per ton; cattle-feeding, 2s. to 3s. 6d.; Mangels, 14s. to 18s. do.; Swedes, 18s. to 20s. do.; Onions, Egyptian, 4s. 6d. to 5s. 6d. per bag; English, 5s. to 6s. per bushel; American, 10s. to 20s. per barrel.

POTATOS.

SPITALFIELDS: June 14.—Quotations:—New: Jersey Kidney, 16s. to 18s.; do. Flukes, 17s. to 18s.; St. Malo Rounds, 12s. to 12s. 6d.; do. Kidneys, 10s. to 11s.; Libbon Rounds, 8s. to 9s.; Malta Kidneys, 12s. to 14s.; do. Rounds, 9s. to 10s. per cwt. Old: Maguams, 65s. to 75s.; Imperators, 60s. to 75s.; Hebrons, 60s. to 75s.; Bruce Maguams, 60s. to 80s.; Main Crop, 55s. to 100s.; Snowdrops, 70s. to 85s.; Sutton's Abundance, 70s. to 85s. per ton.

BOROUGH, June 14.—Quotations:—New: Lisbon, 9s. 6d. to 10s. 6d.; Malta, 11s. 6d. to 15s. per cwt. Old: Bruce Maguams, 50s. to 100s.; Dunbar do., 110s. to 120s.; Fenland do., 60s. to 70s. per ton.

FABRINGDON: June 15.—Quotations: New:—Jersey Flukes, 12s. 6d. to 14s.; do. Kidneys, 12s.; do. Rounds, 11s. per cwt. Old: Scotch Maguams, 100s. to 110s.; Bedford, 80s. to 90s. per ton.

WATFORD: June 15.—Quotations:—Light-land, 65s. to 75s.; Dark-land, 60s. to 65s.; Bruce Maguams, 12s. to 90s.; Scotch Maguams, 65s. to 90s.; Main Crop, 70s. to 100s. per ton.

GENERAL MARKET AVERAGES: June 15.—Old: Maguams, 70s. to 100s.; Dunbar do., 100s. to 110s.; Snowdrops, 70s. to 85s.; Hebrons, 60s. to 75s. per ton. New:—Lisbon, 8s. 6d. to 9s. 6d.; Malta, 12s. to 15s.; Jersey, 14s. to 15s. per cwt.; English, 2d. to 4d. per pound.

NOTICES TO CORRESPONDENTS.

* PHOTOGRAPHS, DRAWINGS, OR SPECIMENS.—We shall be pleased to receive from our Correspondents notes relating to interesting Gardens, together with Specimens or Illustrations of interesting Plants. Although circumstances prevent us in all cases from reproducing them, we are nevertheless glad to receive them, and as far as possible to utilize them for the benefit of our readers.

AGRICULTURAL CHEMISTRY: *Con-jungo*. 1. The Colleges at Downton, near Salisbury, or at Cirencester. We believe that some section of agriculture is taught at or near Lewes, in your county. 2. In French, we will get the publisher's name and address for you.

BOOKS: MANUAL ON BEE-KEEPING: *D. Bee-keeping*, by Alfred Rusbridge, London; E. W. Allen, 4, Ave Maria Lane, E.C.

CONFER CONFERENCE PAPERS: *Charles Palmer*. These have not as yet appeared in the Society's Journal. Enquire of the Secretary, 117, Victoria Street, Westminster, S.W.

FUMIGATION OF VINES IN BEARING: *Novice*. The repeated experiments made with "Nicotine," show that no injury to the tenderest foliage or fruit follows its use. See our issue for last week, p. 761.

GOOSEBERRIES: *G. T. and W. M.* I find no fungus disease, but insect remains in all the fissures of the bark. The lichens and small phora on the bark have nothing to do with the disease. The same insect-traces and red bodies are on both sets of specimens sent. *Dr. C. M. Cooke*.

GRAPES: *T. M., Kingsmead*. The berries you sent are affected with a very common disfigurement known as "rust," and is the effect of injury to the cuticle or skin of the berry. There is no cure for berries already affected: cut all such out. It is produced by many and different causes, such as touching them with the hand, or the hair of the head whilst thinning, by cold draughts, or by over-heated and dry atmosphere, as well as by using sulphur applied to hot pipes when the berries are very young.

NAMES OF PLANTS: *R. W.* The broad leaf is *Sanguisorba*. The Canadian (Blood Wort), *Mertensia virginica*.—*C. J. C.* Diplacis glutinosa.—*E. V. B.* Olearia Haasti, a hybrid New Zealand shrub.—*A. P., S. Shields*. The rose sent is not *Sou-*

venir d'un Ami, but *Annie Olivier*.—*Cuthbush & Sons*. No. 1, *Juniperus recurva*; 2, *Pinus macrocarpa*.—*W. D.* No. 3 from last week. *Rheum palmatum* var. *taugathicum*.—*Azalea packed in Walnut Leaves*. Glory of Sunning Hill.—*A. G. H.* *Epidendrum coelestium*.—*C. W. D.* *Senecio crassifolius*, *Erigeron glabellus* var. *asper*.—*E. H. P.* 1, *Vincetoxicum officinale*; 2, *Cynanchum Molesum*.—*W. L. & Co.* A deformed flower of *Cattleya Mossia*.—*R. W. H.* 1, *Habenaria foliosa*; 2, *Lycynis viscaria* fl.-pl.; 3, *Lomaria spicata*; 4, *Mentha pulegium*.—*Lea*. 1, *Erigeron philadelphicus*; 2, *Hesperis matronalis*; 3, *Iris variegata*; 4, *Oncidium lamelligerum*; 5, *Campanula glomerata*.—*J. McM.* 1, *Anthericum liliastrium*; 2, not recognised; 3, *Keria japonica*; 4, *Campanula glomerata*; 5, *Veronica gentianoides*.—*F. A., Cheddar*. *Dendrobium moschatum*.—*J. A. P.* 1, *Cassia corymbosa*; 2, *Lycetaria formosa*; 4, *Olearia Haasti*; 5, *Deutzia gracilis*; 6, *Crenata flore-pleno*.—*G. Southcott*. 1, *Cirrhopetalum* species; 2, *Saxifraga Tridactylites*.—*E. J.* Two *Epidendrum* and a *Cypripedium*, which species we cannot tell until we see the flowers. Of little value.—*H. J. R.* *Warsceviczella velata* and *Pescatorea cerina*, so far as we can judge by the dry flowers sent.—*Simon*. *Broughtonia sanguinea*.—*F. C. E.* *Melaleuca hypericifolia*. It is not very ornamental, but the foliage is of use in setting off cut flowers, in bouquets, vases, &c.—*E. D. L.* 1, *Pyrus americana*; 2, *Rubus nutkanus*; 3, *Spirea trilobata*; 4, *Viburnum Lentago*; 5, *Polygonum molle*; 6, *Lilium pyrenaicum*.—*A. A.* 1, Send when in flower; 2, *Acacia dealbata*; 3, Send when in flower; 4, *Deutzia crenata flore-pleno*; 5, *Spirea Thunbergii*; 6, *Grossularia fuchsoides*; 7, *Ribes grossularioides*.—*A. E. R.* *Osmonda regalis cristata*.

NECTARINES DEFORMED AND UNSOUND: *W. S.* The trees bring weak and old, and in that condition falling a prey to the root mildew, *Dematophora nectatrix*, or *Agaricus melleus*, are unable to bring perfect fruit. There is small chance of a cure.

PEACHES: *J. S. H.* The splitting of the fruits is due to a large access of water to the roots after a period of dryness, and often occurs when the gardener affords water to the borders very abundantly just at the time the fruit is swelling.

SOIL FOR MUSHROOM BEDS: *J. A. C.* Stiffish loamy soil, containing but little decayed vegetable matter. Ordinary kitchen garden soil is seldom suitable; but pasture loam that has been stacked for a year is very suitable for soiling the beds, or this may be mixed with light garden soil as much as possible free from humus, in the proportion of half loam to half garden mould.

THE LONGEST BAMBOO LADDERS: *A Forty Years' Subscriber*. Apply to some of the larger horticultural sundriesmen. You will find their names in the *Garden Directory* or *Garden Annual*.

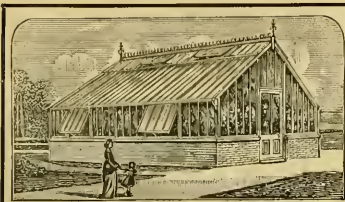
TOMATOES: *E. K.* The black spot of Tomatoes, a disease for which no remedy is known. (See *Gardeners' Chronicle*, vol. ii., 1889, p. 409). Destroy by burning all affected fruits, and try some of the fungicide remedies so often advocated of late in these pages, and keep the plants less moist, root and top.—*W. R.* Obtain a copy of our issue for March 26, 1892; see p. 403. The remedy is too long to be repeated here.

TWIN CUCUMBERS: *A. C.* A very common occurrence.

VINES: *J. J.* The leaves appear to have been punctured by some kind of insect, causing wounds or galls. Could you not send a good handful of shoots and leaves, packed in damp moss, and describe your treatment of the Vines?—*J. F.* The tips are affected with mildew. There are probably some faults in management. Cut off affected parts, and burn them. Read "Spraying to Destroy Insects and Fungi," in our issue for March 26 last.

COMMUNICATIONS RECEIVED.—*M. C. W.* Sowerby.—*Eady, Chertsey*.—*E. C. D.* Mawley.—*Messrs. J. Carter & Co.*—*F. W. B.*—*J. A. P.*—*D. E. C.*—*J. MacMillan* (next week).—*J. V. T.*—*Bruce Findlay*.—*W. A. C.*—*T. Faxon*.—*S. P. O.*—*C. Cundy*.—*M. T. M.*—*G. F.*—*W. H. C.*—*L. J.*—*R. P.*—*E. M.*—*T. S.*, Timaru, N.Z.—*Dr. K.*—*T. B.*—*J. D.*—*J. L.* & *Sons*.—*H. A.*

DIED.—*Monsieur MARBOTTIN*, of Bourg-la-Reine, near Paris, a well-known raiser of many good Roses. Age 74.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25ft. by 12 ft., £30; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid—1-light frame, 4 x 6, 36s. 6d.; 2-light frame, 6 x 8, 58s.; 3-light frame, 12 x 6, 85s. 6d. Span-roof Frames, 12 x 4, £4 7s. 6d.; 9 x 5, £3 15s.; 16 x 6, £3 10s.

HARDY BRUIIN & CO., Graham Street, LEICESTER

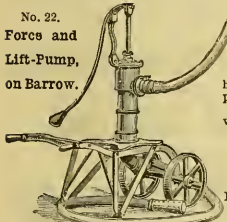
Boulton & Paul,

NORWICH,

Manufacturers
of
ALL KINDS
of

GARDEN REQUISITES.

Send for Illustrated Catalogue, free on application.



No. 22,
Forces and
Lift-Pump,
on Barrow.

Cash Prices—Carriage Paid.
With connections and strainer, but without hose, £4 10s.
Suction or delivery hose, carriage paid with pump, 2s. 3d. per foot.
Extreme width, outside wheels, 22 inches.

EVERY REQUISITE
FOR THE
GARDEN, PARK,
AND
PLEASURE GROUNDS.

Send for Catalogue.

Boulton & Paul, NORWICH.



21-oz. and 16-oz. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINSEED OIL PUTTY."

GEORGE FARMILOE & SONS,

LEAD, GLASS, OIL, and COLOUR MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

Protect your Gardens from Ravages of Birds.

TANNED NETTING, 35 yards, 1s. Can be sent any length; carriage paid on orders over 5s. Also BELL-TOP TENTS, 40 feet in circumference, with pegs, pole, all complete, from 20s. to 30s. each.

HENRY ROBINSON, Tent and Net Merchant, Rye, Sussex.

CARSON'S PAINT

Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt., and Oil Mixture, Pres to all Stations. Liquid Non-Poisonous Paints for Inside of Conservatories, &c. Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.;
(and) BACHELOR'S WALK, DUBLIN.—Discount for Cash.



TRADE MARK.



TRADE MARK.

THESE WELL-KNOWN MANURES

ARE USED BY THE

Leading Growers,
Royal Botanic Society,
Royal Horticultural Society,
Royal Parks,
London County Council,
Throughout the United Kingdom,
And in Every Quarter of the Globe.

Sold by SEEDSMEN, FLORISTS, and NURSEYMEN,
in 6d. and 1s. Packets, and SEALED BAGS:—

7 lb. 14 lb. 28 lb. 56 lb. 112 lb.
2s. 6d. 4s. 6d. 7s. 6d. 12s. 6d. 20s.

Or direct from the Works in 1s. Packets, post free, or Bags of either size, Carriage Paid (as sample), in the United Kingdom, for Cash with order as above.

The respective Trade Mark is printed on every Packet and Bag, and also impressed on the Lead Seal attached to the mouth of each Bag. The only Guarantee of Genuine.

PRICES OF CRUSHED BONES IN VARIOUS SIZES
ON APPLICATION.

CLAY & SON,

Manufacturers and Bone Crushers,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

RELiance FERTILISER.

A highly concentrated Plant Food, cleanly to use, for Greenhouse and Garden. The least possible waste, with utmost efficiency, 7 lb., 1s. 9d.; 14 lb., 3s.; 28 lb., 5s. 6d.; 56 lb., 10s.; 112 lb., 18s.; and—

NITROLAINE.

A cheap and excellent "all-round" manure for Fruit, Flowers, Vegetables, Grass. A genuine Plant Food, rich and lasting, 56 lb., 3s.; 1 cwt., 5s. 6d.; 5 cwt., 25s.; 10s. worth of Manures carriage paid to any railway station 200 miles, or on C.P. & Co.'s rounds. Guano, Nitrate, Ammonia, Phosphates, Bone Manures, &c.

LEAF MOULD, PRAT MOULD, FIBROUS LOAM, and POTTING COMPOST, 3s. per 4 bushel sack; 1s. per bushel. Best Brown Peat, 5s. per sack; 1s. 6d. per bushel. Coconut Fibre, 1s. 3d. per sack; 5 for 6s. Silver Sand (coarse or fine), 1s. 6d. per bushel. Charcoal (nuts or fine), 2s. per bushel.

Price Lists free. The Trade supplied on liberal terms.

"PLANT FOODS and HOW TO APPLY THEM," a Descriptive List, with Directions for Use, post-free, 1d. HORTICULTURAL SUPPLY CO., Old Shot Tower Wharf, London, S.E.

ALBERT'S

HIGHLY CONCENTRATED

HORTICULTURAL MANURE.

A Chemically Pure Plant Food.

UNPARALLELED FOR ITS RAPID ACTION AND FRUITIFYING PROPERTIES.

BEST and ONLY RELIABLE COMPLETE FERTILISER for all VEGETABLES, FRUIT TREES, VINES, FLOWERS, LAWNS, &c.

UNPRECEDENTED RESULTS obtained by its use.

For Prices and Descriptive Pamphlet, apply to—

H. & E. ALBERT,

17, GRACECHURCH STREET, LONDON, E.C.

Responsible Agents wanted.

STANDEN'S MANURE.

(PATENT).

ACKNOWLEDGED to be unrivalled for Efficiency and Economy, as most satisfactory and lasting results follow the application of the smallest quantity. In new and enlarged Tins, 6d., 1s., 2s. 6d., 5s. 6d., and 10s. 6d.; and in Kegs, 28 lb., 10s. 6d.; 56 lb., 18s.; 112 lb., 32s. each.

Sold by all Nurserymen and Seedsmen.

SOLE MANUFACTURERS:

CORRY & CO. (Limited),

13, 15, & 16, FINSBURY ST., LONDON, E.C.

THE PATENT

SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatoes, Peaches, &c., beyond any other Manure.

Strongly Recommended

For Ripening Tomatoes Early in the Open Border.

Cambridge, September 12, 1891.

"I have formed a very high opinion of the value of the Patent Silicate Manure, especially for Tomatoes, Grapes, and Peaches.

(Signed) E. HOEDAY."

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ½ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,

THE CHEMICAL WORKS,

HEMEL HEMPSTEAD, HERTS.

May be had through all Seedsmen and Chemists.



Prices:—1 Gall. 3/- (tins included), 5 Gall. 2/6 per Gall., 10 Gall. 2/6 per Gall., 20 Gall. 2/3 per Gall., 40 Gall. 2/- per Gall. Carriage paid on 5 Gall. and upwards.

Kills all Weeds on Garden Walks, Carriage Drives, &c., &c. Brightens the Gravel. One application will keep the Walks Clear of Weeds for a whole Season.

Prepared Solely by

The Boundary Chemical Co., Ltd.,
LIVERPOOL.

HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

The "STOTT" Patent INSECTICIDE DISTRIBUTOR.



CHEAP, SIMPLE, and EFFECTUAL. 28s. Complete.

INSECTICIDE "KILLMRIGHT."

CERTAIN PREVENTIVE OF MILDEW.

DEATH to CATERPILLARS, and all INSECT PESTS on Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and other Plants. NON-POISONOUS.

2-lb. Tins, 1s. 9d.; 14-lb. Tins, 9s.; 56-lb. Kegs, 34s.

FERTILIZER "FEEDMRIGHT."

Most Invaluable for

Roses, Chrysanthemums, Greenhouse, & Stove Plants.

2-lb. Tins, 1s.; 14-lb. Bags, 4s. 6d.; 56-lb. Bags, 15s.

PRICE LISTS and TESTIMONIALS on Application.

2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE and RETAIL FROM THE

"STOTT" FERTILIZER & INSECTICIDE
Distributor Co., Ltd., MANCHESTER.
Retail from all Ironmongers, Seedsmen, &c.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—The Registered Address for Foreign and Inland Telegrams is "Garlick, London."

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 " ..	0 3 6	16 " ..	0 9 0
6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.

If set across three Columns the lowest charge will be 30s.

Page, 4s; Half Page, 24 10s.; Column, 4s.

NOTICE TO ADVERTISERS.—In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; in this all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths and Marriages, 5s. each insertion.

POSITION.—Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.

POSTAL ORDERS.—To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST reach the Office not later than Thursday noon.

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months: Post-office Orders to be made payable at the Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

FARMS, ESTATES, RESIDENCES.

Any one desirous of Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "Midland Counties Herald Office, Birmingham." The Midland Counties Herald always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

THE SYDNEY MAIL,

AND

NEW SOUTH WALES ADVERTISER.

CONTENTS:—

INTERCOLONIAL AND GENERAL NEWS.
SPORTING AND THE FIELD, in which is incorporated BELL'S LIFE IN SYDNEY.
RECORD OF RACES, and NOTES on the TURF.
CRICKET and AQUATICS.
THE FLORA OF AUSTRALIA. (Drawn and engraved especially for this Journal.)
NATURAL HISTORY. (Original Articles.)
AGRICULTURE, PASTORAL, HORTICULTURE.
GOLD FIELDS and MINING generally.
STOCK and SHARE REPORTS.
ORIGINAL and SCIENTIFIC ARTICLES.
TALES BY POPULAR ENGLISH and AUSTRALIAN AUTHORS.
THE FASHIONS. DOMESTIC ECONOMY.
INDOOR AMUSEMENTS.
THE CHESS PLAYER. THE HOME CIRCLE.
COMMERCIAL NEWS.
SHIPPING INTELLIGENCE.
The SYDNEY MAIL has a wide circulation throughout the Australian Colonies, New Zealand, Polynesia, &c. It contains a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.

Single Copies, 6d.; Stamped, 7d.

Publishing Office—Hunter Street, Sydney, New South Wales.

ENGLAND.

The undermentioned Newspaper and Advertising Agents are authorised to receive ADVERTISEMENTS for the SYDNEY MORNING HERALD and SYDNEY MAIL:—

LONDON Messrs. Geo. Street & Co., 30, Cornhill, E.C.
Mr. F. Algar, 8, Clement's Lane, Lombard Street, E.C.
Messrs. Gordon & Gotch, St. Bride Street, Fleet Street, E.C.
Messrs. W. H. Smith & Son, 156, Strand.
BRISTOL James and Henry Grace, Royal Insurance Buildings.
MANCHESTER... James and Henry Grace, 73, Market Street.
EDINBURGH ... Robertson & Scott, 13, Hanover Street.
GLASGOW W. Porteous & Co., 15, Royal Exchange Place.

Copies of each Journal are filed at the above Offices for the use of Advertisers.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

From _____ To _____
THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.

_____ 1892.
Please send me "THE GARDENERS' CHRONICLE" for _____ Months,
commencing _____, for which I enclose P.O.O. _____

Please Note that all Copies sent Direct from this Office must be paid for in advance.
THE UNITED KINGDOM:—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.
ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.
Receipts for more than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.
June 18, 1892.

ESTATE SALES.

The Best County Medium for Advertising Sales of Estates is

THE "WORCESTER HERALD,"

ESTABLISHED 1794.

The Leading County Paper. Extensive circulation among the upper and middle classes in Worcestershire and adjoining counties. Advertisers would do well to forward for reference and distribution plans and particulars of Estates, Catalogues of Machinery, Furniture, Books, and other Property advertised in the Columns of the "HERALD."

Sales of Stock and Agricultural Effects.

The "WORCESTER HERALD" is the most effective organ for giving publicity to announcements of this class. It is the leading Agricultural Paper in the County, and Circulates most extensively among Agriculturists in and around Worcestershire.

Farms to Let.

Lead Agents, Estate Managers, and all having Farms to Let would do well to advertise in the "WORCESTER HERALD," the Leading County Paper. Specially adapted for bringing such notices before Tenant Farmers. Large circulation. Moderate charge.

Situations Vacant and Wanted.

For producing results the "WORCESTER HERALD" is recognised as a specially good medium. Cheap Rates. Apply for terms.

SPECIMEN FREE. Price 2d.
Published Friday for Saturday.

OFFICES:—72, HIGH STREET, WORCESTER.

Agricultural Economist.

AN ILLUSTRATED MONTHLY MAGAZINE, of 52 pages and cover. Exponent of scientific and high farming; advocates of co-operation in agriculture, in the supply of farm requisites, and the sale of produce; organ of the Agricultural and Horticultural Association, the pioneer society for mutual supply of pure stocks, complete manures, reliable seeds, and implements on wholesale terms. Specimen copy free. Subscription, per annum, 5s., inclusive of postage. Single copies 6d. each, through all Newsagents.

3, Agar Street, Strand, London, W.C.

AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

AMERICAN GARDENING,

WHICH INCLUDES:—

THE AMERICAN GARDEN
THE GARDENERS' MONTHLY AND HORTICULTURIST } United
THE FLORAL CABINET } In
POPULAR GARDENING } ONE.

Making the Largest, Best, Oldest, Liveliest, Handsomest Gardening Magazine in America.

THE LEADING AMERICAN JOURNAL FOR HORTICULTURAL ADVERTISEMENTS.

Subscription Price for England

and Countries in the Universal Postal Union, 6s.

Subscriptions must commence from Jan. 1.

E. H. LIBBY, Publisher, Times Building, New York, U.S.A.

Agents for Great Britain and Ireland:—
STEEL and JONES, 4, Spring Gardens, Charing Cross, London, S.W., to whom Orders for Advertisements and Subscriptions may be sent. A Specimen Copy post-free for 10d. (stamps).

HEATHMAN'S HOSE,
ANTIMONIAL RED RUBBER.
Is Lightest in Weight, yet Strongest and Most Durable
FOR GARDENS.
220 Miles Sold the last Five Years. Price Lists from—
HEATHMAN'S HOSE FACTORY,
2 & 37, ENDELL STREET, LONDON, W.C.

LIFE ASSURANCE AT COST ABOUT HALF THE USUAL RATES.

MUTUAL RESERVE FUND LIFE ASSOCIATION

OF NEW YORK.

E. B. HARPER, PRESIDENT.

PURELY MUTUAL.

ABSOLUTE SECURITY. STRICT ECONOMY.

The most successful Life Assurance Company in the World.
Total amount of Insurance in force, 1891 ... £44,190,535
New Business, 1891 ... £10,270,968
New Business accepted, 1891 ... £9,100,493
Total Death Claims paid ... £24,404,065
Saving to Members by this System, about ... £6,000,000
Chief Office for Great Britain:

90, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

THE RAILWAY PASSENGERS' ASSURANCE CO.

Pay over £2,700 weekly

as COMPENSATION for
ACCIDENTS OF ALL KINDS.

64, CORNHILL, LONDON.

W. D. MASSY, { Secs.
A. VIAN, }

ORCHID PEAT; best Quality; BROWN
FIBROUS PEAT for Store and Greenhouse use. RHODODENDRON and AZALEA PEAT. Samples and Prices of
WALKER AND CO., Farnborough, Hants.

HORTICULTURAL SHADINGS and
NETTINGS, TIFFANY, COTTON WOOLS, and
WADDINGS. Supplied Wholesale by—
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

FIRST-CLASS ENLARGED PORTRAITS
from Life or from Photograph, well-finished by hand—
10-inch, 4s. 6d.; 12-inch, 7s. 6d.; 18-inch, 12s. 6d. On mounts
for framing. Send Photo and P.O. or call. — FRANCES & CO.,
2, Creed Lane, Ludgate, E.C. (late 29, Ludgate Hill), Estb. 1836.

THE FRUIT GARDEN of the UNIVERSE.
—THE AUSTRALIAN IRRIGATION COLONIES
(Chaffey Brothers), established and regulated by Government,
OFFER an enjoyable life and OCCUPATION, a sunny and
salubrious climate, and most highly remunerative returns to
Cultivators with small or large capital; pamphlet free.
CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street,
London, E.C. J. E. M. Vincent, Chief Commissioner.

CATALOGUES RECEIVED.

JNO. LAING & SONS, Forest Hill, London—Begonia Catalogue and Plant Catalogue.

THOS. LAXTON, Bedford—List of Strawberries.

Wm. CUTBUSH & SONS, Highgate—List of Strawberries.

ROBERT SYDENHAM, Tenby Street, Birmingham—List of Bulbs, &c.

GARDENING APPOINTMENTS.

Mr. W. H. SMITH, for 65 years Foreman at Ascot, Leighton Buzzard, as Head Gardener to WILLIAM D. JAMES, Esq., West Dean Park, Chichester, Sussex.

Mr. GEORGE V. PARKER, for the past three years Foreman at Benham Park Gardens, as Gardener to A. MONTAGU, Esq., Inghamthorpe Hall, Wetherby.

Mr. THOS. SINGLETON, for the past three years Head Gardener to W. B. LINES HUGHES, Esq., Winton Tower, Winton la West, Darlington, as Head Gardener to the Marquis of WATERFORD, Courtham, Portlaur, Ireland.

Mr. A. STENHOUSE, for the last six years Gardener to R. H. MILLAR, Esq., of Blair Castle, N.B., as Gardener and Superintendent of Public Park, Kirkcaldy.

Mr. WILLIAM TUCK, as Head Gardener to E. B. EVERED, Esq., Oatlands, Hurley, Surrey.

PARTNERSHIP.—A young Gentleman, with small capital, wishes to find sound opening in Nursery Trade as JUNIOR PARTNER, or would take position of trust in good business with view to same.—Address, CROWLEY, 28, Bramley Hill, Croydon.

PARTNERSHIP.—An unusual opportunity offers to anyone with about £100, to take MANAGEMENT. Advertiser having three establishments—Florists, Market Gardens, and Nursery.—Address, E. J. WELLINGTON ST., Strand, W.C.

WANTED, an experienced MAN, for a large Retail and Wholesale Garden Seed Business, with a knowledge of the Nursery Trade; one capable of acting as Manager. Must be energetic, and must have thorough knowledge of the trade.—State salary, age, and experience to S. Gardeners' Chronicle Office, 41, Wellington St., Strand, W.C.

Florist's Department.

WANTED, a MAN of first-class experience, to take the entire charge of this department, in a large West End Establishment.—Apply, by letter only, marked "Private," stating fully the whole of past experience, age, and salary required, to W. WHITELEY, Universal Provider, Westbourne Grove, London, W.

WANTED, a HEAD GARDENER.—Six kept. No incumbrances. Must be good all-round, especially with Orchids. Lodge on premises, but wife to take charge of Mansion and Manage Small Dairy in absence of family.—Apply by letter to BROADBENT'S, High Street, Marylebone, London, W., stating particulars of service, age, and wages required.

WANTED, a GARDENER, unmarried.—Handy all-round man. Able, with labourer under him, to Supervise Stock, &c. Wages rising from 21s. to 25s.—Write full particulars of experience, &c., to RECTOR, Tending, Colchester.

WANTED, a GARDENER (single, or widower), to live in the house.—Wages 10s. to 12s. per week, with board, lodging, and washing. Man to help in Garden. Good character absolutely indispensable. Mrs. ANERBACH, Dryadot Hall, Derbyshire.

WANTED, a SINGLE-HANDED GARDENER.—45 years of age, 30 or under, placed, but applicants must have had good similar experience. State wages required outdoors, and particulars of last two situations. Must well understand Fruit Trees, ordinary Flowers and Forcing.—HOLMESDALE, Kew Gardens, Surrey.

WANTED, an UNDER GARDENER.—Write to undertake Laundry (no family preferred). Personal character indispensable. Cottage on the premises.—Apply by letter, to B. HASTINGS, College Hill Chambers, London, or Church House, Bromley, Kent.

WANTED, a WORKING FOREMAN, not under 30, in a Market Nursery, a thorough trustworthy, energetic Man. Thoroughly practical; must have held a similar situation. Apply, stating wages required and all particulars to H. A. Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

WANTED, an experienced FOREMAN, in a Market Nursery. Must have a good knowledge of Tea Roses, Cucumbers, Tomatoes, Grapes, and all kinds of soft-wooded Plants.—Apply to HORTUS, 41, Wellington Street, Strand, W.C.

WANTED, a thorough experienced MAN as PROPAGATOR and GROWER of Plants for Market.—Apply stating age, wages, and inclose copy of references, to J. CLAYTON, The Nurseries, Rothwell, near Leeds.

WANTED, an active young FOREMAN PROPAGATOR and GROWER, good at Wreaths, Bouquets, &c., to take charge of a small busy general Glass Department. Some knowledge of Herbaceous and other Plants would be useful.—State wages to A. B., Messrs. Hunt & Son, 152, Houndsditch, London.

WANTED, SEVERAL really good NURSEYMEN, married preferred. Must be of good character, thoroughly practical and efficient in their departments.—Send full particulars to W. C. & Co., Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C. (No Market Men need apply.)

WANTED, a young MAN, as SECOND, in the Garden, where three are kept, age about 20.—Wages, 14s. per week, with Botany and Vegetables.—G. HILLMAN, Woolton House, Newbury, Hants.

WANTED, a FIRST JOURNEYMAN, for the House.—A strong, active man, not under 23 years of age; must be well up in the work of Fruit-houses. Wages, 17s. per week, botany, &c.—Apply, Mr. S. A. WOODS, Osberton Gardens, Worksop, Notts.

WANTED, a strong, active MAN, to Grow Fruit and Flowers for Market; wages, 20s. Also, TWO young MEN as IMPROVERS, in a first-class place.—Address, Mr. W. MORLE, 283, Regent Street, W.

WANTED, a young MAN, as UNDER, where three are kept, to help in the general work of Kitchen and Flower Garden; also in Potting, and other work connected with Glass-houses.—Wages commencing at 15s. per week, no botany.—Apply, GARDENER, Bowling Green House, Putney Heath.

WANTED, a young MAN, for the Houses.—State age, wages expected, and reference.—CRANE AND CLARKE, Hildrise Nursery, March, Cambs.

WANTED, Two strong industrious young MEN, one for Flower and Pleasure, and one for Kitchen Garden. Must have experience and good character.—Apply R. RIGG, Gardener, Caeu Wood Towers, Highgate, N.

WANTED, a Young MAN, with a good knowledge of Palm and Fern Growing, and the usual work of a Market Nursery. Permanent situation. No Fires. Sundries paid for. Wages, 12s. per week.—MARSHALL BROS. & CO., Barnham Junction, Bognor.

WANTED, for a Market Nursery, TWO YOUNG MEN, well up in Potting and Watering. Permanent situations to suitable hands. Sunday work paid for. Wages 18s. per week.—State age, experience, and where last employed, to TURNER BROS., Nurserymen, Garston, Liverpool.

WANTED, for Nursery, a young man with knowledge of Inside and Outdoor Work. Permanent. Wages 18s.—Apply, HARLEY AND SONS, Reform Street, Dundee.

WANTED, AT ONCE, a respectable MAN, to Attend to Lawns and Cricket-Ground; good Mower, with Scythe, understanding large Machine. To be generally useful. Wages 16s. and unparished room.—Mrs. KEMBALL-COOK, Stammore Park, Middlesex.

WANTED, a MAN, for Jobbing Gardening.—Must understand his work, and be well recommended by previous employer. Single man, and total abstinence preferred.—Address, with full particulars, to HENRY NEWMAN, Florist, &c., Watford, Herts.

WANTED, a HANDY MAN, used to Painting, Glazing, Carpenting, &c., and to fill up time in a Nursery. £1 per week.—E. VANDER, Mursch Nursery, Croydon.

WANTED, a thorough good ALL-ROUND HAND. Good references required, and must be used to a quick trade.—Apply 165, East India Dock Road, Poplar, E.

WANTED, a CARMAN, 1-horse, good careful driver, and used to Nursery Work. Also, good JOBBER WANTED.—Advisers preferred. Permanent to suitable men.—Apply, HUDSON'S FLORAL DEPOT, 199, High Road, Kilburn, N.W.

WANTED, a young LADY as ASSISTANT FLORIST. One that understands Fruit. Also an APPRENTICE to the Trade.—Apply by letter to G. HUDSON, 207 and 209, Oxford Street, Manchester.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should Write for Prospectus of the Scientific Dress Cutting Association, 273, Regent Street, London, W. Situations found for all pupils at good salaries. No Lady's education is complete without a knowledge of Dressmaking.

WANT PLACES.

TO GARDENERS, AND OTHERS SEEKING SITUATIONS.

The Pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. on Wednesday will, in all probability, be held over to the next week.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application to—
Telegraphic and Postal Address—"DICKSONS, CHESTER."

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Head Gardeners.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BAILIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

STEPHEN CASTLE, F.R.H.S., CONSULTING HORTICULTURIST, &c., Ashford Vineyard, Fordbridge, Salisbury, has now OPENING FOR PLACES—HEAD WORKING GARDENERS, also FOREMAN with SPECIAL recommendation; also several UNDER GARDENERS. All can be personally recommended. Particulars on application.

GARDENER (HEAD), where services of conscientious, reliable, and thoroughly competent practical man are required.—Age 39; twelve years Head in present situation, only cause of leaving being death of employer. Over twenty-three years' testimonials.—J. MADDOX, Gardener, Pontpool.

GARDENER (HEAD); age 27.—WM. STAUR-708 requires a situation as above; six years' reference from last, and two from present situation.—For references, apply to Mr. ABBY, Head Gardener, Avery Hill, Eltham, Kent.

GARDENER (HEAD).—Age 32; married; one boy, aged 12. Thoroughly understanding management of Gentleman's place. Good practical experience in all branches. Good testimonials.—SUNNOKS, 2, Bowen Villas, Wembley, Harrow.

GARDENER (HEAD).—Age 25, married when suited.—Advertiser has had ten years' good experience in the cultivation of Grapes, Peaches, Melons, &c., Stave and Greenhouse Plants, Flowers, and Vegetables. First class references.—A. COLE, Hextable, Swanley, Kent.

GARDENER (HEAD WORKING).—Age 27, married; thoroughly experienced in growing all kinds of Fruit and Plants under Glass, Flower and Kitchen Garden; four years in present situation.—A. BARKER, Head Gardener, Stanmore Park, Stanmore, Middlesex.

GARDENER (HEAD WORKING), where about three are kept; age 27.—Mr. HARVEY, Head Gardener to R. B. Martin, Esq., Chislehurst, can highly recommend his Foreman to any Lady or Gentleman requiring a thorough Practical Gardener in all branches, sober and trustworthy man in every way.

GARDENER (HEAD WORKING).—A Lady wishes to recommend a thoroughly practical all-round Gardener who lived fifteen years in the family; only left owing to establishment broken up through a death.—W. BROWN, 1, Stockwell Street, Cambridge.

GARDENER (HEAD WORKING).—Age 30, single; Vines, Melons, Peaches, Tomatoes, and Stove and Greenhouse Plants; Flower and Kitchen Garden. Good character and reference.—BOURNE, JAS. HOLDER & SON, Crown Nurseries, Reading.

GARDENER (HEAD WORKING).—Age 32, married. Thoroughly understands Grapes, Peaches, Melons, Cucumbers, Flower and Kitchen Gardens. Highly recommended.—D. FOSTER, Head Gardener, New Place, Upminster, Essex.

GARDENER (HEAD WORKING).—Age 38, married; thoroughly practical all-round man. Highly recommended.—G. JORDAN, 40, Southfields Road, Wundsworth, S.W.

GARDENER (HEAD WORKING), where more are kept.—Age 34, married, one child 9 years old; thoroughly understands all the routine of Gardening. Six years' excellent character. Left through a death.—REEVES, 12, Grover Road, Watford.

GARDENER (HEAD WORKING), where others are kept.—Age 46, married, no family; abstainer. Life experience in Early and Late Forcing of all kinds of Fruit, Flowers, Vegetables, and Mushrooms; also Kitchen and Flower Gardens and Pleasure Grounds. Eight years' good character from late employer, and sixteen years' references.—J. D. MYRTLE Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING); age 39, married.—A GENTLEMAN, giving up his Garden, strongly recommends his Gardener, who has been with him for the past four years. Well experienced in Forcing all kinds of Fruits and Flowers, also well versed in the routine of Kitchen and Flower Gardening, and the general requirements of a good establishment.—A. BARKER, The Gardens, Marton Hall, Marton, R.S.O., Yorks.

GARDENER (HEAD WORKING), Land and Woods if required.—Age 42, married; life experience in the profession. Upwards of twenty years as Head in good establishments. Excellent references.—GARDENER, Dolbit, Dinas Maudry, Merionethshire.

GARDENER (HEAD WORKING).—Age 47, married; thoroughly experienced in Flower, Fruit, and Kitchen Gardening. Nearly fourteen years' good character.—J. S. ANCOE, Weybridge, Surrey.

GARDENER (HEAD WORKING), where three or four are kept.—Reference as to character and ability from late employer, who will be pleased to answer any enquiries.—R. W. COSIER, Esq., 28, Chester Street, S.W.

GARDENER (HEAD WORKING).—F. CORNISH, The Gardens, Jollywads, Reigate, wishes to recommend his Foreman; J. Pullen, thoroughly practical in all branches, including Orchids, Stove and Greenhouse Plants, Flower and Kitchen Garden. Excellent character.

GARDENER (HEAD WORKING).—Age 30, single; sixteen years good practical experience in all branches. Good references.—W. HARDING, Poyning's Street, Beeding, Sussex.

GARDENER (HEAD WORKING).—Age 32, married, no family; life experience. Thoroughly practical in all branches. Excellent testimonials and references. Left through a death.—H. T., 164, Wellfield Road, Streatham.

GARDENER (HEAD WORKING).—Age 30, married; fifteen years' practical experience in Fruit, Flowers, and Vegetables, in large and small places. Last three years with R. C. Miller, Esq., Oakfield, near Dartford Kent, as Head Gardener; left through place being let on lease. Good references.—W. BATTERS, Mr. Batters, The Gardens, Gillingham Hall, near Beccles, Norfolk.

GARDENER (HEAD, or good SINGLE-HANDED).—Vines, Melons, Cucumbers, Tomatoes, &c. Stove and Greenhouse Plants, Flower and Kitchen Garden. Good character.—A. BARKER, 145, Steel Road, Acton Lane, Willeston.

GARDENER (HEAD, or good SINGLE-HANDED).—Married, one child; fifteen years' experience. Good character.—HORTUS, 77, Danbrook Road, South Streatham, S.W.

GARDENER (HEAD, or SECOND).—Age 25, single; thoroughly experienced in Vines, Melons, &c. also Early and Late Forcing. Nine months and three and a half years' previous good character.—D. P., Hoe Place Gardens, Woking.

GARDENER (SINGLE-HANDED, or good STEADY).—Age 24; ten years' experience Inside and Out. Understands Tomatoes, Cucumbers, Chrysanthemums, &c. Steady, willing and industrious. Good character.—A. E. GEORGE, Station Road, Great Shelford, Cambridgeshire.

GARDENER (SINGLE-HANDED), or where help is given.—Age 30, married, no family; sixteen years' experience in Vines, Melons, Cucumbers, Stove and Greenhouse Plants, Flower and Kitchen Gardens; also Land and Stock. Good character from previous employers.—A. W. MEECH, Reddington Lane, Mitcham.

GARDENER (SINGLE-HANDED).—Age 24; abstainer. Eight years' experience. Inside and Out. Can have good references.—F. GILBERT, 330, High Road, Lee, Kent.

GARDENER (SINGLE-HANDED, or SECOND), seeks re-engagement.—Age 23; well up in Stove and Greenhouse Plants, Flower and Kitchen Garden. Eight years' experience; good character.—H. PACEY, 8, Clarendon Terrace, Maida Vale.

GARDENER (SINGLE-HANDED), or where one or more is kept.—Age 26, single; thirteen years' experience in Vines, Peaches, Tomatoes, Cucumbers, Flower and Kitchen Garden. B. 1, Godfrey's Cottages, North Street, Redhill, Surrey.

GARDENER (SINGLE-HANDED or SECOND), in or near Kensington.—Age 30. Nine years' good character.—A. B., 41, Camden Street, Kensington, W.

GARDENER (SINGLE-HANDED).—Age 25, married, no family; understands Vines, Plants, Kitchen and Flower Gardens. Good references. Satisfactory reason for leaving.—W. SAUNDERS, Broxbourne Nurseries, Herts.

GARDENER (SINGLE-HANDED).—Age 29, married; thoroughly experienced in all branches. Eleven years' good character. Disengaged now.—W. FLEET, 2, Sherwood Road, Harrow.

GARDENER (good SINGLE-HANDED, or where help is given).—Age 32, single; eight years' good character.—A. MOORE, Ruscombe, near Reading, Berks.

GARDENER (SECOND), Inside, or Inside and Out, where four or more are kept.—Age 22; five years' experience in all branches, Orchids included. Good references.—W. VEALE, Horrington, Wells, Somerset.

GARDENER (SECOND), Inside, or Inside and Out, where three or four are kept.—Age 22. Seven years' experience. Excellent references.—F. C. CROSLY, Bishopstoke, Hants.

GARDENER (SECOND), where three, or THIRD where four are kept.—Age 20; four years' experience. Good character.—G. WICKENS, Hadlow Down, Uckfield, Sussex.

GARDENER (SECOND).—Age 24; ten years' practical experience in well-kept private places, both Inside and Out. Can be well recommended. Bothy preferred.—FOREMAN, 20, King Street, Chelsea, S.W.

GARDENER (SECOND, or in small SINGLE-HANDED place, or Market Garden).—Age 20; twelve years' experience. Good references.—H. HOWARD, Daisy Bank, Knap Hill, Woking, Surrey.

GARDENER.—Middle-aged, married, no children; understands all branches; Stock; eleven years' character; leaving through lease expiring.—GARDENER, Bethnal House Asylum, Cambridge Heath Road, E.

GARDENER, age 30, with upwards of fourteen years' practical experience in all establishments, is desirous of an appointment where one or more are kept, or would take charge of a collection of Orchids.—GARDENER, Blackwood Hall, Luddendenfoot, via Manchester.

GARDENER.—Middle-aged; thoroughly good all round man, and very active. Twelve years' good character as testimonials. Death of employer cause of leaving.—W. PEPPER, Rye Park, Hoddeston, Herts.

GARDENER (UNDER), Inside and Out, in a Gentleman's Garden.—Age 18. Five years' experience.—G. SIMMONDS, Gore, Upchurch, near Sittingbourne, Kent.

GARDENER (UNDER), in the Houses.—Age 19; two years' good character; bothy preferred.—H. SMITH, The Gardens, Compton's Lea, Horsham, Sussex.

GARDENER (UNDER).—Age 20. Four years' excellent character. Good experience.—B. SUMPTON, Heaton, Middlesex.

GARDENER (UNDER), in a Gentleman's private residence.—Age 23, single; five and a half years' Single-handed, and one and a half years' previous Under. Abstainer.—F. B., 22, Upper Road, Plaistow.

GARDENER (UNDER).—Mr. ENTWISLE, Calder Grove House, Wakefield, recommends Arthur Dunkley, a young man, 19, living in the house, and for nearly three years employed in the Garden, &c., and previously in the Garden of the Rector of Blithewick, from whom he received very good character. He now desires situation under Head Gardener in Gentleman's Garden, where he could increase his knowledge. He is steady and industrious, neat and tidy.

GARDENER (UNDER).—Age 25. Well up to Lawns and Kitchen Garden. Live on the place or off. Good character from present situation.—H. B., 2, Westfield Cottages, Fitcham, Middlesex.

GARDENER, Inside, or Inside and Out, where two or three are kept.—Age 21; good references from previous places.—F. FIKK, The Cottage, Iping, Mithurst, Sussex.

To the Trade.

GROWER, or PROPAGATOR (ASSISTANT).—Seven years in the trade. Palms, Ferns, Ficus, and Dracenas.—GARDENER, 12, Gordon Grove, Camberwell, S.E.

ORCHID GROWER.—A situation wanted.—To Ladies and Gentlemen requiring the services of a Grower.—Address, full particulars, to A. B. C., 31, Chesterfield Grove, Lordship Lane, East Dulwich, S.E.

Seed and Bulb Trade.

MANAGER, or SHOPMAN (FIRST).—Thorough knowledge of the Retail Trade. First-class references.—SEEDSMAN, *Gardeners' Chronicle*, Office, 41, Wellington Street, Strand, W.C.

MANAGER or TRAVELLER.—Twenty years' experience in first-class houses, wholesale and retail. Thorough knowledge of Seed and Bulb Trade.—J. G., 4, Ingram Terrace, Bradford.

TO THE TRADE.—GENERAL MANAGER of the Glass Department, or TRAVELLER. Extensive experience in both capacities, with influential connection throughout the Northern and Midland Counties.—Address C., 40, York Road, Battersea, London, S.W.

FOREMAN, PROPAGATOR, GROWER.—Age 33; life experience in the leading Market Nurseries. C. J., 10, Light Street, Mapley, Nottingham.

FOREMAN.—THOMAS H. MAWSON, Garden Architect, Widenmore, would be pleased to recommend a reliable young man of exceptional experience to any Gardener requiring same.—For particulars apply as above.

FOREMAN, in the Nursery, or would Grow on Commission. Well up in Vines, Cucumbers, and Tomatoes.—J. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

JOURNEYMAN, Inside.—Age 21. Six years' experience. Excellent character. Bothy preferred.—J. FAIRCLOUGH, The Lodge, Myntburn, Leigh, Reigate, Surrey.

JOURNEYMAN (FIRST), in the Houses; age 24.—Mr. C. FOWELL, Head Gardener, Blatherwycke Park, near Wansford, Northants, will be pleased to recommend Geo. Digby as above.

JOURNEYMAN (FIRST), in the Houses, in a good establishment.—Age 23; six years' good character from last situation. Can be highly recommended. Bothy preferred.—F. ELLIS, 10, Kent Terrace, Swanley Junction.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 23, Catholic; ten years' good character.—A. CHURCH, The Gardens, Mapledurham, Reading.

JOURNEYMAN or GARDENER (SECOND), in the Houses. Seven years' experience. Fifteen months' present situation.—W. DUDNEY, The Gardens, Stradey Castle, Llanelli.

JOURNEYMAN, by a young man (age 22). Good knowledge of Plants, &c. Good references.—FRANK H. SEXTONE, George Lane, Lewisham, S.E.

TO GARDENERS, &c.—Young Man (20), in a good private Garden or Nursery. Used to Glass. Five years' experience in all branches. Excellent character.—F. DUFEU, Sturcad Nursery, Christchurch, Hants.

TO GARDENERS.—A Youth seeks situation under a good Gardener as INFEROVER.—E. DANIELS, Roud, near Bath.

TO GARDENERS.—A Young Man (age 20) wishes to Learn Practical Gardening in all its branches. Bothy preferred, in neighbourhood of Kent.—C. K., Weald, Sevenoaks, Kent.

TO NURSEYMEN, &c.—Situations wanted in Market Nursery; used to Ferns, Roses, Bouvardias, Carnations, and the general routine of the trade.—L. H., 1, Brougham Road, Worthing.

TO NURSEYMEN and FLORISTS.—Wanted to APPRENTICE a YOUTH (age 16), indoors. Apply, stating terms, &c.—W. D. BALLINOKE, 13, Caldwell Street, Bedford.

SEED TRADE.—Situation wanted, by young man. Five years' experience. Good references. Good knowledge of trade. Can assist in Book-keeping.—Apply to W. B. C., 86, Wellington Street, Leeds.

SHOPMAN, or ASSISTANT.—Ten years' sound experience in the various branches with leading firms; thorough knowledge of Bulbs.—SEEDSMAN, 11, South Street, Stourbridge.

TO FLORISTS.—Situation wanted, by young Lady. Knowledge of the Fl. wer, Fruit, and Seed Trade.—E. R., Jalyan, Florist, Rusden.

HOLLOWAY'S PILLS.—In general debility, nervous tremor, and mental depression, these unrivalled Pills have a marvellous effect. They have won the confidence of millions in all parts of the civilized world. Constitutions shaken by sensual excesses, or by long residence in unwholesome climates, or by sedentary habits, are wonderfully renovated by a course of this extraordinary medicine, which, powerful as is its action on the whole system, is perfectly harmless to the tenderest frame. The Pills are composed of rare balsams, without the admixture of a grain of any mineral whatever, or of any other deleterious matter. They operate directly, powerfully, and beneficially upon the whole mass of blood, nor can we question the fact when we see indigestion cured, liver complaints arrested, the oppressed lungs brought into healthy play, and every physical function renewed and strengthened by their agency.

PATENT "MANCHESTER" LAWN MOWER.

*Awarded numerous
National and Inter-
national Prize
Medals, including—*

VIENNA,

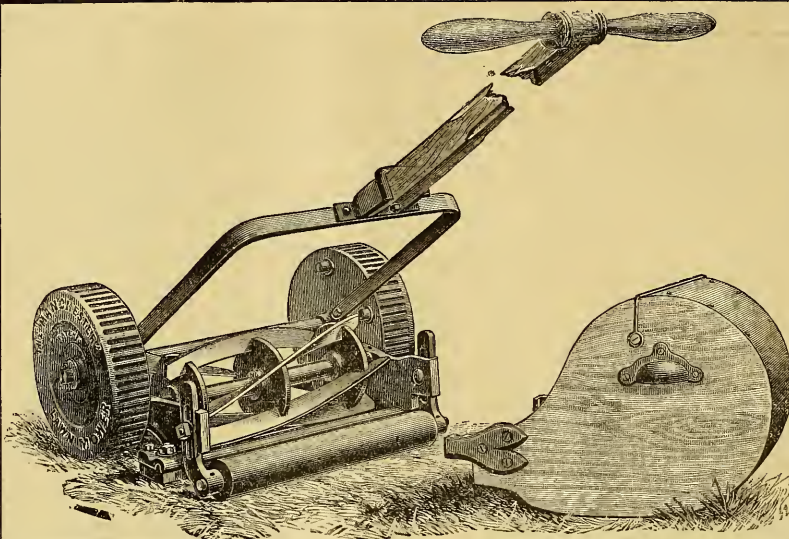


1873.

**ROYAL HORTI-
CULTURAL
SOCIETY OF
ENGLAND, 1872.**

**ADELAIDE, 1887,
FIRST ORDER
OF MERIT.**

**NEVER BEEN
BEATEN in OPEN
COMPETITION.**



*Awarded numerous
National and Inter-
national Prize
Medals, including—*

PARIS,



1878.

**ROYAL BOTANI-
CAL SOCIETY,
MANCHESTER,
1873.**

**ADELAIDE, 1887,
FIRST ORDER
OF MERIT.**

**NEVER BEEN
BEATEN in OPEN
COMPETITION.**

THE PATENT "MANCHESTER" LAWN MOWER continues to command a large sale, notwithstanding many inferior imitations which do not contain the vital points so essential in a Perfect Mower. It still remains the cheapest and most effective machine of its class, cutting with the least expenditure of power either long or short grass on level or uneven ground, and making most excellent work, quite equal and not inferior to that done by the more costly machines. It is put together well, and is too simple with ordinary care to get out of order, and in point of durability superior to anything of the kind in the market at the same price.

THE gearing is boxed in; the wearing parts are interchangeable. The handle adapts itself to the height of the operator, and the patentees recommend it with confidence both to Amateurs and Gardeners.

GRASS COLLECTING BOXES are usually supplied with these machines for use in WET or HUMID WEATHER, but in DRY and HOT WEATHER they may be dispensed with, and the cuttings may be scattered on the lawn with advantage.

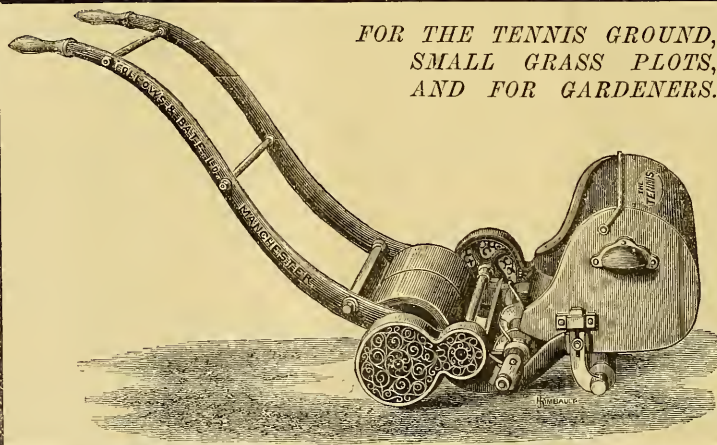
THE "TENNIS" LAWN MOWER.

THE New "TENNIS" LAWN MOWER is a strongly made and durable geared machine, very light in draught, of excellent design, superior finish, and fitted throughout with modern adjustments. The cylinder is driven by machine-cut wheels running with the greatest accuracy, and at such a speed as to ensure a beautiful smooth and velvet-like appearance on the lawn.

FROM 25/- EACH.

PRICE LISTS ON
APPLICATION.

FOR THE TENNIS GROUND,
SMALL GRASS PLOTS,
AND FOR GARDENERS.



THE gearing is neatly covered in on both sides of the machine, as illustrated.

The New "TENNIS" LAWN MOWER in the small sizes is eminently suited for verges, ornamental gardening, or for young ladies to use on the Tennis Ground, whilst the larger sizes will be found all that can be desired for more extensive work. A considerable number have been sold, and are giving the greatest satisfaction.

FROM 25/- EACH.

PRICE LISTS ON
APPLICATION.

To be obtained from all respectable Ironmongers and Seedsman throughout the Kingdom, or, if any difficulty is experienced, direct from the Manufactory,

FOLLOWS & BATE, Lim.,

GORTON, MANCHESTER.

PATENTEES AND MANUFACTURERS OF THE
"Climax," "Manchester," "Tennis," and Royal
Prize Medal "Anglo-American" Lawn Mowers.

Upwards of 80,000 sold since 1869.

The GARDENER'S CHRONICLE

ESTABLISHED 1841. No. 2687.

No. 287.—VOL. XI. {THIRD SERIES.}

SATURDAY, JUNE 25, 1892.

[Regt. as a Newspaper. {PRICE 3d. POST-FREE, 3½d.}

CONTENTS.

Corymbosa Massagena ...	814	Societies—	
Culture v. Nature ...	815	Dutch Horticultural	and Botanical ... 818
Dew, and its action on plants ...	815	Edinburgh Botanical ...	818
Dulwich Park ...	807	Quebec Horticultural ...	812
Ferns, rare and new ...	813	Natal Rose ...	812, 817
Frosts, recent ...	814	North of Scotland	... 814
Gooseberry disease ...	815	Asiatic ...	818
Larch, diseased ...	815	Royal Horticultural ...	816
London, open spaces in ...	813	Royal Horticultural of Aberdeen ...	818
Nectarines, early ...	810	Tablet Tea and Tea-dust	... 814
Oakwood, plants at ...	814	Obituary ...	814
Obituary ...	814	Timothy-grass ...	818
George Brunt ...	818	Tulips, old English ...	814
Peas, varieties of early ...	815	Tulips, modern ...	812
Plants, new or noteworthy ...	809	Veitch Medallists ...	810
Cattleya Victoria Regina ...	809	Week's work, the ...	810
Eria Lauchiana ...	809	Apriary, the ...	811
Rhododendrons at Lord Allington's garden ...	810	Flower garden, the ...	810
Scitula ...	818	Forestry ...	811
Spain, notes from ...	814	Fruit under glass ...	819
Stock-taking, May ...	815	Hardy fruit garden ...	810
		Kitchen garden ...	810
		Orchid-houses, the ...	811
		Week's work, the ...	811

ILLUSTRATIONS.

Cattleya Victoria Regina ...	808, 809
Real, John ...	813
Watson, William ...	812

ADVERTISERS will greatly assist our efforts to get to Press earlier, by forwarding their favours as EARLY in THE WEEK as possible.

"Paxton's Calendar," New Edition, "The Cottagers' Calendar of Garden Operations," Price 3d., post-free, 3½d. 41, Wellington Street, Strand, London, W.C.

Now Ready, in Cloth, 11s. 6d., "The Gardeners' Chronicle," Vol. X., Third Series, July to December, 1891. THE PUBLISHER, 41, Wellington Street, Strand, W.C.

"The Gardeners' Chronicle" in America. The Subscription to America, including Postage, is \$4.30 for 12 months. Agent for America, E. H. LIBBY, Manager, The Rural Publishing Co., Times Building, New York, to whom American orders may be sent.

MR. W. F. TAYLOR, who has for nearly seven years taken a LEADING PART in THE BUSINESS of Messrs. LITTLE and BALLANTYNE, Seed Merchants and Nurserymen, Carlisle, herewith intimates that HIS CONNECTION WITH THAT FIRM HAS CEASED, as from May 25.

The Villa, Stainton, Carlisle, June 1, 1892.

Sow now for early flowering in Spring. ROEMER'S SUPERB PRIZE PANIES. (Cf. The finest strain of Pansies in the World.) Introducing and Grower of all the leading varieties. CATALOGUE free, on application. FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

PRIMULAS! PRIMULAS! PRIMULAS! 24th year of distribution. Williams' Superb Strain, 1s. 6d. per dozen, 10s. per 100. CINEARAS, same price; also PRIMULA OBCONICA, 4d. each. Carriage free for cash on order. JOHN STEVENS, The Nurseries, Coventry.

GOOD GENISTAS and ACACIA DRUMMONDII, small stout, per 100. A. B., 73, Tottenham Court Road, London, W.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for List, free.—P. MCARTHUR, The London Nursery, 4, Malda Vale, London, W.

Sow in June. SUTTON'S IMPROVED DOUBLE GERMAN WALLFLOWER.—A magnificent strain of Double Wallflower, including many beautiful colours, which are not obtainable from ordinary seed. Mrs. JAMES MOORE, Coson Hall, says:—"The Double Wallflowers were simply splendid, and the admiration of all who saw them." Price of Seed, six varieties, separate, 3s.; mixed, 1s. 6d. per packet.

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

CABBAGE PLANTS.—Special Offer, 2,000 000 very strong plants: Enfield, Early Sheepfold, Drumhead, Savoy, and Sutton's Giant Drumhead, 1s. 6d. 500; 2s. 6d. 1000. EDWARD LEIGH, Creanleigh, Surrey.

KENTIAS, in many useful sizes for furnishing, also large quantities in 60's, Cocos Weddelliana, and many other Palms. FERNS in great sizes, grown hardy for furnishing. Cheap for cash. GEORGE CLARK, Clarence Lane, Putney, S.W.

The Best Present for a Gardener. VINES and VINE CULTURE. The most complete and exhaustive Treatise on Grapes and their Culture ever published. Third Edition, just out. Price 3s., post-free, 3s. 6d. A. F. BARRON, Royal Horticultural Society, Chiswick.

ORCHIDS A SPECIALITY.—Please write for New Illustrated Price LIST of well-established, healthy, and easily-grown plants. W. L. LEWIS and CO., F.R.H.S., Chase Side, Southgate, London, N. Nursery, Orchard Road.

Hyacinths, Tulips, Crocus, Lilies, &c. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—Messrs. F. SILVERAD and SON, 25, Savage Gardens, Crutched Friars, E.C.

N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

CHOICE FRUIT!—CHOICE FRUIT! Highest market prices guaranteed. Prompt cash. HENRY RIDES, Centre Avenue, Covent Garden, W.C.

W. D. BUNDAY, of Covent Garden Market, 37, Exeter Street, W.C., is open to SELL on COMMISSION, TOMATOES, CUCUMBERS, &c. Good references.

JOHN COLLINGRIDGE is open to receive Consignments of CHOICE CUT FLOWERS for SALE, on COMMISSION. Highest references. The Nurseries, 22, Malda Vale, W.

MESSRS. SQUELCH and WOOD, FRUIT SALESMEN, North Row, Covent Garden, W.C., are open to RECEIVE CONSIGNMENTS of GRAPES, TOMATOES, CUCUMBERS, and all kinds of HOT-HOUSE PRODUCE. Our business connections being amongst the best houses in London, we are in a position to secure the highest prices for all choice goods. Account Sales forwarded daily and cheques weekly, or daily if required. Empties and labels supplied. Reference, London and County Bank, Covent Garden Branch.

S. DENSON and CO., Covent Garden Market, W.C. WANTED, good ROSES and CHOICE CUT FLOWERS to SELL on COMMISSION. All communications to The Nurseries, 22, Malda Vale, W.

CONSIGNMENTS of CHOICE WHITE FLOWERS WANTED, all the year round. Terms Cash on receipt of goods or monthly, to suit sender. Particulars in full, to WRIGHT FISHLICK, Elliott Street, Liverpool.

WANTED to Purchase, at a Moderate Price, One or Two Large FERNS or PALMS, for Conservatory.—Address, J. M. Waters, Stationer, Chislehurst.

Five apples. WANTED, a dozen strong plants of LADY LAMETON (LAMETON CASTLE) SEEDLING, to send abroad. Must be true. Send particulars and price to Z. B. Harcourt, Solicitor, 118, Palmerston Buildings, London, E.C.

CARTERS'—THE BEST SEEDS. CARTERS' HOLBORN PRIZE PRIMULA. CARTERS' VICTORIA PRIZE CALCEOLARIA. CARTERS' BRILLIANT PRIZE CALCEOLARIA. The finest strains in cultivation. Far in advance of all others. Price of seed in sealed packets, 2s. 6d. and 3s. 6d. per packet, post-free.

THE QUEEN'S SEEDSMEN, 237 and 238, HIGH HOLBORN, LONDON, W.C.

Trade Offer of Large Palms. W. ICETON has a large Stock of the leading kinds of Decorative PALMS from 6 to 25 feet high, fit for Conservatory and House Decoration; Papyrus, Bamboo, and Foliage Plants. Lowest Prices quoted on application W. ICETON, Putney, S.W.

EUCHARIS.—For Disposal, ten large Plants, in 12-inch pots; also ADIANTUM FARLEYENSE, in 16-inch pot. What offer? No reasonable offer refused. Mrs. E. A. ROBRIS, Woodland House, Greenwich, the Kent.

2000 SMILAX to offer.—Strong Plants in 3½-inch pots. Apply to JOHN SON & CO., Hampton-on-Thames.

BUY DIRECT FROM THE GROWERS.—Lowest prices in the Market. LILUM HARRISII, TUBEROSES (the true Pearl), PAMPAS, SEA-OLDS, FAIRY FLOWERS in all colours, SEA-MOSS, &c. F. W. O. SCHMITZ, Agent, 10, Jersey City, America, Gardeners' Chronicle Office, 41, Wellington Street, London, W.C.

Seeds for Present Sowing. DICKSON and ROBINSON'S Superb Strains of the following are unsurpassed—CALCEOLARIA, CINEARAS, GLOXINIA, and PRIMULA, Red, White, and Mixed Colours, each 1s. 6d. and 2s. 6d. per packet, post-free. EXHIBITION DWARF EVERGREEN LAWN GRASS, per lb. 1s., post-free, 1s. 5d.; per cwt., 100s., carriage paid. Descriptive PRICE CATALOGUE, post-free, on application. Seed Warehouse, 12, Old Millgate, Manchester.

BARR'S SEEDS, BULBS and PLANTS. VEGETABLE SEEDS.—The best sorts only. Much valuable information. CATALOGUE FREE ON APPLICATION. FLOWER SEEDS.—Upwards of 2000 species and varieties, all decorative kinds. CATALOGUE FREE ON APPLICATION. BULBS.—Gladstoll, Lilies, Anemones, Ranunculus, Hymenocallis candidus, Tigridias, &c., for Spring Planting. LISTS ON APPLICATION.

PLANTS.—Michelman's Double, Perennial Sunflowers, Double and Single Foenicis, Iris, Oriental Hellebores, Carnations, &c. Lists FREE ON APPLICATION. BARR and SON, 12, King Street, Covent Garden, London.

Boulton & Paul's Outdoor Requisites. BOULTON and PAUL, MANUFACTURERS, NORWICH.

Every Requisite for the Kennel and Poultry Yard, Aviaries, Pigeon Cotes, Pheasants, Requisites for the Garden, Park, Pleasure Ground, Wire Netting for Game and Sheep. Iron and Wire Fencing, Gates, &c.

Send for Illustrated CATALOGUES, post-free, on application.

FORMICACIDE ANT DESTROYER thoroughly destroys all Ants and Insects in Greenhouses, and other places troubled with Ants. Sold in Bottles, 1s. 6d., 2s. 6d., and 4s. Full particulars from CORRY and CO., Limited, 16, Finsbury Street, E.C., and to be obtained from all Seedsmen and Florists.

J. WEEKS and CO., HORTICULTURAL ENGINEERS to Her Majesty, H.R.H. the Prince of Wales, H.M. Government Admiralty Department, War Department, Royal Horticultural Society, Royal Botanic Society, Parks, and Public Buildings. Patentees of the Duplex Upright Tubular Boilers. King's Road, Chelsea, S.W.

THOMSON'S IMPROVED VINE and PLANT MANURE.—This valuable Manure is made only by us. Every bag and tin has our name on it. To be had of all Nursery and Seedsmen, and direct from us. 1 cwt. and over carriage paid. London Agent, Mr. GEORGE W. in Victoria Road, Putney, W.M. THOMSON and SONS, Clonsfower, Galashiels, N.B.

PAID, C.A., 67, George Street, Edinburgh, to whom all monies due to the Firm are to be paid.

THE PATENT SILICATE MANURE.

This manure is chemically distinct from all other Manures, and has been proved to supply the place of sunshine, and has the power of hastening the colouring and ripening of Grapes, Tomatos, Peaches, &c., beyond any other Manure. Strongly Recommended For Ripening Tomatos Early in the Open Border.

"I have formed a very high opinion of the value of the Patent Silicate Manure, especially for Tomatos, Grapes, and Peaches."
(Signed) E. HOBDAK."

Prices in Sacks, at Works, 10s. per cwt.; £2 per ½ ton; £3 15s. per ¾ ton; £7 per ton.

THE PATENT SILICATE MANURE CO.,
THE CHEMICAL WORKS,
HEMEL HEMPSTEAD, HERTS.

ALBERT'S HIGHLY CONCENTRATED HORTICULTURAL MANURE.

A Chemically Pure Plant Food.

UNPARALLELED FOR ITS RAPID ACTION AND
FRUITIFYING PROPERTIES.

BEST and ONLY RELIABLE COMPLETE FERTILISER
for all VEGETABLES, FRUIT TREES, VINES,
FLOWERS, LAWNS, &c.

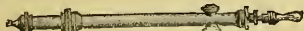
UNPRECEDENTED RESULTS obtained by its use.

For Prices and Descriptive Pamphlet, apply to—

H. & E. ALBERT,
17, GRACECHURCH STREET, LONDON, E.C.
Responsible Agents wanted.

HIGHEST AWARD, CRYSTAL PALACE EXHIBITION, 1891.

THE "STOTT" PATENT SYRINGE.



With Patent "Sprayer" and Insecticide Chamber
attached. 21s. complete.

THE "STOTT" PATENT SPRAYER.



GIVING A MIST-LIKE SPRAY. CANNOT CHOKE.
4s. to 5s. complete.

INSECTICIDE 'KILLMRIGHT.'

CERTAIN PREVENTIVE OF MILDW.
DEATH TO CATERPILLARS, and all INSECT PESTS on
Vines, Hops, Fruit-Trees, Roses, Chrysanthemums, and
other Plants. NON-POISONOUS.
2-lb. Tins, 1s. 9d.; 14-lb. Tins, 9s.; 56-lb. Kegs, 34s.

FERTILIZER 'FEEDMRIGHT.'

Most Invaluable for
Roses, Chrysanthemums, Greenhouse, & Stove Plants,
2-lb. Tins, 1s.; 14-lb. Bags, 4s. 6d.; 56-lb. Bags, 15s.
PRICE LISTS and TESTIMONIALS on Application.
2-oz. Sample Tin "KILLMRIGHT" sent gratis on application.

WHOLESALE and RETAIL FROM THE

"STOTT" FERTILIZER & INSECTICIDE
Distributor Co., Ltd., MANCHESTER.

Retail from all Ironmongers, Seedsmen, &c.
See Stand 54, Horticultural Exhibition, Earl's Court.

PATENT DANDELION, PLANTAIN, DOCK
and DAISY ERADICATORS. By this simple and effec-
tual invention, the time and expense usually involved by
removal of these noxious weeds is reduced to a minimum. No
digging up the turf. A long tele. sent supplied.

Price, 4s. 6d. Postage and package, 6d. extra.
Of all Ironmongers, Seedsmen, and Florists.
WILKES AND SON, Ironmongers, Salisbury.

LETHORION (VAPOUR CONE). PATENT.



They are now universally
admitted to be thoroughly
uniform in strength, and
safe for any plant or flower,
even if four times the
quantity are used. Scale
and mealy-bug may be
completely eradicated by
using the Cones double
strength.

PRICES.—For frames of
50 to 100 cubic feet, No. 1
reduced to 6d. each; 500
feet, No. 2, 1s.; 1000 feet,
No. 3, 1s. 6d.; 4000 feet,
No. 4, 5s.

The house should be well secured.

CORRY & CO., LIMITED.
13, 15, & 16, FINSBURY STREET, LONDON, E.C.

IF YOU WISH TO EFFECTUALLY DESTROY
GREEN-FLY, BLACK-FLY, and THRIPS,
FUMIGATE WITH
CAMPBELL'S FUMIGATING INSECTICIDE
A Safe, Reliable Article.

and it is the one
on which you
can thoroughly
depend.

Tobacco-paper
is uncertain in
quality, often
disappointing
and unpleasant
to use, whereas



"C. F. I." is pre-
pared from in-
gredients of sta-
dard strength
only, and when
thoroughly
lighted, may be
left to smoulder
away, hence it is
the safest to use.

Prices:—
For houses with 1000 cubic ft., No. 3 Roll, 1/- each; Post
a quantity of 7200 4 19 1/2
LEMON OIL INSECTICIDE.—The safest and most
effective Liquid Insecticide for dipping or syringing.
PRICES, post free:—Pints, 1s. 10d.; quarts, 3s. 3d.;
half gallons, 5s. 9d.

CLIBRAN'S EUCHARIS MITE KILLER.—A truly
valuable remedy, has saved thousands of bulbs.
PRICES, post free:—Half-pints, 1s. 9d.; pints, 2s. 9d.;
quarts, 4s. 9d.; half-gallons, 8s.
OR FROM YOUR SEEDSMAN.

CLIBRAN'S Oldfield Nurseries, ALTRINCHAM;
10 & 12 MARKET STREET, MANCHESTER;
And Principally Nurseries, Llandudno Junction.

BENTLEY'S—BENTLEY'S

WEED DESTROYER

Has paved the way for many imitators, but maintains its
position of superiority, and acknowledges no equal. Has the
largest sale, and the confidence of the leading gardeners.
9 gallons, 6s. 6d.; 6 gallons, 10s.; 12 gallons, 16s.; 18 gallons,
27s. 6d.; 40 gallons, 50s. Carriage paid.

SOLE INVENTOR—

JOSEPH BENTLEY,
CHEMICAL WORKS,
BARROW-ON-HUMBER, HULL.
See Stand 50, Horticultural Exhibition, Earl's Court.

MAYFARTH'S NEW PATENT SELF-ACTING SPRAY DISTRIBUTER,

"SYPHONIA,"

Specially suited for the Distribution of the
"Bordeaux Mixture" (Bouillie Bordelaise), and all
other Insecticides, &c.,

ON POTATOS, HOPS, VINES, TREES,
AND PLANTS GENERALLY.



REQUIRES NO PUMPING
WHEN AT WORK.

Is by far the best of all exist-
ing similar appliances. It serves
not only for disinfecting pur-
poses, but may also be used for
Watering Flower Beds, Green-
houses, Cleaning Roads, Car-
riages, &c.

Illustrated, Priced, and De-
scriptive CATALOGUES on
application to

P. H. MAYFARTH & CO.,
16, MINCEING LANE, LONDON, E.C.

SEE OUR EXHIBITS AT THE INTERNATIONAL HORTICULTURAL
EXHIBITION AT EARL'S COURT, LONDON, S.W.

ORCHID PEAT; best Quality; BROWN
FIBROUS PEAT for Stove and Greenhouse use, RHO-
DODENDRON and AZALEA PEAT. Samples and Prices of
WALKER AND CO., Farnborough, Hants.

BOULTON & PAUL,



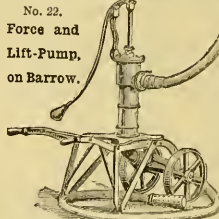
NORWICH,
Manufacturers
of
ALL KINDS
of



GARDEN REQUISITES.

Send for Illustrated Catalogue, free on application.

No. 22.
Force and
Lift-Pump,
on Barrow.

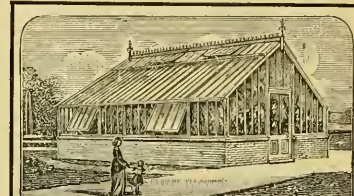


Cash Prices—Carriage
Paid.
With connections and
strainer, but without
hose, £4 10s.
Suction or delivery
hose, carriage paid with
pump, 2s. 3d. per foot.
Extends width, outside
wheels, 22 inches.

EVERY REQUISITE
FOR THE
GARDEN, PARK,
AND
PLEASURE GROUNDS.

Send for Catalogue.

BOULTON & PAUL, NORWICH.



THIS GREENHOUSE erected and heated complete, in
any part of the country, best materials only, workmanship
guaranteed, 25 ft. by 12 ft., £20; 30 ft. by 15 ft., £70. Brick-
work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for
immediate use, well made, painted four coats, glazed with
21-oz. glass, carriage paid—1-light frame, 4 x 6, 38s. 6d.;
2-light frame, 5 x 8, 88s.; 2-light frame, 12 x 6, 88s. 6d.;
Span-roof frames, 12 x 4, £4 7s. 6d.; 9 x 5, £3 15s.;
10 x 6, £3 10s.

HARDY BRUIN & CO., Graham LEICESTER
Street, Leicester

EPSS'S Selected PEAT,

For ORCHIDS, STOVE PLANTS,
Hardwood do. Ferns, and Rhododendrons, by sack, yard, ton,
or truckload. SPECIAL ORCHID PEAT, in sack only.
Rich fibrous LOAM, superior LEAF-MOULD, Coarse Crystal
and Fine SILVER SAND, CHARCOAL, C.N. FIBRE REFUSE,
fresh SPHAGNUM, Patent MANURES, FERTILISERS, INSEC-
TICIDES, and all other Garden Requisites. Peat Moss Litter.
The Original Peat Depot, RINGWOOD, HANTS.

ORCHID PEAT.

PREPARED, ready for use, all fibre, 10s. per sack; 5 for 47s. 6d.
SELECTED, in blocks, very fibrous, 8s. per sack; 5 for
37s. 6d. SECOND QUALITY, 5s. per sack; 5 for 25s. 6d.
BROWN FIBROUS PEAT for Azaleas, Rhododendrons,
and Ferns, 4s. per sack, 5 for 18s.; and 3s. per sack, 5 for 12s. 6d.
PEAT-MOULD, LEAF-MOULD, and FIBROUS LOAM,
each 2s. 6d. per sack; 5 for 10s. PREPARED POTTING
COMPOST, 4s. per sack; 5 for 18s. All sacks included.

Send Postal Order for Sample Sack.

Special terms to the Trade. For Price List apply to
THE FORESTER, Joyden Wood, near Bexley, Kent.

RICHARDS'

NOTED ORCHID AND OTHER PEATS,

Loam, Sand, Manures, Mats, Netting, Shadings, Tobacco-
Paper, Insecticides, Weed-Killers, and all Garden Sundries, at
the Shortest Notice. Special Railway Rates to all parts.
The Horticultural Stores, 1, Belvedere Crescent,
Lambeth, London, S.E. Chief Peat Depot and Grounds—
Ringwood, Hants. Samples and Price List post-free.

GARDEN REQUISITES.—

Stick, Labels, Virgin Cork, Raffia, Mats, Bamboo
Canes, Rustic Work, Manures, &c. Cheapest Prices of
WATSON AND SCULL, 90, Lower Thames Street, London, E.C.

HILL & SMITH, BRIERLEY HILL, STAFFORDSHIRE, And 118, QUEEN VICTORIA STREET, LONDON, E.C.

NEW PATTERN TREE GUARD, "The Porcupine."

The maximum of utility and the minimum of cost.

Constructed of Strong Iron Uplights and Galvanised Barbed Steel Wire.

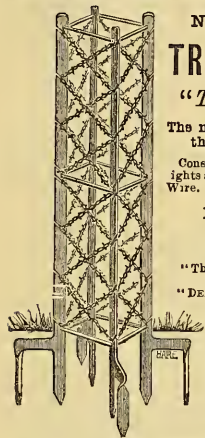
Price 10s. 6d.

TESTIMONIAL.

"The Whittern, Herefordshire, Dec. 28, 1887.

"DEAR SIR,—I have now had an opportunity of trying your PORCUPINE TREE GUARDS, and they seem quite to answer my purpose, so you may send me 50 more as before. I enclose cheque for your account.

Yours truly,
RICHD. GREEN.
Messrs. Hill & Smith.



BARB WIRE.

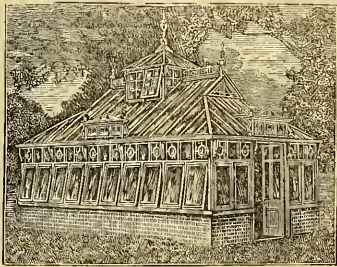
CATALOGUES FREE
ON APPLICATION TO
THE LONGFORD WIRE CO.
(LIMITED),
WARRINGTON.



HEATHMAN'S HOSE, ANTHONY RED RUBBER. Is Lightest in Weight, yet Strongest and Most Durable FOR GARDENS.

220 Miles Sold the last Five Years. Price Lists from—
HEATHMAN'S HOSE FACTORY,
2 & 37, ENDELL STREET, LONDON, W.C.

BECKETT BROS., CHELMSFORD.



Thoroughly Practical and Experienced Horticultural Engineers
in all branches connected therewith.
Price List and Estimates free on application.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

4d. per bushel; 100 for 25s.; truck (loose, about 2 tons),

40s.; 4-bushel bags, 4d. each.

LIGHT BROWN FIBROUS PEAT, 5s. 6d. per sack; 6 sacks,

25s.; sacks, 4d. each.

SLACK FIBROUS PEAT, 5s. per sack, 5 sacks, 22s.; sacks,

4d. each.

COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half

ton; 26s. per ton, in 2-bushel bags, 4d. each.

YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-

MOULD, 1s. per bushel.

SPHAGNUM MOSS, 8s. 6d. per sack.

MANURES, GARDEN STICKS, VIRGIN CORK, TOBACCO

CLOTH, RUSSIA MATS, &c. Write for Price List.—

E. G. SMYTH, F.R.H.S., 21, Goldsmith's Street, LRY—

Lane (lately called 17A, Coal Yard), W.C.

SCOTT'S WASP DESTROYER has stood

many years' test as the only effectual Protection for

Fruit Trees, &c., from Wasps and Flies. Prices, 1s. 6d. and

2s. 6d. per bottle.—Makers, CORRY AND CO., Limited,

18, Finsbury Street, E.C. Sold by all Nurserymen and Florists.

HORTICULTURAL BUILDER.

Every description of GREENHOUSES, LIGHTS, &c.

PIT LIGHTS.

Best quality and workmanship, 2 inches thick, 6 ft. by 4 ft., iron bar across and very strong, 4s. 6d. each, 50s. doz., £10 for 50 lights, free on rail in London. Cash or reference with order.

CUCUMBER HOUSES.

Timber sufficient to build 100 feet by 12 feet house, lights, door, &c. Put on rail in London. Price, £9 10s. Send for detailed specification, to

W. DUNCAN TUCKER, HORTICULTURAL WORKS, TOTTENHAM.



Send for Illustrated Catalogue, just issued.

THE "CLIMAX" (CONCENTRATED) WEED KILLER

Is Stronger and Superior to all rivals for permanently destroying all vegetation on Carriage Drives, Garden Walks, Stable Yards, Railway Stations, Ash Tennis Courts, Stonework, &c., &c. Saves many times its cost in labour, and will eradicate the weeds far more thoroughly than the most careful hand-weeding, keeping them away for a whole season.

Has no Smell.—Improves and Brightens the Gravel. Can be applied with an ordinary Watering-Can. Will not Injure the Skin or Clothing.

NOTE.—One Gallon makes 51 Gallons for Use.

PRICES.—In ½-Gallon Tins, 1s. 9d.; 1 Gallon, 3s. (tins included); 5-Gallon Drums, 2s. 9d. per Gallon; 10 Gallons, 2s. 6d. per Gallon; 20 Gallons, 2s. 3d. per Gallon; 40-Gallon Casks, 2s. per Gallon. 5 Gallons and upwards sent Carriage Paid.

Drums Charged for, but Allowed when Returned in Good Order.

The "Climax" Insecticide.

The CHEAPEST of all INSECTICIDES. NON-POISONOUS, SAFE, & EFFECTIVE.

The only Insecticide that Improves and Brightens the Foliage, while at the same time it completely destroys all Insects and Parasites which infest the Foliage and Roots of the Plants.

It will not Injure the most Tender Foliage.

PRICES.—In Tins, ½ Pints, 1s. 3d.; Pints, 1s. 9d.; Quarts, 3s.; ½ Gallon, 5s.; 1 Gallon, 9s.; 5 and 10-Gallon Drums, 8s. per Gallon, Carriage Paid.

THE MYTHE CASTLE GARDENS, TEWKESBURY, AUGUST 13, 1891.

GENTLEMEN,—I have given your "Climax" Insecticide a good trial on tender foliage—Orchids and Ferns—for Bug and Scale. In every instance I have found the Bug and Scale dead, and the foliage bright and clean. I found it most effectual for Black Fly on Peach Trees.

The "Climax" Insecticide ought to be better known; it is the only one I have found to kill Bug on tender plants without injury to the foliage.

I am, yours faithfully, W. MACKIE.

THE GARDENS, MOYALLON HOUSE, GILFORD, CO. DOWN.

DEAR SIR,—In reply to your inquiry, I found the "Climax" a really good and effective Insecticide, completely destroying Mealy Bug, Thrip, and Green Fly on the most tender plants, without the slightest injury to the Plant; in fact, it brightens and improves the appearance of Foliage Plants very much.

Yours, &c., J. LYNAS.

SOLELY PREPARED BY

THE BOUNDARY CHEMICAL COMPANY, LIMITED,

OFFICE:—211, GREAT HOWARD STREET, LIVERPOOL.

SANKEY'S famous GARDEN POTS

* Bulwell Potteries, Nottingham. *

Messrs. Dicksons, Limited, Chester, write:—"The Flower Pots you have so largely supplied us with are light, strong and well made, and in every respect highly satisfactory."

Messrs. Richard Smith & Co., Worcester, write:—"We beg to say that we are highly satisfied with your 'Garden Pots,' they are well made, light, yet strong, and we like them better than any other we have ever used."

Mr. William Bull, 536, King's Road, Chelsea, London, writes:—"For nearly thirty years I have been using your 'Garden Pots,' and still had them the best and cheapest."

Largest Manufacturers in the World. No Waiting. Millions in Stock. Carriage and Breakage Free on £10 Orders. Half Carriage on £5 Orders. Samples Free.

ORCHID GROWERS' GREEN SPHAGNUM MOSS, Large Crowns, picked and squeezed, 5s. per sack. Trade supplied.
THOMAS BYRNES, Fell Side, Kendal.

HORTICULTURAL SHADINGS and NETTINGS, TIFFANY, COTTON WOOLS, and WADDINGS. Supplied Wholesale by—
JOSEPH COOKSON, 21, New Cannon Street, Manchester.

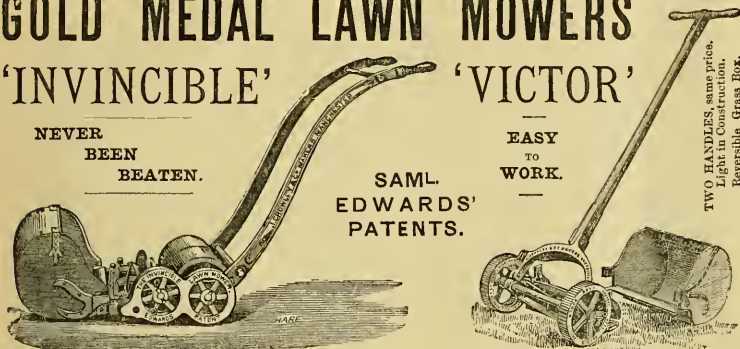
GOLD MEDAL LAWN MOWERS

'INVINCIBLE' 'VICTOR'

NEVER
BEEN
BEATEN.

EASY
TO
WORK.

SAM'L
EDWARDS' PATENTS.

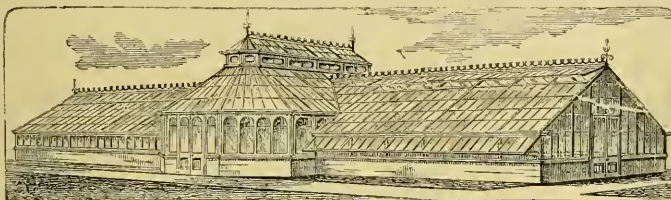


TWO HANDLES same price.
Light in Construction.
Reversible Grass Box.

SOLE MAKERS—

JOHN CROWLEY & CO., LTD., SHEFFIELD.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that the VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of any one out of our firm, from the smallest to the largest. Hot-water Heating Apparatus, with really reliable Boilers, erected, and success guaranteed in all cases. Melon Frames, Sashes, Hotbed Boxes, &c., always in stock.

Plans, Estimates and Catalogues free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK THE BEST MATERIALS.



PRICES of 60-feet LENGTHS (fitted with Brass Nozzle, Branch Pipe, Rose, and Jet).
ARMOURD.—The Excelsior Wire-Armoured Hose secures a Perfect grip, will not uncoil when cut at any part, stands enormous pressure, and wears for years. Prices—
1-in. dia., best quality ... 36/3 1-in. dia., ex. stout qual. 52/0
" ex. stout quality 43/7 " best quality ... 52/0
" best quality ... 45/0 " ex. stout qual. 60/7
All Hose Carriage Paid and despatched same day as order is received.
Also Maker of Hose for Delivery, Steam, Fire, Suction, and Liquid Manures, &c. Supplied to all the Principal Corporations, Parks, Estates, &c., at Home and Abroad. Over 5,000,000 feet in use. Catalogues of above and all kinds of HOSE, BELTING, ROOFING FELTS, SACKING, &c., Post Free. **MAKER TO HER MAJESTY THE QUEEN.**
ANDREW POTTER, MELBOURNE WORKS, WOLVERHAMPTON.

AWARDED TEN GOLD AND SILVER MEDALS.

REGISTERED NO. 13,195.

PATENT SPHINCTER GRIP GARDEN HOSE.

PRACTICALLY INDESTRUCTIBLE. DURABILITY OF STEEL. FLEXIBILITY OF INDIA RUBBER. CANNOT KINK OR BURST. THE ORIGINAL AND ONLY GENUINE.

HUNDREDS OF UNSOLICITED TESTIMONIALS. AVOID COUNTERFEITS and BEWARE OF WORTHLESS IMITATIONS.

Superiority over all other Hoses Guaranteed.

PURCHASE DIRECT.

The Company have now brought the Armouring of Hose to perfection, having obtained for the various improvements the protection of eight Royal Letters Patents; any infringement thereof will be prosecuted. No decision, important or otherwise, has been given against this Company in relation to Sphinxer Grip Armourd Hose, and any statements made to the contrary are untrue.

THE SPHINCTER GRIP ARMOURD HOSE COMPANY, Ltd.,

9, MOORFIELDS, LONDON, E.C.

CHAS. FRAZER'S EXORS.—Conservatories, Orchid-houses, Vineries, Greenhouses, Plant and Forcing-houses. Best Materials and Workmanship guaranteed, at Moderate Prices. Intending Purchasers waited upon by appointment. **HOT-WATER BOILERS and HEATING APPARATUS**, for large or small Greenhouses. Great variety of Garden Frames and Handlights kept in stock. All kinds of Garden Requisites, Poultry Appliances, Portable Summer-houses, Tool-houses, Pigeon Cotes, Dog Kennels, and Rabbit Hutches. Profusely illustrated CATALOGUE, post-free, for six stamps.

PALACE PLAIN HORTICULTURAL WORKS, NORWICH.

FAWKES' SLOW-COMBUSTION HEATING APPARATUS.

Most Efficient and Cheapest in Existence. Requires no sunk stovehole and no brick setting. Will last all night without attention. Will burn house coals, therefore costs next to nothing for fuel. Any one can fix it. A domestic servant can stoke it.

Complete Apparatus from £4 12s.

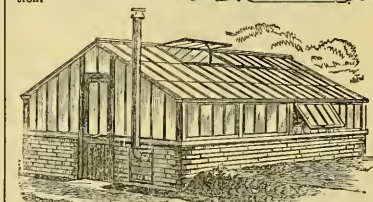
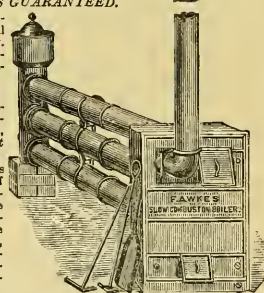
SUCCESS GUARANTEED.

Enormous numbers in use all over the country.

Only Slow Combustion Apparatus of the kind.

CAUTION. Beware of inefficient incomplete Apparatus, which will not last all night.

Full particulars and Prices of every sized Apparatus, and see numerous Testimonials for the last five seasons, showing enormous success, post-free on application.



BEST CONSTRUCTED and CHEAPEST

Greenhouses, Forcing-houses, Pits, Frames, Plant Protectors, Potting Sheds, Tool-houses, &c.

Illustrated Priced Catalogue post-free from

CROMPTON & FAWKES, Chelmsford. Exhibits at Stand L and Insectivorous House, International Horticultural Exhibition, Earl's Court.

150,000.—Special Offer of Kentias.
W. ICETON has a large quantity of the above to offer, very reasonable, at from £7 10s. per 1000. Thumbs, well-established, £10 per 1000; in 60's, well established, at £30 per 1000.
W. ICETON, Putney, S.W.

L'HORTICULTURE INTERNATIONALE
 (Orchid Emporium), Leopold Park, Brussels.
THE GRANDEST CHOICE OF ORCHIDS IN EUROPE.

THE DIRECTORS, MESSRS. LINDEN, cordially invite Amateurs and Nurserymen to visit their Establishment. They will find at L'Horticulture Internationale the Finest, Healthiest, and Largest Stock of New, Rare, or Popular Orchids in Cultivation. Grand Importations every week. **LISTS and CATALOGUES** on application.

SPECIAL TRADE OFFER OF PALMS.
ARECA LUTESCENS, in 48's, 18s. and 24s. per dozen.
 " in 40's, 2 feet, 30s. per dozen.
 " in 32's, 38s. and 42s. per dozen.
CORYTHA AUSTRALIS, in 32's, 30s. dozen.
 " in 48's, 15s. dozen.
KENTIAS, in 48's, 24s. per dozen.
LATANIA BORBONICA, in 48's, 18s. and 24s. per dozen.
 " in 40's, 30s. per dozen.
 " in 32's, 36s. and 42s. per dozen.
SEAFORTHIA ELEGANS, in 48's, 15s. and 18s. per dozen.
 " in 32's, 30s. per dozen.
 " in 24's, 7s. 6d. each.
FICUS ELASTICA, 2 feet, in 32's, 24s. dozen.
 " 4 feet, 38s. dozen.

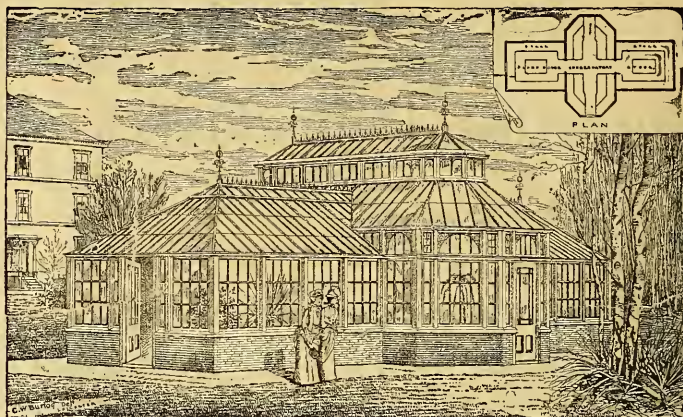
All the above are exceedingly strong, and well-grown. Packing free for cash with order.
J. RÖCHFORD, Page Green Nursery, South Tottenham.

ORCHIDS.

CLEAN, HEALTHY PLANTS AT LOW PRICES.

Always worth a visit of inspection. Kindly send for Catalogue.

JAMES CYPHER,
EXOTIC NURSERIES, CHELTENHAM.



MESSENGER & CO.'S New CATALOGUE of Greenhouses and Heating Apparatus.

Just issued, will be found the most complete, practical, and reliable guide to all about to build, alter, or heat Greenhouses. Illustrations of every description of Glasshouse, from the largest range of Winter Gardens to the simplest forms of Portable Greenhouses, Plant Protectors, and Garden Frames; also of all the best kind of Boilers, Hot-water Pipes, and all appliances for heating. This Catalogue, possessing hundreds of illustrations of all the latest improvements in greenhouse building and heating, is on a scale never before attempted. It should be in the hands of every one interested in gardening, as it contains many practical hints on the subjects of which it treats, the result of many years' experience. **Price, 2s. post-free.**

A large number of the illustrations are taken from greenhouses erected by us in various parts of the country; an inspection of this Catalogue shows, therefore, buildings the efficiency of which has been well tested by actual use. The advantages possessed by us enable us to carry out work with the utmost promptness, and in the very best style, at prices which defy competition. Surveys made, and gentlemen waited on in any part of the country. **Plans and Estimates free on application.**

MESSENGER & COMPANY, LOUGHBOROUGH.

London Office:—163, Palmerston Buildings, Old Broad Street, E.C.

EARL'S COURT, LONDON.

INTERNATIONAL HORTICULTURAL EXHIBITION, And BUFFALO BILL'S WILD WEST.

Chairman of the Executive Committee—H. E. MILNER, F.L.S., Assoc. M.Inst.C.E.

A FLORAL FAIRYLAND.

ALL THE FLOWERS THAT GROW.

THE GARDENS OF OLDEN TIMES REPRODUCED.

ELECTRIC FOUNTAINS. THE FLORAL MAZE.

Leafy Avenues and Floral Bowers.

BRILLIANT ILLUMINATIONS.

BATTLES OF FLOWERS.

THE MOST DELIGHTFUL PROMENADE IN LONDON.

All the **LEADING NURSERYMEN** represented by their **FINEST SPECIMENS**; EVERY DESCRIPTION OF FLOWER and FOLIAGE being contributed including Palms, Ferns, Flowering Shrubs, Insectivorous Plants, &c., from the **RAREST TROPICAL EXAMPLES** to the **COMMONEST NATIVE PRODUCTIONS**.

ADMISSION:—ONE SHILLING, including one of 2500 **FREE SEATS** at **BUFFALO BILL'S WILD WEST**.

Season Tickets, 10/6, now ready.

GATES OPEN from 11 a.m. to 11 p.m.

Secretary—G. A. LOVEDAY, B.A.



CALLA (RICHARDIA) ÆTHIOPICA,

"LITTLE GEM."



This is a perfect miniature gem of an Arum, from 10 to 15 inches high, with dark, bluish-green sagittate leaves, and pure white spathes; hardy and free-flowering, and requiring the same soil and treatment as the ordinary kind. The illustration was engraved from a photograph, and shows the "Little Gem" by the side of one of the ordinary Arums (Richardia æthiopica), and explains more perfectly than description could do, its comparative size. We greatly regret to find that many firms are offering spurious varieties as "Little Gem," and as we purchased the whole of the stock from the raiser, Mr. Elliott, of Jersey, we strongly advise all to obtain their supply direct from ourselves, to ensure having the true variety.

Price, 42/- per dozen.

CALLA (RICHARDIA) ELLIOTTIANA

THE MAGNIFICENT GOLDEN CALLA.

Exhibited recently at the Grand Exhibition of the Royal Horticultural Society at the Temple, where it was awarded a Silver Banksian Medal; also, at the International Horticultural Exhibition, Earl's Court, where it received the First Prize for the best New Plant in bloom. We have pleasure in stating that we have obtained a stock of this Grand Novelty.

Full particulars as to price, &c., upon application.

WM. CUTBUSH & SON,

HIGHGATE NURSERIES, LONDON, N.;
AND
BARNET NURSERIES, HERTS.

LOBELIA! ASTERS! DAHLIAS!

LOBELIA.—True EMERSON WILLIAM, lovely dwarf dark blue, guaranteed from Cuttings, not Seedlings. Massively-rooted bushes, for immediate effect, 50, 1s. 6d.; 100, 3s.

ASTERS.—Choice Mixed VICTORIA, the most popular variety. Extra strong plants, 25, 1s. 6d.; 50, 2s. 6d.; 100, 4s. 6d.

DAHLIAS.—From choicest sorts—Cactus, Double Show, or Single varieties; the best only. Quite ready. 6, 2s. 3d.; 12, 4s., worth double.

All strong, healthy Plants, packed with moss, and Carriage Paid. Order Early.

W. H. HUDSON, F.R.H.S.,
199, HIGH ROAD, KILBURN, LONDON.

If You want LOVELY GARDENS, you must have BEAUTIFUL FLOWERS

Buy Now for a **Gay Display**. Alternantheras, in variety, fine stuff in pots, 2s. 6d. per doz., 16s. per 100; from stores, 10s. per 100. Calceolaria, Golden Gem, out of pots, 2s. per doz., 10s. per 100. Ageratum, in variety, in pots, 2s. per doz., from stores, 5s. per 100. Iresine, Lidenit and Brilliantissima, in pots, 2s. 6d. per doz., 15s. per 100. Mesembryanthemum variegatum, in pots, 2s. 6d. per doz., 16s. per 100. Tropaeolum, Dr. Niles, crimson, rapid grower, 3s. per doz.; T. main pyramidal, scarlet, dwarf bedding variety, 3s. per doz. Begonia, tuberous rooted, for bedding, our unrivalled strain, dwarf erect habit, brilliant large flowers, mixed, 4s., 6s., and 9s., per doz. Musk, "Harrison's" 3s. per doz. Geranium, Golden Tricolor, 4s. and 6s. per doz. Mentha pulegium gibraltarium, 2s. per doz. Heliotropes, 3s. 6d. per doz.; Salvia, 12 in 6 varieties, 3s. 6d. Abutilons, 12 sorts, 4s. 6d. Fuchsia, 3s. per doz., 25 for 10s. Coleus, 4s. per doz., 25 for 6s. 6d. Latania, 3s. 6d. per doz.

In variety, 6s., 9s., and 12s. per doz. Rebeccia metallica, 9s. per doz.; E. agaveoides, 8s. and 12s. per doz.; E. farinosa and Penockii, 6s. and 9s. per doz.; E. metallic rose, 1s. 6d. and 2s. 6d. each. Haworthia crenata, 6s. and 9s. per doz. Mesembryanthemum vulpium, 6s. and 9s. per doz.

Superior Dahlias. Immense Collection, the finest varieties, all named and distinct—Show, Fancy, Bedding, Bouquet, and Singles—12, in 12 splendid varieties, from any section, 4s.; 50 for 15s., 100 for 25s. 12 in Thumb Dahlias.—New Dwarf Bedders, in variety, 1s. 6d. each, 15s. per doz.

For everything required for the Garden at this season, see New CATALOGUE (No. 115), post-free.

Oldfield Nurseries, } 10 & 12, Market St.,
Aldersham, } Manchester.
And Principality Nurseries, Llandudno Junction.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

ORCHID EXHIBITION.—Now OPEN.

ORCHID EXHIBITION.—Admission Free.

ORCHID EXHIBITION.—One of the most beautiful sights in London.

ORCHID EXHIBITION.—A vision of loveliness unparalleled in Europe.

ORCHIDS.—Must be seen to be realised.

ORCHID EXHIBITION, at Mr. WILLIAM BULL'S Establishment, 536, King's Road, Chelsea, London, S.W.

DAFFODIL BULBS, FOR FORCING PURPOSES.

Hartland, of Cork, is now raising his Crop of Ard-Righ and Countess of Annesley, Golden Plover, &c., for the Trade, and shall be glad of immediate Orders. The Bulbs are simply magnificent. Please write for Prices and Samples.

Daffodil Grounds at Ard-Charm.
WM. BAYLOR HARTLAND, F.R.H.S., Seedsman, Cork.

ARTHUR FLINSCH,
LOSCHWITZ, near DRESDEN.



LARGE PEACH GROWER
In Hothouses and Open Air.
Export of Fruit to all Parts.

Many Acres of Lilies of the Valley!
T. JANNACH, Largest Grower of LILIES OF THE VALLEY in the Kingdom, offers 3-year-old flowering Crowns for forcing, and 2 and 1-year-old Crowns for planting out, of unsurpassed quality. Hundreds of testimonials. Time of sending out, November 1 to May 1. Prices and terms on application.

T. JANNACH (Lily of the Valley Grower by special appointment to H.R.H. the Prince of Wales), Dersingham, King's Lynn, Norfolk.

WEARE THE ONLY
LAWN MOWERS
BY ROYAL
MAKERS OF
APPOINTED
WARRANT.
MAKERS TO HER MAJESTY THE QUEEN AND HIS
ROYAL HIGHNESS THE PRINCE OF WALES.

GREEN'S PATENT "SILENS MESSOR" LAWN MOWING MACHINES

ARE THE
**FIRST, FOREMOST,
AND
BEST IN THE WORLD.**

ALSO
**TENNIS COURT MARKERS
AND
GRASS EDGE CLIPPERS.**

SINGLE-HANDED LAWN MOWER.

With Improved Steel Chains
and Handles. These Mowers
are the "No Plus Ultra" and



"Acme" of
perfection of all
Lawn Mowers
extant.

They have stood the test for upwards of thirty years, and have carried off EVERY HIGHEST PRIZE which has been given in all cases of competition.

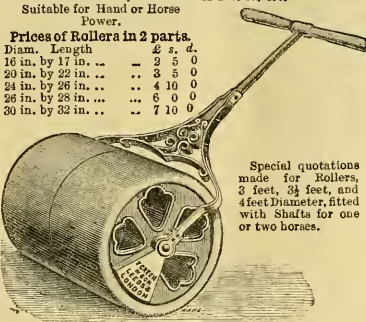
GREEN'S Patent ROLLERS,

For Lawns, Drives, Bowling Greens, Cricket
Fields, and Gravel Paths, &c.

Suitable for Hand or Horse
Power.

Prices of Rollers in 2 parts.

Diam.	Length	£	s.	d.
16 in. by 17 in.	2	5	0
20 in. by 22 in.	3	5	0
24 in. by 26 in.	4	10	0
26 in. by 28 in.	6	0	0
30 in. by 32 in.	7	10	0



Special quotations
made for Rollers,
3 feet, 3 1/2 feet, and
4 feet Diameter, fitted
with Shafts for one
or two horses.

Price Lists on Application.

They can also be had of any Ironmonger, Merchant, or Factor,
in the United Kingdom, or direct from the Manufacturers.

Repairs promptly done at both our Establishments
for the Trade, as well as Others.

THOMAS GREEN & SON,
LIMITED,
LEEDS and LONDON.



THE Gardeners' Chronicle.

SATURDAY, JUNE 25, 1892.

DULWICH PARK.

THIS pretty park is always worth a visit, and invariably has something interesting to show, from the season of Auriculas and the early bulbs to that of the Dahlias and Chrysanthemums, and the richly-tinted leaves of the autumn. Mr. Morman and his men are not yet at the height of the season, when the greatest display may be expected, and which they are preparing for by a daily setting-out of thousands of plants. But in these days the alpine, which were formerly confined to the Alps and other Highlands, are grown in all good gardens in great variety, and they are charming party because they are brilliant, and in some measure because they are so various. In Dulwich Park there is a particularly good collection of these useful, recent, and, so far as the million are concerned, comparatively little-known additions to the wealth of our flower gardens.

On this 1st of June the rockwork, which embanks half a mile or more of border, has its thousand clefts and crannies filled and overflowing with alpine, now bright with blossom, and which have been brightly blossoming during the past three weeks. That gay and golden Alyssum, for example, A. saxatile compactum, abounds, growing and spreading over the rocks in masses 3 feet in diameter, and laying just claim by its golden petals to the popular name of Gold-dust. The golden dust is, however, now fast disappearing through the scattering of the petals, which are pushed off, and begin to fade as the seed-vessels swell. Some blossoms fade in a day, but these have been gay, and greatly admired during the past three weeks.

There is a good collection of Saxifrages. Among them the mossy sorts, S. cespitosa, S. Wallacei, S. zealandica, and others, clothe the rocks, and nestle deliciously green in the crevices, each in blossom, and in plenty. Abundance is a characteristic here, except in the case of such gems among the alpine, that one looks at them with reverence, almost wishing them under lock and key for greater safety—all others are in great abundance. Saxifraga hypnoides is a common but notable species, its foliage presenting the appearance of having been compactly intertwined in the same fashion as finches build their nests; and this Saxifraga is found here in scores running and twisting up the rocks. One must not omit to mention London Pride. It may be a common thing, but it has its place and its uses, and forms here a very good edging to some large beds of Rhododendrons now in full blossom, being itself in full blossom, too. Possibly a mere gorgeous edging might

snuff out the *Rhododendrons*, but *London Pride* does not disconcert them, so to speak, in the least, while its free growth and feathery appearance form a pleasing contrast to the rather rigid habit of named *Rhododendrons*. How infinite is the variety in many tribes of plants! The *Saxifrages* differ

of throwing up a blossoming stem several feet high in the second week of May, and three weeks before the appearance of the leaves. *S. Burseriana* is a small plant, a mere tuft, early, and now out of blossom. *S. oppositifolia* is a very early *Saxifrage*, a bright little mountaineer, of purplish-rose colour, here a specimen plant

diameter; and *S. muscoides purpurea*, one of the most engaging of them all, with purplish rose-coloured blossoms.

Among the other gems of the rocks, *Epimedium niveum* must not be passed over. It blossoms early, and the frost destroyed its flowers this year, and injured the foliage, which has



FIG. 115.—*CATTELEYA VICTORIA REGINA*: COLOURS OF THE FLOWER, ROSY-CRIMSON. (SEE P. 809.)

widely in habit and in shape, size, and colour of leaf and flower. *S. dentata cristata* has blossoms resembling those of the last-named, but its leaves are much smaller, more compact, of a deeper green, and toothed. Then, we may recall the sorts with rigid leaves, such as *S. pyramidalis*, which lifts upwards a lofty flower-stem; and a more dwarf species, *S. Aizoon minor*, with hard foliage, crowding some of the crevices as with a carpet of crystal. *S. peltata* has the peculiarity

only, a treasured cushion; but elsewhere, when the snow melts, a sheet of blossom spread over the ground. It is inevitable that many of the *Saxifrages* in the park will be overlooked on this account, as only those can be named which caught the eye. Among them were *S. serrata elegans*, *S. decipiens*, in its prime; *S. capillaris*, with flower-stems of hair-like delicacy, true to its name; *S. Haworthi*, *S. leptophylla*, in full blossom in hundreds of large patches, 3 feet in

now, however, recovered its beauty. Among the *Sedums*, all who cultivate alpenes should secure *grandiflorum* as well as *S. glaucum*. The former is now just expanding its flowers. The graceful *Polemonium coeruleum* (Jacob's Ladder) is a good old favourite, excellent alike for its blue flower and tender green leaf, and the variegated variety of the same plant is as graceful as a variegated Fern, and might easily be mistaken for one. It makes an excellent edging plant,

and is propagated as easily as a Russian Violet by dividing an old plant in autumn and replanting. The blue *Veronica rupestris* is one of the brightest flowers that can cheer this division of a garden at the present season, but one of the *Aubrietias* is handsomer still. In fact, *A. Leichtlini* is as pre-eminent for beauty among flowers of its class as *Venus* was among the goddesses—a fitting reminder of the great German gardener of Baden Baden. No one blessed with sight could pass its lovely mass of rose blossoms, pure and sparkling as rubies, without that feeling of adoration which perfect beauty inspires; and it is quite a shock

in the last-named position, and bears a profusion of feathery white blossoms, which, in the distance, might be mistaken for foam. Few plants are better suited to rockwork and more pleasing than *Thymus lanuginosus*, and, in the face of an approaching thunderstorm, we walked some distance to the Court Lane entrance to see that not uncommon plant, which was planted freely there when the park was formed, and has spread quickly over the rocks, clinging close to them, according to its habit. Its appearance gave it the name of Downy Thyme. Less common, slow in growth as the last-named plant is fast, we discovered, lurking in a crevice, *Dianthus*

mitted that the visitors to this delightful park find therein a great diversity of subjects, young and old, native and imported. There are lanes here, too, wherein you shall meet as many happy couples as in any country lanes, and as much beauty; and as for *Primroses*, a few weeks back there were more *Primroses* in Snake's Lane, Dulwich Park, than in any Sussex lane. And in the margins of the same lane the *Tulip*, *Hyacinth*, *Crocus*, *Polyanthus*, and *Auricula* were as plentiful as the *Primrose*.

The propagating-house till recently held hundreds of thousands of *Pelargoniums* and other bedders, which were first turned out into frames for protection, and are now being daily planted out in the grounds as fast as work and weather permit. The house is now filled with *Begonias*, *Iresines*, *Heliotropes*, *Fuchsias*, *Maize*, *Cupheas*, *Amaranthus*, foliage *Tobacco*, and other sub-tropical plants of the class which were much admired in the park last year. The immense number of these plants which Mr. Morman manages, with competent assistance, to produce with a comparatively small extent of glass, is astonishing. The London County Council and the people of London, to whom this park and its contents, with all its blossom and its beauty belong, are well served. *H. E.*

CATTLEYA VICTORIA REGINA.

In our number for May 7, of the present year p. 586, Mr. O'Brien described the very remarkable species introduced by Messrs. Sander & Co., and exhibited by them at the Royal Horticultural Society on May 3. We now give an outline showing the "habit" of the plant, and a full-sized drawing of a single flower (pp. 808, 809). As many as twenty-three flowers have been counted on a spike. For further details we must refer to Mr. O'Brien's description taken from the living plant.

NEW OR NOTEWORTHY PLANTS.

ERIA LAUCHEANA, n. sp., Kränzlin.*

This new and very striking species of *Eria* shows the character of *E. Dillwyniana*, Hook., combined with those of *E. hemimelaena*, Rchb. f., but there are several important discrepancies between those species. Imagine a drooping raceme of *E. Dillwyniana* reduced to about half the size, and coloured nearly almost like *E. hemimelaena*, Rchb. f., then you have an idea of this plant. The peculiarities consist in the perfectly different form of the lip and its keel; and in the colour of the petals, which are pale yellow in *E. hemimelaena*, Rchb., and deep black-purple in *E. Lauchea*. The contrast between the chlorotic colour of the larger part of the flower and the deeply-coloured petals and side-lobes of the labellum is the only beauty of this otherwise merely botanical Orchid. The author is indebted for fresh materials to Mr. Lauche, chief gardener of His Grace the Prince Liechtenstein at Eisgrub, Moravia. *Ka.*

* *Eria Lauchea*, n. sp., Kränzlin. — Sepalo dorsali oblongo obtuso, lateralibus triangularibus acutis in mentum subacutum, coalitis extus basi sparsissime fusco-cruentis ceterum omnino calvis; petalis paullo angustioribus ligulatis obtusis calvis, labelli lobis fere æquilongis (intermedio paululum longiore), lateralibus erectis sensuopatis, intermedio reflexo subquadrate antice retuso apiculato dense piloso, callis 2a basi labelli lobi intermedii basin usque decurrentibus medio divergentibus dense pilosis antice in pulvinar pilosum confluentibus; gynostemio generis. Racemus utraque, 15–20 cm. longus. Rhachis sparse fusco pilosa; bractee magnae ovate obtuse acutae, ovaria non omnia requantes glabre. Tota inflorescentia, rhachis, bractee, ovaria, sepala lateralibus et parvis labelli pallide straminea (eodem colore quo gaudet *Monotropa hypopitys*), petala et labelli lobi laterales atropurpurei. Totus flos vix 8 mm. diametro, bractee infimae (1a) 2 cm. longae, superiores decrescentes. *Dr. Kränzlin.*



FIG. 116.—CATTLEYA VICTORIA REGINA—REDUCED SKETCH: SHOWING HABIT.

to learn that it bears a name which few English tongues can pronounce accurately and with ease. The next best *Aubrietia* here is *Andersoni*, which has the merit of bearing a good English proper name, together with purple flowers—beautiful, but much less enchanting than the above. *Iberis coraeifolia*, the finest by far of the evergreen Candytufts, is not to be confounded with *I. corifolia*, since it has larger leaves and heads of milk-white flowers, each of larger size, and is comparatively a giant. It is a hybrid readily increased by cuttings or seeds, and as well disposed towards rocks as the common Thrift to our hills and tops of mountains.

Tiarella cordifolia (Foam Flower), at home alike in borders or among rocks, flourishes here

alpinus, looking much like a tuft of moss; and hard by is *Silene maritima plena*, with a blossom as large as a fair-sized Pink.

Crossing the Park, we noticed Wallflowers just going out, and *Pyrethrums* just coming in; Stocks, the ever-beautiful, when in bloom; *Die-litra spectabilis*, *Rosa rugosa*, in bloom; Brooms, with white, yellow, and cream-coloured blossoms; *Weigela rosea*, in the prime of its blossom; *Guedres Roses*, *Rhododendrons*, and *Azaleas*, and many shrubs, for the mention of which there is no space. Remembering the excellent collection of Maples here, and the old Oaks, which were here 500 years ago, and the Horse Chestnuts, and a larger list of things omitted than of those which have been named, it will be ad-

NOTES FROM WISLEY.

MR. WILSON, writing of some species of plants which are considered as being not very easy to grow successfully, states that *Primula Reidi*, in a cool damp situation; *Lewisia rediviva*, in good loam; *Cypripedium acaule* (large form), in moist vegetable soil; *Oenothera taurica*, on dry banks, have been very fine this season at Oakwood. *Ranunculus parnassifolius* has smaller flowers than usual, probably owing to the drought; *Arnebia chioides*, in exposed situations, stood the last two winters well. When lately showing some plants of this to an old Indian general, and telling him the usual story about Mahomet having passed his hand over the flower, and making the five dark spots vanish, he gave me a new version. Thinking it to be an improvement on the old one, I asked to have it in writing; I give it as he kindly sent it to me, in his own words:—

"In the trans-Indus country of our Indian possessions, a flower grows wild in great profusion, both in the Peshawar and Euxofazai districts, which reminds one to a certain extent of our English Cowslip. The natives of these districts, almost exclusively Mussulmans, call it the 'Mahommied Phul,' which we have anglicised into the 'Prophet Flower.' When in the Peshawar district many years ago, I made friends with a man of the local police, who told me many interesting stories and legends which had come down *visâ voce* from ancient times. My good friend Giel Khan, amongst other things, told me of the origin of the name given to the above flower; it was to the following effect:—Before their great Prophet Mohammed had fairly established himself in power and importance, in one of the ups-and-downs of his earlier fortunes he had been compelled to fly for safety into the desert, accompanied only by a few disheartened but faithful followers. There, as they rested on the dry barren and scorching sand, discontented murmurs arose amongst his companions at the hardness of their lot, at their being compelled to take refuge in such a forsaken spot, not a blade of grass to be seen, nor a drop of water to be had—a spot accursed of God and avoided by man. The Prophet, hearing these words of despair and faithlessness, roused himself from his apparent sleep of abstraction, and striking his open palm on the parched and burning sand, up sprang at once a green and fresh-looking plant, bearing pleasant-scented flowers, each yellow blossom having a dark spot on every one of its five petals. Mohammed then rebuked his murmuring followers. 'See,' said he, 'the power of Allah, even in this barren spot, can produce this flower, and cannot He again restore our fortunes, and rescue us from our present state of misery?' The flower is therefore called the 'Mohammedi Phul,' and the five brown spots, they say, are the marks of the thumb and four fingers of the Prophet's hand.

"This flower grows amongst the hard and stony tracts of the Peshawar Valley, as well as upon the richer soil of Euxofazai; marching at night, I have perceived its pleasant scent when crushed under foot by the troops. The seed-pods are harsh and bristly, making one's fingers quite sore in collecting them."

TREES AND SHRUBS.

RHODODENDRONS AT CRICHEL.

Is looking through Lord Alington's beautiful gardens and grounds at Cricheil, Wimborne, a short time ago, we found Mr. J. Beck, his lordship's head gardener, busily engaged in planting some of the finest varieties of Rhododendrons in some large beds near the mansion. Mr. Beck's rule during his thirty years' service at Cricheil has been, either to do a thing well, or not to do it at all, and there can be no doubt that it is a very good rule to work by; therefore his Rhododendron beds are made $2\frac{1}{2}$ feet deep, and the soil consists of three parts of good peat to one of strong loam, all being well chopped up and mixed together before being wheeled into the holes, every load of

peat costing 24s. delivered from Ringwood. In this excellent mixture of soils the plants received from the nursery, and having nice balls of roots, are planted, and the soil trodden about them, and then a good watering is afforded them; and this is repeated at short intervals, until the roots have pushed well into the new soil. Thus treated, it need hardly be wondered at that Rhododendrons do so well at Cricheil, the display there at the present time being a very fine one. Among the varieties grown may be mentioned R. Broughtoni, rosy-crimson; R. Lady Eleanor Cathcart, pale rose, spotted with chocolate; and R. Nobleanum, scarlet, the latter being a capital variety for forcing, as it may be had in flower from November onward. Hardy Azaleas and Kalmias are also extensively and well grown at Cricheil. H. W. W.

THE WEEK'S WORK.

THE FLOWER GARDEN.

By H. W. WARD, Gardener, Longford Castle, Salisbury.

ROSES.—The present is a busy and anxious month with rosarians. To obtain fine, solid blooms, none but the crown bud on each shoot should be retained, the others being removed as soon as fairly formed; and all the shoots and suckers which may have sprung from the stems and roots of worked standards and dwarfs should be rubbed off and pulled up as soon as they can be seen. In limited collections, the flowering period, as pointed out in a recent Calendar, may be much prolonged by leaving buds of two or three sizes in thinning, which should be performed at intervals of a few days. Climbing Roses should have all weak or superfluous shoots cut out, and securing those that are left. Should mildew be present on any Roses, dust them while the foliage is damp with flowers-of-sulphur; or syringe them in the evening with a solution of the "Climax" mildew destroyer and tepid water, at the rate of 2 oz. of the former (about two wineglassfuls) to 1 gallon of the latter.

RHODODENDRONS AND AZALEAS.—As fast as these shrubs go out of flower, the seed-pods should be cut off, and in that way growth of shoots is assisted. Any straggling or overgrown plants may at this season be cut into shape, and if this be done with care, the appearance of the plants will not be spoiled, the new growth soon oblitterating all traces of the pruning-knife. The same remark applies to Laburnum, Weigela, Broom, Syringa, Gueldres Rose, Berberry, and Laurustinus.

THE RESERVE GARDEN.—Put in a good stock of cuttings of the different varieties of Paeonies used in the spring bedding. These cuttings should be taken with two or three pairs of leaves, and the stems cut clean across just below the lowest joint, the lowest leaves being removed at the same time. Dibble them into a bed having a surface of sand, and which consists of fine soil a few inches thick, overlying a hard bottom. The cuttings may stand 4 inches asunder, and should have the soil made firm about them by pressure, and by means of a good watering. Damp the cuttings overhead every fine afternoon until rooted, as much with a view to freshening up the plants as moistening the soil. Daisies and other spring-flowering subjects which may have been laid in by the heels, should have all the flowers cut off, and be divided, shortening the roots a little, and be planted out like the Pansies.

THE KITCHEN GARDEN.

By G. WYTHES, Gardener, Syon House, Brentford.

BROCCOLI IN THE SEED-BED.—If the plants stand very close together, it is worth while to draw some of them, and prick them off into beds, there to await planting-out when space is at command. Broccoli may sometimes be planted between the rows of other vegetables, no further preparation of the ground being necessary, as the firmer the soil, the more sturdy is the growth for planting. Late-sown Model Broccoli, if planted out in July, will afford a supply in case the earlier and stronger plants get cut off by hard frosts. At Syon we scarcely lost a plant of all those put out on a north border, whilst those grown in other parts of the garden were destroyed.

KALES are more hardy than Broccoli, still it is best to plant them in succession, planting one lot

the latest, on a cool border, so as to afford a late supply of heads that will not readily run to seed. The dwarf sorts of Kales are best for late use; and a good breadth of the Asparagus and cottager's Kales usually are very useful in the scarce time in spring. Sprouting Broccoli require much the same treatment as the Kales, and like them to be planted in firm ground.

SAVOYS are ready for planting out, the ground, which has carried a crop of early Potatoes or Winter Spinach, being utilised for them. The large-growing Drumhead Savoy is a profitable variety, if size only be studied, but the smaller Savoy is of more general usefulness, and not so strong in flavour. The planting-out of other winter crops should receive due attention, and the quarters, &c., be cleared of any crops of early Peas, Beans, and Cauliflowers, not leaving them to impoverish the soil, and become unsightly.

PEAS.—These, if tall-growing, should have the bine topped at 4 feet, to induce early podding; and if these crops are the least dry at the root, water should be applied heavily, and should the soil be light, a good mulching with litter put alongside the rows will retain the moisture in the soil for a long time. The same remarks will apply to the crops of Kidney and Broad Beans and Scarlet Runners, which soon exhaust the soil of its moisture.

LEEKs.—Trenches should be prepared for these in the same way as for Celery, but closer together, and the plants carefully put out in them with all their roots intact, previously watering the beds, and also the trenches after planting. For an early supply, the Lyons Leek is excellent, and the Musselburgh Leek for late use.

PARSLEY.—The present is a good time to make a sowing for winter supply, sowing the seed in such a manner that common frames may be placed over it in severe weather. Sow the seeds thinly. If root be dusted in showery weather over the earlier sown plants, it will assist growth and check the ravages of insects.

CELERY.—The planting of this crop must be proceeded with as fast as the ground is cleared. Sometimes at this date the ground occupied by the early spring Cabbages may be planted with Celery, there being nothing gained by leaving the Cabbages to sprout.

FRUITS UNDER GLASS.

By J. RIDDELL, Gardener, Castle Howard, York.

PEACHES AND NECTARINES.—The late succession trees will require some amount of vigilance to prevent the temperature getting too high now that the fruits are showing, air being admitted freely by day, and some small amount of it by night. If thinning has not been sufficiently severe, no time should be lost in removing the too numerous fruits, not letting the trees carry fruit which must eventually be sacrificed. Look over the trees at short intervals of time, and keep the shoots tied to the trellis, and expose the fruit as much as possible when doing this. Borders that are well drained, if inside the houses, should be well supplied with water at this season, remembering that soils that are light and porous stand in need of heavy watering at intervals of three weeks or a fortnight when the weather is dry. If the trees are weak or the crops heavy, make use of weak manure water, but not to the extent of causing grossness of growth. Syringe the trees twice daily in sunny weather, and frequently sprinkle the borders and paths.

SUCCESION-HOUSES.—When the fruits have commenced their second swelling, the temperature of the house may be raised a few degrees by day, and fewer by night. If the surface of the border be caked, loosen it with a steel digging fork, to admit air and water more readily. The appearance and the flavour of the fruits depend a good deal on the amount of direct sunshine that they receive during the later stages of growth. Therefore, any leaves which may be obstructing the light from the fruits should be brought to the under side of it or quite removed. Should thrips appear on the leaves, fumigate the house on three nights in succession with medicated tobacco paper, and make sure that no red-spider remains before syringing ceases for the season.

THE HARDY FRUIT GARDEN.

By H. MARKHAM, Gardener, Merecroft Castle, Maidstone.

GOOSEBERRIES AND CURRANTS.—Plants trained on walls and fences should now have their leading

shoots nailed in, and the laterals cut back to within 4 or 6 inches of the base. These plants produce good clean fruit for the desert, and they are easily protected from birds and retarded, by covering them with mats or thick netting.

RED AND WHITE CURRANTS on walls, &c., should be treated somewhat similarly to the Gooseberry with regard to pruning and training, as they readily fruit on the spurs and shoots of two years' old. If the plants are trained on a sunny wall, do not thin the young shoots too severely, or the fruits will get damaged by the sun. Mulch the soil over the roots with farmyard manure, and heavily water them, and occasionally use manure water. Green-fly should be dislodged by means of the garden engine and clean water.

SWEET CHERRIES.—In most cases, and especially on trees whose flowers were not fully expanded at the period of the spring frosts, there are very heavy crops, and the foliage is healthy and tolerably free from aphides. Choice varieties should be at once netted. After the leaves, and especially the tips of the shoots, are cleared of all insects, by means of clean soft water only, the fruits should not be exposed too much, or rain will be apt to spoil them. If the nets are large enough, fasten them 4 or 5 feet away from the foot of the wall, thus enabling a person to walk along the front of the trees in gathering fruit, &c., without any disturbance of the net, except at the ends. All leaders should be secured to the walls, care being taken that the bark is not in contact with nails, or gumming will result, with loss of the shoots. If the crop is a very heavy one, slight thinning of the fruit may be practised, and the roots supplied with a soaking of tepid manure-water. Attend to the training of shoots of young fan-shaped trees, laying in the wood required for the framework of the future tree at about 10 inches apart, and pinching out the points of any shoots that may be growing too strongly.

PLANTS UNDER GLASS.

By R. MILNER, Gardener, Penrice Castle, Swansea.

FERNS FOR CUTTING.—To have the fronds of Ferns in such a condition that they will remain fresh-looking for a number of days, the plants should be subjected to no more heat than is necessary, and to as much light as is safe, no more shading being made use of than will preserve the younger fronds from injury by bright light; and the plants from the first should have air freely afforded whenever it is prudent to do so. Treated in this manner, the cut fronds keep fresh for from five to six days. If they are immersed in water for several hours, their freshness may be still further increased.

TODEA SUPERBA.—A very suitable place for this species, which is undoubtedly one of the finest of the Filmy Ferns, is in a glazed case, if the plant be large, or a bell-glass if small, placed in the cool greenhouse, and little or no air afforded them, and on no account to syringe the plants. By keeping *Todeas* in this manner, the fronds will generally be found with drops of water hanging to their margins, a sure indication that the plants are in a healthy condition. Filmy Ferns like subdued light, which makes it necessary to place them in a position where the sun's rays do not reach them.

TREE FERNS.—Large specimens of Tree Ferns which have occupied the same tubs or pots for several years, should be supplied with weak manure-water twice a week during the growing season; a light shade during the hottest part of the day, being afforded, but the matter of shading must not be carried too far. More air, and less moisture overhead and in the atmosphere, are the secrets of having these plants in a healthy condition, for should the plants be afforded too much shade, and the temperature kept too high, there is usually an increase of trips and other insect enemies, and under such kind of treatment, the fronds are too tender to stand much washing with tobacco-water or fumigation, in case the plants become infested with this pest.

FERNS GROWING IN BASKETS.—Specimens which are growing in hanging baskets must have close daily attention in the matter of watering.

POINSETTIAS PLANTED OUT.—Where space can be spared in which to put out a few of these plants

in beds at the back of the stove, so that they will not become crowded by the other inmates, they will grow to a larger size than in pots, and the show is more effective in its season. The plants afford fine material for cutting from. Another lot of cuttings may now be put in to form a succession to those early struck. Choose the young growths which have firm wood at their connection with the main stem. Put the cuttings singly into small pots in a mixture of sifted loam and sand, filling them to half their depth with this compost, and the remaining part with clean sand; place them in the propagating frame, giving them the necessary shading when the weather is bright, and when the cuttings are rooted admit air gradually for a few days before finally removing them. Cuttings which were put in early should, when well rooted and started into growth, be shifted into pots two sizes larger. Rich fibrous loam three parts, with one of decayed manure, and sand in proportion, will suit them well. Grow them in a structure, well up to the glass, where a moderate stove temperature can be maintained, using a light shade during the hottest part of the day.

THE ORCHID HOUSES.

By H. A. BURBERRY, Orchid Grower, Highbury, Birmingham.

THE CATTLEYA-HOUSE.—There is still a good show of bloom on Cattleys of the labiata section, which are invaluable where cut flowers are largely required. The first of these to open was *C. Percivaliana*, which was closely followed by *C. Trianae*, both of which should now be freely growing—the former being so placed as to receive a good deal of sunlight. Next in order of flowering was *C. Mendeli* and *C. Mossii*; and although the flowering of most of the plants of these species is over, there remain a considerable number of blooms to open; and these, together with *C. Warneri* and *C. gigas*, will supply flowers for a month longer—that is, till *C. Gaskelliana* will be plentifully in bloom. The latest Cattleyas to expand their blossoms are *C. Eldorado splendens*, *C. labiata verawarocqueana*, *C. speciosissima-Lundemanniana*, and *C. aurea*, the late-flowering variety of *C. Dowiana*. These species make a grand show during the later autumn months, and they should now be induced to make free growth. *C. aurea* grows best if placed at the warmest part of the house, near the glass. The great beauty of the labiata Cattleys should not, however, lead us to underrate other varieties of Cattleys, which are showy and useful, and flower at different seasons. *C. Schilleriana* has just passed out of bloom; one of the smaller growers, it usually starts to grow in January, and must have a place in the warmest house, although, now that the growth is complete, and rest is necessary, it is best to remove the plant to the Cattleya-house, and afford it only a moderate supply of water. *C. Acklandiae*, now in flower, takes very closely after *C. Schilleriana* in habit and requirements, and we treat them alike, growing them in small baskets or pans up near the glass. *C. Walkeriana* is also in flower, and very pretty it is. The manner of its flowering is curious, the plants making alternately a pseudobulb, and then (if strong enough) a flowering growth, which is simply a short stem from the base of the pseudobulb which has produced a flower spike from its apex. This species grows well in the Cattleya-house. Cattleya *Lawrenceana* and *C. Skinneri* are spring-flowering species, and although they do well in the Cattleya-house proper, they do perhaps better in a house with a trifle more warmth whilst growing. *C. superba* should be in company with *C. Eldorado*, near the roof in the Dendrobium-house. For autumn flowering *C. Harrisonia*, which is valuable at that season, grows well in the Cattleya-house, as do *C. amethystoglossa*, which flowers in spring, and *C. granulosa* in autumn.

Another beautiful Cattleya is *C. maxima*, which I find to grow best in an intermediate-house that is somewhat cool and shady. *C. Bowringiana* is useful, coming in during November; and it should be grown near the glass in the Cattleya-house, its flower trusses coming larger in such places than when the plants stand far away from it. Cattleya *Rex* is apparently a plant of robust constitution, and our established pieces of it are breaking very strongly, but the semi-established ones tell a tale of having been imported at the wrong season. Cattleys imported in the autumn are a considerable time before they regain their strength, which is not to be wondered at when we consider the time of the year

at which they are collected, and the long period of time that elapses before growth recommences in the following spring.

THE APIARY.

By EXPERT.

YOUNG QUEENS.—The swarming season is the time when young queens can be most easily secured and used for superseding old ones, or kept for future requirements. After a stock has swarmed, the queen cells should be searched for, and those that are within a few days of maturity, which may be observed by the dark colour they assume at the ends, should be cut out and placed in a queen nursery or singly in empty match-boxes. They should then be put over the top of the bottom quilt in a hive containing a stock, and well covered up where they will remain warm and snug until the young queens bite their way out. As soon as this happens, they should be disposed of by making nuclei to contain them, comprising two or three frames of brood, each with adhering bees, or by giving them to stocks from which the old queens have been removed. It is a very easy matter to introduce young queens at this early stage of their existence, as they are seldom if ever molested by the workers, and may with impunity be run in at the entrance, or allowed to go down between the frames, a corner of the quilt having been turned back for the purpose. The present is the time when the method as practised by Dr. Tinker, of inducing bees to rear a new queen whilst the existing one is present, and laying in the hive, can be tried. The plan is, to remove and place the old queen in an upper storey, furnished with frames of comb or foundation, and keep her there by placing between them a sheet of queen-excluding zinc. The bees will then start queen-cells below, and raise a new queen, and when hatched, she will be able to leave by the ordinary entrance, and get fertilised. Provision must be made to allow the drones to escape from the upper chamber, if there are any, by boring a hole through the side.

FORESTRY.

By J. B. WEBSTER, Fairview, Stangroom, Devonshire.

DRAINING.—In all cases where the ground contains excess of water, draining becomes necessary, and in most cases the practised eye of the planter can tell by the appearance of the surface herbage, the spots that require drainage; but the best test is to dig narrow holes here and there, some 20 or 30 inches deep, and if these should attract and retain any considerable quantity of water, it shows that the subsoil is wet, and requires to be drained. Sometimes the surface may appear to be fairly dry and firm, while the subsoil is cold and wet; trees planted on such a soil, without drainage, make but slow progress, and in many cases they never attain a profitable size at all, and in some cases, some of the species are apt to die out altogether, or, at best only attain the size of stunted scrub. Open ditches are best for plantations, as they are not apt to be closed up by roots, and can be scoured out occasionally to give egress to the water. On the other hand, when drains are formed and filled-in with stones, or a tile pipe laid in the bottom and filled up with earth, they are sure to get choked with tree-roots in course of time, and then cause a great deal of trouble and expense. Sometimes large areas of ground are kept in a cold, wet, boggy state by a single spring pouring its water on to a hill-side, and when that is the case, the spring should be tapped by cutting a ditch of sufficient size to meet the requirements of the case. A well-directed ditch of this kind may be laid off in such a way as to tap a series of springs at their fountain-heads along its course when it becomes necessary, and this should always be kept in view by the planter at the time of preparation. When it becomes necessary, small branch ditches may be cut here and there from the main drain, and at such an angle from it as the lie of the ground may suggest. All the stuff excavated from these ditches should be spread out in a regular and uniform manner over the surface of the ground, and not left lying in a ridge at the sides, which gives the land a slovenly appearance, and prevents the surface-water in some cases from finding its way into the ditches. The cost of cutting these ditches varies considerably in different parts of the country, according to the rate of wages common in the locality, the size of ditches, and the character of the soil; but if possible the work should be done by contract, more especially when the land forms an outlying part of an estate.

EDITORIAL NOTICES.

LETTERS FOR PUBLICATION.—All communications intended for publication, as well as specimens and plants for naming, should be addressed to the Editor, 41, Wellington Street, Covent Garden, London. Communications should be written on ONE SIDE ONLY OF THE PAPER, sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith.

APPOINTMENTS FOR THE ENSUING WEEK.

MEETINGS.

WEDNESDAY, JUNE 29 { Royal Botanic Society: Musical Promenade.

FRIDAY, JULY 1—Dundee Horticultural Association.

SHOWS.

TUESDAY, JUNE 28—Maidstone Horticultural and Rose.

WEDNESDAY, JUNE 29 { Ipswich, Widsor, Farnham, and Richmond (Surrey), Rose Shows.

THURSDAY, JUNE 30 { Canterbury, Eltham, and Winchester Rose.

FRIDAY, JULY 1—Brockham Rose.

SATURDAY, JULY 2—Crystal Palace (National Rose).

SALES.

MONDAY, JUNE 27 { Clearance sale of glass erections, stock, and utensils at the Nursery, Northwold Road, Clapton, by Frotheroe and Morris.

TUESDAY, JUNE 28 { Sale of a private collection of established Orchids, at Frotheroe and Morris' Rooms.

FRIDAY, JULY 1 { Sale of imported and established Orchids, at Frotheroe and Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM THE OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—62°·5.

THE Veitch Memorial Trustees in their discretion have, as we believe, acted wisely in their determination not to confine the awards they make to meritorious exhibits, but have extended their recognition also to gardeners who, by their labours, have substantially promoted the advance of horticulture. There are many ways in which gardeners may thus contribute alike to the advancement of their craft, and to their own honour and repute. Assuredly there are no more powerful means of doing this than by actually calling into existence valuable races of plants which previously were non-existent. In this way, the raisers of new plants take rank with great artists and great men of letters, who, by their genius and skill, are actually originators of new objects of value, interest, and beauty. To make two blades of grass grow where one only grew before, is a task that even an average cultivator performs every day of his life. But the intelligent and skilful hybridiser does more than this—he may, in a sense, be said to create that which before had no existence. The two gentlemen selected by the Veitch Trustees this year belong to this category. They are members of a class which JAMES VEITCH, to whose memory the Medals were instituted, and who was pre-eminently a judge of character, so greatly encouraged in his lifetime.

Mr. WATSON, the Assistant-Curator of the Royal Gardens, Kew, in association with Mr. NICHOLSON, occupies a distinguished but an extremely difficult position. While ordinary gardeners have to care for their Grapes, their kitchen gardens, and to a supply of decorative plants and cut flowers, and comparatively little besides, the Curator at Kew has under his charge a vastly more varied and important collection of plants. He has to consider not only the general decorative effect of the gardens, but the interests of science, which at Kew should always predominate,

and the development of the economic resources of the several colonies. The standard of cultivation in that establishment should be, and indeed is, high in all departments, and the collections should be thoroughly representative, and not limited to a few classes of plants only, such as may be in vogue at any particular time. Those who have watched the condition of the Royal Gardens for some years past will recognise how greatly the cultural details throughout have been improved without any lowering of efficiency in those special features which renders Kew unique among the gardens of the world. Moreover, Mr. WATSON may proudly claim to have originated a new race of hybrid Streptocarpus, which bids fair to rival, if not to surpass, the Gloxinias in the estimation of the horticultural public.

Mr. HEAL is one of a famous band of hybridists at the Chelsea nurseries, and a worthy associate of DOMINY, of COURT, of SEDEN—need we say more? Those who know what the Amaryllis has become in his hands, and specially those cognisant with his feat in originating the greenhouse Rhododendrons, in all their wonderful variety and beauty, will feel that he has well won the honour which Sir TREVOR LAWRENCE, the President of the Royal Horticultural Society, at the instance of the VEITCH Memorial Trustees, conferred upon him on Tuesday last.

Our readers will feel an interest in the following particulars relating to the career of these two representative gardeners, and with which, at our request, we have been favoured by them:—

"W. WATSON left school twenty-three years ago to be apprenticed to the propagator in the nursery of Messrs. S. P. KER & SON, of Liverpool. From here he went to the Rock Ferry nursery of Mr. G. SMITH, and from thence to the Wavertree nursery of Messrs. T. DAVIES & SON. He also worked in the famous Vineyard nursery of Mr. J. MEREDITH in Garston. Thence he went as propagator to Messrs. R. PENNELL & SON, Lincoln, and from there he came to London, where for two years he was employed in the Clapton nurseries of Messrs. H. LOW & CO. In 1879 he obtained the appointment of foreman and propagator in the Royal Gardens, Kew. On the retirement of the late Mr. J. SMITH from the Curatorship, six years ago, the post of Assistant-Curator was made for Mr. WATSON, who now shares with Mr. NICHOLSON, the Curator, responsibility for the living collections of plants. Mr. WATSON's special charge being the indoor department. He has prepared a popular work on Cactaceous plants and another on Orchids, both published by L. UPcott GILL, of the Strand. He has been a contributor of papers on practical subjects to the *Gardeners' Chronicle* and other journals from his first appearance at Kew. He also is London correspondent to the American journal known as *Garden and Forest*."

Mr. HEAL writes:—"I was apprenticed to the nursery and seed business at the Westcott nurseries, near Barnstaple, North Devon, where I learned the usual work of a country nursery, such as budding, grafting, propagating, &c. At the end of my apprenticeship in March, 1863, through the kindness of Mr. JAMES VEITCH, sen., of Exeter, just a few months before his death, I was recommended to the late Mr. JAMES VEITCH, of Chelsea, as an improver for the Coombe Wood nurseries. I remained there for two years, and then came to Chelsea under Mr. TAYLOR, who, with Mr. VEITCH, sen., of Exeter, was the first to hybridise the beautiful Malayan Rhododendrons which are now so popular. My first foreman charge at Chelsea was the ferneries.

"In 1873 I was appointed to my present department, where I have devoted much time to the hybridisation of different flowers, with the view of improving them either in colour, size, form, or habit of growth, especially the Amaryllis and Java Rhododendrons, obtaining amongst the latter the new section of double varieties, known as the Balsamineflorum section. The autumn and winter-flowering Begonias also originated in my department, and, amongst other things, the improvement of the Streptocarpus, which was so ably commenced by Mr. WATSON at Kew, has been followed up."

NATIONAL ROSE SOCIETY.—The Chester exhibition will be held in the Folly Field, Flookersbrook, Chester, on Saturday, July 16, instead of on Thursday, July 14, as previously arranged.

ROSE SHOWS.—I wish to draw attention, writes Mr. BRUCE FINDLAY, to a nuisance in connection with the above, and trust that stringent measures will be adopted to put a stop to it. I refer to the practice of exhibitors selling flowers before the exhibition is closed. At most Rose shows, visitors are seen carrying flowers about the grounds an hour or two after the exhibition is open, and the result is (I speak from unpleasant experience), that the manager of the show is inundated with applications from all sorts and conditions of people to procure blooms for them, and if he expresses his inability to comply with the request, he is at once accused of favouritism, and asked how it is that Mrs. Jones, and a host of others, can walk about with flowers, and others are refused? The remedy is to insert a clause in the schedule, to the effect that any exhibitor selling flowers before the close of the exhibition (either surplus stock, or from the competing stands) shall forfeit the amount awarded in prizes.

JUNE HORTICULTURAL MEETING AT GHENT.

—A brilliant meeting, at which the following awards were made. Certificates of Merit were allotted for: —1, *Odontoglossum cavallianum*, white ground, with border of canary yellow and black spots. 2, *Cattleya Gaskelliana alba* Van Imeschotiana, large, white, well-formed flower. 3, *Odontoglossum nobile*, white, much spotted with chestnut-brown, unusually rounded in shape, all three to M. J. Hye-Leyssen; 4, *Miltonia vexillaria leucoglossa* superba, to M. R. Lemoine; a rare variety, with large white lip, the plant bore ten flower stems, each with from five to eight flowers. 5, *Vanda insignis* to M. A. Van Imeschot, remarkable for the beautiful form of the flower. 6, *Disa Veitchii*, to the Société Louis Van Houtte, père, hybrid of *D. racemosa* × *D. grandiflora*, bloom delicate pink. 7, *Cattleya labiata*, var., to the same, petals very large and dark. 8, *Disa Veitchii*, to M. Aug. Van Geert. 9, *Lælia elegans alba*, to MM. Ed. Vervaeet et Cie. 10, *Cypripedium albo-purpureum*, to the same, a fine plant of a rare hybrid, which is difficult to bloom satisfactorily. 11, *Odontoglossum excelens*, white, bordered and tinged with yellow, spots dark. 12, *O. majesticum*, very beautiful, and somewhat resembling *O. nobile*, but background more clear. 13, *O. crispum* Wrigleyanum, evenly spotted with claret on a white ground. 14, *Lælia elegans alba* var. 15, *Cattleya Warcewiczii*, flower unusually large, all to M. Jules Hye-Leyssen. 16, *Asparagus plumosus cristata*, to MM. Duriez Frères; a curious variety, the edges of the fronds waved as in *Pteris cristata*. 17, *Anthurium Scherzerianum*, Marie-Thérèse, to M. Aug. Van Geert. 18, *Croton Keidi*; and 19, *Croton Golden Ring*, to the same. Certificates of Merit for cultivation and blooming, for:—1, *Miltonia vexillaria leucoglossa*, to M. R. Lemoine; fine specimen with sixteen flower-stems, bearing about a hundred blooms. 2, *M. v. l. superba*, to the same. 3, *Cypripedium Schröderi*, to MM. Vervaeet et Cie. 4, *Odontoglossum hestilabium*, to M. Jules Hye-Leyssen; fine plant, with two stems bearing at least fifty

blooms. Honourable Mentions, for:—1, *Celogyne Dayana*, to M. le Marquis de Waverin. 2, *Oncidium Kramerianum*, to M. J. Ilye-Laysen; and, 3, *Odonoglossum tripudians superbum*, to the same.

RARE AND NEW FERNS.—M. ARTHUR VANDER HEED has, among his many seedling *Adiantum*, one remarkable strain raised from *fragantissimum*; the fronds are reddish as in decorum, but the pinnales much larger, the plant more robust, dwarf and compact than the type. We may mention *Cheilanthes scita*, the peculiar *Doryopteris sagittifolia*, a *Pteris* apparently from Bausei \times Leyi reverting to Bausei, but the pinnales higher and erect.

OPEN SPACES IN LONDON.—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, Mr. Deputy BEDFORD, Vice-Chairman, presiding, in the absence of the Earl of MEATH, a legacy of £75 was reported under the will of the late Mr. GEORGE MACKENZIE, De Beauvoir Square, N., and St. Botolph's Churchyard, Aldgate, had been opened to the public by Mrs. TYSSEN-AMHERST and the Hon. CHARLES FREEMANTLE, K.C.B., respectively. It was reported that the laying-out of the burial-grounds, Hackney Road,

STOCK-TAKING: MAY.—Owing to the advent of Whit Monday, the issue of the monthly Trade and Navigation Returns was delayed a little. The task of compilation is a gigantic one, and, this considered, the general correctness of the returns is a subject of congratulation for the issuing department. The—

IMPORTS, for the past month showed an increase of £558,040, as compared with the month of May in 1891, the difference between this and the figures for March need not be more than noted. The following is our usual extract from the monthly "Summary" table:—

IMPORTS.	1891.	1892.	Difference.
	£.	£.	£.
Total value for month	£34,377,898	£34,935,738	+558,040
II.—(A.) Articles of food and drink — duty free	11,249,544	12,111,860	+862,316
(B.) — do., dutiable	1,643,490	1,565,872	—77,618
VI.—Raw materials for textile manufactures (including Flax, Hemp, and Jute)	8,545,364	6,378,593	—2,166,771
VII.—Raw materials for sundry industries and manufactures (including wood and timber, hewn, sawn, split, dressed; vegetable materials, for paper-making, &c.)	2,899,859	3,351,827	+451,968
IX.—Miscellaneous articles (including Clover, Grass, Flax, Rape, Linseed) ...	1,000,599	1,381,901	+381,302
(B.)—Parcel Post ...	44,262	49,849	+5,587

Respecting the items, jute, silk, and flax, it may be remarked that prices vary in an upward direction. Deficiency in quantity or quality of Mulberry foliage affects the prices of silk, and, quite alive to this fact, the Indian Government are doing their utmost to educate native producers in all concerning the industry—an official handbook being spread broadcast where most required. In its pages information is given on all essentials to success, in every stage illustrated with "practical" engravings. Flax and jute also vary in price, the tendency being upward—our colonial friends should make a note of this; in the very far north-west of Manitoba, a large increase in the acreage devoted to Flax has to be noted for the coming season; and as many British farmers have located themselves in that region, we may rest assured they have reckoned with their host. From the general figures we take the following excerpts respecting the importations of fruits and vegetables during the month of May:—

IMPORTS.	1891.	1892.	Difference.
Fruits:—			
Apples, raw ... bush.	71,181	91,608	+20,427
Cherries ... ..	...	8,613	+8,613
Plums ... ..	...	125	+125
Pears ... ..	...	143	+143
Grapes ... ..	...	1,720	+1,720
Unenumerated, ..	43,910	39,710	—4,200
Onions	269,082	417,299	+148,217
Potatoes ... cwt.	313,006	160,787	—152,219
Vegetables, unenumerated, raw, ... value	£76,111	£59,270	+£16,841

There cannot be any doubt as to the value of these figures given month by month—there is a rapid response in the market prices. The imports from the Cape have ended for the season, and already the English syndicate engaged in the venture of the past few months are preparing for the campaign of 1893, forwarding instructions to the producers as to what to grow and how to pack and forward. Some things sent this year will not appear in the next venture, and with advantage the modes of packing and stowing will be altered. We next turn our attention to the

EXPORTS, which showed a decrease for the month of £1,960,504 in British and Irish manufactures, and an increase in the exportation of foreign and Colonial products

amounting to £1,144,116, a more favourable condition of affairs than last reported in this column. It may be placed on record that the decrease in the exports during the first five months of the year foot-up at £881,169, but the exports of produce other than British and Irish amounted to £391,134 during the same period. Our consular agents abroad persevere in calling attention to business backslidings on our part—the most recent coming from France in relation to garden and farm implements and appliances. Our American friends find it pays to cultivate French patrons—high and almost prohibitive as the present tariff may seem. Consular reports are profitable reading, especially at the present juncture. It is noteworthy that the principle of free trade is coming rapidly to the front in Italy and the United States—it will be a powerful factor in the Presidential election now "under way," and in those for the Italian Parliament later on in the year. It would be idle here to anticipate or even guess at the result; but nothing save benefit can result from letting in light on this most important subject. We may be permitted to draw attention here to the fact that India now manufactures 38 per cent. of the cotton goods "consumed"



JOHN HEAL.
(Victory Medalist.)

Spitalfields Churchyard, and St. Anne's Churchyard, Soho, would be completed by the end of June. As regards the last-named, Lord and Lady HOBHOUSE had kindly consented to perform the opening ceremony on the 27th inst. It was stated that the Duncan Terrace enclosure, Islington, had been transferred to the vestry by Lord CALTHORPE, and, on the application of the vestry, it was agreed to lay out the same, and contribute one-half of the cost. The Secretary announced that seats had been accepted for the Horsemen Lane playground; that twelve Bay trees had been placed in front of the National Gallery; and that Bishopsgate Churchyard was to be opened to the public during the summer months, under the care of the Association. It was decided to offer seats for Brompton Road, Acton, and Wandsworth; to apply for an extension of the hours during which the Tower Gardens are opened, and to take steps to secure the running ground, Bromley, and St. James's Churchyard, Pentonville, as public open spaces. It was heard with regret that the Bill of the London County Council for the acquisition of Lincoln's Inn Fields had been defeated in the committee of the House of Commons.



WILLIAM WATSON.
(Victory Medalist.)

by its inhabitants. This is a striking testimony to the beneficence of the British rule in the East.

DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—On the occasion of the meetings of the Society, on April 27, May 11, and May 25, 1892, the Floral Committee awarded the following certificates: First-class Certificates.—To Messrs. KUNZLAGE & SON, Haarlem, for *Fritillaria latifolia* seedling (new plant); F. I. Alma Tadema (new plant); F. I. Ronner Knip (new plant); *Arum species* (imported new plant); Camassia Cusickii (imported new plant); the following varieties of the Darwin Tulip: André Doria, Bayeriock, Charles Darwin, Edmée, Faust, Hitchcock, Hoala van Nooten, La Candeur, Laurentia, Mrs. Stanley, Nauticus, Parthenope, Pauline, Peter Barr, Prof. Michael Foster, Prof. Sargent, Reine Wilhelmina, Reverend D'Ombraire, Reville, Schoubert, Sieraad van Flora, Stanley, Theodor Jorissen, Van 't Hoff, and Whistler; the following varieties of the Flemish Tulip: Coligny, Colette, La Coquette, La Czarine, Madame de Lamballe, Marco Spada, Marguette de Valois, Meyerbeer, Quasimodo, Thetis, Valentine de Milan, and Victor Hugo. To Messrs. J. H. REELING & Co.,

Nieuwer Amstel, for *Rhododendron Edgeworthii*. To Messrs. DE GRAAF BROTHERS, Leiden, for *Narcissus* hybrid *Croai Plomp* (new plant); *N. hybrid* Mrs. Alfred Pearson (new plant); *N. hybrid* Mrs. Pape (new plant); *N. bicolor* Princess Colibri (new plant). To Messrs. V. SCHEUTZ & SONS, Haarlem, for *Narcissus* *Tazetta Maestro* (new plant); and *N. T. Masterpiece* (new plant). Second-class Certificates were awarded to Messrs. E. H. KRELAGE & SON, Haarlem, for *Anemone fulgens carinata* (imported new plant); the following varieties of the Darwin Tulip, Anton Roozen, Cabanel, César Borgia, Harry Veitch, Mr. J. Douglas, Ouida, Pensée Amère, Prof. Marshall Ward, Reverend Harpur Crewe, Sibylla, The Shah, Virginie, and Von Jehring; the following varieties of the Flemish Tulip, Bulon, Eros, Fleur de Marie, Le Brabant, Le Premier Debut, Le Troubadour, Lola Montez, Tombeau de Lincoln, Violette agate exstriae, Vasco de Gama. To Mr. C. G. VAN TUBERGEN, junior, Haarlem, for *Myosodium nobile* (insufficiently-known plant). To Mr. H. J. VAN HEIJST, Wijk bij Duurstede, for *Gladiolus vinulus* (imported new plant); *Ramondia pyrenaica*. To Messrs. ANT. ROOZEN & SON, Overveen, for *Gladiolus Kotschyana* (imported new plant); *Cyrtanthus Huttoni* (insufficiently-known plant); *C. Thunii* (insufficiently-known plant). To Messrs. V. SCHEUTZ & SONS, Haarlem, for *Narcissus Tazetta Atlas* (new plant); *N. T. Leonard da Vinci* (new plant); *N. T. Leonore* (new plant). Botanical Certificates: To Messrs. E. A. KRELAGE & SON, Haarlem, for *Tulipa species nova* (imported new plant). To Messrs. ANT. ROOZEN & SON, Overveen, for *Onosma alba rosea* (new plant); *Lewisia rediviva*. To Mr. H. J. VAN HEIJST, Wijk bij Duurstede, for *Ourisia coccinea* (insufficiently-known plant); *Thomasia solanacea* (insufficiently-known plant). Awards of Merit: To Mr. H. J. VAN HEIJST, Wijk bij Duurstede, for a collection of *Primula Sieboldii*, in seven varieties; *Boronia elatior* (good culture). To Mr. J. H. SCHONER, Putten, for a collection of cut flowers of *Primula Auricula*. To Messrs. ANT. ROOZEN & SON, Overveen, for a collection of *Primula cortusoides*, in eleven varieties.

EFFECTS OF THE LATE FROST.—The late frost appears to have caused much injury in some parts, as will be apparent from the following note from a correspondent:—*Iresine*, *Colens*, and other tender bedding plants are cut to the ground, and *Cannas* and tuberous *Begonias* are very much injured, whilst *Pelargoniums* have not suffered greatly. Trees of *Catalpa* and *Walnut*, and bushes of *Portugal* and the common *Laurel*, present a scorched appearance; while *Nordmann's Fir* and the common *Spruce*, that were late in starting into growth, have been cut. The garden is near the river Thames, and the frost was from 5° to 7°. A few miles distant on the hills there was little or no damage done.

OLD ENGLISH TULIPS.—It will be observed from an announcement in another column that Messrs. STUART & MEIN'S extensive collection of Old English Tulips is now in bloom, and we would strongly recommend our readers to go and see them, as we believe there is not such another sight to be seen in Scotland. At present, as a class, they are practically unknown to the great body of amateur gardeners, which is unfortunate, as some of these old Tulips are marvellously beautiful.

EARLY NECTARINES.—The proprietors of the nurseries at Sawbridgeworth, past and present, have by their new fruits, added considerably to the fruit season by reason of the early and late varieties which they have from time to time raised and brought into commerce. We remember to have observed some Nectarine trees in pots—as yet unnamed—that were shown by Mr. T. F. RIVINS, at the last Temple Show, whose fine fruits were quite ripe, whilst those of Nectarine Lord Napier, also shown under the same kind of treatment, would require three weeks or a month longer to ripen them. We have lately received some fruits from Mr.

RIVERS of the Early Rivers Nectarine, from trees in 11-inch pots, large, luscious, well-flavoured, and of rich dark colour—excellent in every respect.

FLOWERS IN SEASON.—We have received some beautiful flowers of named varieties of Pansies from Mr. J. FORBES, of Hawick, N.B., of a size and substance that southern growers can scarcely hope to rival.

FOREIGN CORRESPONDENCE.

SPAIN.

Monsenal, Spain, June 16, 1892.—Will the introducer of the *Zaragoza* Daffodil say, if, in 1884, he may have made a mistake when he gave *Zaragoza* as its station? I have spent a week in *Zaragoza*, and have satisfied myself there is no trumpet Daffodil within a wide radius of this town, the country is too dry, and mostly cultivated land artificially irrigated. I also consulted with persons likely to know, and have searched the herbarium and the library all to no purpose. In *Plantas Aragonesas Espontáneas*, 1866 and 1867, p. 405, *Pseudo-narcissus* is given as on Moncayo, so I made a pilgrimage to this little-frequented mountain, its upper half "treeless, wet, and windy." Armed with an introduction to a collector of medicinal herbs and roots, I started for Taragona, and contracted with the landlord of the inn to convey me, feed, and mount me, and bring me home in safety—all of which he duly succeeded in doing, but by the skin of his teeth, as the rain, thunder, and lightning dogged us during our return. Moncayo was enveloped in a grand storm, and black as night. On a Friday afternoon we started in a rickety gig, drawn by an excellent spirited horse, calling at the suppressed monastery of the Cistercians, now occupied by the Jesuits as a college for educating priests, and one of the sights in Spain to those who appreciate church architecture. Thence we proceeded to Añon, a small village or town, with its high walls and old castle. Now came the question where we could sleep. As the landlord declared they all lived like pigs in the place, sundry places were tried, but without success; then José Maria Lobeg fell back on my suggestion to try the priest, and shelter was at once offered with profuse hospitality; the big, handsome priest soon had the bottle on the table, and filled glasses all round, Lobeg meantime looking to the supper, and a sumptuous one it was—salads and Asparagus in abundance. On Saturday morning, at 4.30, two donkeys and their attendant, with his best velvet breeches and blue-striped continuations, and curious devices to protect the feet; my friend, Domingo Viqueza, rigged out in a similar fashion. We started, and by 9 o'clock reached Nuestra Señora de los Remedios del Moncayo. Here, under an arch, we rested and refreshed ourselves, but were soon joined by peasants, who had come from Taragona with offerings of unsalted lime to the Virgin, the place being about to be put in repair for a summer resort for priests and pilgrims; and as Lobeg had sent up a great leathern bottle full of wine, our two guides, Nature's gentlemen in manners and carriage, every inch of them, walking with head erect and a firm foot-hold of the soil, indicating we are Aragonese, and know no superior, dispensed hospitality to their countrymen so freely that Aragonese songs were sung, and one old man favoured us with an Aragonese dance, adding, "I often come up here to see the Virgin, and to enjoy myself." Domingo Viqueza placing himself in position an artist would have delighted to sketch, extemporised a song of welcome to the London botanist. Things went on so merrily that there was danger *Narcissus* might be forgotten, when I made a move, shook hands with our new friends, and just above where we rested found the trumpet *Narcissus* growing on a piece of ground as level as a bowling-green; above in a direct line for 3000 to 4000 feet were loose stones, down which the water would roll after a shower. Below the buildings where we rested, the soil seldom more than 1 inch vegetable loam, the other rich powdered slate, and below this broken

slate. So shallow was the soil that it lifted like turf for laying a lawn, and the bulbs were broke off beneath, leaving the sods as lifted, the roots of the bulbs spread out as if grown on rocks, evidently confining themselves to the 1 inch of vegetable soil; along with them grew *Colchicum montanum*, and amongst the rocks, a pretty pink Thrift. As we collected the *Narcissus*, thunder began to roll and the clouds to gather, so we took the hint, put the bulbs in a sack, mounted the donkeys, and made for shelter to refresh ourselves with some of Lobeg's abundant provisions, returned to Añon, got into the rickety gig, and had our supper in Taragona, and the following morning by an early train returned to Taragona with our prize, but cannot say what it may be till 1893, but it will not be the *Zaragoza* Daffodil. P. Barr.

TABLET TEA AND TEA-DUST IN CHINA.

It appears from the British Consul's report on the trade of Hankow for 1891, that the export of tea tablets was small, a fact due, it is said, to the famine in Russia. The tablets being exported after the leaf tea season is over, and being consumed by the Russian commercial classes as a luxury, the export of them is particularly liable to be affected by the prosperity or otherwise of Russia's commerce. The decrease in the export of tea-dust of over 60 per cent. is serious; all the tea-dust exported from Hankow went to Great Britain to flavour Indian teas. The decrease is due to two facts—first, the consuming classes are getting accustomed to the flavour of Indian tea, and consequently the dust is not so much in demand with our grocers for giving it the flavour of Chinese tea; and, secondly, the tea growers of Ceylon have been successful in producing a flavouring tea, which blended with the Indian tea, suits the palates of the British consumer.

In connection with the tea plant it may be stated, that the oil expressed from the seeds is used both for food and as an illuminant. John R. Jackson, Kew.

CŒLOGYNE MASSANGIANA.

A SHORT time since we noticed among Lord Pembroke's collection of Orchids, under the care of Mr. Challis, at Wilton House, near Salisbury, a young plant of the above handsome *Cœlogyne* in fine condition, bearing three fine spikes of bloom. The sepals and petals of this variety are of a light ochre-yellow, and the lip of a shade of crimson-brown, with lines of yellow colour; the front lobe is white at the edge, with a blotch of brown in the centre, through which run three yellow keels. The plant does well in a Cattleya or intermediate-house.

HOME CORRESPONDENCE.

THE RECENT FROSTS.—A sharp frost last night (the 14th inst.) has done much damage in this district to Runner and French Beans, Potatoes, especially varieties of the early American strain; Vegetable Marrows, Cucumbers when not sheltered by Rye, Tomatoes, &c., and even Longpod Beans in flower, and late Peas hung down their heads. I cannot send you the correct data in degrees of frost, as the thermometer in a town at this time of year is no criterion as to what is going on outside. The chief injury has occurred in lands lying at a somewhat lower level than the rest of the district, and the effects of the frost have been extraordinarily partial, plants and rows being selected here and there without apparent difference of site, soil, or shelter. One piece of early Potatoes I saw under a fence sheltered from the N.E. were, however, injured, whereas, the same variety grown in the open only a few yards off was uninjured. I never recollect so much destruction so late as June 14 or 15. Thomas Laxton, Bedford.

—Great loss has been caused in gardens in our district by the frosts of the 14th inst., which were severe enough to destroy Kidney Beans and Scarlet Runners, and to injure Vegetable Marrows, Ridge Cucumbers, and Potatoes. G. Fulford, Trafalgar Park, Salisbury.

—A sharp frost occurred on the morning of the 15th inst., when 3° or 4° were noted in some places. We registered 32°, and the mean temperature for the 24 hours preceding the frost was only 44° against 63° last week for the corresponding day of the week. *Heliotrope*, *Ageratum*, *Alternanthera*,

Mesembryanthemum, Coleas, and the like tender plants are cut down to the ground. Amongst vegetables, the Vegetable Marrows are blackened; fortunately, we have a few still under protection. French Beans, Potatoes, Strawberry blossoms, and Beetroots are cut down. What with the frost and the dry weather hereabouts, matters horticultural look anything but encouraging. Our deficiency of rain amounts up to date to $3\frac{1}{2}$ inches, reckoning last year's fall, which was under average for the first six months, *W. A. Cook, Compton Bassett.*

LARCH DISEASE.—The letter from Mr. Webster in your paper of June 11, attributing the Larch disease on Mr. Wilson's plantations in Hampshire to the fact of their being on chalk soil, is certainly not a complete explanation, even if it is partially correct. Some of the largest, finest, and healthiest Larches in England, about 100 years old, are now growing on a very thin calcareous soil, not chalk but oolitic limestone soil, on my land in Gloucestershire; whilst on the same soil, aspect, and elevation, Larch planted from five to thirty years ago, are badly diseased. I have long been trying to discover the cause of the great deterioration which appears to have recently taken place in the constitutional vigour of the Larch, which has caused great loss to planters in many parts of England. Many practical, and some scientific, authorities have written on the subject, but none seem to have studied it thoroughly over a large area, and no practical remedy has been discovered. My own opinion is, that there has been a loss of vigour in the tree, owing to the series of more or less bad seasons which have prevailed of late years, especially since 1878, and that trees raised from native seed are not so likely to remain healthy as trees raised from Tyrolse or Swiss seed, which, however, is for some reason I cannot discover, considered inferior by nurserymen. Of course, the more suitable the soil and climate the better the tree will grow, but nearly all that I have planted since 1870 are more or less diseased, and in some cases are now very badly attacked by *Coccus laticus*, which is the effect, as I think, rather than the cause of an unhealthy condition, whilst older plantations are healthy. I planted 28 acres in 1890 with Tyrolse Larch, procured from Messrs. Little & Ballantine, and they withstood the severe frost of May 15, 1891, and the two very dry and cold springs we have had successively, as well as, or better than any others. Mr. Michie, forester to Her Majesty at Balmoral, has attended to this question, and will I hope give his opinion on the subject. *H. J. Elwes, Coleborne, Andoversford, R.S.O., Gloucestershire.*

THE COMPARATIVE EARLINESS OF CERTAIN VARIETIES OF PEAS.—The sample of Peas which I send for inspection were grown from seed sown in the fourth week of January in gentle heat, and when they were hardened off, transferred to the foot of a south wall in the first week of the month of March, all being treated similarly. The varieties were Ringleader, of which pods were gathered on May 30; William I., ready on June 4; and Sutton's Dwarf Marrow on June 8. *T. Lockie, Oakley Court Gardens, Windsor, June 8.* [The Peas were fine for the season, and past their best, especially the first two, when our correspondent sent them. En.]

DEW, AND ITS ACTION ON PLANTS.—In an article with the above title in the *Gardeners' Chronicle* for June 11 (vol. xi., p. 753), Mr. Matthewman gives some account of Professor G. Wollny's researches upon this subject. I have not seen the original paper, but the conclusion that "the great use of dew as a means of supplying plants with moisture is an error, for plants can only be adequately refreshed by earth moisture absorbed by the roots," is one which I think is very misleading, for it is not in accordance with either my own experiments, or those of Boussingault, or of Dr. G. Volken. The controversy as to whether plants can absorb water by their leaves is at least 160 years old, and when M. Duchartre revived it in 1857, and thought that he had proved (negatively) that absorption did not take place, M. Boussingault, on the other hand, proved (positively) that they can, and recorded his observations and experiments in the *Annales de Chimie*, Mars, 1878; while his observations were in progress, I had been experimenting for a long time, and the conclusion I arrived at agreed with his. I would express it thus:—As long as plants can derive their supply by their roots, which are the normal instruments of absorption, and so keep their tissues in a sufficient state of turgidity, they do not absorb any appreciable amount of water, either from rain or dew; but when the

transpiration has exceeded the supply, and the tissues tend to become flaccid, then they will absorb it with avidity, as the following examples show. I will quote from my paper "On the Absorption of Rain and Dew by the Green Parts of Plants" (*Journ. Lin. Soc.*, vol. xvii., 1878, p. 313):—"In the following experiments, the leaves were gathered between 4 and 5 o'clock in the afternoon of September 10, 1878. They were then exposed at an open window to the full light of the sun until it set. After two hours and a half, the herbaceous ones showed obvious signs of loss of water, having become more or less flaccid. The loss was not visible in the case of the coriaceous leaves. They were all weighed at 7 P.M. A bright moonlight night followed, and an exceedingly heavy dew began to form at 7 P.M. The specimens were all spread out upon a grass-plot. At 7 A.M. on the 11th, before the sun was visible, in consequence of a heavy mist, the specimens were carefully dried with a soft cloth, so as to remove all trace of dew, with which they had been entirely covered. They were then weighed. In every case there was an actual gain, as seen in the following table [abbreviated]. But besides the proof afforded by the balance, the stems and leaves had perfectly recovered all the freshness and rigidity which they had lost on the previous evening by exposure to the sun and air:—

	Gn. per cent.		Gn. per cent.
Lime	16.40	Blackberry ...	14.75
Oak	6.40	Thistle	10.71
Geranium ...	11.32	Chiaro	31.16
Nettle	27.31	Yew	1.94
Grass	25.50	Rubbery	0.67

Dr. G. Volken has studied the phenomena of desert plants of North Africa, and he has come to the conclusion that dew plays a very important part in sustaining the life of many plants which only secure rain during two months in the year. The commonest method is by means of a clothing of hair, which acts as an absorbent; but in some cases the dew is retained by means of hygroscopic salts, as in *Tamarix* and *Reaumuria*. In the case of the last-named plant, after the rain has ceased in March, the plant is covered with powdery salts, including chlorides of calcium and magnesium. During the succeeding hot months these salts absorb so much dew, which they transmit to the plant, that it looks like an evergreen. As a curious experience of my own, when drying this plant (which is not uncommon in the desert near Cairo), I had left it under pressure for three days; and on proceeding to change the drying papers, I found them completely saturated, and the "drying" specimens covered with drops of water, which the salts on the surface had thus drawn out of the plant itself. I hope the above brief remarks will be sufficient to refute once more the idea that plants cannot absorb water by other organs than their roots; and, conversely, prove that when in an emergency they can imbibe rain and dew with the greatest facility by aid of their leaves. *George Henslow.*

GOOSEBERRY DISEASE.—From your notices to correspondents last week I learn that some of your readers have the misfortune to become acquainted with a peculiar disease that is attacking Gooseberries. Other plantations of that fruit in this locality as well as mine are affected in the same way. The bushes in these plantations had every appearance of health, and cropped heavily for a period of ten years, when the leaves of only a single bush assumed a rusty appearance; the following year the affected bush was fruitless, with only a poor development of leaves and wood, another season rendered it leafless, except a few on the tips of the branches. In the space of three years from its first appearance I have 200 bushes more or less affected. Gooseberries have been grown here many years, and disease was unknown. Your examination of the samples submitted to you last week, detected no fungus disease, but insect remains, and red bodies in all the fissures of the bark. I believe bringing this matter before your readers, whose varied knowledge and experience might be able to account for its appearance, and prescribe a remedy, would confer a boon on the Gooseberry-growing industry. *W. M., Ponside.*

CULTURE VERSUS NATURE.*

"All knowledge is of use if applied aright; no knowledge is of use if applied awry."—*Frost, M. Foster.*

(Continued from p. 787.)

Good culture hinges on many things, but especially on a good start from seed or other kinds of increase, or propagation. As a rule, all hardy

seeds, i.e., the seeds of hardy ornamental plants, should be sown as soon as they ripen, but where artificial food, crops, &c., are required at particular times and seasons, it follows that seeds must be sown at different times, spring, summer, or autumn, as the case may be. A particular strain of vegetable or flower-seeds can only be kept true by isolation, so as to preclude inter-crossing, but novelties, on the other hand, are often gained by selection after hybridism or cross-fertilisation. As a rule, both special selections or strains, and hybrids alike, die out unless they are specially cultivated and protected, and in this way garden hybrids are far less stable than are Nature's hybrids, many of which are comparatively permanent, and in some cases are dignified and disguised by specific names.

The Oxlip, or *Polyanthus Primrose*, is an instance of this fact. It is the result of inter-crossing between the Cowslip (*Primula veris*) and the *Primrose* (*P. acaulis*), and is itself called *P. elatior*. So again *Narcissus incomparabilis* got a specific name from Miller, which it still retains, although well known to be a hybrid between *N. poeticus* and the *Daffodil* (*N. pseudo-Narcissus*).

All so-called species of plants are now known to be mutable. In a state of Nature plants rest unchanged only when their surroundings are the same. On the other hand, in the forest or jungle "change or die" is often Nature's fiat, and conditions are rare in which some slow series of changes are not in progress before our eyes. In the garden, sudden changes of external or internal conditions take place far more quickly, but are, as we have said garden variations are, far less well fitted for a casual existence; hence, if we ever come across a desolate garden that was once well stocked, we find that most hybrids and selected seedling plants will either have gone back or reverted to their parental stage, or they will have died away entirely.

Chemistry has helped us much as to the due knowledge of, and the true economy of, nitrogenous plant-foods or manures; but there is yet much to be done in the profitable application of chemical principles. Especially should the cultivator take note of the modern observations as to the storage or fixation of atmospheric nitrogen by bacteria that inhabit the root-nodules of many Leguminous plants, such as Peas, Lupins, Clover, &c., for we may some day grow our own nitrogen far cheaper than we can buy it from Col. North, or the vendor of manures.

The chemist tells us that his manures are better than farm-yard manure, of which 80 per cent. consists of water, but he neglects to note the physical action of fresh farm-yard manure on the soil, and the real truth here, as often elsewhere, no doubt lies between the two extremes, farmyard manure being the best bulky basis to be enriched with pure chemical manures for special crops. Thus for Grape-vines, or Potatoes, or leguminous plants, the dominant fertiliser added should be potash; for Wheat, Beet, &c., nitrates are best, and super-phosphates for Turnips and most of the Cabbage family.

The manures especially to be used for any one crop depend in a great measure on the chemical elements in the soil on which it is grown. This is readily known by a fair analysis, our object being to supply the nitrates, or super-phosphates, or lime, or potash salts lacking, or not, in sufficient quantities in the natural soil.

The chemist can tell us the food elements that gain access to the plant, and after the crop is harvested his resultant analysis shows what has been stored up or developed; but that which actually takes place inside the living plants—the vital chemistry, I may call it—is for the most part a mystery still. Hence, one of the mysteries of Nature is this, and it is one no chemist has as yet explained, viz., why and how the vegetable products of the earth vary so enormously in character. From the same earth and the same atmospheric elements, and the same water, we obtain the most delicious of food or flavouring stuffs, the most potent of medicines, or the most fatal of poisons, and the magical laboratories are the living plants themselves, Peach or Pear, grass or Grape-vine, Atropa, or Aconite, or

* A paper prepared by F. W. Burdick, M.A., Curator, Botanic Garden, Trinity College, Dublin, and read, in his absence, at the meeting of the Horticultural Club, Tuesday, June 7.

Digitalis, Eucalyptus or Cinchona, as the case may be.

In a word, land-culture, or rather, plant-culture, actually creates wealth, whereas all other industries merely modify and make it more conveniently useful to our requirements. England is not quite sure of her practical monopoly in coal and iron, but she is sure of her soil, the plant wealth or produce of which may be almost indefinitely increased for all time.

Plants are really self-acting chemical laboratories, and may be economically considered as producing machines. The plant produces food and clothing for us unceasingly, and all we have to do is to start it going, and it works while we are sleeping.

One of the most remarkable of all physiological facts observable in a garden is, the variable power possessed by different plants in the absorption and assimilation of nitrogenous manures. This power varies immensely in different individuals of the same species. Thus, if you sow all the grains in the same ear of Wheat, or all the Peas out of the same pod, it by no means follows that their behaviour in this respect will be identical or even nearly the same. The old simile, "as like as two Peas in a pod," is not true. For some reason, at present not explainable, one or more of the Wheat grains, or of the Peas, will be more or less luxuriant than its neighbours, it will grow faster, and it will prove more fertile, and as a rule this is owing to its enhanced powers of feeding and assimilation, that is to say, in some occult manner it makes a better use of its environment than its relations, and so becomes what the gardener calls a better variety both as a grower and producer. It is the observation of this variability that has led to "selection" as one of the most potent phases of improvement by cultivation. F. W. Burbidge.

(To be continued.)

SOCIETIES.

ROYAL HORTICULTURAL.

JUNE 21.—Fine weather, and the hope of seeing the first fine Roses of the season, brought many visitors to the Drill Hall on this occasion, many of whom lingered round the Tables set out with Roses, Orchids, Peonies, and Delphiniums, the groups of Carnations, and other attractive objects.

A lecture by Mr. W. T. Thistleton-Dyer, Director of Kew, to which many persons wished to listen, and the presentation of two Veitch medals, likewise exercised a certain "drawing" power.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Laing, B. Wynne, H. Herbst, C. F. Banse, H. B. May, G. Philpen, C. Jeffries, W. Young, J. Walker, W. B. Fox, C. E. Pearson, N. Davis, C. J. Salter, T. Baines, H. Turner, J. Fraser, G. Gordon, G. Paul, and E. Maxwell.

Conspicuous amongst these exhibits was a group of very fine *Carnation Souvenir de la Malmaison*, exhibited by Lord Wimborne, Canford Manor (gr., Mr. T. H. Crisp). A Silver-gilt Flora Medal was awarded.

Mr. C. F. Banse, Morland Nursery, West Norwood, S.E., obtained an Award of Merit for each of three *Caladiums*, called respectively John Laing, a large leaf, with coloured centre and greenish-yellow margin; Madame Edouard Pynaert, bearing curiously-tinted leaves, and having no variation; and Marguerite Gelinier, a small-growing variety, with very delicately-coloured leaves. Mr. H. B. May, Edmonton, received an Award of Merit for *Carnation Mrs. Hemsley*, a dark crimson variety, of good form.

Mr. T. Bones, gr. to T. Donaldson, Esq., Tower House, Chiswick, had three pretty *Gloxinias*. Messrs. T. & J. Rogers, Fernbank Nursery, Lodswood, Petworth, exhibited a variety of *Adiantum macrophyllum* albo striatum, whose name sufficiently expresses the characteristic of the variety, which obtained an Award of Merit.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, showed sprays of the white *Syringa japonica*, and also some sprays of a new *Cornus C. Kosa*, with white flowers; this latter was awarded a First-class Certificate. The same firm showed a small

collection of choice herbaceous plants, of which we may specify the following:—*Heuchera sanguinea*, *Delphinium cashmerianum*, very dark purplish-blue; the creamy-white-flowered *Cephalaria alpina*; a handsome semi-double crimson-flowered *Potentilla*, named *Phobus*; the purple-flowered *Betonica hirsuta*, and the seldom-seen *Tritoma caulescens*, with handsome yellow and scarlet spikes—this last got a First-class Certificate. A good lot of herbaceous Peonies in variety was shown, of which the following seemed meritorious:—*Gloire de Douai*, purple-crimson; Madame Vilmorin, creamy-white, pink centre flowers; Madame Henri, white, with pink flush; Lady Leonora Bramwell, deep rose; *Fulgida*, deep crimson; Rubens, rich crimson, rather loose in the petal.

R. White, Esq., Pentland House, Lee, Kent, was awarded a First-class Certificate for a yellow *Calla*, called *Calla Pentlandii*. This is entirely different from the variety known as *Calla Elliottiana*, in having a better-formed spathe, which has a dark patch at the bottom, and more substance in the wavy leaf. The stock of *Calla Elliottiana* was sold at the auction rooms recently.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a group of Ivy-leaved *Parlagonium*, Ryecroft's Surprise, a bright pink variety, dwarf-growing and remarkably short-jointed (an Award of Merit). The same exhibitor had two seedling *Chrysanthemums*, raised from seed sown on February 15, 1892, which flowered on June 15, 1892. One of them was a single mauve, and the other somewhat resembled *Chinaman*. Some excellent bushy, well-furnished decorative *Parlagoniums* came from this exhibitor.

Mr. J. Whillans, gr. to the Duke of Marlborough, Blenheim Palace, Woodstock, sent a Tree *Carnation*, Lady Rosamond, the flowers of which were a very dull mauve colour, curious certainly, but not attractive.

Mr. J. Smith, gr. to Lord Rosebery, Mentmore, sent cut blooms of *Crinum brachynema*—pure white, eight to nine flowers on a stalk. It received a First-class Certificate.

Mr. Smith, Market Drayton, Salop, showed half-a-dozen plants of a *Coleus*, Shavington Seedling.

Mr. Reynolds, gr. to Lord Rothschild, received a vote of thanks for a boxful of seedling *Streptocarpus* in some variety; and Messrs. F. Ross & Co., Bletchingly, Surrey, a Vote of Thanks for *Ismene Amancaes* in bloom—the Peruvian Daffodil, which, by the way, is no Daffodil at all.

The Rev. W. Wilks brought some blooms of *Carpenteria californica*, a delightfully pretty white flower, produced in clusters, and the plant, though rare, is a beautiful subject for growing against a wall, or in the open, if sheltered. Mr. Wilks said that the thermometer on the wall fell as low as 7° during the last winter, yet the leaves were not even browned. In some places it is a very shy bloomer.

Messrs. Barr & Son, Covent Garden, had, as usual, a very gay and interesting collection of hardy cut flowers, including a number of their double Peonies, of good quality—*Snowball*, a large, handsome flower, and Madame Brion, were granted an Award of Merit.

Messrs. J. Laing & Sons, Stanstead Park, Forest Hill, had a miscellaneous group of stove and greenhouse plants, including some Orchids, amongst which was a good rosy-crimson *Carnation* named *George Fry*, which received an Award of Merit. Messrs. Paul & Son, the Old Nurseries, Cheshunt, showed a good number of large and beautiful varieties of double Peonies (*Silver Flora Medal*). The four following obtained Awards of Merit, viz., Van Dyck, Mlle. Roseau, Madame Loise, and Felix Crousse.

Mr. Charles Turner, Royal Nurseries, Slough, had a collection of hardy herbaceous flowers, and also plants of several varieties of *Parlagoniums*. The following obtained an Award of Merit, viz., *Souvenir*, a fine, rosy pink variety; *Fireball*, bright and very attractive; and *Rosy Gem*.

Mr. B. Ladham, The Shirley Nurseries, near Southampton, showed several varieties of white and coloured *Pinks*; *Ernest Ladham* being a very fine variety, with large pink blooms, that possess a chocolate-coloured ring near centre; Charles is another *Pink* of considerable merit.

Messrs. Kelway & Son, Langport, Somerset, showed some handsome *Delphiniums* in new varieties, considered to be improvements in some respects to existing varieties. One of the most distinct was *Salamanca*, in which the metallic red-purple sepals are narrowly edged with bright blue, whilst the small depressed petals, that are usually so inconspicuous in cultivated garden *Delphiniums*, are white, and of considerable size. The following have

white petals or "centres":—Lord Brassey, Finale, Gilbert, and Nuphar.

There was a large collection of very fine, large, varied Peonies, from Langport, out of which P. Lottie Collins, a purplish-crimson, and Grizzle Muir, pure white, were selected for Awards of Merit.

Messrs. Paul & Son, Old Nurseries, Cheshunt, showed plants and bloom of a new Bourbon Rose, named "Mrs. Paul." It is a fairly large flower of a dark pink colour, and possessing the blancher appearance so common to the Bourbon section. The same firm obtained an award of merit for a hybrid Tea called *Gustave Regis*. It is delicate bluish-pink, and an exceedingly pretty variety. Lord Penzance, Eashing Park (gr., Mr. G. Baskett), exhibited a very charming collection of hybrid Sweet Briars, comprising many and varied degrees of colour. Alice Bridgenorth, a large single pink flower, received an Award of Merit, as also did Lucy Bertram, another very pretty variety.

Orchid Committee.

Members present: Harry J. Veitch, Esq., in the chair, James O'Brien, and Messrs. S. Courtauld, T. B. Haywood, The Rev. E. Handley, E. Hill, Chas. Pilcher, H. M. Pollett, H. Ballantiae, Jas. Douglas, H. Williams, and A. H. Smea.

Baron Schroder, The Dell, Egham (gr., Mr. H. Ballantiae), exhibited noble cut spikes of the Veitchian hybrids, *Cattleya* x *Empress Frederick* (*Mossie* x *Doviana*); *Laelio-Cattleya* *eximia* (*Warnerii* x *purpurata*); and *Laelio-Cattleya* x *Canhamie* (*Mossie* x *purpurata*), and also a spike of *Cattleya Gaskelliana* alba, and of a very peculiar form of *Laelia purpurata*, with a slight bronzy hue over the whole flower. Messrs. F. Sander & Co., St. Albans, staged a neat group of rare Orchids, including the beautiful pure white *Cattleya Amesiae*; *C. princeps*, which somewhat resembled a fine *C. Schofieldiana*, but with almost the entire surface of the sepals and petals of a port wine hue; *Thunia Campbellii*, a pretty species from the Salween River; *T. Brymeriana*, white with a delicate tracery of rose on the lip; *Oncidium Schlegelianum*, of the *O. Lanceanum* section, but generally white-lipped; *Epidendrum Thayerianum* and *Angracum O'Brienianum*, a thick-leaved species of the *Chaillouanum* class. Messrs. Sander also had fine plants of *Cynochos chlorochilum*, *Cattleya Arnoldiana* x *Dendrobium filiforme*, with over thirty spikes, and *Vanda Hookera*.

Messrs. Collins & Collins, of Willesden Park Nursery, also effectively arranged a group of well-known showy Orchids, such as *Dendrobium suavisimum*, *D. moschatum*, many *Odontoglossum citrinum*, *Acridis*, *Cattleyas*, *Cypripediums*, &c., all very well grown.

C. J. Lucas, Esq., Warnham Court (gr., Mr. Duncan), sent a large plant of the new *Sobralia Lucasiana*, which was, until it flowered, thought to be *S. xantholeuca*. Its flowers were large, like those of *S. xantholeuca*, but the segments were white, tinged with lilac, the front of the lip being rosy-lilac and the centre yellow. Mr. Lucas also sent a fine plant of *Grammatophyllum Senecioides*. From the gardens of J. T. Gabriel, Esq., Palace Road, Streatham, came a handsome mottled form of *Cattleya Warneri* named *marmorata*.

G. R. le Doux, Esq., Langton House, East Moulsey (gr., Mr. Bowyer), sent an eight-flowered plant of the light-coloured *Cattleya Mossie* Mrs. le Doux, and a plant of a *Cattleya* which appeared to be between *C. Percivaliana* and *C. Mossie*.

Hamar Bass, Esq., Burton-on-Trent, exhibited a very elegant pure white *Dendrobium* with many flowers—*Dendrobium Souvenir d'Alce*.

Messrs. J. Veitch & Son, Chelsea, staged their new *Cypripedium* x *Telemachus* (*Lawrenceanum* 3 niveum ?), which, although the same cross as *C. Aphrodite* x, differs in having the greater part of the surface of the flowers suffused with rosy-crimson. The leaves are handsome—ivory-white, chequered with green.

H. F. Tiarks, Esq., Foxbury, Chislehurst (gr., Mr. J. Lyne), sent *Laelia grandis* Foxbury var., very large, but not so richly coloured as some others.

Reginald Young, Esq., Linnet Lane, Sefton Park, Liverpool (gr., Mr. Poyntz), showed *Odontoglossum Poyntzianum*, a distinct variety, with the size of *O. Andersonianum*, but the cinnamon-coloured spotting of *O. Schillerianum* over a great part of its surface.

J. Gurney Fowler, Esq., Glebelands, Woodford (gr., Mr. J. Davis), exhibited a pretty white *Cattleya Mossie*, near to *C. M. Reinckiana*.

E. H. Woodall, Esq., St. Nicholas House, Scar-

borough (gr., Mr. Hughes), sent a fine spike of *Oncidium Lanceanum* Woodall's var., which is fine in size, and has a rich rose labellum.

The Right Hon. Joseph Chamberlain, M.P., sent cut spikes of white and coloured *Cattleya Mossie* and *C. Walkeriana*. R. Brooman-White, Esq., also sent cut Orchids, in which there was a fine *Laelia grandis tenebrosa* and some pretty light *Cattleya Mendeli*; and Sir William Marriott, fine cut spikes of *Cattleya gigas*.

List of Awards.

ORCHID COMMITTEE.

First-class Certificate.

To *Cattleya* × *Empress Frederick*, from Baron Schroder. To *Sobralia Lucasiana*, from C. J. Lucas.

Award of Merit.

To *Cattleya Amesii*, from F. Sander & Co.
To *Cattleya princeps*, from F. Sander & Co.
To *Dendrobium Souvenir d'Alice*, from Hamar Bass.
To *Cattleya labiata marmorata*, from J. T. Gabriel.
To *Oncidium Lanceanum*, Woodall's var., from E. H. Woodall.
To *Cryptanthophyllum Seegerianum*, from C. J. Lucas.
To *Gymnadium* × *Telemachus*, from Jas. Veitch & Son.
To *Liparis purpurata* The Bell var., from Baron Schroder.

Silver Flora Medal.

To Messrs. F. Sander & Co., for group of rare Orchids.

Silver Banksian Medal.

To Messrs. Collios & Collios, for group of Orchids.

Fruit Committee.

Present: T. F. Crowley, Esq., in the chair; and Messrs. T. E. Rivers, R. D. Blackmore, W. Wilks, J. Cheal, T. J. Saltmarsh, G. J. Miles, W. Warren, J. Wright, A. Dean, G. H. Sage, J. Hudson, F. Q. Lane, H. Balderson, J. Smith, Harrison Weir, and G. W. Cummins.

Amongst a fair number of exhibits was an exceptionally fine collection of the Strawberry variety, *Marguerite*, from Mr. T. Sharpe, the Strawberry gardens, Virginia Water, Surrey, shown in fifty punnets, and a Silver Banksian Medal was awarded them.

Mr. T. Laxton showed boxes of Laxton's Sensation, a large, very deep coloured fruit, and Laxton's Royal Sovereign, in appearance very like President. This latter received a First-class Certificate. Plants and sprays of fruit of each variety accompanied the exhibit.

Mr. C. Turner, Royal Nurseries, Slough, had five varieties of Strawberries, viz., John Ruskin, Laxton's Noble, the Captain, Bothwell Park, and Crescent Seeding.

Lord Foley, Ruxley Lodge, Esher (gr., Mr. Miller), exhibited a dish of a Strawberry named Eleanor that was sent out as a late variety, but which ripened considerably earlier than Noble at Esher, grown in the same soil. A dish of large Mushrooms came from the same exhibitor, and a Vote of Thanks was accorded.

As usual, there was a good number of seedling Melons shown. From Mr. W. Allen, The Gardens, Swallowfield Park, Reading, came twelve fruits of a hybrid obtained from Meredith Hybrid × William Tillery. These were large, good-looking fruits, but were not perfectly ripe.

Mr. S. Ely, Joyce Grove Gardens, Nettledred, Henley-on-Thames, had a pretty seedling Melon, Oxonian, rather small, and deeply netted.

Lord Rothschild, Gunnersbury House (gr., G. Reynolds), brought five fruits of another seedling, the five fruits weighing 29 lb.

A collection of Peaches and Nectarines came from Mr. T. H. Crisp, Canford Manor Gardens, Wimborne. The Peaches (three dozen) were a good size, but not well-coloured; the Nectarines, however, were much better in this respect. The committee presented a Vote of Thanks.

The Duke of Northumberland, Syon House, Brentford (gr., Mr. G. Wythes), sent a collection of Cherries, River's Early, Governor Wood, Belle d'Orleans, Elton Heart, Frogmore's Bigarreau, Bigarreau Napoleon, Black Eagle, and Black Tartarian. The fruits were very fine, and received a Cultural Commendation.

Fruits of a seedling Cucumber (Lewes' Advancer), from Luckie's Perfection × Telegraph, came from Mr. J. Lowe, The Nurseries, Uxbridge. The examples sent were well-shaped, and very good in colour.

Messrs. R. Veitch & Son, Exeter, sent a dish of Exonian Peas. Another dish of Peas, Duke of Albany, was exhibited by Mr. Wythes, and received a Vote of Thanks.

National Rose Society.

WHEN we remember the lateness of the season, and the very adverse weather that Rose growers have had to contend with, the show, although somewhat below the average, must be considered very satisfac-

tory, and in most of the classes there was considerable competition.

For three trusses of twelve distinct varieties, Mr. F. Cant, Braisfield, Colchester, was 1st, whose best examples were *Maréchal Niel*, The Bride, Catherine Mermet, and Souvenir de Paul Neyron; the others being *Caroline Kuster*, Madame de Watteville, Rubens, Francisca Krüger, Souvenir d'un Ami, Madame Cusin, and Hon. Edith Gifford. Messrs. D. Prior & Son, Myland Nurseries, Colchester, were a good 2nd, and included fine specimens of Catherine Mermet, Madame Bravy, Marie van Houtte, and Anna Olivier. The 3rd prize was obtained by Mr. George Mount, Rose Nurseries, Canterbury, whose best were Marie van Houtte, Souvenir de Paul Neyron, and Caroline Kuster.

Mr. Cant was again 1st for twenty-four distinct single trusses, showing a very fine collection, consisting of the following varieties:—Catherine Mermet, Niphotos, *Maréchal Niel*, Marie van Houtte, Madame de Watteville, Souvenir de Paul Neyron, Comtesse de Nadailac, The Bride, Caroline Kuster, Jules Finger, Hon. Edith Gifford, Madame Lambert, Souvenir de S. A. Prince, Souvenir d'un Ami, Madame Houtte, Souvenir d'Elise, Princess Beatrice, Madame Margottin, Francisca Krüger, Jean Ducher, Rubens, Cleopatra, Innocente Pirola, and Madame Welcome. Alexander Hill Gray, Esq., Beaulieu, Newbridge Hill, Bath, was 2nd, with a very fair collection, the best of which were *Maréchal Niel*, Catherine Mermet, Climbing Devonensis, &c. The 3rd position was awarded to Messrs. D. Prior & Son, Myland Nurseries, Colchester, who had good examples of Madame Lambert, Etoile de Lyon, and Madame Bravy.

For twenty-four single trusses, including not less than twelve varieties, the 1st prize was awarded to Mr. Alfred Tate, Downside, Leatherhead, for an exceptionally fine collection, including the finest blooms that were to be seen in the hall. He had The Bride, Catherine Mermet, Souvenir d'un Ami, Marie van Houtte, Madame Cusin, Souvenir de la S. A. Prince, Comtesse de Nadailac, Alba rosea, Madame Willermoz, Souvenir d'Elise Vardon, Madame de Watteville, Niphotos, Etoile de Lyon, and Innocente Pirola. Alexander Hill Gray, Esq., was 2nd, including, amongst others, Edith Gifford, Comtesse de Nadailac, Comtesse Panisse, Souvenir de Madame Pernet, &c.

In the competition for twelve trusses, including not less than nine varieties, the premier position was attained by the Rev. F. R. Burnside, Birch Vicarage, Hereford, with Niphotos, Princess of Wales, Madame Cusin, Madame Bravy, Cleopatra, Souvenir d'Elise Vardon, Comtesse Panisse, Caroline Kuster, Rubens, and Souvenir d'un Ami. The Rev. H. Berners, Harkstead Rectory, Ipswich, who was 2nd, had good representatives of Devonensis, Anna Olivier, Souvenir de la S. A. Prince, Madame Bravy, and Niphotos. The 3rd position fell to W. H. Fowler, Esq., Clarendon, Taunton, with a collection including excellent specimens of Princess of Wales and Marie van Houtte.

For twelve single trusses, Tea or Noisette, other than *Maréchal Niel*, the competition for 1st prize was extremely keen, and the judges awarded the two first equal. The exhibitors were Mr. Frank Cant and Messrs. D. Prior & Son, and the varieties in both cases were Marie van Houtte. Mr. Frank Cant's specimens were a little more expanded than the others; Alex. Hill Gray, Esq., was 3rd, with a stand of Anna Olivier.

The Rev. J. Pemberton, Havering-atte-Bower, was 1st for six single trusses, including not less than four varieties, showing *Maréchal Niel*, Jules Finger, The Bride (very fine and full), Souvenir d'un Ami, and Caroline Kuster; 2nd, the Rev. Henry B. Biron, Lynpne Vicarage, with Etoile de Lyon, Souvenir d'un Ami, Marie van Houtte, and Caroline Kuster; R. Tucker, Esq., Swanley Junction, was 3rd, whose finest specimen was Hon. Edith Gifford. For six single trusses of any one variety, the Rev. F. T. Taylor, Littleton Vicarage, Evesham, was 1st with *Maréchal Niel*. 2nd, The Rev. F. R. Burnside, Birch Vicarage, Hereford, for Anna Olivier; and 3rd, R. L. Knight, Esq., Botting, Sittingbourne, with *Maréchal Niel*. Although in the 3rd position in the above classes, Mr. Knight was 1st in the competition for twelve single trusses of *Maréchal Niel*, and had a very fine stand of this beautiful variety. Alex. Hill Gray, Esq., was 2nd, and Mr. Frank Cant, 3rd. Mr. Frank Cant was 1st for twelve bunches distinct, including three trusses to each bunch, with Madame Capucine, Hon. Edith Gifford, Rêve d'Or, Jules Finger, Chas. Legrand, Catherine

Mermet, Madame Falcot, The Bride, Madame Lambert, &c.

Alexander Hill Gray, Esq., obtained 1st for six distinct bunches of three trusses each, and had fine bunches of The Bride, Catherine Mermet, *Maréchal Niel*, Comtesse Nadailac, Alba rosea, and Marie van Houtte.

For a decorative arrangement of Tea or Noisettes, Mrs. Henry B. Biron was 1st, with a very prettily-arranged basket, which attracted a good deal of attention; Miss A. Bloxam, Eltham Court, Eltham, Kent, was 2nd, with another basket, which was also very commendable, but hardly so light and graceful as the other. Mrs. O. G. Orpen, West Bergholt, Colchester, who secured the 3rd award, exhibited an arrangement for the table; in the centre was a glass stand with several tiers furnished with flowers, and at the feet were two horse-shoe shaped tins, filled with damp sand, one on either side. The spaces enclosed by the tins were covered with yellow silk, and yellow and pink were the only colour in the flowers used. There were several other arrangements in baskets, and the decorative arrangements commanded a fair share of attention, especially from the ladies.

LECTURE BY W. T. THRELSTON-DYER, ESQ., DIRECTOR OF KEW.

In the afternoon a lecture was delivered by Mr. Threlston-Dyer on the "Management of Trees, in Parks and Gardens," and in commencing, the lecturer observed that he might venture to say the subject he was about to speak upon did not receive so much attention in this country as it used to do, but he believed that if more attention be not given to it, we shall fail to hand down to our successors such fine specimens of ornamental and other timber as our ancestors left for us. Mr. Dyer said that it was a mistaken notion that the best trees are obtained by isolated planting, and said that the finest examples of timber trees in the country had been secured rather from judicious thinning than from the system just referred to, and instanced some of the woods at Kew, where they had evidence to prove had been planted thickly, and then successively thinned out, as being far superior to some planted at a later date, when our Royal family had less time to cultivate their timber, on account of the ill health of the sovereign. The finest trees could only be obtained by thick planting, and the consequent extensive sacrifice of less desirable timber. Mr. Dyer thought that height was the first point to be obtained in an ideal tree. The axis should be kept entire, a well-balanced bole should be secured, and the branches should not be too long, for if such be the case it is probable that damage will be sustained through the effect of wind or snow. The worst possible form is that which he might describe as the Cabbage-headed tree. It is nothing but a gigantic bush, and the vast majority of trees are prone to this habit; but there are several influences that tend to create the Cabbage-headed growth, and the principal one was the loss of the leader. When a tree is planted in the open, it is exposed to all the cold winds, &c., and the result of a really hard winter or spring is that the leader is killed, after which it can only be restored by artificial treatment.

Pollards, the lecturer said, bore evidence that they had been tended until they had developed an unusually large bole before cutting for fire-wood. Felling was not quite so bad a form as the Cabbage-head, but still, a forked tree was extremely liable to be split by the force of wind playing upon one-half of the tree, and after that had taken place, and an opening had been made for disease and decay, they will not last any great length of time.

In pruning young trees (and all trees need looking to in this respect), steps must be taken to prevent excessive growth of the lateral branches. If the laterals are shortened, the leaders are strengthened to the same extent, and the lateral branches never appear to assume the habit they had of unduly extending themselves. Staking had its drawbacks as well as its advantages, and Mr. Dyer said that he had lately found that Mr. Waterer, by pruning the lateral growths has been able to dispense with any kind of staking. His own experience, however, did not quite justify such a step. But even after a tree has been staked, the necessity will still exist for pruning, and if the head is allowed to become unduly large, it is liable to be broken off. In fact, it will require more pruning than if it were not staked at all. Mr. Dyer then referred to the attacks of animals and cattle that trees were subjected to, and said that the French, who make their trees an especial study, recommended that the trees be painted with coal-tar. The lecturer had seen road metal

placed around the trees to prevent cattle injuring them; they dislike to stand upon it or walk across it.

In regard to the preservation of old trees, the lecturer gave a detailed description of the bark with which the trunk of a tree is covered, and of the vital importance it was to the tree that the bark should be not injured or abraded, and declared that even in this matter timber trees were almost universally neglected. Mr. Dyer then gave directions as to the covering of any place that had become denuded of bark, recommending that the place should be scraped, and the whole then painted with coal-tar. This, the lecturer said, was better than anything that becomes hard, and it never gets quite set, thus allowing the gradual closing up of the healthy tissues, and the closure of the wound to go on. It also acts as an antiseptic. Mr. Dyer then said that branches, when cut off, should be cut close to the trunk, for that if a piece of the shoulder was left, it would decay, and disease would enter the tree, and its end sooner or later would be assured. If the branch is cut off in the manner advised, the bark will gradually close over and cover the cut. The lecturer then spoke of several species of fungi that attack trees, and gave directions for preventing the mischief arising from them.

Sir Trevor Lawrence, who occupied the chair, spoke of the Beech trees in some parts of Surrey that were dying off in hundreds, and, as they were planted upon the chalk, he presumed that they had exhausted the humus contained in the small quantity of soil they had got; but some of the cases could not be accounted for in that way, and he would like to show them the lecturer, that he might give his opinion what was the cause of their death.

SCOTLAND.

EDINBURGH BOTANICAL SOCIETY.

JUNE 9.—This Society met in the evening at the Royal Botanic Garden, Dr. Wm. Craig in the chair.

Among the exhibits from the Royal Botanic Garden were the following:—*Olearia insignis*, *Amorpha phallus campanulatus*, *Sandersonia aurantiaca*, *Fritillaria kamschatcensis*, *Ranunculus pyrenaica alba*.

Wellwood H. Maxwell, Esq., Munches, Dalbeattie, sent branches of *Pseudotsuga Douglasii* var. *Stairii*.

Mr. Neill Fraser exhibited *Asplenium adulterinum*, a hybrid between *A. Trichomanes* and *A. viride*.

Professor Balfour called attention to a portion of *Ash-stem* showing extremely well the burrows of *Hylesinus fraxini*, presented by Dr. Wm. Somerville, of Durham University. Professor Balfour also exhibited seedlings of Plantains to show curling of the cotyledons, enabling the seedlings to gain support from neighbouring plants and other objects.

Dr. Julius Wood showed a series of plants which he had collected in India, and also paintings from nature of *Gloriosa superba* and *Poinciana regia*.

Mr. Ivison Macadam sent an example of *Fritillaria*, which has two flowers instead of one, year after year.

Col. Bailey read a paper on the growth of Oaks in the forest of Dean. In the experiments mentioned, Oaks were transplanted at an early age, others at a more advanced period, and others left in the seed-bed. Measurements of the girth of these had been taken from 1809 up to the present time, and the records showed that the transplanted trees were much ahead of those not transplanted; in fact, it was not too much to expect that transplanted Oak trees come to maturity fifty years sooner than those not transplanted. A second set of experiments were made, whereby it was shown that merely lifting and transplanting into the same holes, without change of soil or increase of space, was advantageous.

REPORT ON TEMPERATURE, &c., AT THE ROYAL BOTANIC GARDEN DURING MAY. BY ROBERT LINDSAY, CURATOR.

The past month of May has been, on the whole, very favourable. During the latter portion of the month an abundant supply of rain fell; this being

succeeded by warm, genial weather, vegetation advanced at a rapid rate. The foliage of deciduous trees came rapidly forward, and towards the end of the month was remarkably fine and luxuriant. The flowering of the ordinary ornamental trees and shrubs is far above the average this season in wealth of blossom. Horse Chestnut, various species of *Pyrus* and *Prunus*, *Lilac*, *Rhododendron*, and *Azalea* presented a very rich appearance. Hawthorn and *Laburnum* are well covered with flower-buds, and promise to be very fine. Hollies also show abundance of flower this season.

During the month the thermometer was at or below the freezing-point on two occasions, indicating 4° of frost. The lowest readings were on the 1st, 32°; 2nd, 28°; 10th, 33°; 12th, 33°; 21st, 33°. The lowest day temperature was 51°, on the 4th; and the highest 78° on the 31st. Rain fell on fourteen days during the month.

On the rock garden 282 species and varieties came into flower during May, as against 260 for the corresponding month last year. Among the most interesting were:—*Aciphylla squarrosa*, *Adonis pyrenaica*, *Anemone Baikalensis*, *A. polyanthes*, *Androsace lactea*, *Aubrietia Leichtlinii*, *Cytisus decumbens*, *Dianthus glacialis*, *Dryas Drummondii*, *Enkianthus himalayensis*, *Patrinia nudicaulis*, *Primula Warei*, &c.

TEMPERATURE, &c., AT THE BOTANIC GARDEN, GLASGOW, DURING MAY. BY ROBERT BULLEN, CURATOR.

No frost was registered here during the month, but on several nights the temperature was near the freezing-point. The first twelve days of the month were very dry; the sun-thermometer on most days registered from 70° to 83°. On and after the 13th, very variable weather was experienced, with frequent and often heavy rain, which was much needed, vegetation at the time being in a starved and backward state. From this time, what is commonly known as good growing weather, prevailed to the end of the month, and all hardy plants made rapid growth, but still, the season is a late one. As these lines are being written (June 6) the common *Ash* is only developing its leaf-buds. Late-sown seeds of Californian and other annuals have had the advantage of those sown three weeks earlier, owing to the dry days and cold nights of early May.

NORTH OF SCOTLAND APIARIAN SOCIETY.

The prize schedule for the annual exhibition of bees, honey, and hive appliances, to be held in connection with the Royal Horticultural Society of Aberdeen's summer show at Central Park, Kittybrewster, Aberdeen, on August 18, 19, and 20, has just been issued. There are twenty-one classes, and the competition embraces honey in sections, collections of bee furniture, samples of wax, varieties of living wild bees and wasps, with their nests and honey, flavoured cake, &c. A source of attraction will be a grand driving competition for the transference of bees and combs from a straw to a bar-frame hive. There will also be a honey market. The schedule includes instructions for candidates who wish to apply for the efficiency certificates granted by the Society for proficiency in apiculture.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.

The secretary (Mr. A. M. Byres) has received an intimation that the Duke and Duchess of Fife will give a prize for a bouquet of wild flowers, the competition being open to boys and girls under 16 years of age, at the society's annual floral gala to be held in Aberdeen on August 18, 19, and 20.

TIMOTHY GRASS.

In the new volume of the *Transactions of the Highland Agricultural Society*, unqualified praise is meted out to this grass, and it is strongly recommended therein that permanent Timothy-grass meadows be formed in different parts of the country, experience of it by farmers, especially in Scotland, being most favourable. Timothy-grass is the Meadow

Cat's-tail (*Phleum pratense*). The name Timothy is of American origin, having received it from being extensively cultivated by Mr. Timothy Hanson, and recommended by him for cultivation in British artificial pastures. It is known in America under the name of Herd's-grass or Herd-grass. It receives the common name of Cat's-tail from the form of its contracted panicle, and is the Highland badge of the clan Sutherland, whose crest is a cat.

Agricultural authorities in this country have differed widely as to the value of this grass. It appears to thrive best on moist soils, and on low fertile lands adjacent to rivers, and also on newly-reclaimed soils from moors. When grown on dry light soils, its roots become bulbous or tuberous; hence, in all probability, the remark that it is not a grass suited naturally to the climate of Great Britain. No doubt, on soils that suit it, and under certain conditions, Timothy-grass is one of the most profitable which can be grown, because where it does well, it produces larger crops of hay than almost any other kind of grass; especially has this been the case on clay lands.

It has been said that the Meadow Cat's-tail is not generally found in the best natural pastures, but able authorities differ from this statement; indeed, Mr. Johnson, in his *Grasses of Great Britain*, states that his own observation substantiates the fact that there are few such pastures in which it does not exist, though in exceedingly varied conditions, and probably equally varied as to nutritious quality. Large quantities of seed of this grass are annually imported to this country, which is proof that it is somewhat extensively cultivated.

It is recommended that on the moist soils of the north it be sown with Italian Rye-grass, to form permanent grass meadows; but it should be stated that Timothy is decidedly inferior to other grasses for spring produce—and that is a most important point. This is the testimony which comes from the north, and yet we have it on the authority of Mr. Johnson, that when experiments were made with it at Woburn, its comparative merits were very great, "owing to its producing abundance of fine foliage early in spring, which, as the grass flowers late, may be cropped until an advanced period of the season without injury to the crop of hay." Probably some reconciliation of authorities may be secured by stating that in the southern districts of Great Britain the spring crop of this grass is more plentiful than when grown further north. One writer states that "the value of the grass, when the seed is ripe, is to that when it is in flower as 10 to 23; another, that when the seed is ripe the stem contains more nutritive matter than that of any other grass which is cut for hay," and to these Mr. Johnson adds this statement: "On a moderately rich and tenacious soil, the *Phleum pratense* is a durable and nutritive grass, though too coarse to be generally liked by cattle, unless in the spring, when the early and abundant foliage is often remarkable; in those pastures in which it is plentifully distributed, among the scanty verdure of the later grasses, where quantity rather than quality is an object in making hay, the Timothy-grass is fully equal, if not, indeed, superior, in yield to the Meadow Foxtail; but the hay is harsh and wiry. All of its better qualities are dependent on the depth and retentive character of the soil; where that is light and shallow, as over chalk and gravel, it either becomes useless or soon disappears." *Pisum*.

Obituary.

GEORGE BRUNT.—On May 13, at Brandon, Coventry, the death of this well-known gardener took place at the comparatively early age of forty-nine. He was head gardener to the novelist, Charles Dickens, being with him at the writer's death, and remaining there a few years afterwards. Afterwards he was head gardener to General Fytche, at Pyrgo Park, Essex; and to the Earl of Carnarvon, Bretby Park, Burton-on-Trent, being at the latter place nine years, retiring through ill-health. He

ECCHARIS: E. F. The mite abounded in the bulbs sent, and we would strongly advise you to keep the diseased wide apart from the healthy bulbs or destroy them. We know of no certain remedy, the insects being in the tissues—inner as well as outer—of the bulbs.

FOXGLOVE: C. A. H. C. Very common this season, it is due to the running together of several flowers into one.

GARDENIAS: J. V. T. The parts of the flower have assumed a leafy condition. We cannot tell the reason, but suspect you have been too free with the water-pot or liquid-manure.

INSECT: M. M. H. *Otiorynchus sulcatus*, clay-coloured weevil.

NAMES OF PLANTS: J. A. P. *Corydalis palæstina*.—*MacMillan*. *Heuchera americana*.—*C. H. 1.* *Potentilla fruticosa*; 5, *Berberis vulgaris* purple var.; 3, *Cornus sanguinea*; 4, *Pyrus Aria*; 5, *Lonicera Ledebourii*; 6, *Weigela rosea*.—*J. S. L. 1.* *Carex cæspitosa*; 2, *Eriophorum polystachyum*; 3, *Alchemilla vulgaris*; 4, *Poterium sanguisorba*; 5, *Pedicularis palustris*; 5a, *Barbarea vulgaris*; 6, *Salix*, perhaps *S. repens*.—*W. S. L.* *Syringa Jossikea*.—*W. M.* *Ulmus Rosselsii aurea*.—*W. P. B.* *Heliconia aurea striata*.—*A. D.* *Tradescantia virginica*.—*W. W. 1.* *Cypripedium barbatum*, a bad variety of it; 2, *Cypripedium barbatum*; 3, *Cattleya Mossie*.—*W. M.* *Sussex*. 1, *Cattleya Mossie*; 2, *Oncidium spheaculatum*; 3, *Oncidium hexuosum*; 4, *Maxillaria tenuifolia*; 5, *Adiantum cuneatum grandiceps*; 6, *Poa trivialis variegata*.—*Auchenault*. *Odontoglossum citrosum*.—*H. 1.* *Asphodelus luteus*; 2, *Hemerocallis flava*; 3, *Cerastium*; 4, *Clematis integrifolia*; 5, *Tradescantia virginica*; 6, *Thalictrum aquilegifolium*; 7, send flower. *R. W. 1.* *Lupinus polyphyllus*; 2, *Hemerocallis flava*; 3, *Thalictrum aquilegifolium*; 4, *Trollius europæus*; 5, *Agrostema coronaria*; 6, *Centranthus ruber*; 7, *Adiantum Waltoni*; 8, *Lupinus polyphyllus*. *E. M. Hull*. 1, *Pyrus terminalis*, the Wild Service Tree, England; 2, *Ginkgo biloba*, the Maidenhair Tree, Japan. *J. S. W. 1.* *Anthericum liliistrum*; 2, *Convallaria multiflora*; 3, *Rose*, apparently *Maréchal Niel*; 4, *Rose*, apparently *Catherine Mermet*.—*T. S. Ware*. 1, *Crataegus punctata*, probably; send when in fruit; 2, *Pyrus Aria* variety.

ON-CLOTH FOR SHEETS FOR FASTENING TREES TO THE WALL: W. H. Y. You should apply to some maker of oiled goods. Put in a small advertisement.

PEACHES: H. W. G. The fruits are affected with mildew. See our reply to J. F. Vines, in our last week's issue; the cause and remedy are the same. If mildew commonly attacks Vines, Peaches, &c., and prevention being better than cure, it would be preferable to use, early in the season, one or other of the recommended fungicides, than to wait till mildew is actually present.

PINE-APPLE WITHOUT CROWN: W. H. Y. It is a malformation, certainly, but it does not affect the growth of the fruit. We do not know what it is due to. Pine-apples would be better without crowns. Doubtless, in the wild-state crowns serve as one of the means of increase.

PINK SPORT: J. B. It is, probably, a case of reversion; but, that surmise notwithstanding, it may be useful as a border flower.

VINES: J. J. The Vines have been kept too warm until they bloomed, and then they have received a check from the admission of cold air, which has been followed by mildew at the tips.

WATER PLANT IN JAMAICA: Rev. A. Johnson. By means of your lucid description, we recognise the plant to be *Pontederia azurea*.

COMMUNICATIONS RECEIVED.—H. B. Skinner.—Dr. Klebabo, letter to follow.—W. A.—G. C.—J. V. T.—H. J. E.—A. B., no specimen received.—F. M., Melbourne.—D. T. F., H. Corrova, Geveva.—H. G.—E. J. J.—Prof. M'O., Cape Town.—C. J. van T., Haarlem.—H. W.—Cano E.—A. H.—H. W.—W. S.—E. J.—John Laing & Sons.—Rev. A. Johnson.—V. C.—R. D.—M. T.—R. C. MacGregor.—J. S.—A. O.—W. W.—H. R.—A. R.—J.—A. C.—H. G.—J.—A. C.—W.—E.—W. P.—R.—E.—W.—R. T. J.—K.—D. & Co.—Dick Baskiff & Co.—Mrs. F. J. Austin.—C. C.; we fear the photos have not been kept.—F. W. G.

PHOTOGRAPHS RECEIVED.—F. W. B.—J. G., Sheffield (with thanks).—F. Walker & Co.—Mrs. Eady.

SPECIMENS RECEIVED.—Dr. Allman.

CHARMING MUSIC FOR SUMMER EVENINGS. CAMPBELL'S PATENT BROAD REED MELODEONS

Have the Largest Sale of any Musical Instrument in the World.
GRAND NEW MODELS

FOR SEASON 1892.
Highest Awards, Grand Diploma, and Gold Medal, 1891.
£100,000 TESTIMONIALS.

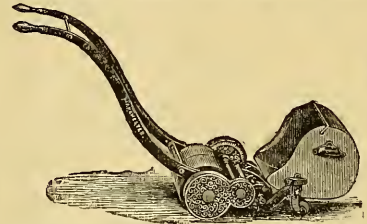
Money returned if not satisfied.
SUMMER MUSIC.
Gardeners' Chronicle.
THE "GEM" MELODEON, 6s. 6d.
THE "MINIATURE" MELODEON, 10s.
THE "PARAGON" MELODEON, 14s.
THE "FAVOURITE" MELODEON, 16s. 6d.
Sent, Carriage Paid, in Great Britain, on receipt of Post Office Order, as above.
CAMPBELL'S, 116, TRONGATE, GLASGOW.

VIOLIN MAKERS AND REPAIRERS.
CORNET AND BRASS BAND INSTRUMENTS (*Own Make*).
We are the only Practical Brass Instrument Makers and Repairers in Scotland.

N.B.—All lovers of Music should at once send for our New Illustrated Privilege Price List for Season 1892, now ready. 100,000 of these valuable lists sent out yearly. Send 1d. stamp to CAMPBELL AND CO., Musical Instrument Makers, 116, Trongate, Glasgow. Established 50 years.

TRY THE "TENNIS" LAWN MOWER.

Awarded numerous National & International Prize Medals.



A beautifully designed, well constructed, highly finished, English made, and almost noiseless Machine. Durable, easy to work, and eminently suitable for the Tennis ground, and also for Ornamental Gardening. It has no equal. Thousands are in use, giving unqualified satisfaction. Every Machine guaranteed.

FOLLOWES & BATE LTD., ENGINEERS, GORTON, MANCHESTER.

Patentees and Manufacturers of the Patent "CLIMAX" "MANCHESTER," and Royal "ANGLO-AMERICAN" LAWN MOWERS.

80,000 SOLD SINCE 1869.

To be obtained promptly from all respectable Ironmongers and Seedsmen. PRICE LISTS POST FREE.

STOCK	SIZES	INCHES.	INCHES.
14x12	20x15	14x12	20x15
16x12	20x16	16x12	20x16
18x12	22x16	18x12	22x16
20x12	24x16	20x12	24x16
16x14	20x18	16x14	20x18
18x14	22x18	18x14	22x18
20x14	24x18	20x14	24x18

21-in. and 15-in. Foreign, of above sizes, in boxes of 100 feet and 200 feet super.

English Glass, cut to buyers' sizes, at lowest prices, delivered free and sound in the country, in quantity.

"BEST LINED OIL PUTTY."
GEORGE FAIRBANK & SONS,
LEAD, GLASS, OIL, and GLASS MERCHANTS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Chronicle*.

CARSON'S PAINT

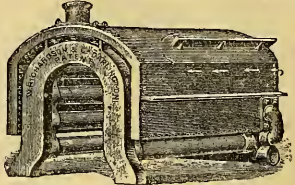
Patronised by 20,000 of the Nobility, Gentry, and Clergy, for all kinds of

OUTDOOR WORK, CONSERVATORIES, Greenhouses, Frames, &c.

1 Cwt. and OIL MIXTURE, Free to all Stations.
Liquid Non-Poisonous Paints for Inside of Conservatories, &c.
Prices, Patterns, and Testimonials, Post-free.

GROVE WORKS, BATTERSEA, LONDON, S.W.
15, VICTORIA STREET, WESTMINSTER, S.W.;
and BACHELOR'S WALK, DUBLIN.—Discount for Cash.

RICHARDSON'S PATENT HOODED TUBULAR BOILERS



(Exhibited at Stand 14, Group A, International Horticultural Exhibition, London)

Have combined in one the advantages of the two best forms of Boilers hitherto made—the Plain Saddle and Tubular Saddle. They Heat more than Twice the Quantity of Piping that can be heated by the ordinary Saddle with an equal amount of fuel. They are durable, quick-heating, easily set, and easy to manage. PRICE LIST from

W. RICHARDSON & CO.,

Heating Engineers,
DARLINGTON.

The Original and Only Makers of the

GENUINE RIVETED TRENTHAM BOILERS



WITH SOLID ENDS. Also—
SILVESTER'S PATENT TRENTHAM,
With Special Provision for Cleaning the Inside thoroughly (a Most Important Point).

These Boilers, after long experience, have proved themselves the Most Efficient, Economical, and Lasting Boilers extant.

Every other kind of Boilers, Sockets, Flanges, and Expansion-Joint Pipes and Fittings, for all kinds of High and Low-Pressure Heating.

FRED SILVESTER & CO.,

General Engineers, Founders, and Boiler Makers,
CASTLE HILL WORKS, NEWCASTLE, STAFFORDSHIRE.

GARDEN REQUISITES, as supplied to the Royal Gardens.—**COCO-NUT FIBRE REFUSE**, 1s. 3d. per sack, 10 for 12s., 20 for 20s., 30 for 28s., sacks free; 2-ton truck, 30s., free on rail near works. **FINE ORCHID PEAT**, 8s. 6d. per sack. **BROWN FIBROUS DO.**, 5s. per sack, 5 for 22s. 6d. **BLACK DO.**, 4s. 6d. per sack, 5 for 20s. **FIBROUS LOAM, LEAF-MOULD, and PEAT-MOULD**, sack 3s. per sack. **COARSE SILVER SAND**, 1s. 6d. per bushel, 14s. 10s. 25s. per ton. **CHARCOAL**, 8s. per sack. **SPHAGNUM**, 7s. 6d. per sack; all sacks and bags, 2d. each. **RUSSIA MATS**, 10s. 6d. to 15s. per dozen. **RAFFIA**, VIRGIN CORN, STAKES, &c. **BONES**, 1-inch, 11s. per cwt. **PURE BONE DUST**, 11s. 6d. **TOBACCO-PAPER**, Spécialité, 102d. per lb., 28 lb. for 21s. **CLOTH**, 1s. per lb., 28 lb. for 26s. **Price List**, free. **W. HERBERT and CO.**
Hop Exchange Warehouses, Southwark Street, London, S.E.

FOWLER'S LAWN SAND.—For destroying Daisies and other Weeds on Lawns, &c., at the same time acting as a Fertiliser, and improving the growth and colour of the grass. Price, in tins, 1s., 2s. 6d., and 5s.; kegs, 8s. 6d., 16s., and 30s.

CORRY and CO., LIMP., 13, 15, and 16, Fishbury Street, E.C.
Sold by all Seedsmen.

GISHURST COMPOUND used since 1859 for Red Spider, Mildew, Thrips, Greenfly and other blights, 2 ounces to the gallon of soft water, 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in either form cake for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boats dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from **PRICE'S PATENT CANDLE COMPANY** (Limited), London.

"**SLUGICIDE**," REGISTERED.—Certain death to Slugs, fertiliser to soil, perfectly harmless to plants and domestic animals. The greatest boon to Gardeners yet invented. 1s. 6d. per box, of Seedsmen, or post paid of **THE "SLUGICIDE" CO.**, 6, Maryleport Street, Bristol.

FIRST-CLASS ENLARGED PORTRAITS

from Life or from Photograph, well-finished by hand—10-inch, 4s. 6d.; 12-inch, 7s. 6d.; 14-inch, 12s. 6d. On mounts for framing. Send Photo and P.O. or call—**FRANCIS & CO.**, 2, Creed Lane, Ludgate, E.C. (late 29, Ludgate Hill), Estb., 1886.

THE FRUIT GARDEN OF THE UNIVERSE.

—THE AUSTRALIAN IRRIGATION COLONIES (Chaffey Brothers), established and regulated by Government, OFFER an enjoyable life and OCCUPATION, a sunny and salubrious climate, and most highly remunerative returns to Cultivators with small or large capital; pamphlet free.

CHAFFEY BROTHERS, Limited, 35, Queen Victoria Street, London, E.C. J. E. M. Vincent, Chief Commissioner.

THE SYDNEY MAIL, AND NEW SOUTH WALES ADVERTISER.

CONTENTS:—

INTERCOLONIAL AND GENERAL NEWS.
SPORTING and the FIELD, in which is incorporated BELL'S
LIFE in SYDNEY.
RECORD OF RACES, and NOTES on the TURF.
CRICKET and AQUATICS.
THE FLORA of AUSTRALIA. (Drawn and engraved especially for this Journal.)
NATURAL HISTORY. (Original Articles.)
AGRICULTURE, PASTORAL, HORTICULTURE.
GOLD FIELDS and MINING generally.
STOCK and SHARE REPORTS.
ORIGINAL AND SCIENTIFIC ARTICLES.
TALES by POPULAR ENGLISH and AUSTRALIAN
AUTHORS.
THE FASHIONS. DOMESTIC ECONOMY.
INDOOR AMUSEMENTS.
THE CHESS PLAYER. THE HOME CIRCLE.
COMMERCIAL NEWS.
SHIPPING INTELLIGENCE.

The SYDNEY MAIL has a wide circulation throughout the Australian Colonies, New Zealand, Polynesia, &c. It contains a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.

Single Copies, 6d.; Stamped, 7d.

Publishing Office—Hunter Street, Sydney, New South Wales.

ENGLAND.

The undermentioned Newspaper and Advertising Agents are authorised to receive ADVERTISEMENTS for the SYDNEY MORNING HERALD and SYDNEY MAIL:—

LONDON Messrs. Geo. Street & Co., 30, Cornhill, E.C.
Mr. F. Algar, 8, Clement's Lane, Lombard Street, E.C.
Messrs. Gordon & Gotch, St. Bride Street, Fleet Street, E.C.
Messrs. W. H. Smith & Son, 186, Strand.
BRISTOL James and Henry Grace, Royal Insurance Buildings.
MANCHESTER James and Henry Grace, 73, Market Street.
EDINBURGH Robertson & Scott, 13, Hanover Street.
GLASGOW W. Porteous & Co., 15, Royal Exchange Place.

Copies of each Journal are filed at the above Offices for the use of Advertisers.

Twopence. Post-free, 2½d.

A COLOURED PLATE of a NEW ROSE, (H.P. Spencer) will be given with the ROSE NUMBER of THE GARDENERS' MAGAZINE, JULY 2nd, 1892.

THE ROSE SEASON Rev. J. H. Pemberton.
SEEDLING ROSES William Paul, F.L.S.
CUT ROSES IN DECORATIONS ... Edward Mawley, F.R.Met.S.
SOME FRENCH RAISERS OF
ROSES Rev. H. Honeywood D'Ombraun.
ROSES ON HEAVY SOILS ... Benjamin R. Cant.

SWEET BRIERS. CLIMBING and PILLAR ROSES.

Portraits of Successful Rosarians, Engravings of New Roses, Rose Pests, and an example of the use of Climbing Roses.

Order in advance of your Newsagent, as the Plate cannot be reprinted.

OFFICES: 4, AVE MARIA LANE, LONDON, E.C.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM

TO

THE PUBLISHER,

41, Wellington Street, Strand,
LONDON, W.C.

1892.

Please send me "THE GARDENERS' CHRONICLE" for _____ Months,
commencing _____, for which I enclose P.O.O. _____.

Please Note that all Copies sent Direct from this Office must be paid for in advance.

THE UNITED KINGDOM.—12 Months, 15s.; 6 Months, 7s. 6d.; 3 Months, 3s. 9d.; Post-free.

ALL FOREIGN SUBSCRIPTIONS, including Postage, 17s. 6d. for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
No. 42, DRURY LANE, London, to A. G. MARTIN.
Cheques should be crossed "DRUMMOND."

G. C.
June 25, 1892.

FARMS, ESTATES, RESIDENCES.

Any one desirous of
Renting a Farm or Residence, or Purchasing an
Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "Midland Counties Herald Office, Birmingham." The Midland Counties Herald always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

AMERICAN HORTICULTURAL INTERESTS

ARE BEST REPRESENTED IN

AMERICAN GARDENING,

WHICH INCLUDES:—

THE AMERICAN GARDEN } United
THE GARDENERS' MONTHLY and HOR- } in
TICULTURIST } ONE.
THE FLORAL CABINET }
POPULAR GARDENING }

Making the Largest, Best, Oldest, Liveliest, Handsomest
Gardening Magazine in America.

THE LEADING AMERICAN JOURNAL FOR
HORTICULTURAL ADVERTISEMENTS.

Subscription Price for England

and Countries in the Universal Postal Union, 6s.

Subscriptions must commence from Jan. 1.

E. H. LIBBY, Publisher, Times Building,
New York, U.S.A.

Agents for Great Britain and Ireland:—

STEEL and JONES, 4, Spring Gardens, Charing Cross,
London, S.W., to whom Orders for Advertisements and Subscriptions may be sent. A Specimen Copy post-free for 10d. (stamps).

DROVERS' BOOK on the CHRYSANTHE-
MUM (Illustrated), now ready, giving full and practical
instructions of eighty-four varieties, and particulars and in-
formation never before published. Post-free, 1s. 2d. To be had
of the Authors, W. and G. DROVER, Nurseries, Fareham.

If you want to know
THE BEST WAY TO PUT YOUR CHRYSANTHEMUMS,
and for
"CHRYSANTHEMUMS, AND HOW TO
GROW THEM." By C. E. SHEA, Esq. Post-free
Nine Stamps.—H. J. JONES, Ryecliffe Nursery, Lewisham.

Belgian.

BULLETIN d'ARBOICULTURE,
de FLORICULTURE, et de CULTURE MARA-
CHÈRE. A monthly horticultural work, with superb Coloured
Plates and Illustrations. Published since 1865, by F. BURVE-
NICH, F. PAYNAERT, E. RODIGAN, and H. J. VAN HULLE,
Professors at the Horticultural School of the Belgian Govern-
ment at Ghent. Post-paid, 10s. per annum.
H. J. VAN HULLE, Botanical Gardens, Ghent, Belgium.

ESTATE SALES.

The Best County Medium for Advertising Sales of Estates is

THE "WORCESTER HERALD,"

ESTABLISHED 1794.

The Leading County Paper. Extensive circulation among the
upper and middle classes in Worcestershire and adjoining
counties. Advertisers would do well to forward for reference
and distribution plans and particulars of Estates, Catalogues
of Machinery, Furniture, Books, and other Property advertised
in the Columns of the "HERALD."

Sales of Stock and Agricultural Effects.

The "WORCESTER HERALD" is the most effective organ
for giving publicity to announcements of this class. It is the
leading Agricultural Paper in the County, and Circulates
most extensively among Agriculturists in and around
Worcestershire.

Farms to Let.

Land Agents, Estate Managers, and all having Farms to Let
would do well to advertise in the "WORCESTER HERALD,"
the Leading County Paper. Specially adapted for bringing
such notices before Tenant Farmers. Large circulation.
Moderate charge.

Situations Vacant and Wanted.

For producing results the "WORCESTER HERALD" is
recognised as a specially good medium. Cheap Rates.

Apply for terms.

SPECIMEN FREE. Price 2d.

Published Friday for Saturday.

OFFICES:—72, HIGH STREET, WORCESTER.

HOLIDAY TRAVEL

AND ITS RISKS SHOULD BE COVERED BY AN
INSURANCE AGAINST

ACCIDENTS OF ALL KINDS

WITH THE OLDEST AND LARGEST COMPANY,

THE RAILWAY PASSENGERS' ASSURANCE CO.

For Prospectuses, apply to Agents, Railway Stations, and

Secs. { W. D. MASSY, 64, CORNHILL, LONDON.
A. VIAN,

LIFE ASSURANCE AT COST ABOUT HALF THE USUAL RATES.

MUTUAL RESERVE LIFE ASSOCIATION

OF NEW YORK.

E. B. HARPER, PRESIDENT.
PURELY MUTUAL.

ABSOLUTE SECURITY. STRICT ECONOMY.

The most successful Life Assurance Company in the World.
Total amount of Insurance in force, 1891 ... £44,190,535
New Business, 1891 ... £10,270,968
New Business accepted, 1891 ... £9,100,403
Total Death Claims paid ... £2,464,065
Saving to Members by its System, about ... £6,000,000

Chief Office for Great Britain:

90, QUEEN STREET, CHEAPSIDE, LONDON, E.C.

BOILING WATER OR MILK.

E P P S'S
GRATEFUL-COMFORTING
C O C C O A
BREAKFAST-SUPPER.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

Scale of Charges for Advertising.

Head Line charged as two.

4 Lines ..	£0 3 0	15 Lines ..	£0 8 6
5 " ..	0 3 6	16 " ..	0 9 0
6 " ..	0 4 0	17 " ..	0 9 6
7 " ..	0 4 6	18 " ..	0 10 0
8 " ..	0 5 0	19 " ..	0 10 6
9 " ..	0 5 6	20 " ..	0 11 0
10 " ..	0 6 0	21 " ..	0 11 6
11 " ..	0 6 6	22 " ..	0 12 0
12 " ..	0 7 0	23 " ..	0 12 6
13 " ..	0 7 6	24 " ..	0 13 0
14 " ..	0 8 0	25 " ..	0 13 6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20s.
If set across three Columns the lowest charge will be 30s.
Page, 48s; Half Page, 44 10s.; Column, 43s.

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all. Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.*

GARDENERS AND OTHERS WANTING SITUATIONS, 26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.

Births, Deaths and Marriages, 5s. each insertion.

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at No. 42, DRURY LANE, to A. G. MARTIN, as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—*The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.*

Advertisements for the current week must reach the Office not later than Thursday noon.

All Advertisements must be addressed to the PUBLISHER.

Publishing office and Office for Advertisements, 41, WELLINGTON ST., STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. *The United Kingdom*, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. *All Foreign Subscriptions*, including Postage, 17s. 6d. for 12 months: Post-office Orders to be made payable to the G. Post-Office, 42, Drury Lane, W.C., to A. G. MARTIN.

Subscribers who experience any difficulty in obtaining their Copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

Vestry of St. Mary, Islington.

THE WORKS COMMITTEE of this Vestry REQUIRE a GARDENER, to Take Charge of the Thornhill Gardens. The wages will be 24s. per week, with uniform. Particulars of the duties can be obtained upon application to the Chief Surveyor, Mr. J. PATEY BARBER, at the Vestry Hall, to whom applications, stating age and experience, and accompanied by three testimonials of recent date, must be delivered not later than noon on Saturday, July 2, 1892.

Vestry Hall, Upper Street, N., June 17, 1892.

WANTED, a HEAD GARDENER, in September, for Luton Hoo.—Apply, in the first instance, to W. C. THOMSON, Estate Office, Luton Hoo, Luton, Beds.

WANTED, a GARDENER, married, without incumbency. Must thoroughly understand his business. Good personal character from last situation. Wife to attend to poultry, and house when family are away. Write, stating particulars, to A. C. B., Willing's, 165, Piccadilly, W.

WANTED, a good WORKING GARDENER, who understands Flowers and Wall Trees; married, and must have a good character.—Apply by letter, stating age and wages required, to FRASCATI, Mason's Hill, Bromley, Kent.

WANTED, for a quiet place in the Highlands, a WORKING GARDENER. Wife for Laundry. Address, with full particulars, P. H., Dicksons Royal Seed Establishment, Chester.

WANTED, a GARDENER and his WIFE, for a small place near Tunbridge Wells. Wife required to Manage Small Dairy and a few Fowls. Husband to milk. Age not over 35, no children. Garden work easy. Help given. Lodge, &c. Personal character required.—Write with full particulars to H. H., Messrs. R. F. White & Son, 33, Fleet Street, London, E.C.

WANTED, an UNDER GARDENER.—Wife to undertake Laundry (no family preferred). Personal character indispensable. Cottage on the premises. Apply by letter, to B., Housekeeper, College Hill Chambers, London, or Church House, Bromley, Kent.

Rose Growers.

WANTED, AT ONCE, Two young MEN for the ROSE DEPARTMENT. Preference given to those accustomed to attending Exhibitions. State age, experience, and wages required.—Mr. FRANK CANT, Braishwick Nursery, Colchester.

Foreman.

WANTED, an experienced MAN, in a large Market Nursery, who has been accustomed to grow in quantity for Market; none but those who have held a similar position need apply. Wages, 27s. per week, and Cottage. State age, and particulars, to B. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a thorough WORKING ALL-ROUND MAN, specially good with Grapes, Peaches, Tomatoes, Roses, Gardenias, Intermediate and Cool Orchids. Eight glasshouses, in and Out, must be kept in perfect order. Full particulars to GLAXN, Seagrave, near Ryde.

WANTED, a useful ALL-ROUND MAN, for small Nursery and Jobbing. Abstainer preferred. Reference required. Wages, 18s. per week, with rise if suited.—Apply, J. FRENCH, Melton Mowbray.

WANTED, a young MAN, of good experience in Stove and Greenhouse Plants, Vines, &c. Abstainer, church, bathy.—Write, stating full particulars, to Mrs. W., Hoe Place, Woking.

WANTED, a MAN, well up in Roses and Carnations.—Apply by letter, stating wages and experience, to E. WEATHERILL, Woodside Nursery, North Finchley, N.

WANTED, a young MAN, for general Outdoor Work; must be quick and good Budder. Permanent situation to good steady man.—J. BURRELL, Howe House Nurseries, Cambridge.

WANTED, a thoroughly experienced young MAN, as Wreath and Bouquet Maker.—Apply, W. TRESIDDER, Nurseryman, Cardiff.

WANTED, a young MAN as THIRD, Inside and Out (Kitchen Garden), experienced in both departments. Five kept. Wages, 18s. per week, no botany.—State age, experience, and references to A. MARRIOTT, The Gardens, Quarry Bank, Alton, Liverpool.

WANTED, a young MAN, strong and active, with experience, for the Glass-house, and well up in Chrysanthemum growing. Wages, 17s. per week; no botany.—G. W. DANCE, Gosfield Hall Gardens, Halstead, Essex.

WANTED, a young MAN, used to Potting, Watering, &c. Wages 18s. per week.—Apply to LANE and MARTIN, 207, Brixton Road, S.W.

WANTED, a young MAN for Florist's and Seed Shop. Must have a good knowledge of Seeds and Out Flowers.—State age, experience, and wages required, to JOHN CHARLTON, 57, Ye Pantiles, Tunbridge Wells.

WANTED, a YOUTH, good and quick writer, and to assist generally in Seeds, Bulbs, Plants. Wages 12s. per week; by letter, stating age, &c., to F. MILLER, 267, Fulham Road, S.W.

WANTED, an active YOUTH, about 16, for House, under Foreman, State terms, including both, &c., to G., Trane Inn, R.S.O., Herefordshire.

To Parents and Guardians.

WANTED, TWO APPRENTICES.—ADVERTISER, who is connected with a well-known and established firm in the Canary and Madeira Islands, desires two respectable educated lads to return with him to Madeira for two or three years. Aimed next, to learn the lucrative and popular profession, Fruit Growing, Farming, and General Produce for the London Markets, &c. Good home. Reference exchanged. Premium required. HADDER, H. J. Bonner, Esq., 29 and 30, King Street, Cheapside, E.C.

WANTED, as SHOPMAN and TRAVELLER.—A good opportunity for a steady, smart, persevering man. One who has had some experience in the North and Midlands preferred.—S. & H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a young LADY FLORIST, experienced. Address, stating full particulars, age, and salary required, EDW. B. REES, 27, Union Street, Bristol.

YOUNG LADIES who want to be INDEPENDENT and make their way in the world, should Write for Prospectus of the Scientific Dress Cutting Association, 272, Regent Street, London, W. Situations found for all pupils at good salaries. No Lady's education is complete without a knowledge of Dressmaking.

WANT PLACES.

Advertisers are cautioned against having letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentlemen with particulars, &c.—St. John's Nurseries, Worcester.

Head Gardeners.

JOHN LAING AND SONS can at present recommend with every confidence several energetic and practical Men of tested ability and first-rate character. Ladies and Gentlemen in want of GARDENERS and BALIFFS, and HEAD GARDENERS for first-rate Establishments or Single-handed Situations, can be suited and have full particulars by applying at Stanstead Park Nurseries, Forest Hill, London, S.E.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BALIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

To Noblemen and Gentlemen requiring Land Agents, STEWARDS, BALIFFS, or GARDENERS.

JAMES CARTER AND CO. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 257 and 258, High Holborn, W.C.

SANDERS, St. Albans, can thoroughly RECOMMEND several first-class HEAD GARDENERS.

Gardeners, Farm-Baliffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the highest respectability, and thoroughly practical at their business. All particulars on application. Telegraphic and Postal Address.—"DICKSONS, CHESTER."

£5 BONUS, on engagement, to introducer of genuine situation as HEAD GARDENER, or GARDENER and FARM STEWARD. Thoroughly experienced in all departments. Good references.—HORTICULTURE, at May's, 109, London Wall, E.C.

GARDENER (HEAD), where three or more are kept.—Age 20, married, no family; life experience in all branches. Eight years as Foreman in present place.—B. ROGERS, The Gardens, Cuthedge, Halstead, Essex.

GARDENER (HEAD).—Mr. CLARKE, Head Gardener to the Earl of Lonsdale, Louthwaite Castle, Penrith, can with every confidence recommend his Foreman to any Lady or Gentleman requiring the services of a thorough practical man, experienced in all branches.

GARDENER (HEAD WORKING).—Age 25, married when suit. Good practical experience in Cultivation of Grapes, Peaches, Melons, &c. Stove and Greenhouse Plants, Flowers, and Vegetables. First-class references.—A. COLE, Hextable, Swanley, Kent.

GARDENER (HEAD WORKING).—Age 27, married; thoroughly understands Grapes, Peaches, Melons, Cucumbers, Flower and Kitchen Gardens. Good character and references.—A. BARKER, Stanmore Park, Stanmore, Middlesex.

GARDENER (HEAD WORKING), Land and Woods required, for 42, married, life experience in the profession. Upwards of twenty years as Head in good establishments. Excellent references.—GARDENER, Dolhir, Dinas Mawddny, Merionethshire.

GARDENER (HEAD WORKING); married, no family.—J. READ, Gardener to the Right Hon. the Earl of Carnarvon, Breck Park, would be glad to recommend a few practical men to any Nobleman or Gentlemen. Highest references as to character and ability.

GARDENER (HEAD WORKING).—Age 32, married. Thoroughly understands Grapes, Peaches, Melons, Cucumbers, Flower and Kitchen Gardens. Highly recommended.—D. FOSTER, Head Gardener, New Place, Upminster, Essex.

GARDENER (HEAD WORKING).—A LADY wishes to recommend a thoroughly practical all-round Gardener who lived fifteen years in the family; only left owing to establishment being broken up through a death.—W. BROWN, 1, Stockwell Street, Cambridge.

GARDENER (HEAD WORKING), or FOREMAN, where several are kept.—Age 30; thorough knowledge of Glass and Outdoor Gardening. Excellent character. Abstainer. Married.—W. GRANTHAM, Dummer, Basingstoke.

GARDENER (HEAD WORKING).—F. CORNISH, of The Gardens, Jollywinds, Dorking, wishes to recommend his Foreman (J. Pullen), thoroughly practical in all branches, including Orchids, Stone and Greenhouse Plants, Flower and Kitchen Gardens. Excellent character.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 43, married; twenty years' experience in all branches.—J. H. 12, Devonshire Terrace, Hertford Road, Lower Edmonton, N.

GARDENER (HEAD WORKING).—Scotch; age 41, one child at home; experienced in Orchids, Vines, Peaches, Stone and Greenhouse Plants, and Flower and Kitchen Gardens. Good character from present and previous employers; leaving through reduction of establishment; abstainer.—W. FORRESTER, The Knoll, Shipley, Yorks.

GARDENER (HEAD WORKING).—Age 29, married; life experience in all branches. Good character. HENNESS, Ramridge, Andover.

GARDENER (HEAD WORKING), seeks re-engagement.—Age 32, married; thoroughly experienced in all departments. Good reference from present employer.—B. H., at May's, 109, London Wall, E. C.

GARDENER (HEAD WORKING), age 46, married, no family, abstainer, requires re-engagement.—Thirty years' practical experience in Growing and Forcing Grapes, Peaches, Melons, Tomatoes, Cucumbers, Strawberries, Vegetables, and Mushrooms; also Kitchen and Flower Gardens, Pleasure Grounds, Land and Stock. Eight years' excellent character, and sixteen years' references.—J. D., Myrtle Cottage, Wick Road, Hampton Wick, Middlesex.

GARDENER (HEAD WORKING).—Age 35, married, no incumbence. Twenty-one years' experience in first-class places; can be highly recommended.—W. W. A., 3, New Milton, Rugby.

GARDENER (HEAD WORKING).—Age 33, married; thoroughly practical in all branches. Eighteen years' experience. Excellent references from past and present employers.—COOTE, 4, Cemetery Road, Wellington, Salop.

GARDENER (HEAD WORKING).—Age 35, married, no family. Thoroughly practical in all branches. Twenty years' experience. Good references. Abstainer.—FRANK BIBLE, 3, Alma Cottages, Cowper Road, Bromley Common, Kent.

GARDENER (HEAD, or good SINGLE-HANDED).—Vines, Melons, Cucumbers, Tomatoes, &c. Stone and Greenhouse Plants, Flower and Kitchen Gardens. Good character.—A. BOOKER, 143, Steel Road, Acton Lane, Willesden.

GARDENER (HEAD, or good SINGLE-HANDED).—Age 30, married, one child; fifteen years' experience. Good character.—HORTUS, 17, Danbrook Road, South Stream, S.W.

GARDENER (SINGLE-HANDED).—Age 30, married, one child, age 5. Practical experience in all branches. Willing to make himself useful in house if required.—Excellent references.—A. PUSEY, Lock's Cottages, Ashford, Middlesex.

GARDENER (SINGLE-HANDED), or where two or three are kept.—Age 27; thoroughly experienced in all branches. Good references.—P. WILKERSON, 23, Upper Winchester Road, Catford, S.E.

GARDENER (SINGLE-HANDED).—Age 35, married, three children; life experience, both under Glass as well as in the Flower and Kitchen Gardens. Good character.—GARDENER, 5, Harcourt Road, Bexley Heath, Kent.

GARDENER (SINGLE-HANDED, or where more are kept).—Married; seven years' personal reference from present employer. Lease up, cause of leaving.—E. TUCKER, Hader's Hill House, Hendon, N.W.

GARDENER (SINGLE-HANDED).—Age 25, single; understands Greenhouse, Flower and Kitchen Gardens. Two years in last place.—BLUNDELL, Archbishop's Lodge, Addington Park, Croydon, Surrey.

GARDENER (SINGLE-HANDED or SECOND).—Age 22, single; six years' experience Indoors and Out. Good character.—RICHARD, 6, Roslyn Road, Redland, Bristol.

GARDENER.—Middle-aged, married, no children; understands all branches; stock and eleven years' character; leaving through lease expiring.—GARDENER, Bethnal House Asylum, Cambridge Heath Road, E.

GARDENER.—Age 38, married.—A gentleman wishes to recommend his Gardener, thoroughly experienced.—BUCKLAND, The Haven, Crowley Down, Sussex.

GARDENER (SECOND, or in small SINGLE-HANDED place, or Market Garden).—Age 20; twelve years' experience. Good references.—H. HOWARD, Daisy Bank, Knaphill, Woking, Surrey.

GARDENER (SECOND).—Age 24; ten years' practical experience in well-kept private places, both inside and out. Can be well recommended. Bothy preferred.—FOREMAN, 20, King Street, Chelsea, S.W.

GARDENER (SECOND, or THIRD), where four or more are kept.—Age 21; five years' experience. Good reference.—R. H., 20, Swaby Road, New Wandsworth, S.W.

GARDENER (SECOND).—Age 30, single. Experience inside and out; good references; two years in present situation.—F. PERRIN, Westwood, Beulah Hill, Norwood, S.E.

GARDENER (SECOND).—A young man (age 22) seeks situation as above; can be recommended by HEAD GARDENER, Walberton House, Arundel, Sussex, with whom he has been for two years and three months.

GARDENER (SECOND), inside, or inside and out, where four or more are kept.—Age 22; five years' experience in all branches. Good references.—W. VEALE, Horington, Wells, Somerset.

GARDENER (UNDER), inside, or inside and out, where two or three are kept.—Age 21; six years' experience. Good characters.—L. NEALE, Dummer house, Basingstoke.

GARDENER (UNDER).—Age 19. Has had some experience; can have good character.—J. BATCHELOR, 2, Upper Teddington Road, Hampton Wick.

GARDENER (UNDER), inside and out.—Age 25; single. Willing. Good references.—T. W. L., Shipton, Chipping Norton.

GARDENER (UNDER), where four or more are kept.—Age 21; five years' good experience. Excellent reference.—A. R., 63, Webb's Road, Battersea Rise, S.W.

GARDENER (UNDER).—Age 19; situation wanted by a young man who has had three years' experience inside and out. Good character.—W. PROWING, Stargrove, Newbury.

GARDENER (UNDER).—Age 22. Four and a half years' experience inside and out. Good references. Stone wages.—E. G., 1, College Terrace, Church End, Finchley, N.

To Gardeners.

GARDENER (UNDER), in a good Establishment.—A young man (age 21) desires re-engagement as above. Good references.—CHARLES STONEHOUSE, H. Ackerley, Esq., Bortholme, Wigan.

GARDENER (UNDER), where three or four are kept.—Age 19; three and a half years' experience; good characters.—LOTTERILL, Greenford Road, Sudbury, Harrow, Middlesex.

GROOM and GARDENER.—Used to Cows and Pigs. Abstainer. Wife can Manage Small Dairy and look after Panltry. Good references.—M. JONES, Rose Cottage, Eynsford, Kent.

TO THE TRADE.—GENERAL MANAGER of the Glass Department, or TRAVELLER. Extensive experience in both capacities, with influential connection throughout the Northern and Midland Counties.—Address C., 40, York Road, Battersea, London, S.W.

To the Trade.

MANAGER, SALESMAN, or FOREMAN (Indoors).—Age 39; single. Fourteen years' experience in all branches. Could take journey. Good references.—J. W., Plummers Lane, Horsham, Sussex.

To the Trade.

GROWER, or PROPAGATOR (ASSISTANT).—Seven years in the trade. Palms, Ferns, Ficus, and Dracenas.—GARDENER, 12, Gordon Grove, Camberwell, S.E.

ORCHID GROWER, in Private collection, to Ladies and Gentlemen requiring the above, stone wages, full particulars to A. B. C., 31, Chesterfield Grove, Lordship Lane, East Dulwich, S.E.

FOREMAN; age 26.—H. AMOS, gardener to Mr. G. Williams, Esq., can with confidence recommend his present Foreman to any Gardener requiring the services of a thoroughly experienced and competent man.—FOREMAN, Penderly Manor Gardens, Tring, Herts.

FOREMAN, or SECOND, in the Houses.—S. T. FISHER, Esq., The Grove, Tooting Bec Common, S.W., would be pleased to recommend S. May. Twelve years' experience in good places.—MAY, 40, Wellfield Road, Streatham, S.W.

FOREMAN, in the Houses.—Age 26; twelve years' experience, Pines included, in good places: Birdall House, Castle Howard, and Stoke Edith Park.—H. BELL, Sewerby, Hull, Yorks.

KNIFEMAN.—Quick at Rose Budding. Good knowledge of Rose Exhibiting and general Nursery Work. Successful in Budding and Grafting Fruits. Good reference.—E. DONCASTER, Mr. Blyton, Denison Street, Beeston, Notts.

FOREMAN, in good Establishment.—Age 24; over seven years' experience in Fruit and Plant House, also House Decorations. Good recommendations.—J. GODDARD, Woodham Lane, Woking, Surrey.

JOURNEYMAN (First), in the Houses, in a good establishment.—Age 23; six years' good character from last situation. Can be highly recommended. Bothy preferred.—F. ELLIS, 10, Kent Terrace, Swanley Junction.

JOURNEYMAN, in a first-class private Establishment.—Age 21.—E. BECKETT, Gardener to H. H. Gibbs, Esq., M.P., will be pleased to recommend a most deserving young man as above who has lived under him for the past eight years.—G. ELWOOD, The Gardens, Aliehuam House, Elstree, Herts.

JOURNEYMAN, in the Houses, in a good establishment, or SECOND where four or five are kept.—Age 24; bothy preferred. Excellent character.—W. A., Little Linford, Newport Pagnell, Bucks.

JOURNEYMAN, in the Houses, in a good Establishment, under a Foreman.—Age 24; bothy preferred.—W. JONES, Mrs. Rollison, Gipton Wood, Roundhay Road, Leeds.

JOURNEYMAN, in a Gentleman's Garden, inside, or inside and out.—Age 20; five years' experience. Good references.—T. JEFFRIES, The Gardens, Rilldon House, Stockbridge, Hants.

JOURNEYMAN (THIRD), in a Gentleman's Garden.—Age 19. Four years' good reference; abstainer.—HEAD GARDENER, Northwood, Winchester.

JOURNEYMAN, in the Houses, or inside and out.—Age 21. Six years' experience. Excellent character. Owinged.—J. FAIRCLOUGH, Myasthrill, Leigh, Reigate, Surrey.

IMPROVER, inside, or inside and out, in Private Gardens.—Age 18. Two and a half years' good character. Bothy preferred.—A. DOWNS, Dorkham, Alton, Hants.

IMPROVER, in the Houses; age 16.—Advertiser can with confidence recommend a strong active youth as above; three years' good character.—A. J. SANDERS, gardener to Vicountess Chewton, Bookham Lodge, Cobham, Surrey.

TO HEAD GARDENERS.—A respectable Youth, age 17, seeks situation in a Nobleman's or Gentleman's Garden. Has had two years' experience. Moderate premium offered.—H. W., Post Office, Quatford, Bridgworth, Salop.

TO GARDENERS.—Situation wanted by a Youth (age 19) in a Gentleman's Garden.—Good character. Premium if required.—A. BOOKER, 59, Ringford Road, West Hill, Wandsworth, S.W.

TO GARDENERS.—A Gardener's Son, in his 17th year, seeks situation as IMPROVER. Three years in Garden; used to Glass. Total abstainer.—HEAD GARDENER, Knight's Hill, Buntingford, Herts.

TO GARDENERS.—A young Man (age 20) wishes to Learn Practical Gardening in all its branches. Bothy preferred, in neighbourhood of Kent.—C. K., Weald, Sevenoaks, Kent.

TO SEEDSMEN, &c.—Situation wanted in a good Seed Establishment, or where there would be also an opportunity for improvement in Floristry. Good experience (4½ years), in both branches. Passed Cambridge Local. Good references. Indoors preferred.—STEPHANOFLOKOS, Brickwood Lodge, Tonbridge.

GARDENER'S HANDY MAN.—Glazier, Painter, Hot-water Fitter; quick workman. Small job not objected to. Hour, week, or piece-work.—G., 55, Stockwell Green, S.W.

HANDY MAN.—Age 25, wants constant job in Nursery. Repairing, Painting, Glazing, and Hot-water. Wages moderate.—T. B. 1, Perival Villas, Berbeck Road, Tottenham.

CARPENTER, in a Nursery.—Age 30. Understands Painting and Glazing. Can be highly recommended.—W. W., Elmhurst Lodge, Belvedere, Kent.

NURSERY OFFICE.—The Advertiser seeks re-engagement. Efficient and rapid CORRESPONDENT; also thoroughly versed in Book-keeping. Twenty-five years Trade experience.—F. M., 27, Ashbourne Grove, East Dulwich, London, S.E.

TO FLORISTS, &c.—Situation wanted by a young Man, good at Wreaths and Making up. Good references. Near London preferred.—J. JUPP, Hadlow Road Nursery, Tonbridge, Kent.

TO FLORISTS and FRUITERERS.—A young Lady desires re-engagement. Experienced in Flowers, Fruit, Seeds, &c. Willing to help with Books, or Market.—EMILY, The Gardeners' Chronicle Office, 41, Wellington Street, Strand, W.C.

HOLLOWAY'S PILLS.—Impurities of the Blood.—To ensure health it is absolutely necessary that the fluids and solids of the human body should be kept free from those impurities which are continually getting admission into the system by erroneous living, unwholesome atmosphere, or stordered stomach. The only safe and certain way to expel all impurities is to take Holloway's Pills, which have the power of cleansing the blood from all noxious matters, and at the same time removing any irregularities which their presence may have already produced in any organ. Holloway's Pills expel all humours which taint or impoverish the blood, which they purify and invigorate, and give general tone. They are applicable to all alike—young or old, robust or delicate.

AWARDED TWENTY PRIZE MEDALS

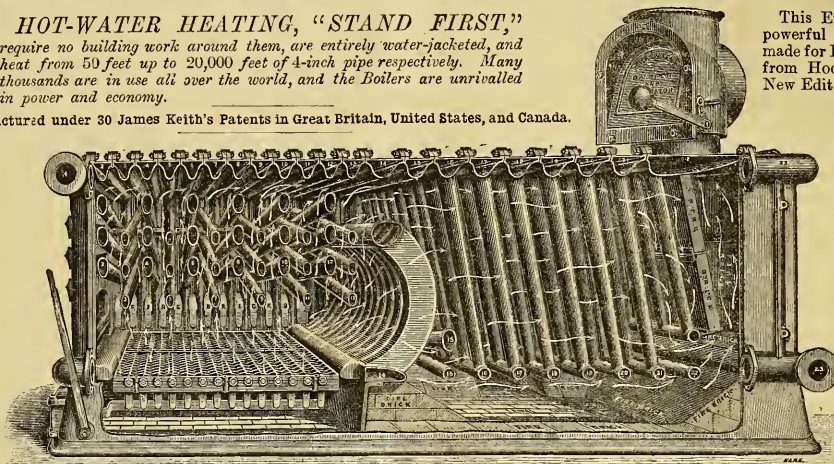
AT INTERNATIONAL EXHIBITIONS AT HOME AND ABROAD.

KEITH'S PATENT BOILERS, THE "CHALLENGE," "VIADUCT," "PYTHON," &c.,

FOR HOT-WATER HEATING, "STAND FIRST,"

require no building work around them, are entirely water-jacketed, and heat from 50 feet up to 20,000 feet of 4-inch pipe respectively. Many thousands are in use all over the world, and the Boilers are unrivalled in power and economy.

Manufactured under 30 James Keith's Patents in Great Britain, United States, and Canada.



This Engraving "illustrates the most powerful form of Boiler that has yet been made for Hot-water Circulation."—Extract from Hood, on *Warming by Hot-water*, New Edition, 1891.



KEITH'S "PYTHON" BOILER, as illustrated, has 1,000 square feet of effective heating-surface, with $17\frac{1}{2}$ square feet of fire-grate area, heats about 20,000 feet of 4-inch pipe, and is the Most Powerful and Complete Sectional "Special" Hot-water Heating Boiler in the World.

JAMES KEITH (C.E., Assoc. M.Inst.C.E.), Gas, Hydraulic, Heating, Ventilating, and Consulting Engineer. Established 1823. Contractor to Her Majesty's Government. 57, HOLBORN VIADUCT, LONDON, E.C., ALSO AT EDINBURGH AND ARBROATH.

THE BEDDING PLANT OF THE SEASON—GRAND NEW DWARF TROPÆOLUM, "MRS. CLIBRAN."

Colour, lovely shade of Orange-yellow; habit, compact, and about 6 inches high; free and continuous bloomer, producing a brilliant display.

Gardeners' Chronicle: "The colour is decidedly very good. An excellent bedder."

Journal of Horticulture: "The variety must be regarded as an acquisition."

Gardeners' Magazine: "A distinct bedding variety; will make a gay display in bed or border."

Mr. D. MELVILLE, Dunrobin Castle Gardens: "I think your *Tropæolums* should be most useful. An excellent substitute where *Calceolarias* die off."

Mr. W. INGRAM, Belvoir Castle Gardens: "Seems to promise an effect not afforded by any other dwarf bedder."

Mr. Wm. EARLEY, Ilford: "I am charmed with Mrs. Clibran *Tropæolum*."

Mr. G. DOUGLAS, Great Gearys: "A very distinct novelty."

This Splendid Novelty has been Awarded several Certificates. Plants ready end of May. Price, 1s. 6d. each; 6 for 7s. 6d.; per dozen, 12s.

For full Description of above, also other distinct Novelties and Specialties, including NEW BEDDING PELARGONIUMS, see New CATALOGUE (No. 115), Free on Application.

CLIBRAN & SON, Oldfield Nurseries, Altrincham; 10 & 12, Market Street, Manchester; and Principality Nurseries, Llandudno Junction, N. Wales.

BOULTON & PAUL, NORWICH.

No. 60.—PORTABLE PLANT PRESERVER.



6 ft. by 3 ft. £2 0 0 | 6 ft. by 4 ft. £2 5 0
12 ft. by 3 ft. 3 2 0 | 12 ft. by 4 ft. 3 15 0

No. 73.—New Span-roof GARDEN FRAME.

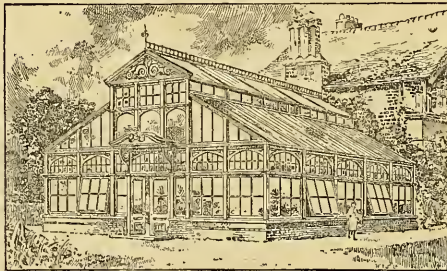


4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 14 0
8 ft. by 6 ft. 4 4 0 | 16 ft. by 6 ft. 7 4 0
All Frames made of selected Red Deal, painted three times, and lights glazed with 21-oz. sheet glass.

CUCUMBER FRAME LIGHTS.

6 ft. by 4 ft., glazed and painted ... 14s. each.
Un glazed and unpainted ... 6s. 6d. each.
Carriage Paid on Orders of 40s. value.

WINTER GARDENS, CONSERVATORIES, FERNERIES, ORCHID-HOUSES, PEACH-HOUSES, VINERIES, and GREENHOUSES, in all styles.



No. 77.—Frames (6 ft. by 4 ft. £1 15 0
9 ft. by 4 ft. 2 7 6
similar to No. 75. 12 ft. by 4 ft. 3 0 0

BOILERS of all makes and sizes supplied at the cheapest rates. VALVES, PIPES, and FITTINGS ALWAYS IN STOCK.

No. 74.—THREE-QUARTER SPAN GARDEN FRAME.



4 ft. by 6 ft. £2 14 0 | 12 ft. by 6 ft. £5 17 0
8 ft. by 6 ft. 4 5 6 | 16 ft. by 6 ft. 7 8 6

No. 75.—MELON AND CUCUMBER FRAME.



4 ft. by 6 ft. £2 0 0 | 12 ft. by 6 ft. £4 3 0
8 ft. by 6 ft. 3 0 0 | 16 ft. by 6 ft. 5 6 0

Wall Fruit Tree Protectors, Hand Lights, Propagating Glasses, &c.

CATALOGUES of all our Manufactures, including Horticultural Buildings and Appliances, Iron Buildings, Poultry and Kennel Requisites, &c., Carriage Paid on Orders of 40s. value.

Editorial communications should be addressed to the "Editor," Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C. Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by ARTHUR GEORGE MARTIN, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, June 25, 1892. Agent for Manchester—JOHN HEYWOOD.

